guaranteed

igus-asean.com ... chainflex® cables ... 2023 ... motion plastics® ...



100,000,000

100 million cycles ...

guaranteed for CF98.PLUS and CF99.PLUS

Guarantee igus chainflex 36 up to 36 months guarantee

igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year

chainflex®

chainflex® works: Worldwide No. 1 in cable tests

... and in variety ... and with 36 month guarantee ... and with more than 25 years experience ... and 100 million EUR annual sales



Available from stock.
Ready for delivery in 24–48h, earlier upon request.
The delivery times indicated correspond to the average time until the ordered goods are dispatched from igus® Cologne, Germany



No minimum order value! No surcharges!
No minimum order value with igus®. Just order the amount you need – no cutting charges (up to 10 cuts of the same type).



From 1 metre
Because chainflex® cables are high quality you only need to order the length you require. We appreciate every order from 1 m. In addition they can be planned in 0.5 m units.



36 month guarantee
We give a 36 month guarantee on every chainflex® cable. Up to 10 million double strokes guaranteed. Due to our tests in the largest lab for moved e-chain® cables, we are able to give a unique and reliable 36 month guarantee on our cables.



Service time
Monday to Friday 8.30 am to 5.30 pm



Order hotlines

Singapore	+65 6487 1411	Malaysia	+603 7803 0618
Indonesia	+62 21 7588 1933	Thailand	+66 (0)2 587 4899
Vietnam	+84 28 3636 4189	Myanmar	+95 12 997 97
Philippines	+63 28 250 126/135		



Onlineshop www.igus-asean.com/chainflex
Our complete product range incl. product finder, lifetime calculator and much more. Order around-the-clock!



Lifetime calculator www.igus-asean.com/chainflexlife
With the help of the chainflex® service life calculator, you can quickly and easily calculate the expected service life of chainflex® cables specifically for your application.



Do you have any questions?
If you have any questions, simply call us or use our online tools at www.igus-asean.com/chainflex

www.igus-asean.com/chainflex

Classification of chainflex® cables according to basic req

The chainflex® class is composed of 4 parts:

Basic requirements	Travel distance	Oil resistance	Torsion
1 to 7	1 to 6	1 to 4	1 to 4

1	Basic requirements	low	1	2	3	4	5	6	7	highest
2	Travel distance	unsupported	1	2	3	4	5	6		400 m +
3	Oil-resistance	none	1	2	3	4				highest
4	Torsion	none	1	2	3	4				±360°

1 Basic requirements





1: Flexible cables
2: Highly flexible cables
3: Cables without special structure (e.g. winding in layers) for use in e-chains®.
4: Cables with special structure for continuous movement in e-chains® for medium duty applications and radii from 7.5 x d, speed up to 3 m/s.
5: Cables for continuous movement in e-chains® for heavy duty applications and radii from 6.8 x d, speed up to 10 m/s.
6: Cables for continuous movement in e-chains® for heaviest duty applications and radii from 5 x d, speed up to 10 m/s.
7: Cables for continuous movement in e-chains® for heaviest duty applications and smallest radii, indoor and outdoor, radii from 4 x d, speed up to 10 m/s and more.

2 Travel distance



1: Unsupported travel up to 10 m
2: Gliding travel up to 10 m
3: Gliding travel up to 20 m
4: Gliding travel up to 50 m
5: Gliding travel up to 100 m
6: Gliding travel up to 400 m and more

3 Oil resistance



1: No oil resistance
2: Oil-resistant (following DIN EN 50363-4-1)
3: Oil-resistant (following DIN EN 50363-10-2)
4: Oil-resistant (following EN 60811-404), bio-oil-resistant (following VDMA 24568 with Plantocut 8 S-MB tested by DEA)

4 Torsion



1: No torsion
2: ±90°, with 1 m cable length
3: ±180°, with 1 m cable length
4: ±360°, with 1 m cable length

quirements, travel distance, oil-resistance and torsion

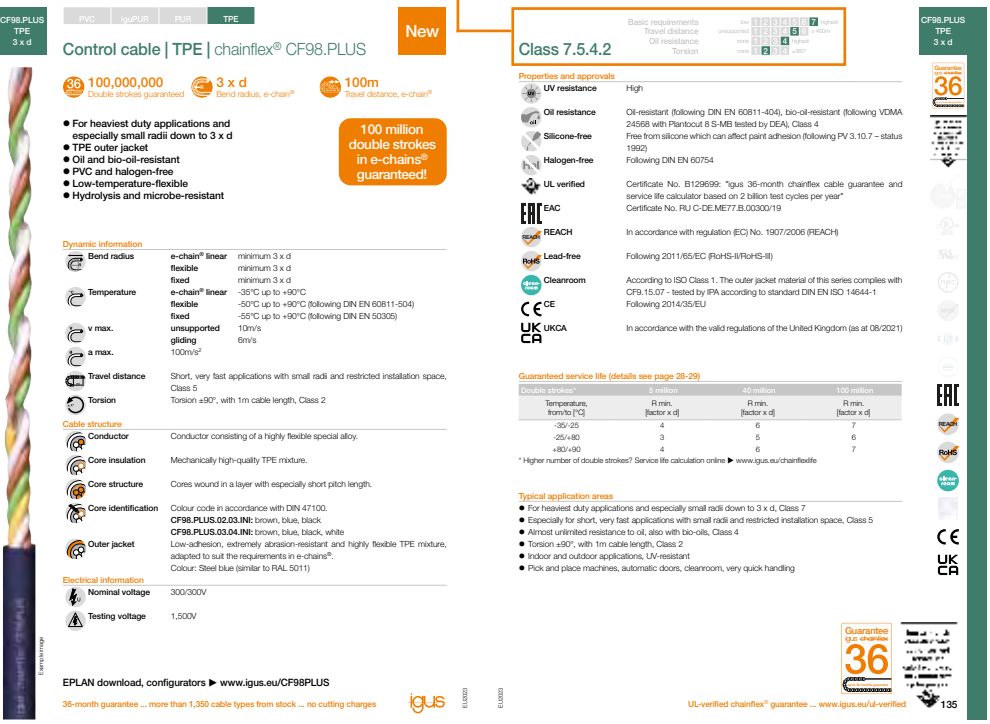
o make selection easier, we have classified all chainflex® cables according to 4 criteria: asic application requirements, travel distance, oil resistance and torsion. The higher the umber the better the cable.

xample: If you are looking for a cable which is suitable for the highest mechanical load, travel distance o to 100 m for unsupported and gliding applications and oil-resistant following DIN EN 60811-2-1.

hoose from the classification overview:

asic requirements: 7
ravel distance: 5
il resistance: 4
orsion: 2

is results in the cable classification – here "Class 7.5.4.2". This can be found on every product page.



theory the following classes would be possible:
west "Class 1.1.1.1", highest "Class 7.6.4.4"



Tested, tested, tested

chainflex® test lab

from page 24



chainflex®

Control cables

from page 52



chainflex®

Data/coax cables

from page 142



chainflex®

Bus cables

from page 180



chainflex®

Fibre Optic Cables

from page 214



chainflex®

Measuring system cables

from page 236



chainflex®

Servo cables

from page 274



chainflex®

Motor cables

from page 312



chainflex® CFROBOT

Twistable cables

from page 378



chainflex®

Special cables

from page 418



chainflex® CFCLEAN elements

for cleanroom applications

from page 444



chainflex®

Pneumatic hoses

from page 462

chainflex® selection according to "Class"

	chainflex® Series	Basic requirements	Travel distance	Oil resistance	Torsion
	CF880	3	1	1	1
	CF881	3	1	1	1
	CFLG88	3	1	1	1
	CF884	3	1	1	1
	CF885	3	1	1	1
	CF885.PE	3	1	1	1
	CF886	3	1	1	1
	CF887	3	1	1	1
	CF888	3	1	1	1
	CF890	3	1	3	1
	CF891	3	1	3	1
	CF894	3	1	3	1
	CF895	3	1	3	1
	CF896	3	1	3	1
	CF897	3	1	3	1
	CF898	3	1	3	1
	CF210.UL	4	2	2	1
	CF210.UL (motor)	4	2	2	1
New!	CF211 (measuring)	4	2	2	1
New!	CF220.UL.H	4	2	2	1
New!	CF111.D	4	2	3	1
	CF270.UL.D	4	2	3	1
	CF270.UL.D (motor)	4	2	3	1
New!	CF280.UL.H	4	2	3	1
	CFBUS.PVC	4	3	2	1
	CFBUS.PUR	4	3	3	1
	CF140.UL	4	4	1	1
	CF130.UL	4	4	1	2
	CF240	4	4	2	1
	CF240.PUR	4	4	3	1
	CF150.UL	4	4	3	2
	CF160.UL	4	4	3	1
	CF77.UL.D (robot)	5	1	3	3
	CFLK	5	3	3	1
	CFTHERMO	5	4	3	1
	CF6	5	5	2	1
	CF21.UL	5	5	2	1
	CF211 (data)	5	5	2	1
	CF31	5	5	2	1
	CF5	5	5	2	2
	CF30	5	5	2	2
	CF78.UL	5	5	3	1
	CF211.PUR (data)	5	5	3	1
	CF77.UL.D	5	5	3	3
	CFROBOT2	6	1	3	3
	CFROBOT3	6	1	3	3
	CFROBOT4	6	1	3	3

	chainflex® Series	Basic requirements	Travel distance	Oil resistance	Torsion
	CFROBOT7	6	1	3	3
	CFROBOT8	6	1	3	3
	CFROBOT9	6	1	3	3
New!	CFROBOT8.PLUS	6	1	3	4
	CFROBOT	6	1	4	3
	CFROBOT5	6	1	4	3
	CFROBOT6	6	1	4	3
	CF2	6	5	3	1
	CF112	6	5	3	1
	CFLG.LB.PUR	6	5	3	1
	CF113.D	6	5	3	1
	CF27.D	6	5	3	1
	CF27.D (motor)	6	5	3	1
	CFCRANE	6	6	3	1
	CFCRANE.PUR	6	6	3	1
	CF10.UL	6	6	4	1
	CF11	6	6	4	1
	CF12	6	6	4	1
	CFKoax	6	6	4	1
	CFBUS	6	6	4	1
	CF11.D	6	6	4	1
	CF35.UL	6	6	4	1
	CF310.UL	6	6	4	1
	CF9.UL	6	6	4	2
	CF34.UL.D	6	6	4	2
	CF300.UL.D	6	6	4	2
	CFPE	6	6	4	2
	CFSOFT1	7	1	2	2
	CFSOFT2	7	1	2	2
	CF99	7	5	4	1
	CF299	7	5	4	1
	CFLG.LB	7	5	4	1
New!	CF99.PLUS	7	5	4	1
	CFFLAT	7	5	4	1
	CF98	7	5	4	2
	CF298	7	5	4	2
New!	CF98.PLUS	7	5	4	2
	CFBUS.LB	7	6	4	1
	CFLG.G	7	6	4	1
	CF10	7	6	4	1
	CF29.D	7	6	4	1
	CF38	7	6	4	1
	CF340	7	6	4	1
	CF9	7	6	4	2
	CF37.D	7	6	4	2
	CF330.D	7	6	4	2



chainflex® for
Video / vision / bus technology
from page 466



chainflex® for
Network technology
from page 478



Harnessed Fibre Optic Cables
FOC
from page 518



CF.INI
Sensor/actuator cables
from page 524



chainflex® cables with
Industrial connectors
from page 542



Harnessed dress packs and cables
for robots
from page 552



Cables suitable for 24 manufacturer standards
Drive technology
from page 574



Connectors, tools and accessories
Connectors
from page 786



Condition monitoring and predictive maintenance
smart plastics New!
from page 852



Strain relief
chainfix
from page 870



Ready-to-install assembled e-chain systems®
readychain®
from page 910



Facts, figures and data
Technical appendix
from page 922

Control cables ...

Guarantee igus chainflex 36 up to 36 months guarantee

Control cables

Guaranteed service life for these series (Details ▶ Page 28-29)

	chainflex® cable	Jacket	Shield	Minimum bend radius, e-chain® [factor x d]	Temperature, e-chain® from/to [°C]	Price index
	CF880	PVC		12.5	+5/ +70	
	CF881	PVC	✓	12.5	+5/ +70	
	CF130.UL	PVC		7.5	+5/ +70	
	CF140.UL	PVC	✓	7.5	+5/ +70	
	CF150.UL	PVC		7.5	+5/ +70	
	CF160.UL	PVC	✓	7.5	+5/ +70	
	CF5	PVC		6.8	+5/ +70	
	CF6	PVC	✓	6.8	+5/ +70	
	CFSOFT1	PVC		5	+5/ +70	
	CFSOFT2	PVC	✓	5	+5/ +70	
	CF890	iguPUR		12.5	-20/+80	
	CF891	iguPUR	✓	12.5	-20/+80	
	CF77.UL.D	PUR		6.8	-25/ +80	
	CF78.UL	PUR	✓	6.8	-25/ +80	
	CF2	PUR	✓	5	-20/+80	
	CF9	TPE		5	-35/ +100	
	CF10	TPE	✓	5	-35/ +100	
	CF9.UL	TPE		5	-35/ +100	
	CF10.UL	TPE	✓	5	-35/ +100	
	CF98	TPE		4	-35/ +90	
	CF99	TPE	✓	4	-35/ +90	
	CF98.PLUS New!	TPE		3	-35/ +90	
	CF99.PLUS New!	TPE	✓	3	-35/ +90	

These values are based on specific applications or tests. They do not represent the limit of what is technically feasible.

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chainflex® types

Selection table ▶ From page 54

Approvals and standards	Flame retardant	Oil-resistant	Halogen-free	UV-resistant	Torsion-resistant	v max. unsupported [m/s]	v max. gliding [m/s]	a max. [m/s²]	chainflex® Class	Page
	✓					3		20	3.1.1.1	58
	✓					3		20	3.1.1.1	62
	✓				✓	3	2	20	4.4.1.2	66
	✓					3	2	20	4.4.1.1	70
	✓	✓		✓	✓	3	2	20	4.4.3.2	74
	✓	✓		✓		3	2	20	4.4.3.1	78
	✓	✓		✓	✓	10	5	80	5.5.2.2	82
	✓	✓		✓		10	5	80	5.5.2.1	86
	✓	✓		✓		10	5	80	7.1.2.1	90
	✓	✓		✓		10	5	80	7.1.2.1	92
	✓	✓		✓		3		20	3.1.3.1	94
	✓	✓		✓		3		20	3.1.3.1	98
	✓	✓	✓	✓	✓	10	5	80	5.5.3.3	102
	✓	✓	✓	✓		10	5	80	5.5.3.1	106
	✓	✓		✓		10	5	80	6.5.3.1	110
		✓	✓	✓	✓	10	6	100	7.6.4.2	114
		✓	✓	✓		10	6	100	7.6.4.1	118
	✓	✓		✓	✓	10	6	100	6.6.4.2	122
	✓	✓		✓		10	6	100	6.6.4.1	126
		✓	✓	✓	✓	10	6	100	7.5.4.2	130
		✓	✓	✓		10	6	100	7.5.4.1	132
		✓	✓	✓	✓	10	6	100	7.5.4.2	134
		✓	✓	✓		10	6	100	7.5.4.1	138

chainflex® types mentioned in the catalogue as “resistant to bio oil“ have been tested by DEA according to VDMA 24568 with Plantocut 8 S-MB.

... Data ... Coax ...

	chainflex® cable	Jacket	Shield	Minimum bend radius, e-chain® [factor x d]	Temperature, e-chain® from/to [°C]	Price index
Data cables						
Guaranteed service life for these series (Details ▶ Page 28-29)						
	CF240	PVC	✓	10	+5/ +70	●○○
	CF240.PUR	PUR	✓	10	-25/ +80	●◐○
	CF211	PVC	✓	7.5	+5/ +70	◐○○
	CF211.PUR	PUR	✓	7.5	-25/ +80	◐○○
	CF11	TPE	✓	6.8	-35/ +100	●●○
	CF112	PUR	✓	10	-25/ +80	◐○○
	CF12	TPE	✓	10	-35/ +100	●●◐
	CF298	TPE		4	-35/ +90	●●○
	CF299	TPE	✓	4	-35/ +90	●●○
Coax cables						
	CFKoax	TPE		10	-35/ +100	●●○

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chainflex® types

Approvals and standards	Flame retardant	Oil-resistant	Halogen-free	UV-resistant	Torsion-resistant	v max. unsupported [m/s]	v max. gliding [m/s]	a max. [m/s²]	chainflex® Class	Page
										142
										Selection table ▶ Page 144
	✓	✓				3	2	20	4.4.2.1	146
	✓	✓	✓	✓		3	2	20	4.4.3.1	150
	✓	✓				5	3	50	5.5.2.1	154
	✓	✓	✓	✓		5	3	50	5.5.3.1	158
		✓	✓	✓		10	6	100	6.6.4.1	162
	✓	✓	✓	✓		10	5	80	6.5.3.1	166
		✓	✓	✓		10	6	100	6.6.4.1	170
		✓	✓	✓	✓	10	6	100	7.5.4.2	172
		✓	✓	✓		10	6	100	7.5.4.1	174
		✓		✓		10	5	100	6.6.4.1	176

chainflex® types mentioned in the catalogue as “resistant to bio oil“ have been tested by DEA according to VDMA 24568 with Plantocut 8 S-MB.

36-month chainflex® guarantee

Guaranteed service life for predictable reliability

▶ Selection table page 144

With the help of the chainflex® service life calculator, you can quickly and easily calculate the expected service life of chainflex® cables specifically for your application:

www.igus-asean.com/chainflexlife



igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year

Bus ... Ethernet ... FOC

	chainflex® cable	Jacket	Shield	Minimum bend radius, e-chain® [factor x d]	Temperature, e-chain® from/to [°C]	Price index
Bus cables						
Guaranteed service life for these series (Details ▶ Page 28-29)						
	CF888	PVC		15	+5/ +70	
	CFBUS.PVC	PVC		12.5	+5/ +70	
	CF898	iguPUR		15	-20/ +70	
	CFBUS.PUR	PUR		12.5	-20/ +70	
	CFBUS	TPE		10	-35/ +70	
	CFBUS.LB	TPE		7.5	-35/ +70	
Fibre Optic Cables						
Guaranteed service life for these series (Details ▶ Page 28-29)						
	CFLK	PUR		12.5	-20/ +60	
	CFLG88	PVC		7.5	+5/ +70	
	CFLG.LB.PUR	PUR		5	-35/ +80	
	CFLG.LB	TPE		5	-35/ +80	
	CFLG.G	TPE		10	-40/ +80	

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chainflex® types

Approvals and standards	Flame retardant	Oil-resistant	Halogen-free	UV-resistant	Torsion-resistant	v max. unsupported [m/s]	v max. gliding [m/s]	a max. [m/s²]	chainflex® Class	Page
										180
										Selection table ▶ Page 182
CE UK CA	✓					3		20	3.1.1.1	188
CE UK CA	✓	✓		✓		3	2	30	4.3.2.1	192
CE UK CA	✓	✓		✓		3		20	3.1.3.1	196
CE UK CA	✓	✓	✓	✓		3	2	30	4.3.3.1	200
CE UK CA	✓	✓		✓		10	6	100	6.6.4.1	204
CE UK CA		✓	✓	✓		10	6	100	7.6.4.1	210
										214
										Selection table ▶ Page 218
CE UK CA		✓	✓	✓		10	5	20	5.3.3.1	220
CE UK CA	✓					3		20	3.1.1.1	222
CE UK CA	✓	✓	✓	✓		10	6	20	6.5.3.1	224
CE UK CA		✓	✓	✓		10	6	20	7.5.4.1	228
CE UK CA		✓	✓	✓		10	6	20	7.6.4.1	232

chainflex® types mentioned in the catalogue as "resistant to bio oil" have been tested by DEA according to VDMA 24568 with Plantocut 8 S-MB.

36-month chainflex® guarantee

Guaranteed service life for predictable reliability

▶ Selection table page 182 (Bus) and page 218 (FOC)

With the help of the chainflex® service life calculator, you can quickly and easily calculate the expected service life of chainflex® cables specifically for your application:

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igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year

... measuring system ... servo ...

Guarantee igus chainflex 36

	chainflex® cable		Jacket	Shield	Minimum bend radius, e-chain® [factor x d]	Temperature, e-chain® from/to [°C]	Price index
Measuring system cables							
Guaranteed service life for these series (Details ▶ Page 28-29)							
	CF884		PVC	✓	15	+5/ +70	
	CF211	New!	PVC	✓	10	+5/ +70	
	CF894		iguPUR	✓	15	-20/+80	
	CF111.D	New!	PUR	✓	10	-25/ +80	
	CF113.D		PUR	✓	7.5	-25/ +80	
	CF11.D		TPE	✓	6.8	-35/ +90	
Servo cables							
Guaranteed service life for these series (Details ▶ Page 28-29)							
	CF887		PVC	✓	15	+5/ +70	
	CF210.UL		PVC	✓	10	+5/ +70	
	CF21.UL		PVC	✓	7.5	+5/ +70	
	CF897		iguPUR	✓	15	-20/+80	
	CF270.UL.D		PUR	✓	10	-25/ +80	
	CF27.D		PUR	✓	7.5	-25/ +80	
	CF29.D		TPE	✓	6.8	+35/ +100	
Hybrid cables							
	CF220.UL.H	New!	PVC	✓	10	+5/ +70	
	CF280.UL.H	New!	PUR	✓	10	-25/ +80	

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chainflex® types

Approvals and standards	Flame retardant	Oil-resistant	Halogen-free	UV-resistant	Torsion-resistant	v max. unsupported [m/s]	v max. gliding [m/s]	a max. [m/s²]	chainflex® Class	Page
										236
										Selection table ▶ Page 238
	✓					3		20	3.1.1.1	242
	✓	✓				5	3	30	4.2.2.1	246
	✓	✓		✓		3		20	3.1.3.1	252
	✓	✓	✓	✓		5	3	30	4.2.3.1	256
	✓	✓	✓	✓		10	5	50	6.5.3.1	262
		✓	✓	✓		10	6	100	6.6.4.1	268
										274
										Selection table ▶ Page 276
	✓					3		20	3.1.1.1	280
	✓	✓		✓		10	2	50	4.2.2.1	282
	✓	✓		✓		10	5	80	5.5.2.1	286
	✓	✓		✓		3		20	3.1.3.1	290
	✓	✓	✓	✓		10	2	50	4.2.3.1	292
	✓	✓	✓	✓		10	5	80	6.5.3.1	296
		✓	✓	✓		10	5	80	7.6.4.1	300
	✓	✓		✓		10	2	50	4.2.2.1	302
	✓	✓	✓	✓		10	2	50	4.2.3.1	306

chainflex® types mentioned in the catalogue as “resistant to bio oil“ have been tested by DEA according to VDMA 24568 with Plantocut 8 S-MB.

36-month chainflex® guarantee

Guaranteed service life for predictable reliability

▶ Selection table page 238 (measuring system) and page 276 (servo)

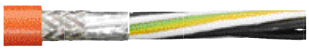
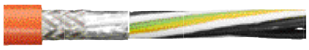
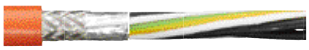
With the help of the chainflex® service life calculator, you can quickly and easily calculate the expected service life of chainflex® cables specifically for your application:

www.igus-asean.com/chainflexlife



igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year

... Motor cables ...

	chainflex® cable	Jacket	Shield	Minimum bend radius, e-chain® [factor x d]	Temperature, e-chain® from/to [°C]	Price index
Motor cables						
Guaranteed service life for these series (Details ▶ Page 28-29)						
	CF885	PVC		15	+5/ +70	●○○
	CF886	PVC	✓	15	+5/ +70	●○○
	CF210.UL	PVC	✓	10	+5/ +70	●○○
	CF30	PVC		7.5	+5/ +70	●○○
	CF31	PVC	✓	7.5	+5/ +70	●○○
	CF895	iguPUR		15	-20/+80	●○○
	CF896	iguPUR	✓	15	-20/+80	●○○
	CF270.UL.D	PUR	✓	10	-25/ +80	●○○
	CF27.D	PUR	✓	7.5	-25/ +80	●○○
	CF34.UL.D	TPE		7.5	-35/ +90	●●○
	CF35.UL	TPE	✓	7.5	-35/ +90	●●○
	CF37.D	TPE		7.5	-35/ +90	●●○
	CF38	TPE	✓	7.5	-35/ +90	●●○
Spindle cables/Single cores						
	CF885	PVC		15	+5/ +70	●○○
	CF885.PE	PVC		15	+5/ +70	●○○
	CF886	PVC	✓	15	+5/ +70	●○○
	CF270.UL.D	PUR	✓	10	-25/ +80	●○○
	CF300.UL.D	TPE		7.5	-35/ +90	●●○
	CFPE	TPE		7.5	-35/ +90	●●○
	CF310.UL	TPE	✓	7.5	-35/ +90	●●○
	CF330.D	TPE		7.5	-35/ +90	●●○
	CF340	TPE	✓	7.5	-35/ +90	●●○
Medium voltage cables						
	CFCRANE.PUR	PUR	✓	10	-20/+80	●●○
	CFCRANE	igupren	✓	10	-20/+80	●●●

These values are based on specific applications or tests. They do not represent the limit of what is technically feasible.

chainflex® types

Approvals and standards	Flame retardant	Oil-resistant	Halogen-free	UV-resistant	Torsion-resistant	v max. unsupported [m/s]	v max. gliding [m/s]	a max. [m/s²]	chainflex® Class	Page
										312
										Selection table ▶ From page 314
	✓					3		20	3.1.1.1	318
	✓					3		20	3.1.1.1	320
	✓	✓		✓		10	2	50	4.2.2.1	322
	✓	✓		✓	✓	10	5	80	5.5.2.2	324
	✓	✓		✓		10	5	80	5.5.2.1	328
	✓	✓		✓		3		20	3.1.3.1	332
	✓	✓		✓		3		20	3.1.3.1	334
	✓	✓	✓	✓		10	2	50	4.2.3.1	336
	✓	✓	✓	✓		10	5	80	6.5.3.1	340
	✓	✓		✓	✓	10	6	80	6.6.4.2	344
	✓	✓		✓		10	6	80	6.6.4.1	348
		✓	✓	✓	✓	10	6	80	7.6.4.2	352
		✓	✓	✓		10	6	80	7.6.4.1	354
	✓					3		20	3.1.1.1	356
	✓					3		20	3.1.1.1	358
	✓					3		20	3.1.1.1	360
	✓	✓	✓	✓		10	2	50	4.2.3.1	362
	✓	✓		✓	✓	10	6	100	6.6.4.2	364
	✓	✓		✓	✓	10	6	100	6.6.4.2	366
	✓	✓		✓		10	6	100	6.6.4.1	368
		✓	✓	✓	✓	10	6	100	7.6.4.2	370
		✓	✓	✓		10	6	100	7.6.4.1	372
		✓	✓	✓		10	6	50	6.6.3.1	374
	✓	✓		✓		10	6	50	6.6.3.1	376

chainflex® types mentioned in the catalogue as “resistant to bio oil“ have been tested by DEA according to VDMA 24568 with Plantocut 8 S-MB.

... Robots ... Torsion ...

	chainflex® cable	Jacket	Shield	Minimum bend radius, e-chain® [factor x d]	Torsion angle [°/m]	Temperature, e-chain® from/to [°C]	Price index
Twistable cables							
Guaranteed service life for these series (Details ▶ Page 28-29)							
Control cables							
	CF77.UL.D	PUR		6.8	±180	-25/ +80	●○○
	CFROBOT2	PUR	✓	10	±180	-25/ +80	●●◐
Data cable							
	CFROBOT3	PUR	✓	10	±180	-25/ +80	●●◐
Measuring system cable							
	CFROBOT4	PUR	✓	10	±180	-25/ +80	●●○
Fibre Optic Cable							
	CFROBOT5	TPE		10	±180	-35/ +80	●●○
Motor cables							
	CFROBOT6	PUR		10	±180	-25/ +80	●●◐
	CFROBOT7	PUR	✓	10	±180	-25/ +80	●●◐
Spindle cables/Single cores							
	CFROBOT	TPE	✓	10	±180	-35/ +90	●●◐
Bus cables							
	CFROBOT8	PUR	✓	10	±180	-25/ +70	●○○
	CFROBOT8.PLUS New!	PUR	✓	10	±180	-25/ +70	●◐○
Hybrid cable							
	CFROBOT9	PUR	✓	10	±180	-25/ +80	●●○

These values are based on specific applications or tests. They do not represent the limit of what is technically feasible.

Download the EPLAN library for any type of cable ▶ www.igus-asean.com/EPLAN-download

Get online and use all of the tools and data ▶ www.igus-asean.com/chainflex

chainflex® types

Approvals and standards	Flame retardant	Oil-resistant	Halogen-free	UV-resistant	Torsion-resistant	v max. twisted [°/s]	a max. twisted [°/s²]	chainflex® Class	Page
									378
									Selection table ▶ Page 382
	✓	✓	✓	✓	✓	180	60	5.1.3.3	384
	✓	✓	✓	✓	✓	180	60	6.1.3.3	388
	✓	✓		✓	✓	180	60	6.1.3.3	390
	✓	✓	✓	✓	✓	180	60	6.1.3.3	392
		✓	✓	✓	✓	180	60	6.1.4.3	396
	✓	✓	✓	✓	✓	180	60	6.1.3.3	398
	✓	✓	✓	✓	✓	180	60	6.1.3.3	400
	✓	✓		✓	✓	180	60	6.1.4.3	404
	✓	✓		✓	✓	180	60	6.1.3.3	406
	✓	✓	✓	✓	✓	360	60	6.1.3.4	410
	✓	✓	✓	✓	✓	180	60	6.1.3.3	414

chainflex® types mentioned in the catalogue as “resistant to bio oil“ have been tested by DEA according to VDMA 24568 with Plantocut 8 S-MB.

36-month chainflex® guarantee

Guaranteed service life for predictable reliability

▶ Selection table page 382

With the help of the chainflex® service life calculator, you can quickly and easily calculate the expected service life of chainflex® cables specifically for your application:

www.igus-asean.com/chainflexlife



igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year

... Special ... CFCLEAN ...

	chainflex® cable		Jacket	Shield	Minimum bend radius, e-chain® [factor x d]	Temperature, e-chain® from/to [°C]	Price index
Special cables							
	CFTHERMO		PUR	✓	12.5	-25/ +80	●●○
	CFFLAT		TPE		5	-35/ +90	●●○
	CFSPECIAL.182		PUR	✓	10	-25/ +80	●●○
	CFSPECIAL.192	New!	PUR	✓	10	-25/ +80	●●○
	CFSPECIAL.414				7.5	-20/+80	●●◐
	CFSPECIAL.484			✓	12.5	-20/+80	●◐○
	CFSPECIAL.532		PUR	✓	10	-25/ +80	●◐○
	CFSPECIAL.562.PE		PUR	✓	10	-25/ +80	●◐○
	CFSPECIAL.572		PUR	✓	10	-25/ +80	●◐○
	CFSPECIAL.592	New!	PUR	✓	10	-25/ +80	●◐○
	CFSPECIAL.792		PUR	✓	10	-25/ +80	◐○○
CFCLEAN elements for cleanroom applications							
	CFCLEAN1	New!		✓	70mm	-10/ +80	●●◐
	CFCLEAN2	New!		✓	70mm	-10/ +80	●●◐
	CFCLEAN3	New!		✓	70mm	-10/ +80	●●◐
	CFCLEAN4	New!		✓	70mm	-10/ +80	●●◐
	CFCLEAN7	New!		✓	70mm	-10/ +80	●●◐
	CFCLEAN8	New!		✓	70mm	-10/ +80	●●◐

These values are based on specific applications or tests. They do not represent the limit of what is technically feasible.

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Get online and use all of the tools and data ▶ www.igus-asean.com/chainflex

chainflex® types

Approvals and standards	Flame retardant	Oil-resistant	Halogen-free	UV-resistant	Torsion-resistant	v max. unsupported [m/s]	v max. gliding [m/s]	a max. [m/s²]	chainflex® Class	Page
										418
		✓	✓	✓		2	1	20	5.4.3.1	420
		✓	✓	✓		10	6	100	7.5.4.1	422
	✓	✓	✓	✓		10	6	100	-	424
	✓	✓	✓	✓		10	2	50	-	426
	✓	✓	✓	✓		10	-	20	-	428
	✓	✓	✓	✓		10	-	20	-	430
	✓	✓	✓	✓		10	2	50	-	432
	✓	✓	✓	✓		10	2	50	-	434
	✓	✓	✓	✓		10	2	50	-	436
	✓	✓	✓	✓		10	2	50	-	438
	✓	✓	✓	✓		3	2	20	-	440
										444
	✓					2	-	40		450
	✓					2	-	40		452
	✓					2	-	40		454
	✓					2	-	40		456
	✓					2	-	40		458
	✓					2	-	40		460

chainflex® types mentioned in the catalogue as “resistant to bio oil“ have been tested by DEA according to VDMA 24568 with Plantocut 8 S-MB.

chainflex® guarantee

These series are solutions for special applications, please contact igus® for information about the service life guarantee:

Phone +49-2203 9649-0, info@igus.de



igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year

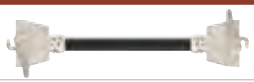
... Video ... Network ...

	Cable type		Jacket	Page
Harnessed bus cables				466
	**FireWire**	Pre-harnessed cable	TPE	468
	**USB 2.0**	Pre-harnessed cable	PVC/PUR/TPE	470
	**USB 3.0**	Pre-harnessed cable	PVC/PUR	471
	**GigE**	Pre-harnessed cable	PUR-ROBOT/TPE	472
	**DVI-D/HDMI**	Pre-harnessed cable	TPE	473
Harnessed coax cables				
	**Coax**	Pre-harnessed cable (BNC/SMA)	TPE	474
	**VGA**	Pre-harnessed cable	TPE	477
Harnessed Ethernet cables				478
	**CAT5** Straight		PVC/PUR/TPE	481
	**SPE** Single Pair Ethernet		PUR	481
	**CAT5e** Straight		PVC/PUR/TPE	482
	**CAT5e** Straight		PVC/PUR/TPE	485
	**CAT5e** Crossover		PVC/PUR/TPE	486
	**CAT5e** with 615 connectors		PVC/PUR/TPE	487
	**CAT5e** with angled connectors (L/T angle)		PVC/PUR/TPE	488
	**CAT6** Straight		PVC/PUR/TPE	492
	CAT6 Straight/Crossover		TPE	494
	**CAT6A** with M12 connectors		PVC/PUR/TPE	495
	**CAT7** Straight		PUR/TPE	497
	**Industrial Ethernet** moulded		PVC/PUR	498
Harnessed Profibus cables				
	**Profibus**		PVC/PUR/TPE	500
Harnessed Profinet cables				
	**Profinet**		PVC/PUR/TPE	506
	**Industrial Profinet** moulded		PVC/PUR	510
	**Profinet** with moulded connectors		PVC/PUR/TPE	512
Harnessed DevicNet cable				
	**DeviceNet** with Binder M12 a-coded New		TPE	513

...FOC ...Sensor ...Actuator ...

	Cable type	Jacket	Page
Harnessed Fibre Optic Cables for video			518
	**FOC** 2 fibres	PVC/TPE	520
	**FOC** 4 fibres	TPE	521
Harnessed Fibre Optic Cables for network			
	**FOC** 6 fibres	TPE	522
	**FOC** 12 fibres	TPE	522
Sensor/actuator CF9 - CF.INI (minimum bend radius 5 x d)			524
	Connection cable M12 x 1, straight/angled	TPE	527
	Linking cable M12 x 1, straight/angled	TPE	527
	Connection cable M12 x 1, straight/angled, LED	TPE	529
	Connection cable M8 x 1, straight/angled	TPE	531
	Linking cable M8 x 1, straight/angled	TPE	531
	Connection cable M8 x 1, angled, LED	TPE	533
Sensor/actuator CF10 - CF.INI (minimum bend radius 5 x d) 360° shielded			
	Connection cable M12 x 1, straight/angled	TPE	535
	Linking cable M12 x 1, straight/angled	TPE	535
Sensor/actuator CF98 - CF.INI (minimum bend radius 4 x d)			
	Connection cable M12 x 1, straight/angled	TPE	537
	Linking cable M12 x 1, straight/angled	TPE	537
	Connection cable M8 x 1, straight/angled	TPE	539
	Linking cable M8 x 1, straight/angled	TPE	539
chainflex® cables for actuator/sensor distribution box			
	Connection cable M23, straight	TPE	540
	Linking cable M23, straight/angled	TPE	540
	Connection cable M12, straight	TPE	541

Industrial ... Robots ...

		Cable type	Page
chainflex® cables with industrial connectors			**542**
	Han 6B	Harnessed cable, single locking lever at both ends, straight Harnessed cable, single locking lever at both ends, angled	544
	Han 10B	Harnessed cable, single locking lever at both ends, straight Harnessed cable, single locking lever at both ends, angled	546
	Han 10B	Harnessed cable, double locking lever at both ends, straight Harnessed cable, double locking lever at both ends, angled	546
	Han 16B	Harnessed cable, single locking lever at both ends, straight Harnessed cable, single locking lever at both ends, angled	548
	Han 16B	Harnessed cable, double locking lever at both ends, straight Harnessed cable, double locking lever at both ends, angled	548
	Han 24B	Harnessed cable, single locking lever at both ends, straight Harnessed cable, single locking lever at both ends, angled	550
	Han 24B	Harnessed cable, double locking lever at both ends, straight Harnessed cable, double locking lever at both ends, angled	550
HARTING Connector sets (Connectors chapter page 786)			
		Connector sets with pin inserts	836
		Connector sets Premium (pin + socket)	838
Dress packs for robots			**552**
	readychain® Robot	Harnessed dress packs for welding robots	554
Harnessed cables for robots			
	readycable® Kuka	Harnessed cables for KUKA robots	556
	readycable® Fanuc	Harnessed cables for Fanuc robots	562
	readycable® ABB	Harnessed cables for ABB robots	566
Direct connection cables for robots			
	readycable® Kuka	Direct connection cables for KUKA robots	557
	readycable® Fanuc	Direct connection cables for Fanuc robots	563
	readycable® ABB	Direct connection cables for ABB robots	567
Cables according to AIDA specifications			
	readycable® AIDA	Harnessed cables according to AIDA specifications	572

... Drive technology ...

	Selection according to manufacturer		Jacket	Page
Harnessed cables for drive technology				**574**
	Allen Bradley/ Rockwell	Motor/servo/hybrid servo/ brake/feedback/adapter cables	PVC/PUR/TPE	584
	B&R	Motor/servo/EnDat/encoder/ resolver/bus cable	PVC/PUR/TPE	585
	Baumüller	Servo/resolver/pulse encoder cables	PVC/PUR/TPE	585
	Baumüller, SpeedTec New!	Servo/resolver/pulse encoder cables	PVC/PUR/TPE	588
	Beckhoff	Motor/servo/hybrid servo/encoder/thermal protection/resolver/network cables	PVC/PUR/TPE	590
	Berger Lahr	Servo/resolver cables	PVC/PUR/TPE	590
	Bosch Rexroth	Motor/servo/hybrid servo/ encoder cables	PVC/PUR/TPE	590
	ELAU/ Schneider Electric	Servo/hybrid servo/encoder cables	PVC/PUR/TPE	593
	FAGOR	Path measuring cables	PUR/TPE	593
	Fanuc	Motor/servo/brake/signal cables	PVC/PUR/TPE	593
	Festo	Servo/control/encoder/data/ bus cables	PVC/PUR/TPE	594
	Heidenhain	Servo/adapter cables	PVC/PUR/TPE	594
	Jetter	Motor/servo/resolver cables	PVC/PUR/TPE	595
	Kollmorgen/ Danaher Motion	Motor/servo/signal cables	PVC/PUR/TPE	595
	Lenze	Servo/fan/decoder/encoder/ feedback/resolver cables	PVC/PUR/TPE	598
	LinMot	Motor/servo cables	PVC/PUR	599
	LTi DRiVES	Servo/encoder cables	PVC/PUR/TPE	599
	Mitsubishi Electric	Motor/encoder cables	PVC/PUR	599
	Nidec/Control Techniques	Motor/servo/encoder cables	PVC/PUR/TPE	598
	NUM	Power/servo/fan/encoder cables	PVC/PUR/TPE	601
	Omron	Motor/control/encoder cables	PVC/PUR/TPE	601
	Parker	Motor/resolver cables	PVC/PUR/TPE	601
	SEW	Motor/servo/hybrid servo/ control/encoder cables	PVC/PUR/TPE	602
	Siemens	Power/servo/signal cables	PVC/PUR/TPE	603
	Siemens, Speedtec	Power/servo/signal cables	PVC/PUR/TPE	606
	Stöber	Servo/encoder cables	PVC/PUR/TPE	607

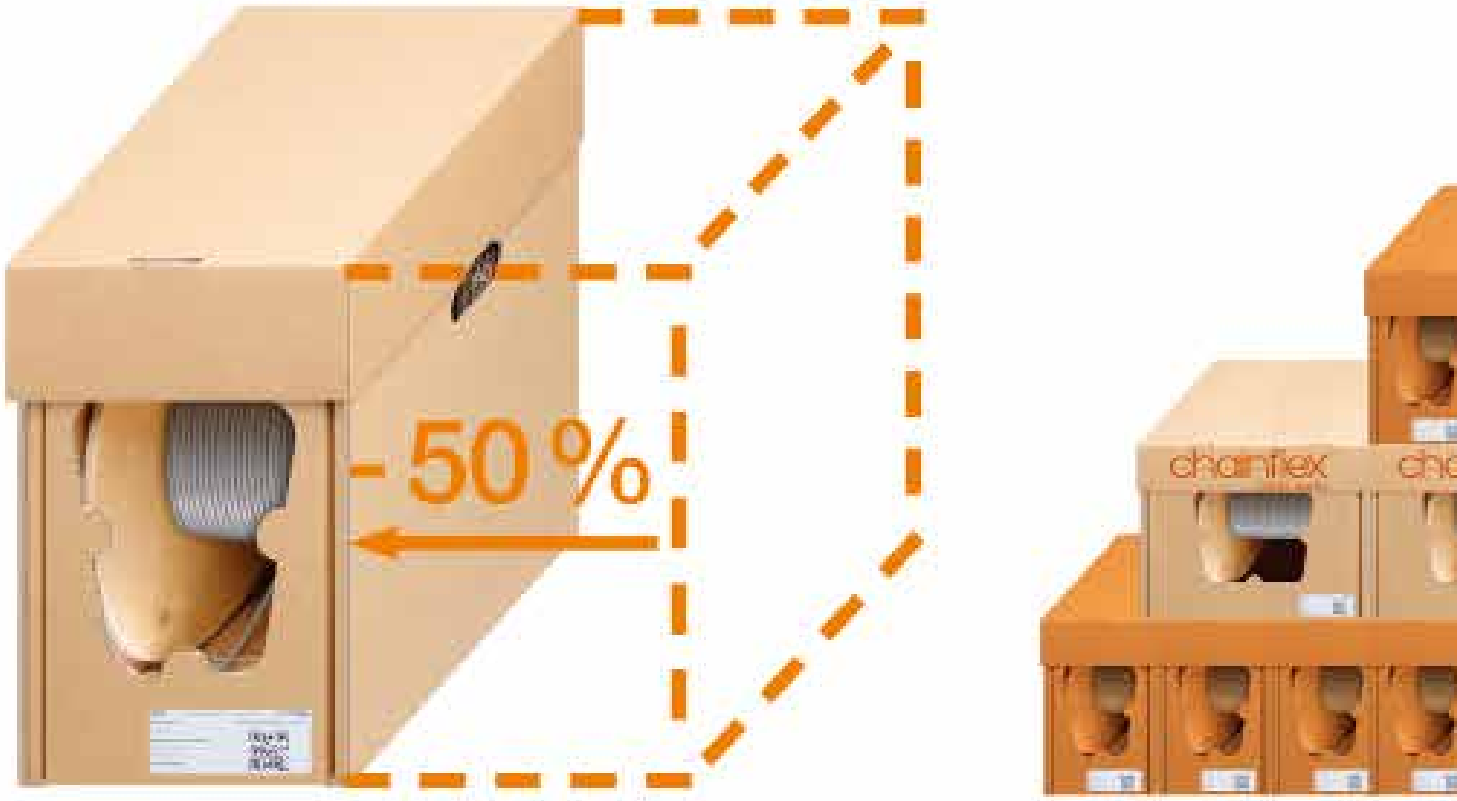
Connectors ... Strain relief

			Page
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	SERIES B 923	Power connector	793
	SERIES C 940	Power connector	798
	SERIES D 958	Power connector	801
	SERIES 615/915	Signal and power connector	803
	SERIES M17 617/917	Signal and power connector	811
	SERIES S 623	Power connector	816
	Tools/accessories and connector packs		818
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	C-profiles		884
	Clamps , steel or stainless steel - for maximum holding strength		888
	Universal tiewrap plates , bolted or clip-on		892
	Tiewrap plates , with clip-on connection to C-profile		894
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Storage made easy ...



The chainflex® CASE is a cardboard box that allows cable drum shipping without a pallet. This means that the goods can be sent by a parcel carrier. The chainflex® CASE is not only used for transport, but also works as a storage system for cable drums. The cable can be easily unreeled directly from the box. Thanks to its stackability, you can set up flexible storage facilities. The QR code on the shipping box makes online re-ordering easy. All in all, this system helps you save shipping, process and storage costs.

chainflex® CASE allows cable drums to be shipped in a cardboard box via parcel carriers. Very simple and you can save up to 84% shipping cost compared to standard shipping on a pallet by a freight forwarder.

Remove expensive storage systems for cable drums. Unreel the cable immediately from the chainflex® CASE. Carrying handles and stackability allow for individual storage spaces.

This system makes storage mobile and can be used directly on construction sites, for instance. Expensive special shelving is not required, instead, it can be stored simply in standard shelving systems.

With the QR code on every chainflex® CASE, you can re-order your cable online in a few seconds. Simply use your smartphone's scanner.





▶ www.igus-asean.com/cf-case

chainflex® CASE S and CASE M



chainflex® CASE application example from the field: BSH Hausgeräte GmbH
"The maintenance staff at the BSH plant in Bad Neustadt an der Saale have implemented a real "out of the box" solution. Electrical cables no longer arrive by hank or cable drum, but in the "chainflex CASE" shipping and storage solution. This saves costs, space and waste."

Two sizes ... can be ordered separately ...

Just add the required CASE to your order



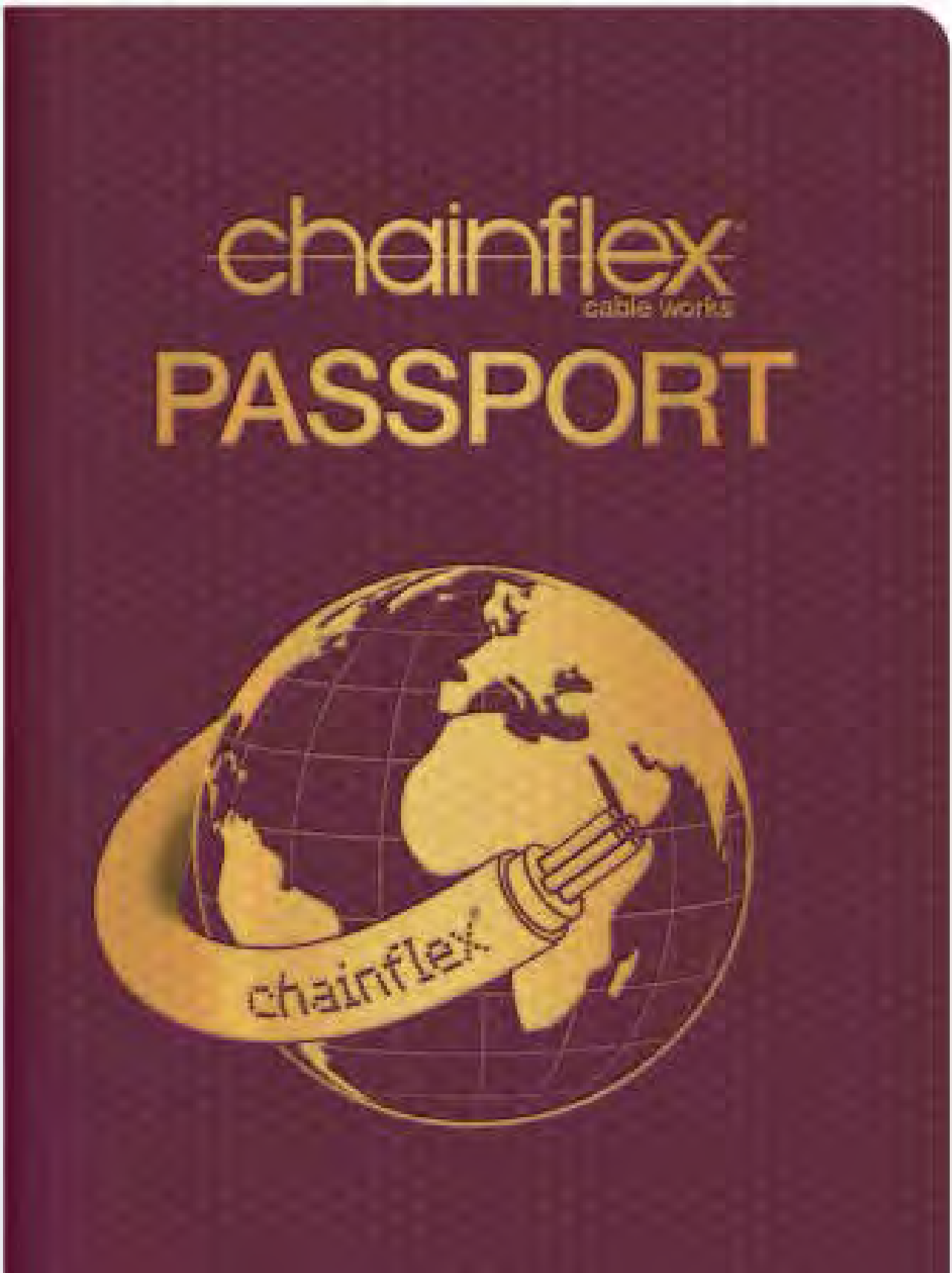
chainflex® CASE



chainflex® CASE S

Welcome to the world ... chainflex® approvals for all major markets

Design confidence, reduced costs, simple supply





One cable for all major markets ...
You benefit from the worldwide common approvals for chainflex® cables

Today, almost all plant and machine builders export their products. Depending on the region, there are very different standards and approvals required for different products. Cables for moving applications are no exception.
Therefore igus® has been working for many decades to obtain as many approvals as possible for chainflex® cables. Due to the special nature of chainflex® cables running in e-chains® this is a challenge, as the varied applications are not described in any standard or approval.
Therefore igus® had to work out concepts with the certification authorities over many years to enable the approval of chainflex® cables.
Today, for example, igus® is the only company worldwide to offer cables with DNV approval for use in the offshore sector.

Details on this can be found on the following pages: 962-969.

Approvals overview

- CE ... 1,377 cables
- UKCA ... 1,377 cables
- DESINA ... 270 cables
- NFPA ... 972 cables
- UL-Listed ... 63 cables
- UL-AWM ... 1,042 cables
- UL-verified ... 1,317 cables
- EAC ... 1,269 cables
- DNV ... 381 cables
- CC-Link IE Field ... 8 cables
- Cleanroom ... 1,063 cables
- Ethercat ... 13 cables
- Profinet ... 10 cables
- Profibus ... 27 cables

36-month guarantee on every chainflex® cable in this catalogue



The chainflex® guarantee - predictable safety through laboratory and field experience

Safety is of utmost importance, operationally, legally and financially. Plant and machine constructors have to make binding statements about operational safety and reliability. However, a guarantee declaration to the end customer always entails a considerable risk. The chainflex® guarantee on igus® cables in e-chains® now makes this risk not only more predictable, but reduces it significantly. With the unique 36 month guarantee on every chainflex® cable in this catalogue, we assume part of the responsibility and create valuable planning security for the manufacturer. Twenty-five years of experience from tried and tested applications and from intensive tests in the world's largest test laboratory for cables and e-chains® allow us to make reliable and verifiable statements about durability and service life. Predictable reliability for every user!

Guarantee instead of just warranty or defects liability expands the assurance in legal terms

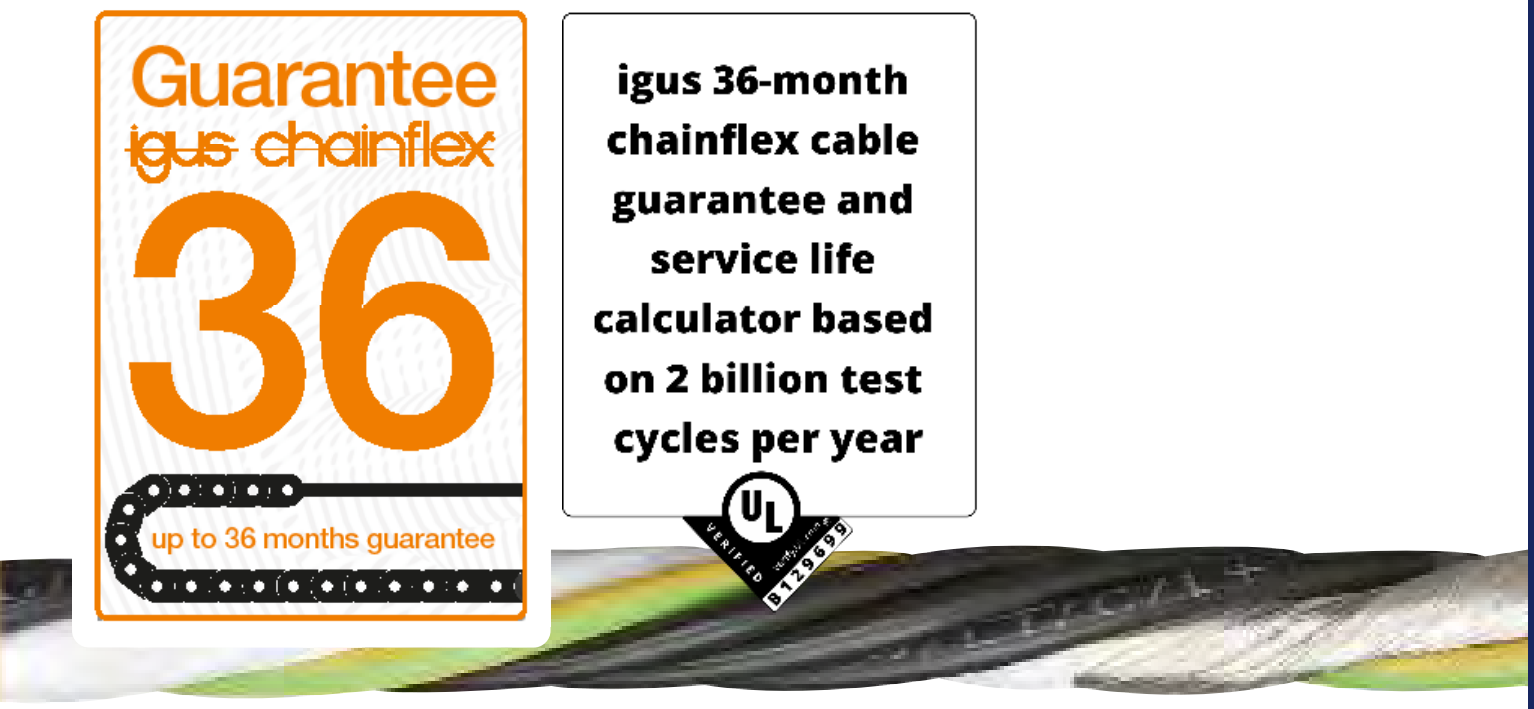
The assurance of a guarantee is done voluntarily by the manufacturer, and goes beyond the mandatory assurance or warranty by the seller. For the customer not only receives the promise to obtain a defect-free product, but also the ability to function over a certain period.

"**In case of guarantee the buyer is entitled to the rights under the guarantee as per the terms set down in the guarantee statement vis-à-vis the person who has given the guarantee, regardless of the legal claims (§ 443 I BGB).**"

In Germany, quality and durability guarantees are used. The latter in particular is of great importance for many customers. A mere extension of the guarantee is not enough for them, they want binding statements on the durability. The chainflex® guarantee based on the reliable data from laboratory and field experience, was created precisely for this purpose.



Analysis of the measured data: igus® "AutΩMeS" system



Direct overview of the service life using the "double strokes" selection tables

For each chainflex® series you will find a selection table called "Double strokes - guaranteed service life" This gives the technical parameters for using the respective chainflex® cable. If the cable is operated in accordance with the operating conditions specified in the selection table, a guaranteed service life of 5, 7.5 or 10 million double strokes is applicable depending on the application. The service life itself, measured by the number of possible double strokes, can even be necessary factor for this guarantee level would be 8.5, meaning that the number of guaranteed double strokes is reduced to 7.5 million. This very clear statement provides reliability and planning safety for your machine and can be further refined with the **online service life calculator**.

❶ **Temperature, from/to [°C]**

❷ **Double strokes guaranteed**

❸ **Minimum bend radius [factor x d]**

Guaranteed lifetime according to guarantee conditions (Page 22-23)

Double strokes*	❷ 5 million	❷ 7.5 million	❷ 10 million
❶ Temperature, from/to [°C]	❸ R min. [factor x d]	❸ R min. [factor x d]	❸ R min. [factor x d]
-35/-25	6.8	7.5	8.5
-25/+90	5	6	7
+90/+100	6.8	7.5	8.5

* Higher number of double strokes? Online lifetime calculation: www.igus-asean.com/chainflexlife

Example: Selection table "Guaranteed service life" for CF9

Example:

A cable with a diameter of 12mm in an energy chain with a radius of 100mm results in a bending factor of 8.3 (100mm/12mm). In order to determine the guaranteed durability, you set the technical conditions from the data ranges 1 & 2. In data range 3, you can now see that (with an assumed temperature range of -25/+90°C) with 8.3 x d the effective bending factor is above the minimum limit of 7 and therefore for that cable you have a guaranteed operation of 10 million double strokes. Should the temperature become higher or lower, the

Calculate service life online:
www.igus-asean.com/chainflexlife

Testing, testing, testing ... specific tests for specific requirements

Over 25 years of testing experience in the chainflex® laboratory

The chainflex® laboratory specialises in tests which, apart from just theoretical procedures, also investigate real applications as they would occur in the real world of mechanical and production engineering. For more than 25 years, specific data has been collected in the largest test laboratory for moving cables, which is indispensable for determining service life and function. On a laboratory floor area of 3,800 m², 700 tests are currently running in parallel, which help to constantly monitor and improve the interplay of e-chains® and cables in dynamic applications. The combination of e-chains® and chainflex® cables on the one hand, and of e-chains® and other cables that are sold as "chain-compatible" by a large number of cable providers on the market on the other. However, it is here that questions arise for the customer as to the extent to which these cables are actually suitable for use in energy chains and what is the expected service life. The conventional standard tests give generalised answers to generalised questions. The customer, however, wants a concrete answer and solution for their specific problem, which is often not, or only partially, addressed by the normal standards. It is precisely these individual customer requirements that the igus® laboratory devotes itself to.

A further consequence of our intensive research and laboratory activities is the development of standard tests and production standards for chainflex® cables for long-term use in e-chains®.

In principle, there are five main focus areas:

1. Tests of materials
In line with customer requirements, new materials for the conductors, insulation and outer jackets are developed. Differences arise that are significant but not obvious, particularly in the case of conductor and jacket materials. To this end, up to eight different chainflex® standards are used in the tests.

2. Tests of the technical design
These tests systematically evaluate new designs, manufacturing methods and the associated influences on service life. As the studies have shown, tiny differences in manufacturing processes can lead to significantly different outcomes in moving applications.



Linear chain tests of all chainflex® cables with different radii and travels



The chainflex® cables must also prove themselves in real applications under extreme conditions

3. Quality tests during production

After production, a random number of cables are subjected to the VDE or UL standard tests, as well as other special igus® tests according to certain selection criteria. The laboratory batch tests up to 20% of all finished cables in a continuous bending test and then carries out the necessary structural examinations afterwards.

4. Long-time tests of service life

These tests have to be carried out over a period of up to 5 years and investigate the actual maximum service life of the selected cables. The focus here is on a continuous monitoring of the electrical and mechanical parameters in order to detect a failure.

5. Customer-specific applications

A special service is offered for customer-specific tests according to the igus® standard. This type of test is based on the customer-specific movement sequences and offers the significant advantage of test-defined limits and the potential for optimisation before the start of mass production.



Rotary movement tests in very demanding chain applications using igus® twisterchain®



Test for complex movements by simulating multi-axis applications on robots

chainflex® in the laboratory – the largest test lab for moving cables in the world

... 3,800m² test laboratory with over 65 test stations, two climatic containers (40 feet each), and 200m of outdoor testing facilities ...





2 billion test strokes every year

250 million cycles in batch testing per year

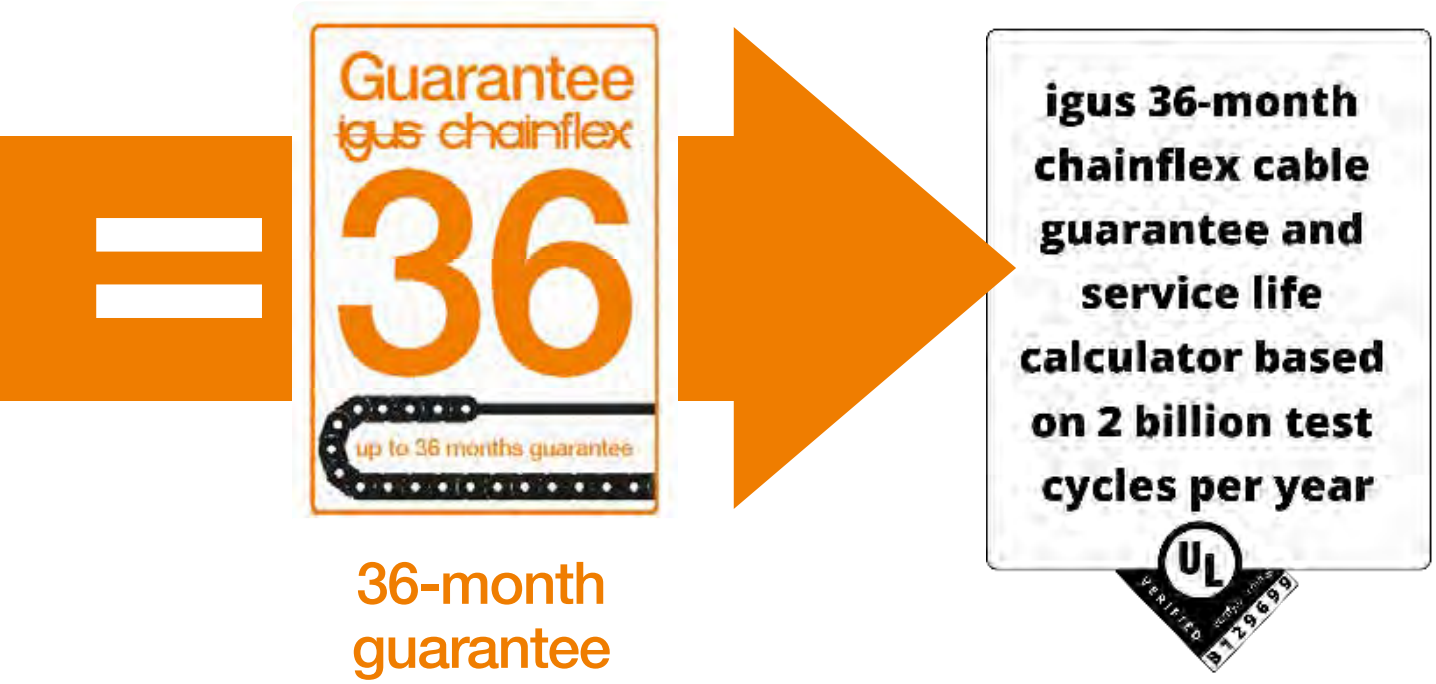
Anyone who wants to carry out systematic, comparative and reproducible tests for more than 2 billion double strokes and 1.4 million electrical measurements must invest in the necessary space and resources. On a total of 65 test stations, various test series are carried out according to the igus® test standards. The laboratory team is made up of technically qualified employees who test and monitor thousands of measuring points in e-chains® and cables over a wide range of travel lengths, in horizontal or vertical applications and always under the most real-life conditions possible. Multi-axis e-chains® such as the triflex® series from the robot range are also tested for torsional strength on special test rigs.

Special test equipment for special applications

In addition to the normal service life and quality tests, special test rigs are also available for custom tests. For example, abrasion and media tests for materials are carried out under more demanding experimental conditions than carried out according to UL or VDE standards for storage and aging. The optimum matching of igus® cable outer jacket materials to the energy supply system materials is vital. The influence of thermal factors on moving cables can be analysed in two special 40 foot climatic containers covering a temperature range of -40°C to +60°C. Both are equipped with a 6m long travel, which can be operated with different radii and e-chains®. In contrast to the standard VDE winding mandrel test (for details see page 34), one can test the aging in very different temperature profiles during continuous motion in e-chains®.

... UL verified ...

... qualified monitoring of laboratory & manufacturing with UL ... certified chainflex® guarantee promise ...



36-month guarantee

Consistent monitoring and accurate test documentation

A necessary condition for successful and meaningful testing is the systematic monitoring and documentation of the results. Here, monitoring systems developed by igus® are used which, in addition to offering constant online monitoring, ensure documentation with a very high accuracy. In this way wear can also be detected before failure. This early detection - without a destructive test - allows design modifications to be made. After each test, all the cables are dissected into their elements, examined in detail and their properties documented.

Because of these test programs, good quality data on all chainflex® cables are available and offer the user planning reliability for their cable selection.

Facts and figures

- The industry‘s largest test lab for moving cables
- 25 years of experience
- 3,800m^2 test area
- 65 test stations
- 800 tests conducted in parallel
- 2 billion double strokes a year
- 1.4 million electric measurements per year
- Audited and certified by Underwriter Laboratories (UL)


World's first
3xd
100 million double strokes in e-chains® guaranteed!

Guarantee
igus chainflex
36
up to 36 months guarantee

igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year



Smaller and smaller installation spaces, shorter and shorter cycle times, 99% availability. These are the requirements that innovative automation specialists must meet.
To do this, igus® has been working on an unprecedented innovation for more than ten years.
The new generation of chainflex® **CF98.PLUS** (unshielded) and chainflex® **CF99.PLUS** (shielded) control cables are a consistent development of the well-known, highly successful CF98/CF99 and CF298 and CF299 control cable series.
Systematic research on process technology and insulation and conductor materials supported by a wide variety of test series in the igus® laboratory enabled igus® to develop this new generation of control cables.
The result is cable series that can be used reliably with a minimum **bend radius of just 3 x d** (3 x cable diameter).

The cross-sectional areas range from 0.14mm^2 to 0.5mm^2 in both the shielded and unshielded versions.
This makes igus® the first and only manufacturer to offer catalogue goods for use in an e-chain® with a guaranteed service life of 100 million double strokes.
This is with acceleration values of up to 100m/s^2.

You will find the complete information about the new generation of chainflex® control cables in this catalogue:

chainflex® CF98.PLUS ▶ Page 134

chainflex® CF99.PLUS ▶ Page 138

World first: High-end TPE cables ...

Avoid machine fires with high-end TPE cables

... cold ... ... hot ...



According to the US National Fire Protection Association (NFPA), machine fires are the fourth leading cause of fires in industrial environments in the USA, closely followed by electrical fires. NFPA analyses state that leading causes of unclassified fires in manufacturing buildings involved flammable or combustible liquids or gases, pipelines or filters, but also included fires started by electrical wire or cable insulation. In addition to loose clamp connections, this is also caused by overloading or cable breaks.
Cables that are exposed to continuous movement and the smallest bending radii are therefore particularly at risk. If these conditions apply, the cables used in such applications must have jacket materials that can withstand these dynamics over very long periods of time.

igus® has been developing and testing cables for moving applications for more than 30 years. Their different types are adapted to various electrical and mechanical challenges of customers in the industrial environment via different types of stranding, bundled cores and jacket materials. The result is a product range of different cable types with jacket materials made of PVC, iguPUR, PUR and TPE, which guarantee the same electrical properties in every version.
This selection opens up all possibilities for customers to find the right cable for completely different and very specific applications.

igus® categorises the jacket materials of the chainflex® cables in terms of media resistance, temperature resistance, flexural strength and the properties "flame-retardant" or "halogen-free", among others.

Many thousands of test series and over 30 years of experience in the field also led to the realisation that the halogen-free, non-flame-retardant igus® TPE jacket materials show by far the highest breaking strength at a high bending load and at small bending radii within an e-chain®.

However, although these cable series easily achieved the best performance under continuous bending in

... with UL approval

... long ...

... small ...



e-chains®, they also had a major disadvantage; since the material was not flame-retardant, an UL AWM approval was not possible.

In cooperation with the Underwriters Laboratories (UL) igus® has now been able to prove that an AWM approval of the high-end TPE jacket material can indeed follow the UL standards.
The basis of the argument is the comparison of fire safety and reliable functionality of a cable: UL specifies the following requirements for approval, that cables must ensure maximum safety and prevent the spread of fire in an application.
igus® was able to prove to Underwriters Laboratories that using halogen-free high-end TPE reliably prevents premature ageing of the outer jackets in highly dynamic applications; indeed, it rules them out almost completely. This means that the voltage-carrying cores are protected even under maximum bending stress and are so safe that even the development of fires can be avoided.
The fact that the cables reliably avoid a reduction of the cable cross-section even under the highest load and with the tightest radii reliably excludes an increase of the current density and thus an excessive heating of the cable up to a possible fire.

By granting the unique new igus® UL AWM approval for chainflex® cables with high-end TPE jackets, the UL thus acknowledges that ensuring the function of cables in motion is of equal relevance to all factors that prevent the spread of fire.
Thus, igus® can expand its high-end chainflex® cable product range with UL AWM approval.

Safe cable selection – the different test methods

The movements carried out by cables in industrial applications range from simple linear strokes to 6-axis robot applications. Systematic, repeated series of tests under realistic conditions are essential in order to be able to predict the service life of cables.
On the following pages, igus® provides an overview of the test methods that are used for chainflex® cables, depending on the requirements and the materials used. The tabular overview enables the speedy selection of cables that meet your requirements.

Fire tests (page 39-40)

Depending on the application and the place of use, there are different requirements regarding the flame-retardant properties of a cable. To meet this, igus® offers a wide variety of tests in order to guarantee the product is appropriate.



Media tests (page 41)

Media resistance is a very important factor when selecting the optimum jacket material. Due to the test series, the properties of the products are clearly defined and, if the correct material is chosen, cost-intensive failures during operation can be avoided.

Temperature tests (page 42)

Near the respective temperature limits, moving cables can fail quickly with fractures in the jacket due to the molecular structure of the thermoplastic material used. As a result of multiple test series, igus® has been able to demonstrate that standards based tests do not provide enough adequate information about the use of cables in energy chains as they do not replicate the real stresses and loads that cables are subjected to in the real world. Today, igus® is the only manufacturer in the world, to supply cables with tested jacket materials that are guaranteed to withstand the stresses of movements in e-chains® at the indicated ambient temperatures , because they have been tested under such real conditions.

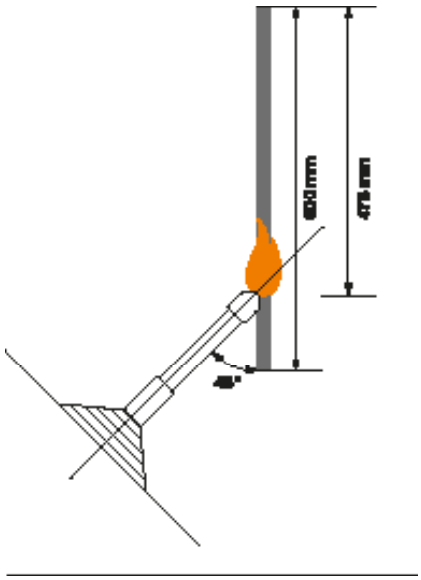
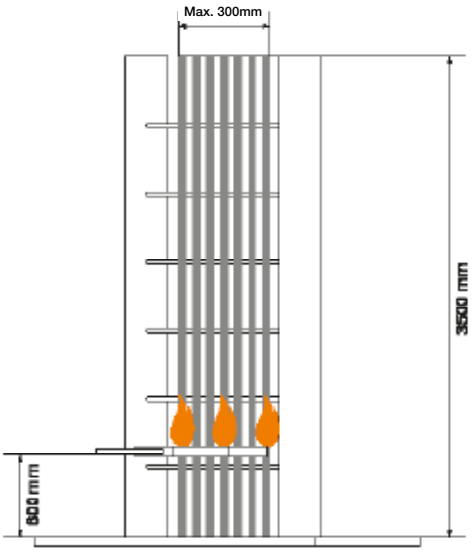
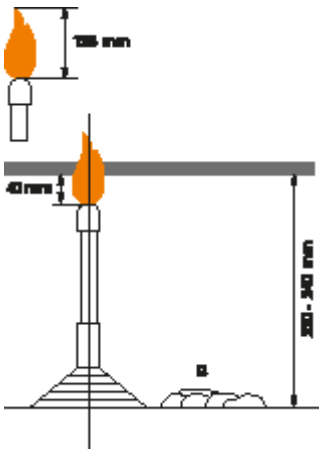


Motion tests (page 43)

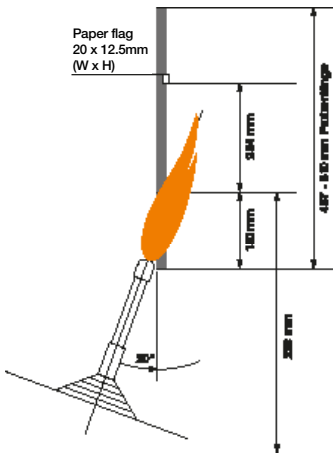
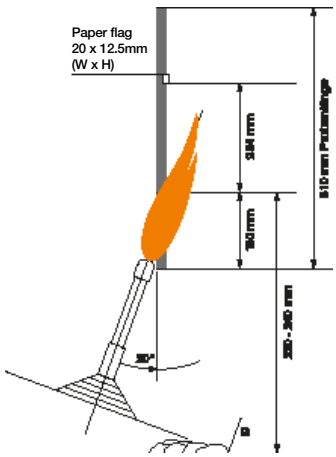
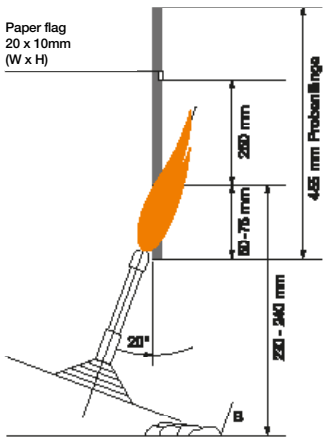
Though there are many test standards, none of today's standards specify tests that can adequately verify the service life of a cable in an energy chain. In this regard, igus® is the only manufacturer that has more than 30 years of experience testing cables in e-chains® and performs the most comprehensive range of dynamic cable tests in the world. This includes a large number of different test series. This overview shows the igus® range of basic tests for qualifying e-chain® cables.



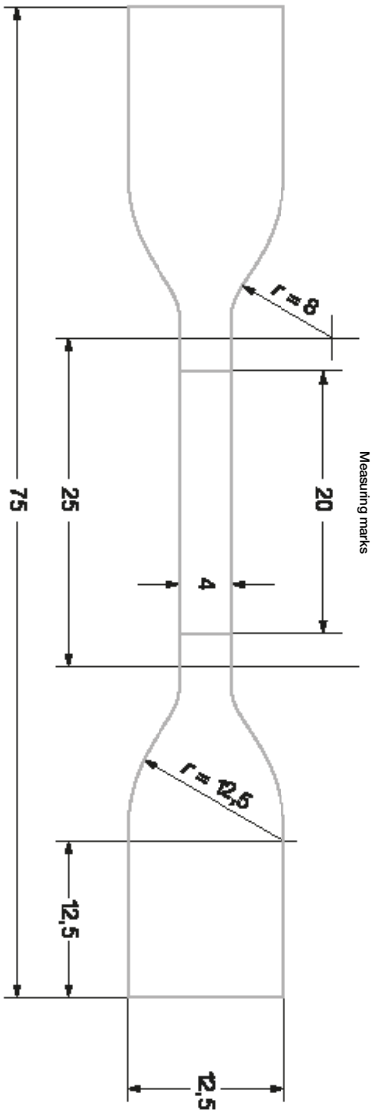
Test methods | **Fire tests**

Test	Specification	Design
IEC 60332-1-2	Test of vertical flame propagation on a core, an insulated wire or a cable, test method 1kW - flame with gas/air mixture Sample length: 600mm Burner: According to IEC 60332-1-1 Test temperature: 1kW flame Position of the sample: Vertical Position of the flame: 45° to the vertical Flame duration: See table below Conditions: The damage or carbonisation must only occur between 50mm and 500mm, measured from the upper attachment point Outer diameter of the sample [mm] / Flame duration [s]: <25: 60 25-50: 120 50-75: 240 >75: 480	
IEC 60332-3-22/-23/-24/-25	Testing vertical flame propagation of vertically arranged bundles of cables or insulated cables Sample length: 3,500mm Burner: Flat burner (Ribbon gas burner of American Gas Furnace Co.) Test temperature: Given by the prescribed gas and air flow rate Position of the sample: Vertical Position of the flame: Horizontal Flame duration: See table below Conditions: The burnt distance should not be more than 2.5m from the lower end of the burner, unless otherwise specified in the relevant standards. Regulation / Flame duration: IEC 60332-3-22 and -23: 40 minutes IEC 60332-3-24 and -25: 20 minutes	
FT2 Flame Test	UL 1581, § 1100 (FT2 Flame Test) Length of the sample: 250 – 300mm Position of the sample: Horizontal Position of the flame: 20° to the vertical Flame duration: 30 seconds Conditions: The burnt distance must not exceed 100mm. Dripping material must not ignite the underlying cotton (B).	

Test methods | **Fire tests**

Test	Specification	Design
Vertical Flame and FT1	**UL 1581, § 1060 (Vertical Flame und FT1 Test)** Sample length: 457mm-610mm Burner: Bunsen burner with additional air supply (Tirril gas burner) Ø9.5mm Test temperature: 500W flame Position of the sample: Vertical Position of the flame: 20° to the vertical Flame duration: 5 x 15 seconds with 15 second flame break each Conditions: - Paper flag up to maximum 25% charred - The sample must continue to burn for maximum 1 minute	
VW-1 Flame	**UL 1581, § 1080 (VW-1 Flame Test)** Sample length: 610mm Burner: Bunsen burner with additional air supply (Tirril gas burner) Ø9.5mm Test temperature: 500W flame Position of the sample: Vertical Position of the flame: 20° to the vertical Flame duration: 5 x 15 seconds with 15 second flame break each Conditions: - Paper flag up to maximum 25% charred - The sample must continue to burn for maximum 1 minute - Time noted until the flame/sample is extinguished - Dripping material must not ignite the cotton (B) lying under it	
Cable Flame	**UL 1581, § 1061 (Cable Flame Test)** Sample length: 455mm Burner: Bunsen burner with additional air supply (Tirril gas burner) Ø9.5mm Test temperature: 500W flame Position of the sample: Vertical Position of the flame: 20° to the vertical Flame duration: 3 x 60 seconds with 30 seconds flame break each Conditions: - Paper flag up to maximum 25% charred - The sample must continue to burn for maximu 1 minute - Dripping material must not ignite the cotton (B lying under it	

Test methods | **Media tests**

Test	Specification	Design
DIN EN 50363-4-1	**Testing of oil resistance for PVC jackets** Test according to DIN EN 60811-2-1, Clause 10 Test oil: IRM 902 Preparation of the sample according to DIN EN 60811-501 Test temperature: 90±2° Test duration: 7x 24hrs Followed by storage at room temperature of at least 16hrs, but not longer than 24hrs Maximum alteration of tensile strength: ±30% Maximum elongation at break: ±30%	
DIN EN 50363-10-2	**Testing of oil resistance for PUR jacket** Test according to DIN EN 60811-2-1, Clause 10 Test oil: IRM 902 Preparation of the sample according to DIN EN 60811-501 Test temperature: 100±2° Test duration: 7x 24hrs Followed by storage at room temperature of at least 16hrs, but not longer than 24hrs Maximum alteration of tensile strength: ±40% Minimum median elongation at break: 300% Maximum elongation at break: ±30%	
DIN EN 60811-404	**Testing of oil resistance for TPE jacket** Test according to DIN EN 60811-2-1, Clause 10 Test oil: IRM 902 Preparation of the sample according to DIN EN 60811-501 Test temperature: 100±2° Test duration: 7x 24hrs Followed by storage at room temperature of at least 16hrs, but not longer than 24hrs Maximum alteration of tensile strength: ±30% Maximum elongation at break: ±30%	

Details on the media resistance of chainflex® cables ▶ Pages 956-959

Test methods | **Temperature tests**

Test	Specification	Design

DIN EN 60811-504

Bending test at low temperature for jacket

Feed-through of the cold winding test according to 8.2 from DIN EN 60811-504

Deviating from the standard also the outer diameter of the sample > 12.5mm

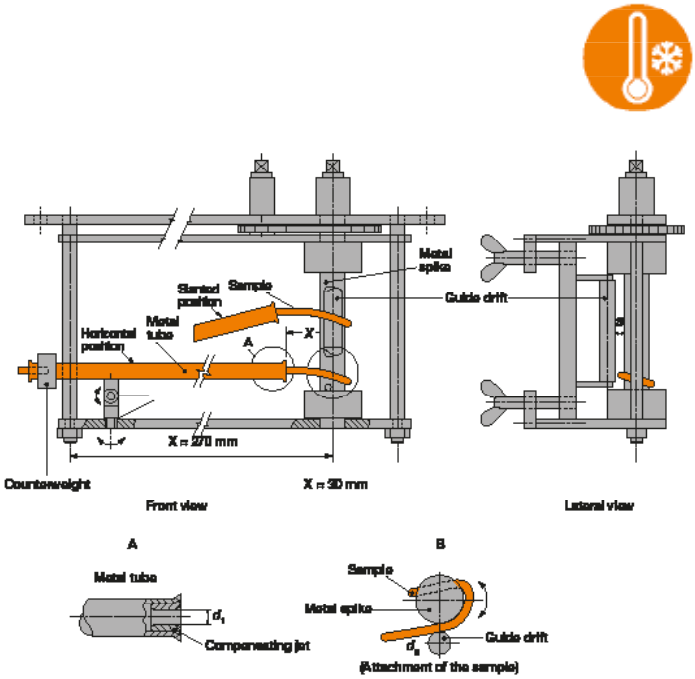
Mandrel diameter 4-5 times the sample diameter (there must be at least 2 samples)

Outer diameter (*d*) of the sample [mm]	Number of windings
d ≤ 2.5	10
2.5 < d ≤ 4.5	6
4.5 < d ≤ 6.5	4
6.5 < d ≤ 8.5	3
8.5 < d	2

Storage of the wound sample > 16hrs at test temperature

Heat to room temperature

When viewed with the naked eye or visual aid without magnification, there should not be any cracks in the outer jacket



DIN EN 50305

Low temperature impact test for jacket

Feed-through of the cold impact test according to 8.5 from DIN EN 60811-504

Selection criteria according to 5.1 from

DIN EN 50305

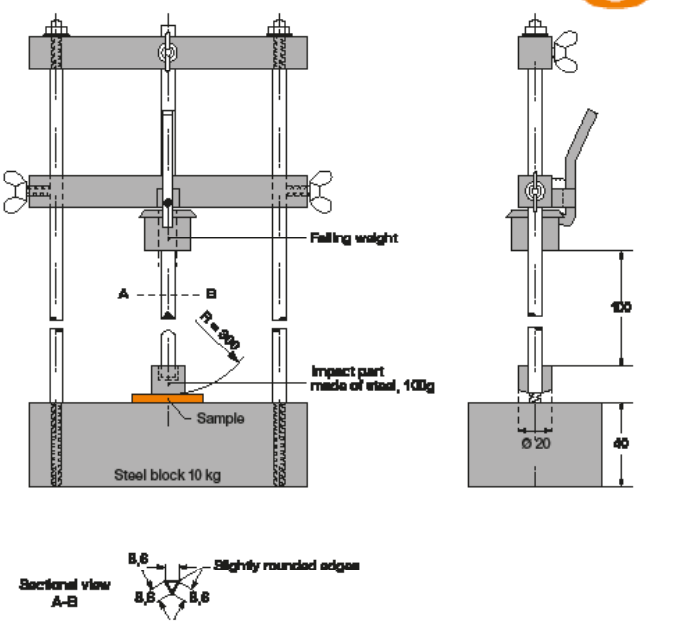
Diameter of the cable (D) [mm]	Weight of the hammer [g]	Weight of the intermediate sample [g]	Fall height [mm]
D < 15	1,000	200	100
15 < D ≤ 25	1500	200	150
D > 25	2,000	200	200

3 pieces, length at least 5x the outer diameter or 150mm

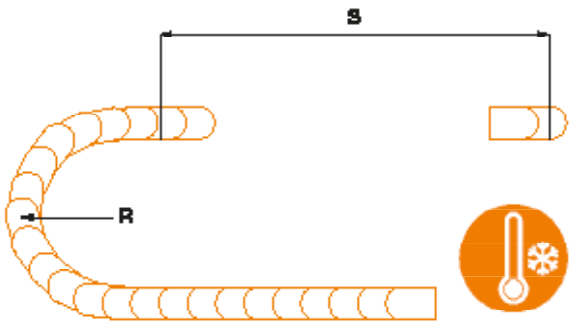
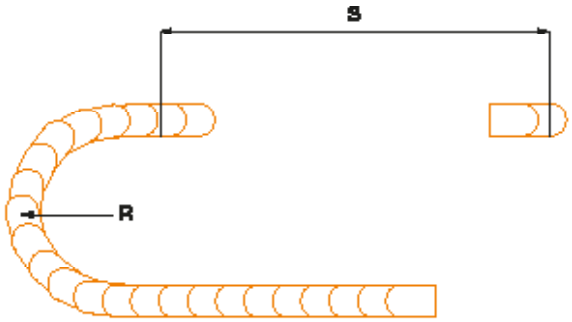
Storage of test equipment and samples > 16hrs at test temperature

Heat to room temperature

When viewed with the naked eye or visual aid without magnification, there should not be any cracks in the outer jacket.



Test methods | **Motion tests**

Test	Specification	Design
igus® test "Cold test" in e-chain®	**Horizontal travel** Travel length S: up to about 5m Temperature: down to about -40°C Bending factor: according to the catalogue (approx. 6.8 – 10 x d) Target: **minimum** 500,000 double strokes	
igus® test "Short travel" in e-chain®	**Horizontal travel** Travel S: up to about 2.5m Temperature: down to about -20°C Bending factor: according to the catalogue (approx. 5 – 7.5 x d) Target: **minimum** 5,000,000 double strokes	
igus® test "Long travel" in e-chain®	**Horizontal travel** Travel S: up to about 7.5 m Temperature: approx. from +5°C to +30°C Bending factor: according to the catalogue (approx. 5 – 7.5 x d) Target: **minimum** 5,000,000 double strokes	
igus® test "Torsion test"	Twisted length S: about 1m Rotation angle: according to catalogue (about ±180°) Target: **minimum** 5,000,000 cycles	



Test 2233: Control cable tested for 41 million strokes ...

Control cables are still used everywhere in automation. This makes it all the more important for control cables for constant movement in e-chains® to have a safe construction in order to meet increasingly stringent mechanical requirements.

The special properties of the chainflex® control cables are:

- igus® **braiding** in bundles with specially aligned short pitch lengths
- Gusset-filling extruded **inner jacket** in shielded cables
- **Braided shields** with optimised braid angle and optical covering up to 90%
- **Gusset-filled extruded outer jackets to secure the core braiding**, especially for long travels

Every design has to be tested time and again under real-world conditions, in order to be able to calculate a binding guarantee, or show the service life online.

Example of long-term test 2233 of a control cable of the CF5 series on a short travel, with a test bend radius reduced by 25%.

This is just one example of the numerous cable tests from the chainflex® laboratory. All current tests can be found online at ▶ www.igus-asean.com/tests

A test result from the igus® database	
Test no.	2233
Cable type	CF5.10.25
Bend radius factor in e-chain®	5.3 x d
Number of bending strokes without damage	41 million

Details of the test online:
www.igus-asean.com/test2233

Calculate service life online:
www.igus-asean.com/chainflexlife



Test 4901: Data cable tested for 53 million strokes ...

Although data cables have different electrical requirements than bus cables, data cables have a specific requirement for EMC protection. In the case of constant movement in e-chains® , the EMC shielding is subjected to very high mechanical loads.
To ensure that this load does not lead to failures in the data, a safe construction is important, especially in the shielding.

The special properties of the chainflex® data cables are:

- Very short balanced **winding in pairs** according to electrical requirements
- **Braid angles** overall shields have been especially developed and tested by igus®
- **Pressure extruded outer jackets** to secure the shield and core structure

Every design has to be tested time and again under real-world conditions, in order to be able to calculate a binding guarantee, or show the service life online.

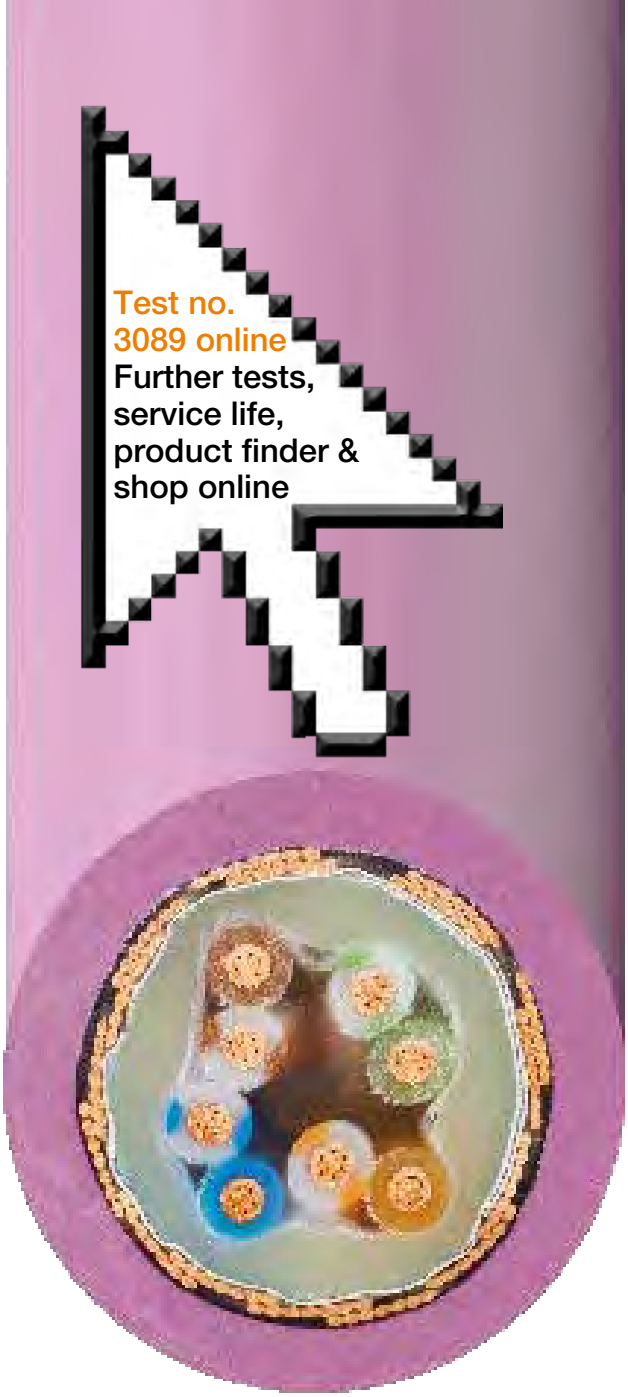
Example of long-term test 4901 of a CF211 series data cable with short travel, with a 75mm test bend radius.

This is just one example of the numerous cable tests from the chainflex® laboratory. All current tests can be found online at ▶ www.igus-asean.com/tests

A test result from the igus® database	
Test no.	4901
Cable type	CF211 Data
Bend radius factor in e-chain®	6.6 x d
Number of bending strokes without damage	53 million

Details of the test online:
www.igus-asean.com/test4901

Calculate service life online:
www.igus-asean.com/chainflexlife



Test 3089: Ethernet bus cable tested for 76 million strokes ...

The use of fieldbus cables, and particularly the rapid growth of Ethernet communication in the industrial environment, places very high requirements on the design and manufacture of bus cables. This is the only way to prevent the classic mechanical damage and the gradual loss of data transmission quality.
Increasing attenuation due to shield damage or characteristic impedance changes leads to reduction in data speed. Since the attenuation values are constantly changing during movement, troubleshooting is very challenging.

The special properties of the chainflex® bus cables are:

- The **insulation material selection**, which does not change its electrical properties even after millions of cycles.
- Very balanced **cores**, which meet the bus requirements in combination with the mechanical demands
- **Braid angle** of the chainflex® overall shield developed and tested by igus®
- With **pressure extruded outer jackets** for securing the shield and core structure

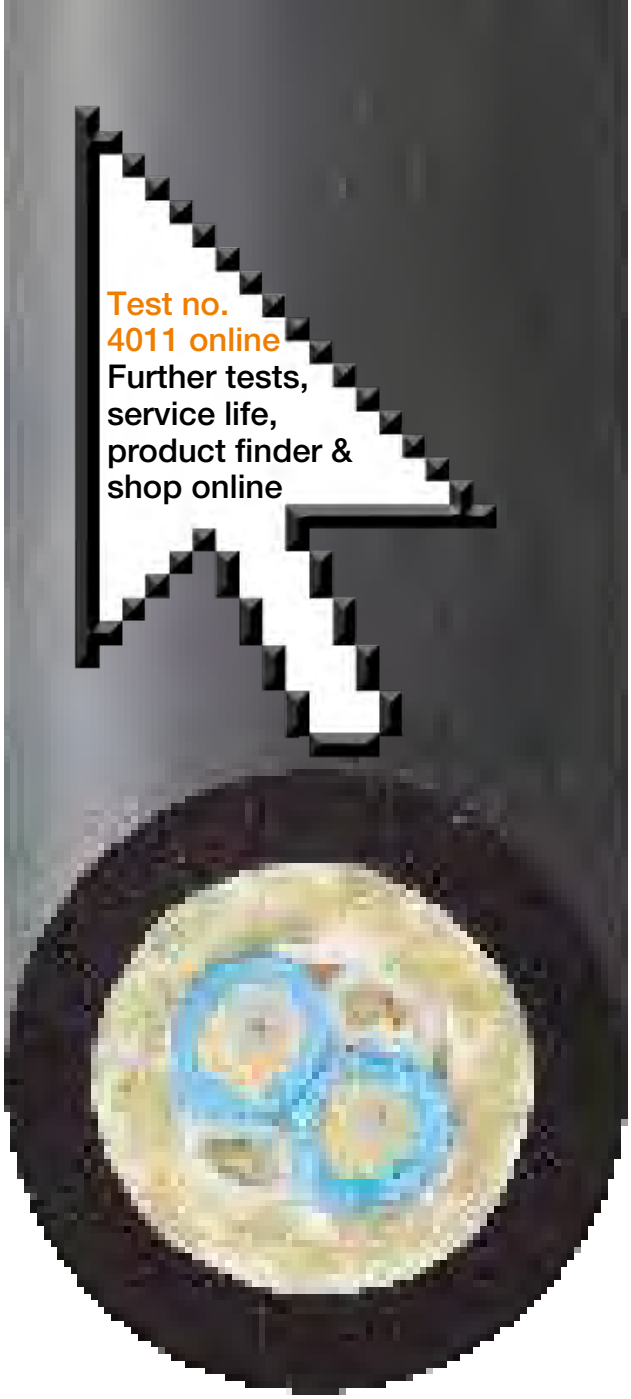
Every design has to be tested time and again under real-world conditions, in order to be able to calculate a binding guarantee, or show the service life online.

This is just one example of the numerous cable tests from the chainflex® laboratory. All current tests can be found online at ▶ www.igus-asean.com/tests

A test result from the igus® database	
Test no.	3089
Cable type	CFBUS.045
Bend radius factor in e-chain®	9.4 x d
Number of bending strokes without damage	76 million

Details of the test online:
www.igus-asean.com/test3089

Calculate service life online:
www.igus-asean.com/chainflexlife



Test 4011: Fibre Optic Cable tested for 50 million strokes ...

FOC cables are the safest and most effective data transmission method.
When using glass fibres, the effective length, the effective data volume and the EMC safety is unsurpassed for today's automation technology.
However, the pure glass fibres are sensitive to mechanical loads. Therefore, chainflex® fibre optic cables are designed in such a way that the fibres are never exposed to mechanical loads at any time, but the cable structure safely absorbs all forces, thus protecting the fibres.

The special properties of the chainflex® fibre optic cables are:

- FOC **multimode or singlemode fibre** with high flexural strength
- Balanced **winding** of the aramide-protected subcable elements
- High tensile strength **aramid torsion protection braid**
- With pressure extruded **outer jackets** for securing the structure.

Every design has to be tested time and again under real-world conditions, in order to be able to calculate a binding guarantee, or show the service life online.

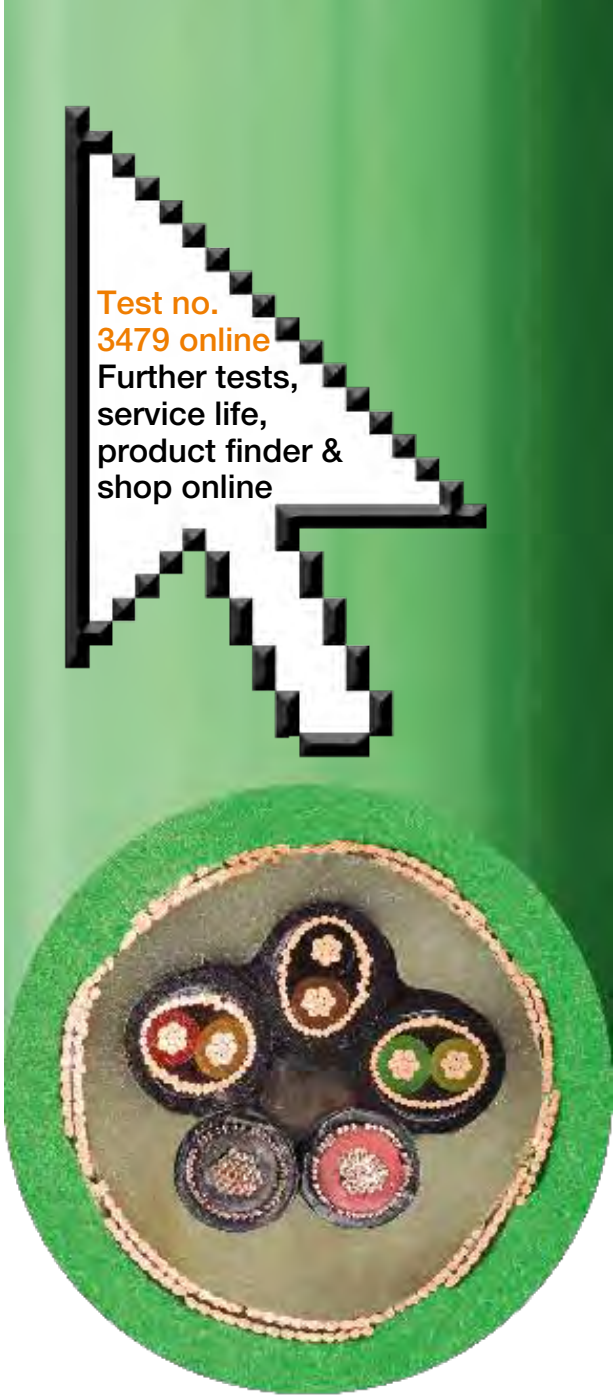
Example of long-term test 4011 of a multimode fibre glass cable of CFLB series tested short travel distance, with a bend radius factor of only 4.2 x d.

This is just one example of the numerous cable tests from the chainflex® laboratory. All current tests can be found online at ▶ www.igus-asean.com/tests

A test result from the igus® database	
Test no.	4011
Cable type	CFLG.2LB
Bend radius factor in e-chain®	4.2 x d
Number of bending strokes without damage	50 million

Details of the test online:
www.igus-asean.com/test4011

Calculate service life online:
www.igus-asean.com/chainflexlife



Test 3479: Measuring system cable tested for 66 million strokes ...

Measuring system cables are the important communication link between the drive and the control system. Damage can occur if the electrical signals are not transmitted safely and in the correct time due to motion. Therefore measuring system cables have a special requirement for EMC protection.
In the case of constant movement in e-chains® , the EMC shielding is subjected to very high mechanical loads. To ensure that this load does not lead to failures in the measuring system, a safe construction is very important, especially in the shielding and stranding.

The special properties of the chainflex® measuring system cables are:

- Stranding elements **specifically designed for the measuring system** with the necessary element shields and optimised strand pitch lengths
- Core colour code matched to the defined measuring system
- Gusset-filling extruded **inner jacket**
- **Shield structures especially** developed and tested by igus®
- With **pressure extruded outer jackets** for securing the shield and core structure

Every design has to be tested time and again under real-world conditions, in order to be able to calculate a binding guarantee, or show the service life online.
Example of long-term test 3479 of a measuring system cable of the CF11.D series, with a 75mm test bend radius.
This is just one example of the numerous cable tests from the chainflex® laboratory. All current tests can be found online at ► www.igus-asean.com/tests

A test result from the igus® database	
Test no.	3479
Cable type	CF11.002.D
Bend radius factor in e-chain®	7.1 x d
Number of bending strokes without damage	66 million

Details of the test online:
www.igus-asean.com/test3479

Calculate service life online:
www.igus-asean.com/chainflexlife



Test 3841: Servo cable tested for 53 million strokes ...

Servo cables are the standard for drive technology in automation and machine construction. Servo cables are often mechanically constructed in a very unbalanced manner, because of the combination of power cores and shielded pairs.
To ensure that this asymmetry does not lead to failures when in movement in e-chains® , servo cables must have very special design features, especially in long, gliding travels. Due to the ever increasing speed of today's IGBT frequency converters, very low-capacitance insulating materials are usually needed.

The special properties of the chainflex® servo cables are:

- Low-capacitance **insulating materials**
- Short **optimised pitch lengths**, in combination with good sliding materials
- The **signal or brake pairs matched** to the drive type with optimised shielding for the highest EMC protection
- Gusset-filling extruded **inner jacket**
- **High EMC protection** due to optimised overall shield

Every design has to be tested time and again under real-world conditions, in order to be able to calculate a binding guarantee, or show the service life online.

Example of long-term test 3841 of a CF21 series servo cable with a test bend factor of only 6.1 x d.

This is just one example of the numerous cable tests from the chainflex® laboratory. All current tests can be found online at ▶ www.igus-asean.com/tests

A test result from the igus® database	
Test no.	3841
Cable type	CF21.UL
Bend radius factor in e-chain®	6.1 x d
Number of bending strokes without damage	53 million

Details of the test online:
www.igus-asean.com/test3841

Calculate service life online:
www.igus-asean.com/chainflexlife



Test 4904: Motor cable tested for 43 million strokes ...

Motor cables are very common in drive technology for automation as well as in plant and machine construction.
Because of today's high dynamics, the design features of conductors, insulation and in particular the core winding must be chosen in such a way that the cables can safely withstand millions of strokes.
Due to the ever increasing speed of today's IGBT frequency converters, very low-capacitance insulating materials are usually needed.

The special properties of the chainflex® motor cables are:

- Low-capacitance **insulating materials**
- Short optimised **pitch lengths**, in combination with good sliding materials
- In shielded motor cables, the gusset-filled extruded **inner jacket** with optimised shielding for maximum EMC protection
- Gusset-filling extruded **outer jackets** for unshielded types

Every design has to be tested time and again under real-world conditions, in order to be able to calculate a binding guarantee, or show the service life online.

Example of long-term test 4904 of a CF38 series motor cable, with a test bend factor of only 6.5 x d.

This is just one example of the numerous cable tests from the chainflex® laboratory. All current tests can be found online at ▶ www.igus-asean.com/tests

A test result from the igus® database	
Test no.	4904
Cable type	CF38
Bend radius factor in e-chain®	6.5 x d
Number of bending strokes without damage	43 million

Details of the test online:
www.igus-asean.com/test4904

Calculate service life online:
www.igus-asean.com/chainflexlife



Test 3486: Robot bus cable tested for 22 million cycles ...

Cables for torsion are subjected to very specific stresses. In the case of shielded bus cables a high mechanical load is exerted by the bending and torsion on the insulation materials and especially on the shield.
This requires completely different structural concepts when compared to cables for linear e-chains application.

The special properties of the chainflex® bus robot cables are:

- Low-capacitance **insulating materials**
- Optimised **pitch lengths**, in combination with force-absorbing filler elements
- Special sliding **films** between the shielded elements
- Pressure extruded **outer jacket**

Every design, no matter how well thought out, should be tested again and again under real conditions so that a binding guarantee or the service life can be calculated online.
Therefore, test standards are also necessary for robotic cables, which test these constructions time and again.

Example for long-term test 3486 of an Ethernet robot cable with 4 shielded Ethernet pairs of the series CFROBOT8, with a test torsion angle of ±180° on one metre.

This is just one example of the numerous cable tests from the chainflex® laboratory. All current tests can be found online at ▶ www.igus-asean.com/tests

A test result from the igus® database	
Test no.	3486
Cable type	CFROBOT8
Torsion angle in e-chain®	±180°/m
Cycle frequency without damage	22 million

Details of the test online:
www.igus-asean.com/test3486

Calculate service life online:
www.igus-asean.com/chainflexlife

Control cables



chainflex® cable	Jacket	Shield	Bend radius e-chain® [factor x d]	Temperature e-chain® from/to [°C]	Approvals and standards	Oil-resistant	Torsion-resistant	v max. [m/s] unsupported	v max. [m/s] gliding	a max.	Page	
Control cables												
CF880	PVC		12.5	+5/+70				3		20	58	
CF881	PVC	✓	12.5	+5/+70				3		20	62	
CF130.UL	PVC		7.5	+5/+70			✓	3	2	20	66	
CF140.UL	PVC	✓	7.5	+5/+70				3	2	20	70	
CF150.UL	PVC		7.5	+5/+70		✓	✓	3	2	20	74	
CF160.UL	PVC	✓	7.5	+5/+70		✓		3	2	20	78	
CF5	PVC		6.8	+5/+70		✓	✓	10	5	80	82	
CF6	PVC	✓	6.8	+5/+70		✓		10	5	80	86	
CFSOFT1	PVC		5	+5/+70		✓		10	5	80	90	
CFSOFT2	PVC	✓	5	+5/+70		✓		10	5	80	92	
CF890	iguPUR		12.5	-20/+80		✓		3		20	94	
CF891	iguPUR	✓	12.5	-20/+80		✓		3		20	98	
CF77.UL.D	PUR		6.8	-25/+80		✓	✓	10	5	80	102	
CF78.UL	PUR	✓	6.8	-25/+80		✓		10	5	80	106	
CF2	PUR	✓	5	-20/+80		✓		10	5	80	110	
CF9	TPE		5	-35/+100		✓	✓	10	6	100	114	
CF10	TPE	✓	5	-35/+100		✓		10	6	100	118	
CF9.UL	TPE		5	-35/+100		✓	✓	10	6	100	122	
CF10.UL	TPE	✓	5	-35/+100		✓		10	6	100	126	
CF98	TPE		4	-35/+90		✓	✓	10	6	100	130	
CF99	TPE	✓	4	-35/+90		✓		10	6	100	132	
CF98.PLUS	TPE		3	-35/+90		✓	✓	10	6	100	134	New
CF99.PLUS	TPE	✓	3	-35/+90		✓		10	6	100	138	New
Twistable control cables (twistable cables chapter ▶ Page 378)												
CF77.UL.D	PUR		6.8	+25/+80		✓	✓				384	
CFROBOT2	PUR	✓	10	+25/+80		✓	✓				388	

chainflex® guarantee

	chainflex® cables	Temperature, from/to [°C]	v max. [m/s] unsupported	v max. [m/s] gliding	a max. [m/s²]	Travel distance [m]
Control cables						
	CF880	+5 / +15 +15 / +60 +60 / +70	3	-	20	≤ 10
	CF881	+5 / +15 +15 / +60 +70 / +70	3	-	20	≤ 10
	CF130.UL	+5 / +15 +15 / +60 +60 / +70	3	2	20	≤ 50
	CF140.UL	+5 / +15 +15 / +60 +60 / +70	3	2	20	≤ 50
	CF150.UL	+5 / +15 +15 / +60 +60 / +70	3	2	20	≤ 50
	CF160.UL	+5 / +15 +15 / +60 +60 / +70	3	2	20	≤ 50
	CF5	+5 / +15 +15 / +60 +60 / +70	10	5	80	≤ 100
	CF6	+5 / +15 +15 / +60 +60 / +70	10	5	80	≤ 100
	CFSOFT1	+5 / +15 +15 / +60 +60 / +70	10	5	80	≤ 5
	CFSOFT2	+5 / +15 +15 / +60 +60 / +70	10	5	80	≤ 5

[1] Guaranteed service life for these series (details ▶ see page 28-29)

Guaranteed service life (1)

Minimum bend radius [factor x d] for travel distance		Minimum bend radius [factor x d] for travel distance		Minimum bend radius [factor x d] for travel distance		Page
< 10m	≥ 10m	< 10m	≥ 10m	< 10m	≥ 10m	
5 million (1 million) double strokes *		**7.5 million (3 million) double strokes ***		**10 million (5 million) double strokes ***		
15	-	16	-	17	-	
12.5	-	13.5	-	14.5	-	58
15	-	16	-	17	-	
15	-	16	-	17	-	
12.5	-	13.5	-	14.5	-	62
15	-	16	-	17	-	
10	12.5	11	13.5	12	14.5	
7.5	10	8.5	11	9.5	12	66
10	12.5	11	13.5	12	14.5	
10	12.5	11	13.5	12	14.5	
7.5	10	8.5	11	9.5	12	70
10	12.5	11	13.5	12	14.5	
10	12.5	11	13.5	12	14.5	
7.5	10	8.5	11	9.5	12	74
10	12.5	11	13.5	12	14.5	
10	12.5	11	13.5	12	14.5	
7.5	10	8.5	11	9.5	12	78
10	12.5	11	13.5	12	14.5	
7.5	10	8.5	11	9.5	12	
6.8	7.5	7.8	8.5	8.8	9.5	82
7.5	10	8.5	11	9.5	12	
7.5	10	8.5	11	9.5	12	
6.8	7.5	7.8	8.5	8.8	9.5	86
7.5	10	8.5	11	9.5	12	
10 million		**15 million**		**20 million**		
6.8	-	7.5	-	8.5	-	
5	-	6	-	7	-	90
6.8	-	7.5	-	8.5	-	
6.8	-	7.5	-	8.5	-	
5	-	6	-	7	-	92
6.8	-	7.5	-	8.5	-	

* Higher number of double strokes? Calculate service life online: ▶ www.igus-asean.com/chainflexlife
Values in brackets apply to the CF880 and CF881 series



igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year

chainflex® guarantee

	chainflex® cables	Temperature, from/to [°C]	v max. [m/s] unsupported	v max. [m/s] gliding	a max. [m/s²]	Travel distance [m]
Control cables						
	CF890	-20 / -10 -10 / +70 +70 / +80	3	-	20	≤ 10
	CF891	-20 / -10 -10 / +70 +70 / +80	3	-	20	≤ 10
	CF77.UL.D	-25 / -15 -15 / +70 +70 / +80	10	5	80	≤ 100
	CF78.UL	-25 / -15 -15 / +70 +70 / +80	10	5	80	≤ 100
	CF2	-20 / -10 -10 / +70 +70 / +80	10	5	80	≤ 100
	CF9	-35 / -25 -25 / +90 +90 / +100	10	6	100	> 400
	CF10	-35 / -25 -25 / +90 +90 / +100	10	6	100	> 400
	CF9.UL	-35 / -25 -25 / +90 +90 / +100	10	6	100	> 400
	CF10.UL	-35 / -25 -25 / +90 +90 / +100	10	6	100	> 400
	CF98	-35 / -25 -25 / +80 +80 / +90	10	6	100	≤ 100
	CF99	-35 / -25 -25 / +80 +80 / +90	10	6	100	≤ 100
	CF98.PLUS New!	-35 / -25 -25 / +80 +80 / +90	10	6	100	≤ 100
	CF99.PLUS New!	-35 / -25 -25 / +80 +80 / +90	10	6	100	≤ 100

(1) Guaranteed service life for these series (details ▶ see page 28-29)

Guaranteed service life (1)

Minimum bend radius [factor x d] for travel distance		Minimum bend radius [factor x d] for travel distance		Minimum bend radius [factor x d] for travel distance		Page
< 10m	≥ 10m	< 10m	≥ 10m	< 10m	≥ 10m	
5 million (1 million) double strokes *		**7.5 million (3 million) double strokes ***		**10 million (5 million) double strokes ***		
15	-	16	-	17	-	
12.5	-	13.5	-	14.5	-	94
15	-	16	-	17	-	
15	-	16	-	17	-	
12.5	-	13.5	-	14.5	-	98
15	-	16	-	17	-	
8.5	10	9.5	11	10.5	12	
6.8	7.5	7.5	8.5	8.5	9.5	102
7.5	10	9.5	11	10.5	12	
8.5	10	9.5	11	10.5	12	
6.8	7.5	7.5	8.5	8.5	9.5	106
7.5	10	9.5	11	10.5	12	
6.8		7.5		8.5		
5		6.8		7.5		110
6.8		7.5		8.5		
5 million		**7.5 million**		**12.5 million**		
6.8		7.5		8.5		
5		6		7		114
6.8		7.5		8.5		
6.8		7.5		8.5		
5		6		7		118
6.8		7.5		8.5		
5 million		**7.5 million**		**10 million**		
6.8		7.5		10		
5		6		7		122
6.8		7.5		10		
6.8		7.5		8.5		
5		6		7		126
6.8		7.5		8.5		
20 million		**30 million**		**40 million**		
5		6		7		
4		5		6		130
5		6		7		
5		6		7		
4		5		6		132
5		6		7		
5 million		**40 million**		**100 million**		
4		6		7		
3		5		6		134
4		6		7		
4		6		7		
3		5		6		136
4		6		7		

* Higher number of double strokes? Calculate service life online: ▶ www.igus-asean.com/chainflexlife

Values in brackets apply to the CF890 and CF891 series

Control cable | PVC | chainflex® CF880

5,000,000
Double strokes guaranteed

12.5 x d
Bend radius, e-chain®

10m
Travel distance, e-chain®

- For flexing applications
- PVC outer jacket
- Flame-retardant



Example image

Dynamic information

Bend radius	**e-chain® linear**	minimum 12.5 x d
	flexible	minimum 10 x d
	fixed	minimum 7 x d
Temperature	**e-chain® linear**	+5°C up to +70°C
	flexible	-5°C up to +70°C (following DIN EN 60811-504)
	fixed	-15°C up to +70°C (following DIN EN 50305)
v max.	**unsupported**	3m/s
a max.		20m/s²
Travel distance		Unsupported travels up to 10m, Class 1

Cable structure

Conductor	Conductor consisting of bare copper wires (according to DIN EN 60228).
Core insulation	Mechanically high-quality TPE mixture.
Core structure	Cores wound with an optimised pitch length.
Core identification	Black cores with white numbers, one green-yellow core.
Outer jacket	Low-adhesion PVC mixture, adapted to suit the requirements in e-chains®. Colour: jet black (similar to RAL 9005)

Electrical information

Nominal voltage	300/500V 300V (following UL)
Testing voltage	2,000V (following DIN EN 50395)

EPLAN download, configurators ▶ www.igus-asean.com/CF880

Class 3.1.1.1

Basic requirements	low	1	2	**3**	4	5	6	7	highest
Travel distance	unsupported	**1**	2	3	4	5	6		≥ 400m
Oil resistance	none	**1**	2	3	4				highest
Torsion	none	**1**	2	3	4				±360°

Properties and approvals

Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
UL verified	Certificate No. B129699: "igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL/CSA AWM	See datasheet for details ▶ www.igus-asean.com/CF880
NFPA	Following NFPA 79-2018, chapter 12.9
EAC	Certificate No. RU C-DE.ME77.B.00300/19
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
CE	Following 2014/35/EU
UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Guaranteed service life (details see page 28-29)

Double strokes*	1 million	3 million	5 million
Temperature, from/to [°C]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
+5/+15	15	16	17
+15/+60	12.5	13.5	14.5
+60/+70	15	16	17

* Higher number of double strokes? Service life calculation online ▶ www.igus-asean.com/chainflexlife

Typical application areas

- For flexing applications, Class 3
- Especially for unsupported travels, Class 1
- Without influence of oil, Class 1
- No torsion, Class 1
- Preferably indoor applications
- Wood/stone processing, packaging industry, feeding, handling, adjusting devices

Control cable | PVC | chainflex® CF880



Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF880.05.02	2x0.5	5.0	11	32
CF880.05.03	3G0.5	5.5	16	37
CF880.05.04	4G0.5	6.0	21	46
CF880.05.05	5G0.5	6.5	26	55
CF880.05.07	7G0.5	7.5	37	73
CF880.05.12	12G0.5	8.5	63	108
CF880.05.18	18G0.5	10.0	94	158
CF880.05.25	25G0.5	12.0	128	227
CF880.07.02	2x0.75	5.5	16	40
CF880.07.03	3G0.75	6.0	24	49
CF880.07.04	4G0.75	6.5	32	61
CF880.07.05	5G0.75	7.0	40	73
CF880.07.07	7G0.75	8.0	56	99
CF880.07.12	12G0.75	10.0	94	152
CF880.07.18	18G0.75	11.5	140	167
CF880.07.25	25G0.75	13.5	194	284
CF880.10.02	2x1.0	6.0	21	48
CF880.10.03	3G1.0	6.5	32	58
CF880.10.04	4G1.0	7.0	42	62
CF880.10.05	5G1.0	7.5	52	86
CF880.10.07	7G1.0	8.5	73	116
CF880.10.12	12G1.0	10.5	124	182
CF880.10.18	18G1.0	12.5	186	278
CF880.10.25	25G1.0	15.0	258	393
CF880.15.02	2x1.5	6.5	32	64
CF880.15.03	3G1.5	7.0	47	82
CF880.15.04	4G1.5	7.5	63	104
CF880.15.05	5G1.5	8.5	78	120
CF880.15.07	7G1.5	10.0	109	167
CF880.15.12	12G1.5	12.0	186	260
CF880.15.18	18G1.5	14.5	279	370
CF880.15.25	25G1.5	17.5	387	514

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

EPLAN download, configurators ▶ www.igus-asean.com/CF880

Class 3.1.1.1

Basic requirements	low	1	2	**3**	4	5	6	7	highest
Travel distance	unsupported	**1**	2	3	4	5	6		≥ 400m
Oil resistance	none	**1**	2	3	4				highest
Torsion	none	**1**	2	3	4				±360°



Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF880.25.03	3G2.5	8.5	78	120
CF880.25.04	4G2.5	9.0	103	150
CF880.25.05	5G2.5	10.0	129	184
CF880.25.07	7G2.5	12.0	181	256
CF880.25.12	12G2.5	15.0	327	414

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core



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ore on this on page 24/25 and online: www.igus-asean.com/cf-case



chainflex® CF880 in a short travel application

Control cable | PVC | chainflex® CF881

5,000,000
Double strokes guaranteed

12.5 x d
Bend radius, e-chain®

10m
Travel distance, e-chain®

- For flexing applications
- PVC outer jacket
- Shielded
- Flame-retardant



Example image

Dynamic information

Bend radius	**e-chain® linear**	minimum 12.5 x d
	flexible	minimum 10 x d
	fixed	minimum 7 x d
Temperature	**e-chain® linear**	+5°C up to +70°C
	flexible	-5°C up to +70°C (following DIN EN 60811-504)
	fixed	-15°C up to +70°C (following DIN EN 50305)
v max.	**unsupported**	3m/s
a max.		20m/s²
Travel distance		Unsupported travels up to 10m, Class 1

Cable structure

Conductor	Conductor consisting of bare copper wires (according to DIN EN 60228).
Core insulation	Mechanically high-quality TPE mixture.
Core structure	Cores wound with an optimised pitch length.
Core identification	Black cores with white numbers, one green-yellow core.
Overall shield	Braiding made of tinned copper wires. Coverage approx. 60% optical
Outer jacket	Low-adhesion PVC mixture, adapted to suit the requirements in e-chains®. Colour: jet black (similar to RAL 9005)

Electrical information

Nominal voltage	300/500V 300V (following UL)
Testing voltage	2,000V (following DIN EN 50395)

EPLAN download, configurators ▶ www.igus-asean.com/CF881

36-month guarantee ... more than 1,350 cable types from stock ... no cutting charges

Class 3.1.1.1

Basic requirements	low	1	2	**3**	4	5	6	7	highest
Travel distance	unsupported	**1**	2	3	4	5	6		≥ 400m
Oil resistance	none	**1**	2	3	4				highest
Torsion	none	**1**	2	3	4				±360°

Properties and approvals

Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
UL verified	Certificate No. B129699: "igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL/CSA AWM	See data sheet for details ▶ www.igus-asean.com/CF881
NFPA	Following NFPA 79-2018, chapter 12.9
EAC	Certificate No. RU C-DE.ME77.B.00300/19
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
CE	Following 2014/35/EU
UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Guaranteed service life (details see page 28-29)

Double strokes*	1 million	3 million	5 million
Temperature, from/to [°C]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
+5/+15	15	16	17
+15/+60	12.5	13.5	14.5
+60/+70	15	16	17

* Higher number of double strokes? Service life calculation online ▶ www.igus-asean.com/chainflexlife

Typical application areas

- For flexing applications, Class 3
- Especially for unsupported travels, Class 1
- Without influence of oil, Class 1
- No torsion, Class 1
- Preferably indoor applications
- Wood/stone processing, packaging industry, feeding, handling, adjusting devices

Control cable | PVC | chainflex® CF881



Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF881.05.03	(3G0.5)C	6.0	28	47
CF881.05.04	(4G0.5)C	6.5	35	54
CF881.05.05	(5G0.5)C	7.0	41	65
CF881.05.07	(7G0.5)C	8.0	59	75
CF881.05.12	(12G0.5)C	9.0	91	125
CF881.05.18	(18G0.5)C	11.0	136	177
CF881.05.25	(25G0.5)C	13.0	210	243
CF881.07.02	(2x0.75)C	6.5	30	50
CF881.07.03	(3G0.75)C	7.0	37	66
CF881.07.04	(4G0.75)C	7.5	46	72
CF881.07.05	(5G0.75)C	8.0	61	87
CF881.07.07	(7G0.75)C	9.0	83	112
CF881.07.12	(12G0.75)C	10.5	124	170
CF881.07.18	(18G0.75)C	12.0	183	238
CF881.07.25 [11)]	(25G0.75)C	14.5	222	309
CF881.10.02	(2x1.0)C	6.5	30	52
CF881.10.03	(3G1.0)C	7.0	46	73
CF881.10.04	(4G1.0)C	7.5	63	102
CF881.10.05	(5G1.0)C	8.0	76	110
CF881.10.07	(7G1.0)C	9.5	100	130
CF881.10.12	(12G1.0)C	11.5	167	229
CF881.10.18	(18G1.0)C	13.0	213	281
CF881.10.25	(25G1.0)C	16.0	291	390
CF881.15.02	(2x1.5)C	7.5	60	71
CF881.15.03	(3G1.5)C	7.5	63	87
CF881.15.04	(4G1.5)C	8.5	90	111
CF881.15.05	(5G1.5)C	9.0	94	131
CF881.15.07	(7G1.5)C	11.0	153	183
CF881.15.12	(12G1.5)C	13.0	212	282
CF881.15.18	(18G1.5)C	15.0	399	458
CF881.15.25	(25G1.5)C	18.5	425	573
CF881.25.04	(4G2.5)C	10.0	141	163
CF881.25.05	(5G2.5)C	11.0	149	195
CF881.25.07	(7G2.5)C	13.0	204	262
CF881.25.12 [11)]	(12G2.5)C	16.0	342	428

[11)] Phase-out model

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

EPLAN download, configurators ▶ www.igus-asean.com/CF881

Class 3.1.1.1

Basic requirements	low	1	2	**3**	4	5	6	7	highest
Travel distance	unsupported	**1**	2	3	4	5	6		≥ 400m
Oil resistance	none	**1**	2	3	4				highest
Torsion	none	**1**	2	3	4				±360°



igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year

Order example: CF881.25.25 - to your desired length (0.5m steps)
CF881 chainflex® series .25 Code nominal cross section .25 Number of cores

Order online ▶ www.igus-asean.com/CF881

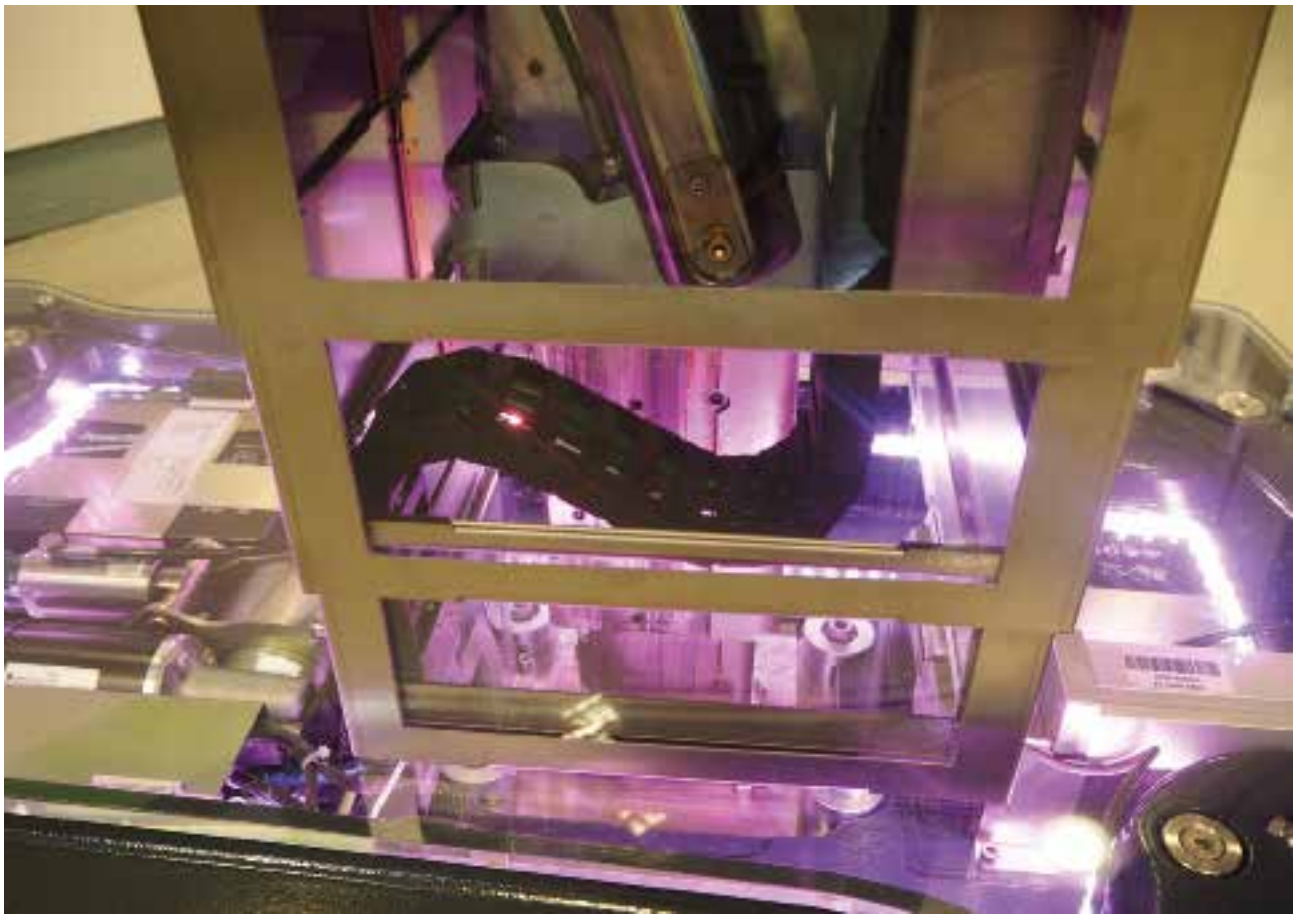
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chainflex® CF881 in a mobile surgical table

Control cable | PVC | chainflex® CF130.UL

10 million
Double strokes guaranteed

7.5 x d
Bend radius, e-chain®

50m
Travel distance, e-chain®

- For medium duty applications
- PVC outer jacket
- Flame-retardant



Example image

Dynamic information

Bend radius	**e-chain® linear**	minimum 7.5 x d
	flexible	minimum 6 x d
	fixed	minimum 4 x d
Temperature	**e-chain® linear**	+5°C up to +70°C
	flexible	-5°C up to +70°C (following DIN EN 60811-504)
	fixed	-15°C up to +70°C (following DIN EN 50305)
v max.	**unsupported**	3m/s
	gliding	2m/s
a max.		20m/s²
Travel distance		Unsupported travels and up to 50m for gliding applications, Class 4
Torsion		Torsion ±90°, with 1m cable length, Class 2

Cable structure

Conductor	Finely stranded conductor consisting of bare copper wires (following DIN EN 60228).
Core insulation	Mechanically high-quality TPE mixture.
Core structure	**Number of cores < 12:** Cores wound in a layer with short pitch length. **Number of cores ≥ 12:** Cores wound in bundles which are then wound around a high tensile strength centre element, all with optimised short pitch lengths and directions. Especially low-torsion structure.
Core identification	**Cores < 0.5mm²:** Colour code in accordance with DIN 47100. **Cores ≥ 0.5mm²:** Black cores with white numbers, one green-yellow core.
Outer jacket	Low-adhesion PVC mixture, adapted to suit the requirements in e-chains® (following DIN EN 50363-4-1). Colour: Silver-grey (similar to RAL 7001)
CFRIP®	Strip cables faster: a tear strip is moulded into the outer jacket Video ▶ www.igus-asean.com/CFRIP

Electrical information

Nominal voltage	300/500V (following DIN VDE 0298-3) 300V (following UL)
Testing voltage	2,000V (following DIN EN 50395)

EPLAN download, configurators ▶ www.igus-asean.com/CF130UL

Class 4.4.1.2

Basic requirements	low	1	2	3	**4**	5	6	7	highest
Travel distance	unsupported	1	2	3	**4**	5	6		≥ 400m
Oil resistance	none	**1**	2	3	4				highest
Torsion	none	1	**2**	3	4				±360°

Properties and approvals

Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
UL verified	Certificate No. B129699: "igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL/CSA AWM	See data sheet for details ▶ www.igus-asean.com/CF130UL
NFPA	Following NFPA 79-2018, chapter 12.9
EAC	Certificate No. RU C-DE.ME77.B.00300/19
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 1, material/cable tested by IPA according to DIN EN ISO standard 14644-1
CE	Following 2014/35/EU
UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Guaranteed service life (details see page 28-29)

Double strokes*	5 million		7.5 million		10 million	
Temperature, from/to [°C]	< 10m	≥ 10m	< 10m	≥ 10m	< 10m	≥ 10m
	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
+5/+15	10	12.5	11	13.5	12	14.5
+15/+60	7.5	10	8.5	11	9.5	12
+60/+70	10	12.5	11	13.5	12	14.5

* Higher number of double strokes? Service life calculation online ▶ www.igus-asean.com/chainflexlife

Typical application areas

- For medium duty applications, Class 4
- Unsupported travels and up to 50m for gliding applications, Class 4
- Without influence of oil, Class 1
- Torsion ±90°, with 1m cable length, Class 2
- Preferably indoor applications
- Wood/stone processing, packaging industry, feeding, handling, adjusting devices



chainflex® CF130.UL for woodworking application. e-chain®: E4/light

Control cable | PVC | chainflex® CF130.UL

Strip cables 50% faster with CFRIP® tear strip



Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF130.02.03.UL	3x0.25	5.0	9	26
CF130.02.04.UL	4x0.25	5.5	11	35
CF130.02.06.UL	6x0.25	6.0	16	48
CF130.02.07.UL	7x0.25	6.5	19	56
CF130.02.12.UL	12x0.25	8.5	33	96
CF130.02.18.UL	18x0.25	10.0	46	123
CF130.02.20.UL	20x0.25	10.5	51	145
CF130.02.25.UL	25x0.25	11.5	66	164
CF130.02.30.UL	30x0.25	12.5	75	188
CF130.03.02.UL	2x0.34	5.0	8	27
CF130.03.05.UL	5x0.34	6.0	18	42
CF130.05.02.UL	2x0.5	5.5	11	38
CF130.05.03.UL	3G0.5	5.5	16	40
CF130.05.04.UL	4G0.5	6.0	21	47
CF130.05.05.UL	5G0.5	6.5	26	56
CF130.05.07.UL	7G0.5	7.5	37	76
CF130.05.12.UL	12G0.5	10.0	63	140
CF130.05.18.UL	18G0.5	12.0	94	192
CF130.05.25.UL	25G0.5	13.5	129	259
CF130.07.02.UL	2x0.75	6.0	16	48
CF130.07.03.UL	3G0.75	6.0	23	50
CF130.07.04.UL	4G0.75	6.5	31	60
CF130.07.05.UL	5G0.75	7.0	38	70
CF130.07.07.UL	7G0.75	8.0	54	96
CF130.07.12.UL	12G0.75	11.0	91	175
CF130.07.18.UL	18G0.75	13.5	134	248
CF130.07.25.UL	25G0.75	16.0	186	346
CF130.07.36.UL	36G0.75	19.0	293	531
CF130.07.42.UL	42G0.75	21.0	341	608
CF130.10.02.UL	2x1.0	6.0	21	55
CF130.10.03.UL	3G1.0	6.5	31	61
CF130.10.04.UL	4G1.0	7.0	41	74
CF130.10.05.UL	5G1.0	7.5	50	87
CF130.10.07.UL	7G1.0	9.0	71	118
CF130.10.12.UL	12G1.0	12.5	120	228
CF130.10.18.UL	18G1.0	15.0	179	308
CF130.10.25.UL	25G1.0	17.5	248	410

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x** = without earth core

EPLAN download, configurators ▶ www.igus-asean.com/CF130UL

Class 4.4.1.2

Basic requirements	low	1	2	3	**4**	5	6	7	highest
Travel distance	unsupported	1	2	3	**4**	5	6		≥ 400m
Oil resistance	none	**1**	2	3	4				highest
Torsion	none	1	**2**	3	4				±360°



Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF130.15.02.UL	2x1.5	6.5	31	71
CF130.15.03.UL	3G1.5	7.0	46	76
CF130.15.04.UL	4G1.5	8.0	61	93
CF130.15.05.UL	5G1.5	8.5	75	111
CF130.15.07.UL [17)]	7G1.5	10.5	105	166
CF130.15.12.UL	12G1.5	13.0	179	288
CF130.15.18.UL	18G1.5	17.0	268	438
CF130.15.25.UL	25G1.5	19.5	371	563
CF130.15.36.UL	36G1.5	23.0	579	887
CF130.25.03.UL	3G2.5	8.5	75	118
CF130.25.04.UL	4G2.5	9.5	100	149
CF130.25.07.UL [17)]	7G2.5	12.0	174	250
CF130.25.12.UL	12G2.5	16.5	297	445
CF130.40.03.UL	3G4.0	10.0	119	209
CF130.40.05.UL	5G4.0	12.0	198	294
CF130.60.04.UL	4G6.0	13.0	237	392
CF130.60.05.UL	5G6.0	14.0	299	471

[17)] When using the cables with "7G1.5mm²" and "7G2.5mm²" minimum bend radius must be 17.5xd with gliding travel distance ≥ 5m.

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core



Cables available in the chainflex® CASE

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More on this on page 24/25 and online: www.igus-asean.com/cf-case

Guarantee igus chainflex 36
igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year

Control cable | PVC | chainflex® CF140.UL

10 million
Double strokes guaranteed

7.5 x d
Bend radius, e-chain®

50m
Travel distance, e-chain®

- For medium duty applications
- PVC outer jacket
- Shielded
- Flame-retardant



Example image

Dynamic information

Bend radius	**e-chain® linear**	minimum 7.5 x d
	flexible	minimum 6 x d
	fixed	minimum 4 x d
Temperature	**e-chain® linear**	+5°C up to +70°C
	flexible	-5°C up to +70°C (following DIN EN 60811-504)
	fixed	-15°C up to +70°C (following DIN EN 50305)
v max.	**unsupported**	3m/s
	gliding	2m/s
a max.		20m/s²
Travel distance		Unsupported travels and up to 50m for gliding applications, Class 4

Cable structure

Conductor	Finely stranded conductor consisting of bare copper wires (following DIN EN 60228).
Core insulation	Mechanically high-quality TPE mixture.
Core structure	**Number of cores < 12:** Cores wound in a layer with short pitch length. **Number of cores ≥ 12:** Cores wound in bundles which are then wound around a high tensile strength centre element, all with optimised short pitch lengths and directions. Especially low-torsion structure.
Core identification	**Cores < 0.5mm²:** Colour code in accordance with DIN 47100. **Cores ≥ 0.5mm²:** Black cores with white numbers, one green-yellow core.
Inner jacket	PVC mixture adapted to suit the requirements in e-chains®.
Overall shield	Bending-resistant braiding made of tinned copper wires. Coverage linear approx. 55%, optical approx. 80%
Outer jacket	Low-adhesion PVC mixture, adapted to suit the requirements in e-chains® (following DIN EN 50363-4-1). Colour: Silver-grey (similar to RAL 7001)
CFRIP®	Strip cables faster: a tear strip is moulded into the inner jacket Video ▶ www.igus-asean.com/CFRIP

Electrical information

Nominal voltage	300/500V (following DIN VDE 0298-3) 300V (following UL)
Testing voltage	2,000V (following DIN EN 50395)

EPLAN download, configurators ▶ www.igus-asean.com/CF140UL

Class 4.4.1.1

Basic requirements	low	1	2	3	**4**	5	6	7	highest
Travel distance	unsupported	1	2	3	**4**	5	6		≥ 400m
Oil resistance	none	**1**	2	3	4				highest
Torsion	none	**1**	2	3	4				±360°

Properties and approvals

Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
UL verified	Certificate No. B129699: "igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL/CSA AWM	See data sheet for details ▶ www.igus-asean.com/CF140UL
NFPA	Following NFPA 79-2018, chapter 12.9
EAC	Certificate No. RU C-DE.ME77.B.00300/19
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 1. The outer jacket material of this series complies with CF130.15.07 - tested by IPA according to standard DIN EN ISO 14644-1
CE	Following 2014/35/EU
UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Guaranteed service life (details see page 28-29)

Double strokes*	5 million		7.5 million		10 million	
Temperature, from/to [°C]	< 10m	≥ 10m	< 10m	≥ 10m	< 10m	≥ 10m
	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
+5/+15	10	12.5	11	13.5	12	14.5
+15/+60	7.5	10	8.5	11	9.5	12
+60/+70	10	12.5	11	13.5	12	14.5

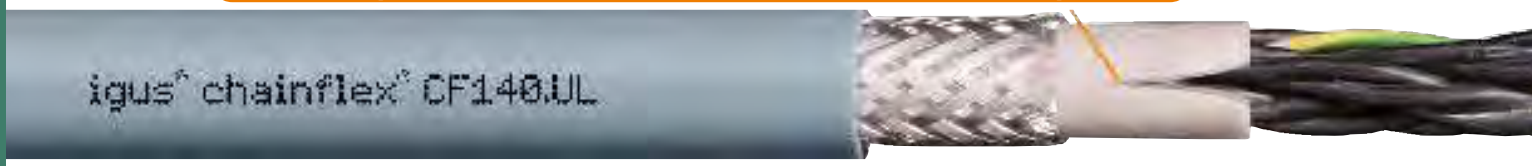
* Higher number of double strokes? Service life calculation online ▶ www.igus-asean.com/chainflexlife

Typical application areas

- For medium duty applications, Class 4
- Unsupported travels and up to 50m for gliding applications, Class 4
- Without influence of oil, Class 1
- No torsion, Class 1
- Preferably indoor applications
- Wood/stone processing, packaging industry, feeding, handling, adjusting devices

Control cable | PVC | chainflex® CF140.UL

Strip cables 50% faster with CFRIP® tear strip



Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF140.02.12.UL	(12x0.25)C	10.5	72	133
CF140.03.05.UL	(5x0.34)C	7.5	36	72
CF140.05.03.UL	(3G0.5)C	7.0	33	72
CF140.05.05.UL	(5G0.5)C	8.0	45	91
CF140.05.18.UL	(18G0.5)C	14.5	147	258
CF140.05.36.UL	(36G0.5)C	18.5	258	468
CF140.07.03.UL	(3G0.75)C	8.0	42	85
CF140.07.04.UL	(4G0.75)C	8.5	51	102
CF140.07.05.UL	(5G0.75)C	9.0	61	115
CF140.07.07.UL	(7G0.75)C	10.0	83	152
CF140.07.12.UL	(12G0.75)C	13.0	136	263
CF140.07.18.UL	(18G0.75)C	15.5	194	359
CF140.07.25.UL	(25G0.75)C	18.0	261	479
CF140.10.02.UL	(2x1.0)C	8.0	35	86
CF140.10.03.UL	(3G1.0)C	8.5	51	105
CF140.10.04.UL	(4G1.0)C	9.0	62	118
CF140.10.05.UL	(5G1.0)C	9.5	74	136
CF140.10.07.UL	(7G1.0)C	10.5	104	176
CF140.10.12.UL	(12G1.0)C	14.0	166	300
CF140.10.18.UL	(18G1.0)C	16.5	240	413
CF140.10.25.UL	(25G1.0)C	19.5	325	562
CF140.15.03.UL	(3G1.5)C	9.0	68	126
CF140.15.04.UL	(4G1.5)C	9.5	86	146
CF140.15.05.UL	(5G1.5)C	9.5	108	168
CF140.15.07.UL [17)]	(7G1.5)C	11.5	144	226
CF140.15.12.UL	(12G1.5)C	16.0	233	387
CF140.15.18.UL	(18G1.5)C	19.0	346	463
CF140.15.25.UL	(25G1.5)C	22.5	464	737
CF140.15.36.UL	(36G1.5)C	26.5	663	1150
CF140.25.03.UL	(3G2.5)C	10.5	106	202
CF140.25.04.UL	(4G2.5)C	11.5	140	210

[17)] When using the cables with "7G1.5mm²" and "7G2.5mm²" minimum bend radius must be 17.5xd with gliding travel distance ≥ 5m.

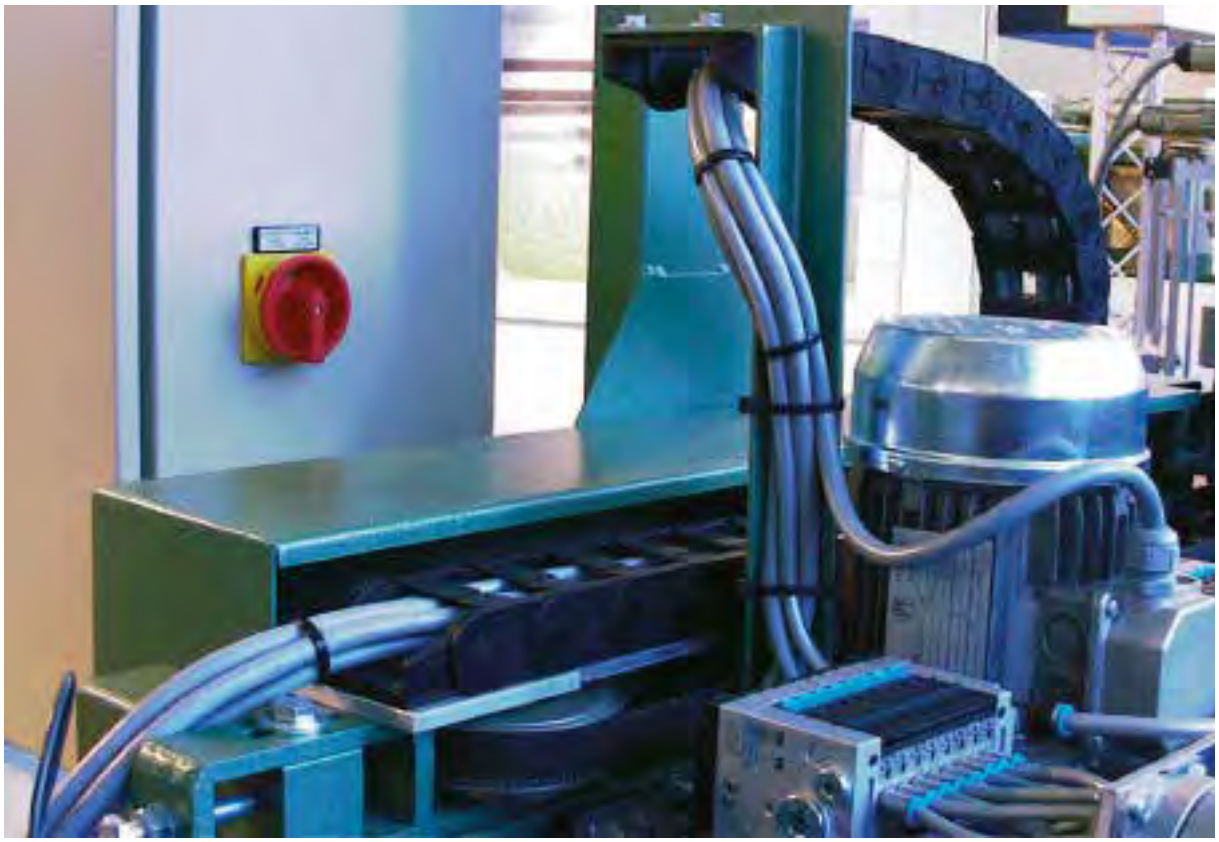
Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

EPLAN download, configurators ▶ www.igus-asean.com/CF140UL

Class 4.4.1.1

Basic requirements	low	1	2	3	**4**	5	6	7	highest
Travel distance	unsupported	1	2	3	**4**	5	6		≥ 400m
Oil resistance	none	**1**	2	3	4				highest
Torsion	none	**1**	2	3	4				±360°





chainflex® CF140.UL in a feeder application. e-chain®: easychain®



Cables available in the chainflex® CASE

Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.

More on this on page 24/25 and online: www.igus-asean.com/cf-case

igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year

Control cable | PVC | chainflex® CF150.UL

10 million
Double strokes guaranteed

7.5 x d
Bend radius, e-chain®

50m
Travel distance

- For medium duty applications
- PVC outer jacket
- Oil-resistant
- Flame-retardant
- TC-ER (Power and Control Tray Cable)

UL	CSA:
TC-ER UL 1277	C(UL) CIC/TC
MTW UL 1063	
WTTC UL 2277	**Specifications:**
DP-1 UL 1690	OIL RES I / SUN RES
AWM 2587	75°C wet ≥2.5mm²
	90°C dry
	DIR BUR ≥2.5mm²



Example image

Dynamic information

Bend radius	**e-chain® linear**	minimum 7.5 x d
	flexible	minimum 6 x d
	fixed	minimum 4 x d
Temperature	**e-chain® linear**	+5°C up to +70°C
	flexible	-5°C up to +70°C (following DIN EN 60811-504)
	fixed	-15°C up to +70°C (following DIN EN 50305)
v max.	**unsupported**	3m/s
	gliding	2m/s
a max.		20m/s²
Travel distance		Unsupported travels and up to 50m for gliding applications, Class 4
Torsion		Torsion ±90°, with 1m cable length, Class 2

Cable structure

Conductor	Finely stranded conductor consisting of bare copper wires (following DIN EN 60228).
Core insulation	Mechanically high-quality PVC/PA mixture.
Core structure	**Number of cores < 12:** Cores wound in a layer with short pitch length. **Number of cores ≥ 12:** Cores wound in bundles which are then wound around a high tensile strength centre element, all with optimised short pitch lengths and directions. Especially low-torsion structure.
Core identification	Black cores with white numbers, one green-yellow core.
Outer jacket	Low-adhesion, oil-resistant PVC mixture, adapted to suit the requirements in e-chains® (following DIN EN 50363-4-1) Colour: jet black (similar to RAL 9005)
CFRIP®	Strip cables faster: a tear strip is moulded into the outer jacket Video ▶ www.igus-asean.com/CFRIP

Electrical information

Nominal voltage	300/500V (following DIN VDE 0298-3) 600V TC-ER, 1000V WTTC, 600V MTW, 600V AWM
Testing voltage	2,000V (following DIN EN 50395)

EPLAN download, configurators ▶ www.igus-asean.com/CF150UL

36-month guarantee ... more than 1,350 cable types from stock ... no cutting charges

Class 4.4.2.2

Basic requirements	low	1	2	3	**4**	5	6	7	highest
Travel distance	unsupported	1	2	3	**4**	5	6		≥ 400m
Oil resistance	none	1	**2**	3	4				highest
Torsion	none	1	**2**	3	4				±360°

Properties and approvals

UV resistance	Medium
Oil resistance	Oil resistant (according to DIN EN 50363-4-1), UL Oil Res I, Class 2
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame, FT4
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
UL verified	Certificate No. B129699: „igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year“
UL listed	TC-ER UL 1277, WTTC UL 2277, MTW UL W63
UL/CSA AWM	See data sheet for details ▶ www.igus-asean.com/CF150UL
NEC	In accordance with Article 501 Part II 501.10(B) Class I Division 2 and Article 502 Part II 502.10(B), TC-ER cables may be used in Class I and Class II, Division 2 hazardous areas.
NFPA	Following NFPA 79-2018, chapter 12.9
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II)
CE	Following 2014/35/EU
UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Guaranteed service life (details see page 28-29)

Double strokes*	5 million		7.5 million		10 million	
Temperature, from/to [°C]	< 10m	≥ 10m	< 10m	≥ 10m	< 10m	≥ 10m
	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
+5/+15	10	12.5	11	13.5	12	14.5
+15/+60	7.5	10	8.5	11	9.5	12
+60/+70	10	12.5	11	13.5	12	14.5

* Higher number of double strokes? Service life calculation online ▶ www.igus-asean.com/chainflexlife

Typical application areas

- For medium duty applications, Class 4
- Unsupported travels and up to 50m for gliding applications, Class 4
- Light oil influence, Class 2
- Torsion ±90°, with 1m cable length, Class 2
- Preferably indoor applications, but also outdoor ones at temperatures > 5 °C
- Storage and retrieval units for high-bay warehouses, machining units/packaging machines, quick handling, indoor cranes, laying of cables on cable trays

Control cable | PVC | chainflex® CF150.UL

Strip cables 50% faster with CFRIP® tear strip



Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF150.UL.10.03	3G1.0	8.0	30	78
CF150.UL.10.04	4G1.0	8.5	40	94
CF150.UL.10.05	5G1.0	9.0	50	112
CF150.UL.10.07	7G1.0	10.5	70	155
CF150.UL.10.12	12G1.0	15.0	119	281
CF150.UL.10.18	18G1.0	19.0	178	425
CF150.UL.15.03	3G1.5	8.5	45	98
CF150.UL.15.04	4G1.5	9.0	60	122
CF150.UL.15.05	5G1.5	10.0	75	148
CF150.UL.15.07 [17)]	7G1.5	12.0	104	205
CF150.UL.15.12	12G1.5	16.5	178	365
CF150.UL.15.18	18G1.5	21.0	267	529
CF150.UL.25.03	3G2.5	9.5	75	133
CF150.UL.25.04	4G2.5	10.0	100	164
CF150.UL.25.05	5G2.5	11.0	124	200
CF150.UL.25.07 [17)]	7G2.5	12.0	173	268
CF150.UL.25.12	12G2.5	18.5	297	502
CF150.UL.25.18	18G2.5	24.5	445	808

[17)] When using the cables with "7G1.5mm²" and "7G2.5mm²" minimum bend radius must be 17.5xd with gliding travel distance ≥ 5m.

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

The only MTW/TC-ER cable for e-chain® AND cable tray

UL
TC-ER UL 1277
MTW UL 1063
WTTC UL 2277
DP-1 UL 1690
AWM 2587

CSA:
C(UL) CIC/TC

Specifications:
OIL RES I / SUN RES
75°C wet ≥2.5mm²
90°C dry
DIR BUR ≥2.5 mm²



* with guaranteed service life for use in e-chains® according to the guarantee conditions

Class 4.4.2.2

Basic requirements	low	1	2	3	**4**	5	6	7	highest
Travel distance	unsupported	1	2	3	**4**	5	6		≥ 400m
Oil resistance	none	1	**2**	3	4				highest
Torsion	none	1	**2**	3	4				±360°



Order example: CF150.UL.10.03 - to your desired length (0.5m steps)
CF150.UL chainflex® series .10 Code nominal cross section .03 Number of cores

Order online ▶ www.igus-asean.com/CF150UL

Delivery time 24hrs or today.
Delivery time means time until goods are shipped.



Cables available in the chainflex® CASE

Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.

More on this on page 24/25 and online: www.igus-asean.com/cf-case



Control cable | PVC | chainflex® CF160.UL

10 million
Double strokes guaranteed

7.5 x d
Bend radius, e-chain®

50m
Travel distance

- For medium duty applications
- PVC outer jacket
- Shielded
- Oil-resistant
- Flame-retardant
- TC-ER (Power and Control Tray Cable)

UL	CSA:
TC-ER UL 1277	C(UL) CIC/TC
MTW UL 1063	
WTTC UL 2277	**Specifications:**
DP-1 UL 1690	OIL RES I / SUN RES
AWM 2587	75°C wet ≥ 2.5mm²
	90°C dry
	DIR BUR ≥2.5mm²



Example image

Dynamic information

Bend radius	**e-chain® linear**	minimum 7.5 x d
	flexible	minimum 6 x d
	fixed	minimum 4 x d
Temperature	**e-chain® linear**	+5°C up to +70°C
	flexible	-5°C up to +70°C (following DIN EN 60811-504)
	fixed	-15°C up to +70°C (following DIN EN 50305)
v max.	**unsupported**	3m/s
	gliding	2m/s
a max.	20m/s²	
Travel distance	Unsupported travels and up to 50m for gliding applications, Class 4	

Cable structure

Conductor	Finely stranded conductor consisting of bare copper wires (following DIN EN 60228).
Core insulation	Mechanically high-quality PVC/PA mixture.
Core structure	**Number of cores < 12:** Cores wound in a layer with short pitch length. **Number of cores ≥ 12:** Cores wound in bundles which are then wound around a high tensile strength centre element, all with optimised short pitch lengths and directions. Especially low-torsion structure.
Core identification	Black cores with white numbers, one green-yellow core.
Inner jacket	PVC mixture adapted to suit the requirements in e-chains®.
Overall shield	Bending-resistant braiding made of tinned copper wires. Coverage linear approx. 55%, optical approx. 80%
Outer jacket	Low-adhesion, oil-resistant PVC mixture, adapted to suit the requirements in e-chains® (following DIN EN 50363-4-1) Colour: jet black (similar to RAL 9005)
CFRIP®	Strip cables faster: a tear strip is moulded into the inner jacket Video ▶ www.igus-asean.com/CFRIP

Electrical information

Nominal voltage	300/500V (following DIN VDE 0298-3) 600V TC-ER, 1000V WTTC, 600V MTW, 600V AWM
Testing voltage	2,000V (following DIN EN 50395)

EPLAN download, configurators ▶ www.igus-asean.com/CF160UL

36-month guarantee ... more than 1,350 cable types from stock ... no cutting charges

Class 4.4.2.1

Basic requirements	low	1	2	3	**4**	5	6	7	highest
Travel distance	unsupported	1	2	3	**4**	5	6		≥ 400m
Oil resistance	none	1	**2**	3	4				highest
Torsion	none	**1**	2	3	4				±360°

Properties and approvals

UV resistance	Medium
Oil resistance	Oil resistant (according to DIN EN 50363-4-1), UL Oil Res I, Class 2
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame, FT4
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
UL verified	Certificate No. B129699: „igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year“
JL listed	TC-ER UL 1277, WTTC UL 2277, MTW UL W63
UL/CSA AWM	See data sheet for details ▶ www.igus-asean.com/CF160UL
NEC	In accordance with Article 501 Part II 501.10(B) Class I Division 2 and Article 502 Part II 502.10(B), TC-ER cables may be used in Class I and Class II, Division 2 hazardous areas.
NFPA	Following NFPA 79-2018, chapter 12.9
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II)
CE	Following 2014/35/EU
UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Guaranteed service life (details see page 28-29)

Double strokes*	5 million		7.5 million		10 million	
Temperature, from/to [°C]	< 10m	≥ 10m	< 10m	≥ 10m	< 10m	≥ 10m
	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
+5/+15	10	12.5	11	13.5	12	14.5
+15/+60	7.5	10	8.5	11	9.5	12
+60/+70	10	12.5	11	13.5	12	14.5

* Higher number of double strokes? Service life calculation online ▶ www.igus-asean.com/chainflexlife

Typical application areas

- For medium duty applications, Class 4
- Unsupported travels and up to 50m for gliding applications, Class 4
- Light oil influence, Class 2
- Preferably indoor applications, but also outdoor ones at temperatures > 5 °C
- Storage and retrieval units for high-bay warehouses, machining units/packaging machines, quick handling, indoor cranes, laying of cables on cable trays

Control cable | PVC | chainflex® CF160.UL

Strip cables 50% faster with CFRIP® tear strip



Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF160.UL.10.03	(3G1.0)C	9.5	53	121
CF160.UL.10.04	(4G1.0)C	10.0	66	143
CF160.UL.10.05	(5G1.0)C	11.0	77	164
CF160.UL.10.07	(7G1.0)C	12.5	107	220
CF160.UL.10.12	(12G1.0)C	18.5	177	389
CF160.UL.10.18	(18G1.0)C	23.5	280	648
CF160.UL.15.03	(3G1.5)C	10.0	72	149
CF160.UL.15.04	(4G1.5)C	11.0	89	175
CF160.UL.15.05	(5G1.5)C	12.0	105	204
CF160.UL.15.07 [17)]	(7G1.5)C	13.5	140	271
CF160.UL.15.12	(12G1.5)C	20.0	243	478
CF160.UL.15.18	(18G1.5)C	25.5	373	762
CF160.UL.25.03	(3G2.5)C	11.0	103	185
CF160.UL.25.04	(4G2.5)C	12.0	129	219
CF160.UL.25.05	(5G2.5)C	13.0	159	264
CF160.UL.25.07 [17)]	(7G2.5)C	14.5	223	361
CF160.UL.25.12	(12G2.5)C	23.5	389	688
CF160.UL.25.18	(18G2.5)C	29.5	573	1092

[17)] When using the cables with "7G1.5mm²" and "7G2.5mm²" minimum bend radius must be 17.5xd with gliding travel distance ≥ 5m.

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

The only MTW/TC-ER cable for e-chain® AND cable tray

UL
TC-ER UL 1277
MTW UL 1063
WTTC UL 2277
DP-1 UL 1690
AWM 2587

CSA:
C(UL) CIC/TC

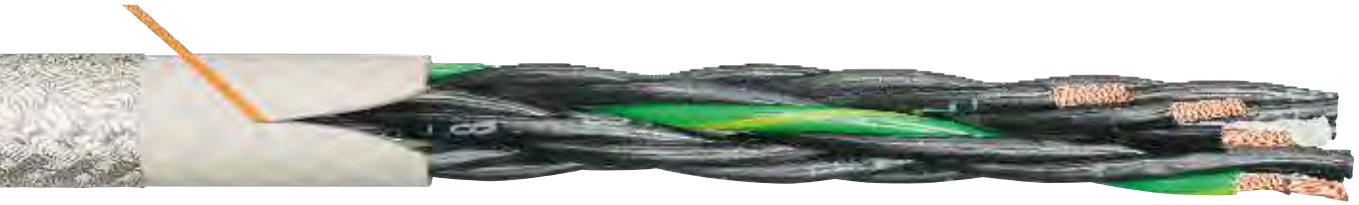
Specifications:
OIL RES I / SUN RES
75°C wet ≥2.5mm²
90°C dry
DIR BUR ≥2.5 mm²



*** with guaranteed service life for use in e-chains® according to the guarantee conditions**

Class 4.4.2.1

Basic requirements	low	1	2	3	**4**	5	6	7	highest
Travel distance	unsupported	1	2	3	**4**	5	6		≥ 400m
Oil resistance	none	1	**2**	3	4				highest
Torsion	none	**1**	2	3	4				±360°



Order example: CF160.UL.10.03 - to your desired length (0.5m steps)
CF160.UL chainflex® series .10 Code nominal cross section .03 Number of cores

Order online ▶ www.igus-asean.com/CF160UL

Delivery time 24hrs or today.
Delivery time means time until goods are shipped.



Control cable | PVC | chainflex® CF5

10 million
Double strokes guaranteed

6.8 x d
Bend radius, e-chain®

100m
Travel distance, e-chain®

- For heavy duty applications
- PVC outer jacket
- Oil-resistant
- Flame-retardant



Example image

Dynamic information

Bend radius	**e-chain® linear**	minimum 6.8 x d
	flexible	minimum 5 x d
	fixed	minimum 4 x d
Temperature	**e-chain® linear**	+5°C up to +70°C
	flexible	-5°C up to +70°C (following DIN EN 60811-504)
	fixed	-15°C up to +70°C (following DIN EN 50305)
v max.	**unsupported**	10m/s
	gliding	5m/s
a max.	80m/s²	
Travel distance	Unsupported travels and up to 100m for gliding applications, Class 5	
Torsion	Torsion ±90°, with 1m cable length, Class 2	

Cable structure

Conductor	Finely stranded conductor consisting of bare copper wires (following DIN EN 60228).
Core insulation	**Cores ≤ 0.5mm²:** mechanically high-quality TPE mixture. **Cores ≥ 0.75mm²:** mechanically high-quality PVC mixture.
Core structure	**Number of cores < 12:** Cores wound in a layer with short pitch length. **Number of cores ≥ 12:** Cores wound in bundles which are then wound around a high tensile strength centre element, all with optimised short pitch lengths and directions. Especially low-torsion structure.
Core identification	**Cores < 0.5mm²:** Colour code in accordance with DIN 47100. **Cores ≥ 0.5mm²:** Black cores with white numbers, one green-yellow core.
Outer jacket	Low-adhesion, oil-resistant PVC mixture, adapted to suit the requirements in e-chains® (following DIN EN 50363-4-1). Colour: Moss green (similar to RAL 6005)
CFRIP®	Strip cables faster: a tear strip is moulded into the outer jacket Video ▶ www.igus-asean.com/CFRIP

Electrical information

Nominal voltage	300/500V (following DIN VDE 0298-3) 600V (following UL)
Testing voltage	2,000V (following DIN EN 50395)

EPLAN download, configurators ▶ www.igus-asean.com/CF5

Class 5.5.2.2

Basic requirements	low	1	2	3	4	**5**	6	7	highest
Travel distance	unsupported	1	2	3	4	**5**	6		≥ 400m
Oil resistance	none	1	**2**	3	4				highest
Torsion	none	1	**2**	3	4				±360°

Properties and approvals

UV resistance	Medium
Oil resistance	Oil-resistant (following DIN EN 50363-4-1), Class 2
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
UL verified	Certificate No. B129699: "igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL/CSA AWM	See data sheet for details ▶ www.igus-asean.com/CF5
NFPA	Following NFPA 79-2018, chapter 12.9
EAC	Certificate No. RU C-DE.ME77.B.00300/19
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 2, material/cable tested by IPA according to ISO standard 14644-1
CE	Following 2014/35/EU
UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Guaranteed service life (details see page 28-29)

Double strokes*	5 million		7.5 million		10 million	
Temperature, from/to [°C]	< 10m	≥ 10m	< 10m	≥ 10m	< 10m	≥ 10m
	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
+5/+15	7.5	10	8.5	11	9.5	12
+15/+60	6.8	7.5	7.8	8.5	8.8	9.5
+60/+70	7.5	10	8.5	11	9.5	12

* Higher number of double strokes? Service life calculation online ▶ www.igus-asean.com/chainflexlife

Typical application areas

- For heavy-duty applications, Class 5
- Unsupported travels and up to 100m for gliding applications, Class 5
- Light oil influence, Class 2
- Torsion ±90°, with 1m cable length, Class 2
- Preferably indoor applications, but also outdoor ones at temperatures > 5 °C
- Storage and retrieval units, machining units/packaging machines, quick handling, indoor cranes

Control cable | PVC | chainflex® CF5

Strip cables 50% faster with CFRIP® tear strip



Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF5.02.36	36x0.25	15.0	99	209
CF5.03.15	15x0.34	11.0	55	113
CF5.03.18	18x0.34	12.0	67	143
CF5.03.25	25x0.34	14.0	92	194
CF5.05.02	2x0.5	6.0	11	38
CF5.05.03	3G0.5	6.0	16	41
CF5.05.04	4G0.5	6.5	21	47
CF5.05.05	5G0.5	7.0	25	59
CF5.05.07	7G0.5	8.0	36	78
CF5.05.12	12G0.5	11.0	61	131
CF5.05.18	18G0.5	13.0	91	190
CF5.05.25	25G0.5	16.0	124	281
CF5.05.30	30G0.5	18.0	149	325
CF5.07.03	3G0.75	6.5	23	54
CF5.07.04	4G0.75	7.0	32	67
CF5.07.05	5G0.75	7.5	39	82
CF5.07.07	7G0.75	9.0	56	115
CF5.07.12	12G0.75	12.5	91	189
CF5.07.18	18G0.75	15.0	134	269
CF5.07.25	25G0.75	17.5	190	384
CF5.07.36	36G0.75	22.0	267	587
CF5.07.42	42G0.75	23.5	313	745
CF5.10.03	3G1.0	6.5	31	56
CF5.10.04	4G1.0	7.0	41	78
CF5.10.05	5G1.0	8.0	50	94
CF5.10.07	7G1.0	9.5	74	130
CF5.10.12	12G1.0	13.0	119	227
CF5.10.18	18G1.0	16.5	179	306
CF5.10.25	25G1.0	19.5	248	487
CF5.15.03	3G1.5	7.5	46	74
CF5.15.04	4G1.5	8.0	61	105
CF5.15.05	5G1.5	9.0	75	127
CF5.15.07 [17)]	7G1.5	10.5	105	180
CF5.15.12	12G1.5	15.0	179	264
CF5.15.18	18G1.5	19.5	267	478
CF5.15.25	25G1.5	21.5	371	645
CF5.15.36	36G1.5	26.5	529	960

[17)] When using the cables with "7G1.5mm²" and "7G2.5mm²" minimum bend radius must be 17.5xd with gliding travel distance ≥ 5m.

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x** = without earth core

EPLAN download, configurators ▶ www.igus-asean.com/CF5

Class 5.5.2.2

Basic requirements	low	1	2	3	4	**5**	6	7	highest
Travel distance	unsupported	1	2	3	4	**5**	6		≥ 400m
Oil resistance	none	1	**2**	3	4				highest
Torsion	none	1	**2**	3	4				±360°



Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF5.25.04	4G2.5	10.0	96	170
CF5.25.05	5G2.5	11.0	120	200
CF5.25.07 [17)]	7G2.5	13.0	169	279
CF5.25.12	12G2.5	18.5	284	480
CF5.25.18	18G2.5	23.5	427	765
CF5.25.25	25G2.5	27.5	591	1054

[17)] When using the cables with "7G1.5mm²" and "7G2.5mm²" minimum bend radius must be 17.5xd with gliding travel distance ≥ 5m.

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core



ables available in the chainflex® CASE

imple savings on delivery, storage space and re-ordering with he chainflex® CASE - ship'n store by igus®.

ore on this on page 24/25 and online: www.igus-asean.com/cf-case



chainflex® CF5/CF6 for storage retrieval unit: Long travel in longitudinal axis.
e-chain®: Series E4/00 with igus® guide trough made of steel

Guarantee igus chainflex 36
igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year

Control cable | PVC | chainflex® CF6

10 million
Double strokes guaranteed

6.8 x d
Bend radius, e-chain®

100m
Travel distance, e-chain®

- For heavy duty applications
- PVC outer jacket
- Shielded
- Oil-resistant
- Flame-retardant



Example image

Dynamic information

Bend radius	**e-chain® linear**	minimum 6.8 x d
	flexible	minimum 5 x d
	fixed	minimum 4 x d
Temperature	**e-chain® linear**	+5°C up to +70°C
	flexible	-5°C up to +70°C (following DIN EN 60811-504)
	fixed	-15°C up to +70°C (following DIN EN 50305)
v max.	**unsupported**	10m/s
	gliding	5m/s
a max.		80m/s²
Travel distance		Unsupported travels and up to 100m for gliding applications, Class 5

Cable structure

Conductor	Finely stranded conductor consisting of bare copper wires (following DIN EN 60228).
Core insulation	**Cores ≤ 0.5mm²:** mechanically high-quality TPE mixture. **Cores ≥ 0.75mm²:** mechanically high-quality PVC mixture.
Core structure	**Number of cores < 12:** Cores wound in a layer with short pitch length. **Number of cores ≥ 12:** Cores wound in bundles which are then wound around a high tensile strength centre element, all with optimised short pitch lengths and directions. Especially low-torsion structure.
Core identification	**Cores < 0.5mm²:** Colour code in accordance with DIN 47100. **Cores ≥ 0.5mm²:** Black cores with white numbers, one green-yellow core.
Inner jacket	PVC mixture adapted to suit the requirements in e-chains®.
Overall shield	Extremely bending-resistant braiding made of tinned copper wires. Coverage linear approx. 70%, optical approx. 90%
Outer jacket	Low-adhesion, oil-resistant PVC mixture, adapted to suit the requirements in e-chains® (following DIN EN 50363-4-1). Colour: Moss green (similar to RAL 6005)
CFRIP®	Strip cables faster: a tear strip is moulded into the inner jacket Video ▶ www.igus-asean.com/CFRIP

Electrical information

Nominal voltage	300/500V (following DIN VDE 0298-3) 600V (following UL)
Testing voltage	2,000V (following DIN EN 50395)

EPLAN download, configurators ▶ www.igus-asean.com/CF6

Class 5.5.2.1

Basic requirements	low	1	2	3	4	**5**	6	7	highest
Travel distance	unsupported	1	2	3	4	**5**	6		≥ 400m
Oil resistance	none	1	**2**	3	4				highest
Torsion	none	**1**	2	3	4				±360°

Properties and approvals

UV resistance	Medium
Oil resistance	Oil-resistant (following DIN EN 50363-4-1), Class 2
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
UL verified	Certificate No. B129699: "igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL/CSA AWM	See data sheet for details ▶ www.igus-asean.com/CF
NFPA	Following NFPA 79-2018, chapter 12.9
EAC	Certificate No. RU C-DE.ME77.B.00300/19
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 2. The outer jacket material of this series complies with CF5.10.07 - tested by IPA according to standard DIN EN ISO 14644-1
CE	Following 2014/35/EU
UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Guaranteed service life (details see page 28-29)

Double strokes*	5 million		7.5 million		10 million	
Temperature, from/to [°C]	< 10m	≥ 10m	< 10m	≥ 10m	< 10m	≥ 10m
	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
+5/+15	7.5	10	8.5	11	9.5	12
+15/+60	6.8	7.5	7.8	8.5	8.8	9.5
+60/+70	7.5	10	8.5	11	9.5	12

* Higher number of double strokes? Service life calculation online ▶ www.igus-asean.com/chainflexlife

Typical application areas

- For heavy-duty applications, Class 5
- Unsupported travels and up to 100m for gliding applications, Class 5
- Light oil influence, Class 2
- No torsion, Class 1
- Preferably indoor applications, but also outdoor ones at temperatures > 5 °C
- Storage and retrieval units, machining units/packaging machines, quick handling, indoor cranes

Control cable | PVC | chainflex® CF6

Strip cables 50% faster with CFRIP® tear strip



Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF6.02.04	(4x0.25)C	7.0	29	61
CF6.02.25	(25x0.25)C	14.5	111	260
CF6.03.05	(5x0.34)C	7.5	37	90
CF6.05.02	(2x0.5)C	7.0	30	77
CF6.05.05	(5G0.5)C	8.5	49	106
CF6.05.07	(7G0.5)C	10.0	64	127
CF6.05.09	(9G0.5)C	12.0	80	154
CF6.05.12	(12G0.5)C	13.0	98	232
CF6.05.18	(18G0.5)C	15.0	145	286
CF6.05.25	(25G0.5)C	17.5	192	399
CF6.07.03	(3G0.75)C	8.0	46	98
CF6.07.04	(4G0.75)C	8.5	56	113
CF6.07.05	(5G0.75)C	9.0	67	128
CF6.07.07	(7G0.75)C	10.5	87	152
CF6.07.12	(12G0.75)C	14.0	128	266
CF6.07.18	(18G0.75)C	17.5	196	400
CF6.07.25	(25G0.75)C	19.5	265	536
CF6.10.03	(3G1.0)C	8.0	54	107
CF6.10.04	(4G1.0)C	9.0	65	116
CF6.10.05	(5G1.0)C	9.5	77	136
CF6.10.07	(7G1.0)C	12.0	103	205
CF6.10.12	(12G1.0)C	15.0	161	319
CF6.10.18	(18G1.0)C	19.0	245	482
CF6.10.25	(25G1.0)C	21.0	322	595
CF6.15.03	(3G1.5)C	9.0	72	122
CF6.15.04	(4G1.5)C	9.5	88	155
CF6.15.05	(5G1.5)C	10.5	105	177
CF6.15.07 [17)]	(7G1.5)C	12.5	146	258
CF6.15.12	(12G1.5)C	17.0	225	375
CF6.15.18	(18G1.5)C	21.0	345	581
CF6.15.25	(25G1.5)C	24.0	462	865
CF6.25.03	(3G2.5)C	10.5	107	180
CF6.25.04	(4G2.5)C	11.5	131	222

[17)] When using the cables with "7G1.5mm²" and "7G2.5mm²" minimum bend radius must be 17.5xd with gliding travel distance ≥ 5m.

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

EPLAN download, configurators ▶ www.igus-asean.com/CF6

Class 5.5.2.1

Basic requirements	low	1	2	3	4	**5**	6	7	highest
Travel distance	unsupported	1	2	3	4	**5**	6		≥ 400m
Oil resistance	none	1	**2**	3	4				highest
Torsion	none	**1**	2	3	4				±360°



Order example: CF6.02.04 - to your desired length (0.5m steps)
CF6 chainflex® series .02 Code nominal cross section .04 Number of cores

Order online ▶ www.igus-asean.com/CF6

Delivery time 24hrs or today.
Delivery time means time until goods are shipped.



chainflex® CF5 and CF6 control cables (green) as well as CF211 measuring system cables (grey) in a screwing station of a car factory. e-chain®: E4/00 system with chainfix clip strain relief devices.

chainflex CASE

Cables available in the chainflex® CASE

Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.

More on this on page 24/25 and online: www.igus-asean.com/cf-case

Guarantee igus chainflex 36

igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year

Control cable | PVC | chainflex® CFSOFT1

20 million
Double strokes guaranteed

5 x d
Bend radius, e-chain®

5m
Travel distance, e-chain®

- For heaviest duty applications and very small radii down to 5 x d
- Highly flexible, soft design
- PVC outer jacket
- Oil-resistant
- Flame-retardant



Example image

Dynamic information

Bend radius	**e-chain® linear**	minimum 5 x d
	flexible	minimum 4 x d
	fixed	minimum 3 x d
Temperature	**e-chain® linear**	+5°C up to +70°C
	flexible	-5°C up to +70°C (following DIN EN 60811-504)
	fixed	-15°C up to +70°C (following DIN EN 50305)
v max.	**unsupported**	10m/s
	gliding	5m/s
a max.		80m/s²
Travel distance		Short, very fast applications with small radii and restricted installation space, Class 1

Cable structure

Conductor	Very finely stranded special conductors with especially soft and bending resistant design, made of bare copper wires.
Core insulation	Mechanically high-quality TPE mixture.
Core structure	Cores wound in a layer with especially short pitch length.
Core identification	Colour code in accordance with DIN 47100.
Outer jacket	Low-adhesion, oil-resistant PVC mixture, adapted to suit the requirements in e-chains® (following DIN EN 50363-4-1). Colour: jet black (similar to RAL 9005)

Electrical information

Nominal voltage	300/500V (following DIN VDE 0298-3) 300V (following UL)
Testing voltage	2,000V (following DIN EN 50395)

Properties and approvals

UV resistance	Medium
Oil resistance	Oil-resistant (following DIN EN 50363-4-1), Class 2
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)

EPLAN download, configurators ▶ www.igus-asean.com/CFSOFT1

Class 7.1.2.1

Basic requirements	low 1 2 3 4 5 6 **7** highest
Travel distance	unsupported **1** 2 3 4 5 6 ≥ 400m
Oil resistance	none 1 **2** 3 4 highest
Torsion	none **1** 2 3 4 ±360°

UL verified	Certificate No. B129699: "igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL/CSA AWM	See data sheet for details ▶ www.igus-asean.com/CFSOFT1
NFPA	Following NFPA 79-2018, chapter 12.9
EAC	Certificate No. RU C-DE.ME77.B.00300/19
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 2. The outer jacket material of this series complies with CF5.10.07 - tested by IPA according to standard DIN EN ISO 14644-1
CE	Following 2014/35/EU
UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Guaranteed service life (details see page 28-29)

Double strokes*	10 million	15 million	20 million
Temperature, from/to [°C]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
+5/+15	6.8	7.5	8.5
+15/+60	5	6	7
+60/+70	6.8	7.5	8.5

* Higher number of double strokes? Service life calculation online ▶ www.igus-asean.com/chainflexlife

Typical application areas

- For heaviest duty applications and very small radii down to 5 x d, Class 7
- Especially for short, very fast applications with small radii and restricted installation space, Class 1
- Light oil influence, Class 2
- No torsion, Class 1
- Especially soft cable design, for reduced forces
- Pick and place machines, automatic doors, cleanroom, very quick handling

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CFSOFT1.02.03	3x0.25	5.5	9	28
CFSOFT1.02.08	8x0.25	7.0	21	62
CFSOFT1.03.04	4x0.34	6.0	15	39
CFSOFT1.05.04	4x0.5	7.0	21	52

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core



Cables available in the chainflex® CASE

Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.

More on this on page 24/25 and online: www.igus-asean.com/cf-case

Control cable | PVC | chainflex® CFSOFT2

20 million
Double strokes guaranteed

5 x d
Bend radius, e-chain®

5m
Travel distance, e-chain®

- For heaviest duty applications and very small radii down to 5 x d
- Highly flexible, soft design
- PVC outer jacket
- Shielded
- Oil-resistant
- Flame-retardant



Example image

Dynamic information

Bend radius	**e-chain® linear**	minimum 5 x d
	flexible	minimum 4 x d
	fixed	minimum 3 x d
Temperature	**e-chain® linear**	+5°C up to +70°C
	flexible	-5°C up to +70°C (following DIN EN 60811-504)
	fixed	-15°C up to +70°C (following DIN EN 50305)
v max.	**unsupported**	10m/s
	gliding	5m/s
a max.		80m/s²
Travel distance		Short, very fast applications with small radii and restricted installation space, Class 1

Cable structure

Conductor	Very finely stranded special conductors with especially soft and bending resistant design, made of bare copper wires.
Core insulation	Mechanically high-quality TPE mixture.
Core structure	Cores wound in a layer with especially short pitch length.
Core identification	**Cores < 0.75mm²:** Colour code in accordance with DIN 47100. **Cores ≥ 0.75mm²:** Black cores with white numbers, one green-yellow core.
Intermediate layer	Foil taping over the outer layer.
Overall shield	Extremely bending-resistant braiding made of tinned copper wires. Coverage linear approx. 70%, optical approx. 90%
Outer jacket	Low-adhesion, oil-resistant PVC mixture, adapted to suit the requirements in e-chains® (following DIN EN 50363-4-1). Colour: jet black (similar to RAL 9005)

Electrical information

Nominal voltage	300/500V (following DIN VDE 0298-3) 300V (following UL)
Testing voltage	2,000V (following DIN EN 50395)

Properties and approvals

UV resistance	Medium
Oil resistance	Oil-resistant (following DIN EN 50363-4-1), Class 2

EPLAN download, configurators ▶ www.igus-asean.com/CFSOFT2

Class 7.1.2.1

Basic requirements	low 1 2 3 4 5 6 **7** highest
Travel distance	unsupported **1** 2 3 4 5 6 ≥ 400m
Oil resistance	none 1 **2** 3 4 highest
Torsion	none **1** 2 3 4 ±360°

Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
UL verified	Certificate No. B129699: "igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL/CSA AWM	See data sheet for details ▶ www.igus-asean.com/CFSOFT2
NFPA	Following NFPA 79-2018, chapter 12.9
EAC	Certificate No. RU C-DE.ME77.B.00300/19
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 2. The outer jacket material of this series complies with CF5.10.07 - tested by IPA according to standard DIN EN ISO 14644-1
CE	Following 2014/35/EU
UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Guaranteed service life (details see page 28-29)

Double strokes*	10 million	15 million	20 million
Temperature, from/to [°C]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
+5/+15	6.8	7.5	8.5
+15/+60	5	6	7
+60/+70	6.8	7.5	8.5

* Higher number of double strokes? Service life calculation online ▶ www.igus-asean.com/chainflexlife

Typical application areas

- For heaviest duty applications and very small radii down to 5 x d, Class 7
- Especially for short, very fast applications with small radii and restricted installation space, Class 1
- Light oil influence, Class 2
- No torsion, Class 1
- Especially soft cable design, for reduced forces
- Pick and place machines, automatic doors, cleanroom, very quick handling

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CFSOFT2.02.03	(3x0.25)C	6.0	17	41
CFSOFT2.02.08	(8x0.25)C	7.5	38	86
CFSOFT2.03.04	(4x0.34)C	6.5	24	50
CFSOFT2.05.04	(4x0.5)C	7.5	36	80

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

Control cable | iguPUR | chainflex® CF890

5,000,000
Double strokes guaranteed

12.5 x d
Bend radius, e-chain®

10m
Travel distance, e-chain®

- For flexing applications
- iguPUR outer jacket
- Oil-resistant
- Flame-retardant



Example image

Dynamic information

Bend radius	**e-chain® linear**	minimum 12.5 x d
	flexible	minimum 10 x d
	fixed	minimum 7 x d
Temperature	**e-chain® linear**	-20°C up to +80°C
	flexible	-40°C up to +80°C (following DIN EN 60811-504)
	fixed	-50°C up to +80°C (following DIN EN 50305)
v max.	**unsupported**	3m/s
a max.		20m/s²
Travel distance		Unsupported travels up to 10m, Class 1

Cable structure

Conductor	Conductor consisting of bare copper wires (according to DIN EN 60228).
Core insulation	Mechanically high-quality TPE mixture.
Core structure	Cores wound with an optimised pitch length.
Core identification	Black cores with white numbers, one green-yellow core.
Outer jacket	Low-adhesion iguPUR mixture, adapted to suit the requirements in e-chains®. Colour: jet black (similar to RAL 9005)

Electrical information

Nominal voltage	300/500V 600V (following UL)
Testing voltage	2,000V (following DIN EN 50395)

EPLAN download, configurators ▶ www.igus-asean.com/CF890

Class 3.1.3.1

Basic requirements	low	1	2	**3**	4	5	6	7	highest
Travel distance	unsupported	**1**	2	3	4	5	6		≥ 400m
Oil resistance	none	1	2	**3**	4				highest
Torsion	none	**1**	2	3	4				±360°

Properties and approvals

UV resistance	Medium
Oil resistance	Oil-resistant (following DIN EN 50363-10-2), Class 3
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
UL verified	Certificate No. B129699: "igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL/CSA AWM	See data sheet for details ▶ www.igus-asean.com/CF890
EAC	Certificate No. RU C-DE.ME77.B.00300/19
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
CE	Following 2014/35/EU
UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Guaranteed service life (details see page 28-29)

Double strokes*	1 million	3 million	5 million
Temperature, from/to [°C]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-20/-10	15	16	17
-10/+70	12.5	13.5	14.5
+70/+80	15	16	17

* Higher number of double strokes? Service life calculation online ▶ www.igus-asean.com/chainflexlife

Typical application areas

- For flexing applications, Class 3
- Especially for unsupported travels, Class 1
- With influence of oil, Class 3
- No torsion, Class 1
- Indoor and outdoor applications without direct sun radiation
- Machining units/machine tools, low temperature applications

Control cable | iguPUR | chainflex® CF890



Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF890.05.02	2x0.5	5.0	11	30
CF890.05.03	3G0.5	5.5	16	34
CF890.05.04	4G0.5	6.0	21	44
CF890.05.05	5G0.5	6.5	26	53
CF890.05.07	7G0.5	7.5	37	70
CF890.05.12	12G0.5	8.5	63	105
CF890.05.18	18G0.5	10.0	94	155
CF890.05.25	25G0.5	12.0	128	222
CF890.07.02	2x0.75	5.5	16	38
CF890.07.03	3G0.75	6.0	24	46
CF890.07.04	4G0.75	6.5	32	58
CF890.07.05	5G0.75	7.0	40	71
CF890.07.07	7G0.75	8.0	56	96
CF890.07.12	12G0.75	10.0	94	146
CF890.07.18	18G0.75	11.5	140	162
CF890.07.25	25G0.75	13.5	194	278
CF890.10.02	2x1.0	6.0	21	46
CF890.10.03	3G1.0	6.5	32	56
CF890.10.04	4G1.0	7.0	42	58
CF890.10.05	5G1.0	7.5	52	89
CF890.10.07	7G1.0	8.5	73	117
CF890.10.12	12G1.0	10.5	124	178
CF890.10.18	18G1.0	12.5	186	273
CF890.10.25	25G1.0	15.0	258	375
CF890.15.02	2x1.5	6.5	32	62
CF890.15.03	3G1.5	7.0	47	76
CF890.15.04	4G1.5	7.5	63	97
CF890.15.05	5G1.5	8.5	78	117
CF890.15.07	7G1.5	10.0	109	163
CF890.15.12	12G1.5	12.0	186	256
CF890.15.18	18G1.5	14.5	279	362
CF890.15.25	25G1.5	17.5	387	502
CF890.25.03	3G2.5	8.5	118	136
CF890.25.04	4G2.5	9.0	103	145
CF890.25.05	5G2.5	10.0	129	175
CF890.25.07	7G2.5	12.0	181	246
CF890.25.12 [11)]	12G2.5	15.0	327	408
CF890.25.25	25G2.5	21.5	638	786

[11)] Phase-out model
Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

EPLAN download, configurators ▶ www.igus-asean.com/CF890

Class 3.1.3.1

Basic requirements	low	1	2	**3**	4	5	6	7	highest
Travel distance	unsupported	**1**	2	3	4	5	6		≥ 400m
Oil resistance	none	1	2	**3**	4				highest
Torsion	none	**1**	2	3	4				±360°



Order example: CF890.05.02 - to your desired length (0.5m steps)
CF890 chainflex® series .05 Code nominal cross section .02 Number of cores

Order online ▶ www.igus-asean.com/CF890

Delivery time 24hrs or today.
Delivery time means time until goods are shipped.



Cables available in the chainflex® CASE

Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.

More on this on page 24/25 and online: www.igus-asean.com/cf-case

Guarantee igus chainflex 36

igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year

Control cable | iguPUR | chainflex® CF891

5,000,000
Double strokes guaranteed

12.5 x d
Bend radius, e-chain®

10m
Travel distance, e-chain®

- For flexing applications
- iguPUR outer jacket
- Oil-resistant
- Shielded
- Flame-retardant



Example image

Dynamic information

Bend radius	**e-chain® linear**	minimum 12.5 x d
	flexible	minimum 10 x d
	fixed	minimum 7 x d
Temperature	**e-chain® linear**	-20°C up to +80°C
	flexible	-40°C up to +80°C (following DIN EN 60811-504)
	fixed	-50°C up to +80°C (following DIN EN 50305)
v max.	**unsupported**	3m/s
a max.		20m/s²
Travel distance		Unsupported travels up to 10m, Class 1

Cable structure

Conductor	Conductor consisting of bare copper wires (according to DIN EN 60228).
Core insulation	Mechanically high-quality TPE mixture.
Core structure	Cores wound with an optimised pitch length.
Core identification	Black cores with white numbers, one green-yellow core.
Overall shield	Braiding made of tinned copper wires. Coverage approx. 60% optical
Outer jacket	Low-adhesion iguPUR mixture, adapted to suit the requirements in e-chains®. Colour: jet black (similar to RAL 9005)

Electrical information

Nominal voltage	300/500V 600V (following UL)
Testing voltage	2,000V (following DIN EN 50395)

EPLAN download, configurators ▶ www.igus-asean.com/CF891

Class 3.1.3.1

Basic requirements	low	1	2	**3**	4	5	6	7	highest
Travel distance	unsupported	**1**	2	3	4	5	6		≥ 400m
Oil resistance	none	1	2	**3**	4				highest
Torsion	none	**1**	2	3	4				±360°

Properties and approvals

UV resistance	Medium
Oil resistance	Oil-resistant (following DIN EN 50363-10-2), Class 3
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
UL verified	Certificate No. B129699: "igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL/CSA AWM	See data sheet for details ▶ www.igus-asean.com/CF891
EAC	Certificate No. RU C-DE.ME77.B.00300/19
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
CE	Following 2014/35/EU
UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Guaranteed service life (details see page 28-29)

Double strokes*	1 million	3 million	5 million
Temperature, from/to [°C]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-20/-10	15	16	17
-10/+70	12.5	13.5	14.5
+70/+80	15	16	17

* Higher number of double strokes? Service life calculation online ▶ www.igus-asean.com/chainflexlife

Typical application areas

- For flexing applications, Class 3
- Especially for unsupported travels, Class 1
- With influence of oil, Class 3
- No torsion, Class 1
- Indoor and outdoor applications without direct sun radiation
- Machining units/machine tools, low temperature applications

Control cable | iguPUR | chainflex® CF891



Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF891.05.02	(2x0.5)C	6.0	18	37
CF891.05.03	(3G0.5)C	6.0	28	45
CF891.05.05	(5G0.5)C	7.0	41	62
CF891.05.12	(12G0.5)C	9.0	91	122
CF891.05.18	(18G0.5)C	11.0	136	174
CF891.05.25	(25G0.5)C	13.0	210	234
CF891.07.02	(2x0.75)C	6.5	30	48
CF891.07.03	(3G0.75)C	7.0	37	63
CF891.07.04	(4G0.75)C	7.5	46	68
CF891.07.05	(5G0.75)C	8.0	61	85
CF891.07.07	(7G0.75)C	9.0	83	109
CF891.07.12	(12G0.75)C	10.5	124	166
CF891.07.18	(18G0.75)C	12.0	183	232
CF891.07.25	(25G0.75)C	14.5	222	299
CF891.10.02	(2x1.0)C	6.5	30	50
CF891.10.03	(3G1.0)C	7.0	46	71
CF891.10.04	(4G1.0)C	7.5	63	98
CF891.10.05	(5G1.0)C	8.0	76	105
CF891.10.07	(7G1.0)C	9.5	100	126
CF891.10.12	(12G1.0)C	11.5	167	224
CF891.10.18 [11)]	(18G1.0)C	13.0	213	276
CF891.10.25	(25G1.0)C	16.0	291	382
CF891.15.02	(2x1.5)C	7.5	60	69
CF891.15.03	(3G1.5)C	7.5	63	85
CF891.15.04	(4G1.5)C	8.5	90	108
CF891.15.05	(5G1.5)C	9.0	94	129
CF891.15.07	(7G1.5)C	11.0	153	177
CF891.15.12	(12G1.5)C	13.0	212	276
CF891.15.25 [11)]	(25G1.5)C	18.5	425	560
CF891.25.04	(4G2.5)C	10.0	141	157
CF891.25.05	(5G2.5)C	11.0	149	192
CF891.25.07	(7G2.5)C	13.0	204	255

[11)] Phase-out model

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

EPLAN download, configurators ▶ www.igus-asean.com/CF891

Class 3.1.3.1

Basic requirements	low	1	2	**3**	4	5	6	7	highest
Travel distance	unsupported	**1**	2	3	4	5	6		≥ 400m
Oil resistance	none	1	2	**3**	4				highest
Torsion	none	**1**	2	3	4				±360°



Guarantee igus chainflex 36

igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year

Order example: CF891.05.02 - to your desired length (0.5m steps)
CF891 chainflex® series .05 Code nominal cross section .02 Number of cores

Order online ▶ www.igus-asean.com/CF891

Delivery time 24hrs or today.
Delivery time means time until goods are shipped.

chainflex CASE

Cables available in the chainflex® CASE

Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.

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chainflex® CF891 in an adjustment device for a process crane

Control cable | PUR | chainflex® CF77.UL.D

10 million
Double strokes guaranteed

6.8 x d
Bend radius, e-chain®

100m
Travel distance, e-chain®

- For heavy duty applications
- PUR outer jacket
- Oil-resistant and coolant-resistant
- Flame-retardant
- PVC and halogen-free
- Notch-resistant
- Hydrolysis and microbe-resistant



Example image

Dynamic information

Bend radius	**e-chain® linear**	minimum 6.8 x d
	flexible	minimum 5 x d
	fixed	minimum 4 x d
Temperature	**e-chain® linear**	-25°C up to +80°C
	flexible	-40°C up to +80°C (following DIN EN 60811-504)
	fixed	-50°C up to +80°C (following DIN EN 50305)
v max.	**unsupported**	10m/s
	gliding	5m/s
a max.		80m/s²
Travel distance		Unsupported travels and up to 100m for gliding applications, Class 5
Torsion		Torsion ±180°, with 1m cable length, Class 3 (except for 5-core types ≥ 4.0mm² ▶ Product range table)

Cable structure

Conductor
Finely stranded conductor consisting of bare copper wires (following DIN EN 60228).

Core insulation
Mechanically high-quality TPE mixture.

Core structure
Number of cores < 12: Cores wound in a layer with short pitch length.
Number of cores ≥ 12: Cores wound in bundles which are then wound around a high tensile strength centre element, all with optimised short pitch lengths and directions. Especially low-torsion structure.

Core identification
Cores < 0.5mm²: Colour code in accordance with DIN 47100.
Cores ≥ 0.5mm²: Black cores with white numbers, one green-yellow core.
CF77.UL.02.03.INI: brown, blue, black
CF77.UL.03.04.INI: brown, blue, black, white
CF77.UL.03.05.INI: brown, blue, black, white, green-yellow

Outer jacket
Low-adhesion, halogen-free, highly abrasion resistant PUR mixture, adapted to suit the requirements in e-chains® (following DIN EN 50363-10-2)
Colour: Window-grey (similar to RAL 7040)
Variants ▶ Product range table

Electrical information

Nominal voltage		300/500V (following DIN VDE 0298-3)
	Number of cores < 12:	
	Cores < 0.5mm²:	300V (following UL)
	Cores ≥ 0.5mm²:	1000V (following UL)
	Number of cores ≥ 12:	1000V (following UL)
Testing voltage		2,000V (following DIN EN 50395)

Class 5.5.2.1

Basic requirements	low	1	2	3	4	**5**	6	7	highest
Travel distance	unsupported	1	2	3	4	**5**	6		≥ 400m
Oil resistance	none	1	2	**3**	4				highest
Torsion	none	1	2	**3**	4				±360°

Properties and approvals

UV resistance	Medium
Oil resistance	Oil-resistant (following DIN EN 50363-10-2), Class 3
Offshore	MUD-resistant following NEK 606 - status 2016
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
Halogen-free	Following DIN EN 60754
UL verified	Certificate No. B129699: "igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL/CSA AWM	See data sheet for details ▶ www.igus-asean.com/CF77ULD
NFPA	Following NFPA 79-2018, chapter 12.9
DNV	Type Approval Certificate TAE00003X1
EAC	Certificate No. RU C-DE.ME77.B.00300/19
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 1, material/cable tested by IPA according to DIN EN ISO standard 14644-1
DESINA	According to VDW, DESINA standardisation
CE	Following 2014/35/EU
UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Guaranteed service life (details see page 28-29)

Double strokes*	5 million		7.5 million		10 million	
Temperature, from/to [°C]	< 10m	≥ 10m	< 10m	≥ 10m	< 10m	≥ 10m
	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-25/-15	8.5	10	9.5	11	10.5	12
-15/+70	6.8	7.5	7.5	8.5	8.5	9.5
+70/+80	8.5	10	9.5	11	10.5	12

* Higher number of double strokes? Service life calculation online ▶ www.igus-asean.com/chainflexlife

Typical application areas

- For heavy-duty applications, Class 5
- Unsupported travels and up to 100m for gliding applications, Class 5
- Almost unlimited resistance to oil, Class 3
- Torsion ±180°, with 1m cable length, Class 3
- Indoor and outdoor applications with average sun radiation
- Machining units/machine tools, storage and retrieval units for high-bay warehouses, packaging industry, quick handling, refrigerating sector

Control cable | PUR | chainflex® CF77.UL.D



Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF77.UL.02.03.INI [12)]	3x0.25	5.0	9	29
CF77.UL.02.04.D	4x0.25	5.5	11	35
CF77.UL.02.05.D	5x0.25	6.0	13	39
CF77.UL.02.07.D	7x0.25	6.5	18	51
CF77.UL.02.12.D	12x0.25	9.0	32	78
CF77.UL.02.18.D	18x0.25	10.5	47	127
CF77.UL.02.25.D	25x0.25	11.5	63	155
CF77.UL.03.04.INI [12)]	4x0.34	6.0	14	37
CF77.UL.03.05.INI [12)]	5x0.34	6.0	18	36
CF77.UL.03.05.INI.D	5x0.34	6.0	18	36
CF77.UL.05.04.D	4G0.5	6.0	21	46
CF77.UL.05.05.D	5G0.5	6.5	26	53
CF77.UL.05.07.D	7G0.5	7.5	39	78
CF77.UL.05.12.D	12G0.5	10.0	63	130
CF77.UL.05.18.D	18G0.5	12.0	94	184
CF77.UL.05.25.D	25G0.5	14.0	129	243
CF77.UL.05.30.D	30G0.5	15.0	155	315
CF77.UL.07.03.D	3G0.75	6.5	23	52
CF77.UL.07.04.D	4G0.75	7.0	31	59
CF77.UL.07.05.D	5G0.75	7.5	38	71
CF77.UL.07.07.D	7G0.75	8.5	54	100
CF77.UL.07.12.D	12G0.75	12.0	91	180
CF77.UL.07.18.D	18G0.75	13.5	134	239
CF77.UL.07.20.D	20G0.75	14.5	149	269
CF77.UL.07.25.D	25G0.75	16.0	186	336
CF77.UL.07.36.D	36G0.75	19.0	279	506
CF77.UL.07.42.D	42G0.75	21.0	341	580
CF77.UL.10.02.D	2x1.0	6.5	21	51
CF77.UL.10.03.D	3G1.0	6.5	31	58
CF77.UL.10.04.D	4G1.0	7.0	41	73
CF77.UL.10.05.D	5G1.0	8.0	50	90
CF77.UL.10.07.D	7G1.0	9.0	71	120
CF77.UL.10.12.D	12G1.0	12.5	120	220
CF77.UL.10.18.D	18G1.0	15.0	179	314
CF77.UL.10.25.D	25G1.0	17.5	248	431
CF77.UL.10.42.D	42G1.0	22.5	433	699

[12)] Colour outer jacket: Colza yellow (similar to RAL 1021)

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

EPLAN download, configurators ▶ www.igus-asean.com/CF77ULD

Class 5.5.2.1

Basic requirements	low	1	2	3	4	**5**	6	7	highest
Travel distance	unsupported	1	2	3	4	**5**	6		≥ 400m
Oil resistance	none	1	2	**3**	4				highest
Torsion	none	1	2	**3**	4				±360°



Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF77.UL.15.03.D	3G1.5	7.0	46	71
CF77.UL.15.04.D	4G1.5	7.5	61	88
CF77.UL.15.05.D	5G1.5	8.0	75	105
CF77.UL.15.07.D [17)]	7G1.5	9.5	105	152
CF77.UL.15.12.D	12G1.5	13.0	179	297
CF77.UL.15.18.D	18G1.5	17.0	268	405
CF77.UL.15.25.D	25G1.5	19.5	297	564
CF77.UL.15.36.D	36G1.5	23.5	551	848
CF77.UL.25.03.D	3G2.5	8.5	75	132
CF77.UL.25.04.D	4G2.5	9.5	95	167
CF77.UL.25.05.D	5G2.5	10.0	124	196
CF77.UL.25.07.D [17)]	7G2.5	12.0	174	270
CF77.UL.25.12.D	12G2.5	17.0	297	479
CF77.UL.40.04.D [90)]	4G4.0	11.5	165	245
CF77.UL.40.05.D [90)]	5G4.0	12.0	198	284
CF77.UL.60.05.D [90)]	5G6.0	13.5	297	412

[17)] When using the cables with "7G1.5mm²" and "7G2.5mm²" minimum bend radius must be 17.5xd with gliding travel distance ≥ 5m.
[90)] Torsion ± 90°

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core



Cables available in the chainflex® CASE

Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.

More on this on page 24/25 and online: www.igus-asean.com/cf-case

Guarantee igus chainflex 36

igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year

Control cable | PUR | chainflex® CF78.UL



Example image

10 million
Double strokes guaranteed

6.8 x d
Bend radius, e-chain®

100m
Travel distance, e-chain®

- For heavy duty applications
- PUR outer jacket
- Shielded
- Oil-resistant and coolant-resistant
- Flame-retardant
- PVC and halogen-free
- Notch-resistant
- Hydrolysis and microbe-resistant

Dynamic information

Bend radius	**e-chain® linear**	minimum 6.8 x d
	flexible	minimum 5 x d
	fixed	minimum 4 x d
Temperature	**e-chain® linear**	-25°C up to +80°C
	flexible	-40°C up to +80°C (following DIN EN 60811-504)
	fixed	-50°C up to +80°C (following DIN EN 50305)
v max.	**unsupported**	10m/s
	gliding	5m/s
a max.		80m/s²
Travel distance		Unsupported travels and up to 100m for gliding applications, Class 5

Cable structure

Conductor	Finely stranded conductor consisting of bare copper wires (following DIN EN 60228).
Core insulation	Mechanically high-quality TPE mixture.
Core structure	**Number of cores < 12:** Cores wound in a layer with short pitch length. **Number of cores ≥ 12:** Cores wound in bundles which are then wound around a high tensile strength centre element, all with optimised short pitch lengths and directions. Especially low-torsion structure.
Core identification	Black cores with white numbers, one green-yellow core.
Inner jacket	TPE mixture adapted to suit the requirements in e-chains®.
Overall shield	Bending-resistant braiding made of tinned copper wires. Coverage linear approx. 55%, optical approx. 80%
Outer jacket	Low-adhesion, halogen-free, highly abrasion resistant PUR mixture, adapted to suit the requirements in e-chains® (following DIN EN 50363-10-2) Colour: Window-grey (similar to RAL 7040)
CFRIP®	Strip cables faster: a tear strip is moulded into the inner jacket Video ▶ www.igus-asean.com/CFRIP

Electrical information

Nominal voltage	300/500V (following DIN VDE 0298-3) **Number of cores < 12:** **Cores < 0.5mm²:** 300V (following UL) **Cores ≥ 0.5mm²:** 1000V (following UL) **Number of cores ≥ 12:** 1000V (following UL)
Testing voltage	2,000V (following DIN EN 50395)

Class 5.5.3.1

Basic requirements	low	1	2	3	4	**5**	6	7	highest
Travel distance	unsupported	1	2	3	4	**5**	6		≥ 400m
Oil resistance	none	1	2	**3**	4				highest
Torsion	none	**1**	2	3	4				±360°

Properties and approvals

UV resistance	Medium
Oil resistance	Oil-resistant (following DIN EN 50363-10-2), Class 3
Offshore	MUD-resistant following NEK 606 - status 2016
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
Halogen-free	Following DIN EN 60754
UL verified	Certificate No. B129699: "igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL/CSA AWM	See data sheet for details ▶ www.igus-asean.com/CF78UL
NFPA	Following NFPA 79-2018, chapter 12.9
DNV	Type Approval Certificate TAE00003X1
EAC	Certificate No. RU C-DE.ME77.B.00300/19
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 1. The outer jacket material of this series complies with CF77.UL.05.12.D - tested by IPA according to standard DIN EN ISO 14644-1
CE	Following 2014/35/EU
UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Guaranteed service life (details see page 28-29)

Double strokes*	5 million		7.5 million		10 million	
Temperature, from/to [°C]	< 10m	≥ 10m	< 10m	≥ 10m	< 10m	≥ 10m
	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-25/-15	8.5	10	9.5	11	10.5	12
-15/+70	6.8	7.5	7.5	8.5	8.5	9.5
+70/+80	8.5	10	9.5	11	10.5	12

* Higher number of double strokes? Service life calculation online ▶ www.igus-asean.com/chainflexlife

Typical application areas

- For heavy-duty applications, Class 5
- Unsupported travels and up to 100m for gliding applications, Class 5
- Almost unlimited resistance to oil, Class 3
- No torsion, Class 1
- Indoor and outdoor applications with average sun radiation
- Machining units/machine tools, storage and retrieval units for high-bay warehouses, packaging industry, quick handling, refrigerating sector

Control cable | PUR | chainflex® CF78.UL

Strip cables 50% faster with CFRIP® tear strip



Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF78.UL.05.04	(4G0.5)C	8.0	38	77
CF78.UL.05.05	(5G0.5)C	8.0	45	91
CF78.UL.05.07	(7G0.5)C	9.5	59	115
CF78.UL.05.09	(9G0.5)C	11.0	77	143
CF78.UL.05.12	(12G0.5)C	12.5	92	202
CF78.UL.05.18	(18G0.5)C	14.5	146	248
CF78.UL.05.25	(25G0.5)C	16.0	168	354
CF78.UL.07.03	(3G0.75)C	8.0	42	79
CF78.UL.07.04	(4G0.75)C	8.5	49	96
CF78.UL.07.05	(5G0.75)C	9.5	61	112
CF78.UL.07.07	(7G0.75)C	10.5	83	151
CF78.UL.07.12	(12G0.75)C	13.5	136	249
CF78.UL.07.18	(18G0.75)C	15.5	194	354
CF78.UL.07.36	(36G0.75)C	22.0	390	702
CF78.UL.10.03	(3G1.0)C	8.5	50	96
CF78.UL.10.04	(4G1.0)C	9.0	62	112
CF78.UL.10.05	(5G1.0)C	9.5	74	129
CF78.UL.10.07	(7G1.0)C	11.0	104	176
CF78.UL.10.12	(12G1.0)C	14.5	166	300
CF78.UL.10.18	(18G1.0)C	17.0	240	407
CF78.UL.10.25	(25G1.0)C	20.0	325	545
CF78.UL.15.03	(3G1.5)C	9.5	68	122
CF78.UL.15.04	(4G1.5)C	10.0	86	145
CF78.UL.15.05	(5G1.5)C	9.5	108	159
CF78.UL.15.07 [17)]	(7G1.5)C	11.5	144	217
CF78.UL.15.12	(12G1.5)C	16.0	233	387
CF78.UL.15.18	(18G1.5)C	19.0	346	541
CF78.UL.15.25	(25G1.5)C	22.5	464	724
CF78.UL.15.36	(36G1.5)C	26.5	663	1095
CF78.UL.15.42	(42G1.5)C	29.5	820	1296
CF78.UL.25.03	(3G2.5)C	10.0	106	174
CF78.UL.25.04	(4G2.5)C	11.5	140	203
CF78.UL.25.05	(5G2.5)C	12.0	166	235
CF78.UL.25.07 [17)]	(7G2.5)C	14.5	230	334
CF78.UL.25.12	(12G2.5)C	19.0	382	585
CF78.UL.40.04	(4G4.0)C	13.0	203	328

[17)] When using the cables with "7G1.5mm²" and "7G2.5mm²" minimum bend radius must be 17.5xd with gliding travel distance ≥ 5m.

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

EPLAN download, configurators ▶ www.igus-asean.com/CF78UL

Class 5.5.3.1

Basic requirements	low	1	2	3	4	**5**	6	7	highest
Travel distance	unsupported	1	2	3	4	**5**	6		≥ 400m
Oil resistance	none	1	2	**3**	4				highest
Torsion	none	**1**	2	3	4				±360°



Order example: CF78.UL.05.04 - to your desired length (0.5m steps)
CF78.UL chainflex® series .05 Code nominal cross section .04 Number of cores

Order online ▶ www.igus-asean.com/CF78UL

Delivery time 24hrs or today.
Delivery time means time until goods are shipped.



Cables available in the chainflex® CASE

Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.

More on this on page 24/25 and online: www.igus-asean.com/cf-case



Reduce cost, improve technology, now!
Do the chainflex® price check ...
www.igus-asean.com/cf-price-check

… for example: reduce cost with CF6 ...

igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year

Control cable | PUR | chainflex® CF2

10 million
Double strokes guaranteed

5 x d
Bend radius, e-chain®

100m
Travel distance, e-chain®

- For extremely heavy duty applications
- PUR outer jacket
- Shielded
- Oil-resistant and coolant-resistant
- Flame-retardant
- Notch-resistant
- Hydrolysis and microbe-resistant



Example image

Dynamic information

Bend radius	**e-chain® linear**	minimum 5 x d
	flexible	minimum 4 x d
	fixed	minimum 3 x d
Temperature	**e-chain® linear**	-20°C up to +80°C
	flexible	-40°C up to +80°C (following DIN EN 60811-504)
	fixed	-50°C up to +80°C (following DIN EN 50305)
v max.	**unsupported**	10m/s
	gliding	5m/s
a max.	80m/s²	
Travel distance	Unsupported travels and up to 100m for gliding applications, Class 5	

Cable structure

Conductor	Stranded conductor in especially bending-resistant version consisting of bare copper wires (following DIN EN 60228).
Core insulation	Mechanically high-quality TPE mixture.
Core structure	**Number of cores < 12:** Cores wound in a layer with short pitch length. **Number of cores ≥ 12:** Cores wound in bundles which are then wound around a high tensile strength centre element, all with optimised short pitch lengths and directions. Especially low-torsion structure.
Core identification	Colour code in accordance with DIN 47100.
Inner jacket	PVC mixture adapted to suit the requirements in e-chains®.
Overall shield	Extremely bending-resistant braiding made of tinned copper wires. Coverage linear approx. 70%, optical approx. 90%
Outer jacket	Low-adhesion, halogen-free, highly abrasion resistant PUR mixture, adapted to suit the requirements in e-chains® (following DIN EN 50363-10-2) Colour: Anthracite grey (similar to RAL 7016)

Electrical information

Nominal voltage	300/500V (following DIN VDE 0298-3) 300V (following UL)
Testing voltage	2,000V (following DIN EN 50395)

EPLAN download, configurators ▶ www.igus-asean.com/CF2

Class 6.5.3.1

Basic requirements	low	1	2	3	4	5	**6**	7	highest
Travel distance	unsupported	1	2	3	4	**5**	6		≥ 400m
Oil resistance	none	1	2	**3**	4				highest
Torsion	none	**1**	2	3	4				±360°

Properties and approvals

UV resistance	High
Oil resistance	Oil-resistant (following DIN EN 50363-10-2), Class 3
Offshore	MUD-resistant following NEK 606 - status 2016
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
UL verified	Certificate No. B129699: "igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL/CSA AWM	See data sheet for details ▶ www.igus-asean.com/CF2
NFPA	Following NFPA 79-2018, chapter 12.9
EAC	Certificate No. RU C-DE.ME77.B.00300/19
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 1. The outer jacket material of this series complies with CF77.UL.05.12.D - tested by IPA according to standard DIN EN ISO 14644-1
CE	Following 2014/35/EU
UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Guaranteed service life (details see page 28-29)

Double strokes*	5 million	7.5 million	10 million
Temperature, from/to [°C]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-20/-10	6.8	7.5	8.5
-10/+70	5	6.8	7.5
+70/+80	6.8	7.5	8.5

* Higher number of double strokes? Service life calculation online ▶ www.igus-asean.com/chainflexlife

Typical application areas

- For heavy-duty applications, Class 6
- Unsupported travels and up to 100m for gliding applications, Class 5
- Almost unlimited resistance to oil, Class 3
- No torsion, Class 1
- Indoor and outdoor applications
- Storage and retrieval units, machining units/packaging machines, quick handling, indoor cranes, refrigeration sector

Control cable | PUR | chainflex® CF2



Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF2.01.04	(4x0.14)C	6.5	18	49
CF2.01.08	(8x0.14)C	7.5	31	66
CF2.01.12	(12x0.14)C	9.5	51	102
CF2.01.18	(18x0.14)C	10.5	56	135
CF2.01.24 [3)]	(24x0.14)C	11.5	68	162
CF2.01.36	(36x0.14)C	14.5	92	240
CF2.02.04	(4x0.25)C	7.0	25	59
CF2.02.08	(8x0.25)C	8.0	43	84
CF2.02.18	(18x0.25)C	12.0	100	173
CF2.02.48	(48x0.25)C	17.5	191	387

The chainflex® types marked with a [3)] refer to cables that are based on a bundling of 4 cores each. Due to their excellent electrical properties (starquad with especially minimum crosstalk), these cables can virtually be used in all cases in which otherwise twisted-pair cables are required.

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

Order example: CF2.01.04 - to your desired length (0.5m steps)
CF2 chainflex® series .01 Code nominal cross section .04 Number of cores

Order online ▶ www.igus-asean.com/CF2

Delivery time 24hrs or today.
Delivery time means time until goods are shipped.



Cables available in the chainflex® CASE
Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.
More on this on page 24/25 and online: www.igus-asean.com/cf-case

EPLAN download, configurators ▶ www.igus-asean.com/CF2

Class 6.5.3.1

Basic requirements	low	1	2	3	4	5	**6**	7	highest
Travel distance	unsupported	1	2	3	4	**5**	6		≥ 400m
Oil resistance	none	1	2	**3**	4				highest
Torsion	none	**1**	2	3	4				±360°





chainflex® CF2 cables are resistant to oil and coolants. e-chain®: E4/00 system.

cost down...



...life up

Reduce cost, improve technology, now!
Do the chainflex® price check ...
www.igus-asean.com/cf-price-check

… for example: reduce cost with CF240.PUR ...

Guarantee igus chainflex 36

igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year

Control cable | TPE | chainflex® CF9

12.5 million
Double strokes guaranteed

5 x d
Bend radius, e-chain®

400m
Travel distance, e-chain®

- For heaviest duty applications
- TPE outer jacket
- Oil and bio-oil-resistant
- PVC and halogen-free
- Low-temperature-flexible
- Hydrolysis and microbe-resistant

Now available with UL approval & 25% longer service life



Example image

Dynamic information

Bend radius	**e-chain® linear**	minimum 5 x d
	flexible	minimum 4 x d
	fixed	minimum 3 x d
Temperature	**e-chain® linear**	-35°C up to +100°C
	flexible	-50°C up to +100°C (following DIN EN 60811-504)
	fixed	-55°C up to +100°C (following DIN EN 50305)
v max.	**unsupported**	10m/s
	gliding	6m/s
a max.	100m/s²	
Travel distance	Unsupported travels and up to 400m for gliding applications, Class 6	
Torsion	Torsion ±90°, with 1m cable length, Class 2	

Cable structure

Conductor
Stranded conductor in especially bending-resistant version consisting of bare copper wires (following DIN EN 60228).

Core insulation
Mechanically high-quality TPE mixture.

Core structure
Number of cores < 12: Cores wound in a layer with short pitch length.
Number of cores ≥ 12: Cores wound in bundles which are then wound around a high tensile strength centre element, all with optimised short pitch lengths and directions. Especially low-torsion structure.

Core identification
Cores < 0.75mm²: Colour code in accordance with DIN 47100.
Cores ≥ 0.75mm²: Black cores with white numbers, one green-yellow core.
CF9.02.03.INI: brown, blue, black
CF9.03.04.INI: brown, blue, black, white
CF9.03.05.INI: brown, blue, black, white, green-yellow
CF9.03.16.07.03.INI:
0.34mm²: violet/red/grey/red-blue, green/grey-pink/white-green/white-yellow, white-grey/black/yellow-brown/brown-green, white/yellow/pink/grey-brown
0.75mm²: blue/green-yellow/brown

Outer jacket
Low-adhesion, extremely abrasion-resistant and highly flexible TPE mixture, adapted to suit the requirements in e-chains®.
Colour: Steel blue (similar to RAL 5011)

CFRIP®
Strip cables faster: a tear strip is moulded into the outer jacket
Video ▶ www.igus-asean.com/CFRIP

EPLAN download, configurators ▶ www.igus-asean.com/CF9

Class 7.6.4.2

Basic requirements	low	1	2	3	4	5	6	**7**	highest
Travel distance	unsupported	1	2	3	4	5	**6**		≥ 400m
Oil resistance	none	1	2	3	**4**				highest
Torsion	none	1	**2**	3	4				±360°

Electrical information

Nominal voltage	300/500V (following DIN VDE 0298-3) **Cores < 0.5mm²:** 300V (following UL) **Cores ≥ 0.5mm²:** 1000V (following UL)
Testing voltage	2,000V (following DIN EN 50395)

Properties and approvals

UV resistance	High
Oil resistance	Oil-resistant (following DIN EN 60811-404), bio-oil-resistant (following VDMA 24568 with Plantocut 8 S-MB tested by DEA), Class 4
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
Halogen-free	Following DIN EN 60754
UL verified	Certificate No. B129699: "igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL AWM	See data sheet for details ▶ www.igus-asean.com/CF9 (from production date 01/2022)
EAC	Certificate No. RU C-DE.ME77.B.00300/19
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 1, material/cable tested by IPA according to DIN EN ISO standard 14644-1
CE	Following 2014/35/EU
UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Guaranteed service life (details see page 28-29)

Double strokes*	5 million	7.5 million	12.5 million
Temperature, from/to [°C]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-35/-25	6.8	7.5	8.5
-25/+90	5	6	7
+90/+100	6.8	7.5	8.5

* Higher number of double strokes? Service life calculation online ▶ www.igus-asean.com/chainflexlife

Typical application areas

- For heavy-duty applications, Class 7
- Unsupported travels and up to 400m and more for gliding applications, Class 6
- Almost unlimited resistance to oil, also with bio-oils, Class 4
- Torsion ±90°, with 1m cable length, Class 2
- Indoor and outdoor applications, UV-resistant
- Storage and retrieval units for high-bay warehouses, machining units/machine tools, quick handling, cleanroom, semiconductor insertion, outdoor cranes, low-temperature applications

Control cable | TPE | chainflex® CF9

Strip cables 50% faster with CFRIP® tear strip



Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF9.02.02	2x0.25	4.5	5	18
CF9.02.03.INI	3x0.25	4.5	8	22
CF9.02.06	6x0.25	5.5	15	36
CF9.02.07	7x0.25	6.5	18	43
CF9.02.08	8x0.25	6.5	20	49
CF9.02.12	12x0.25	8.0	30	71
CF9.02.18	18x0.25	9.0	45	100
CF9.02.20	20x0.25	9.5	50	113
CF9.02.25	25x0.25	10.5	63	138
CF9.03.04.INI	4x0.34	5.0	14	31
CF9.03.05.INI	5x0.34	5.5	17	36
CF9.03.06	6x0.34	6.0	21	43
CF9.03.08	8x0.34	7.0	28	57
CF9.03.16.07.03.INI	16x0.34+3x0.75	11	77	152
CF9.05.02	2x0.5	5.0	10	28
CF9.05.03	3x0.5	5.5	15	34
CF9.05.04	4x0.5	6.0	20	41
CF9.05.05	5x0.5	6.5	25	50
CF9.05.07	7x0.5	7.5	35	69
CF9.05.12	12x0.5	10.0	60	123
CF9.05.18	18x0.5	11.5	90	179
CF9.05.25	25x0.5	13.5	124	240
CF9.05.36	36x0.5	16.5	178	345
CF9.07.04	4G0.75	6.5	30	56
CF9.07.05	5G0.75	7.0	38	69
CF9.07.07	7G0.75	8.0	53	94
CF9.07.12	12G0.75	11.0	90	176
CF9.07.20	20G0.75	13.5	149	270
CF9.07.25	25G0.75	15	186	330
CF9.10.03	3G1.0	6.0	30	54
CF9.10.04	4G1.0	6.5	40	68
CF9.10.05	5G1.0	7.5	50	84
CF9.10.12	12G1.0	12.0	120	212
CF9.10.18	18G1.0	14.0	179	303
CF9.10.25	25G1.0	16.5	248	417

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

EPLAN download, configurators ▶ www.igus-asean.com/CF9

Class 7.6.4.2

Basic requirements — low 1 2 3 4 5 6 **7** highest
Travel distance — unsupported 1 2 3 4 5 **6** ≥ 400m
Oil resistance — none 1 2 3 **4** highest
Torsion — none **1** 2 3 4 ±360°

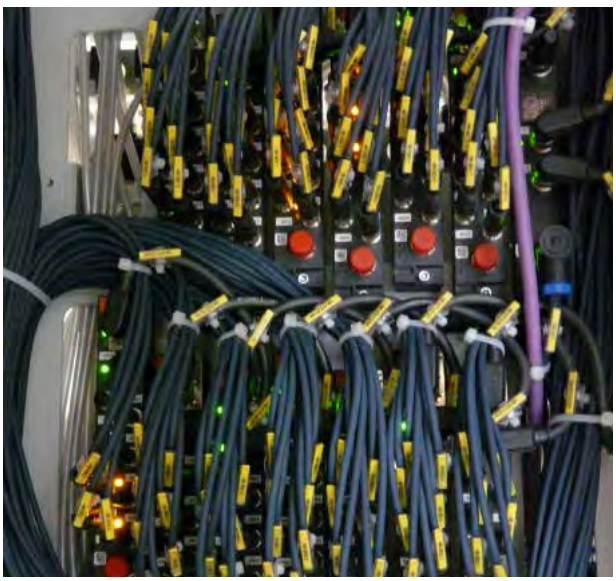


Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF9.15.02	2x1.5	6.5	30	55
CF9.15.04	4G1.5	7.5	60	90
CF9.15.05	5G1.5	8.0	75	111
CF9.15.07 [17]	7G1.5	9.5	104	159
CF9.15.12	12G1.5	13.0	178	280
CF9.15.18	18G1.5	16.0	267	412
CF9.15.25	25G1.5	19.0	371	585
CF9.15.36	36G1.5	22.5	534	816
CF9.25.04	4G2.5	9.0	100	144
CF9.25.05	5G2.5	9.5	124	176
CF9.25.07 [17]	7G2.5	12.0	174	253
CF9.25.12	12G2.5	17.0	297	465
CF9.25.16	16G2.5	19.0	396	616
CF9.25.18 [7]	18G2.5	22.5	445	795
CF9.25.25	25G2.5	23.0	612	926
CF9.40.04	4G4.0	10.5	159	212
CF9.60.04	4G6.0	12.0	238	308
CF9.60.05	5G6.0	13.0	297	378
CF9.100.04	4G10	16.5	396	550
CF9.160.04	4G16	20.5	633	843

[7] Nominal voltage 600/1000V
[17] When using the cables with "7G1.5mm²" and "7G2.5mm²" minimum bend radius must be 17.5xd with gliding travel distance ≥ 5m.

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core





chainflex® CF9 INI cables in a high-performance system for plastics processing with cycle times in seconds. e-chain® E6 series. (Source: Hekuma)

Control cable | TPE | chainflex® CF10

12.5 million
Double strokes guaranteed

5 x d
Bend radius, e-chain®

400m
Travel distance, e-chain®

- For heaviest duty applications
- TPE outer jacket
- Shielded
- Oil and bio-oil-resistant
- PVC and halogen-free
- Low-temperature-flexible
- Hydrolysis and microbe-resistant

Now available with UL approval & 25% longer service life



Example image

Dynamic information

Bend radius	**e-chain® linear**	minimum 5 x d
	flexible	minimum 4 x d
	fixed	minimum 3 x d
Temperature	**e-chain® linear**	-35°C up to +100°C
	flexible	-50°C up to +100°C (following DIN EN 60811-504)
	fixed	-55°C up to +100°C (following DIN EN 50305)
v max.	**unsupported**	10m/s
	gliding	6m/s
a max.		100m/s²
Travel distance		Unsupported travels and up to 400m for gliding applications, Class 6

Cable structure

Conductor	Stranded conductor in especially bending-resistant version consisting of bare copper wires (following DIN EN 60228).
Core insulation	Mechanically high-quality TPE mixture.
Core structure	**Number of cores < 12:** Cores wound in a layer with short pitch length. **Number of cores ≥ 12:** Cores wound in bundles which are then wound around a high tensile strength centre element, all with optimised short pitch lengths and directions. Especially low-torsion structure.
Core identification	**Cores < 0.75mm²:** Colour code in accordance with DIN 47100. **Cores ≥ 0.75mm²:** Black cores with white numbers, one green-yellow core. **CF9.03.05.INI:** brown, blue, black, white, green-yellow
Inner jacket	TPE mixture adapted to suit the requirements in e-chains®.
Overall shield	Extremely bending-resistant braiding made of tinned copper wires. Coverage linear approx. 70%, optical approx. 90%
Outer jacket	Low-adhesion, extremely abrasion-resistant and highly flexible TPE mixture, adapted to suit the requirements in e-chains®. Colour: Steel blue (similar to RAL 5011)
CFRIP®	Strip cables faster: a tear strip is moulded into the inner jacket Video ▶ www.igus-asean.com/CFRIP

EPLAN download, configurators ▶ www.igus-asean.com/CF10

Class 7.6.4.1

Basic requirements	low	1	2	3	4	5	6	**7**	highest
Travel distance	unsupported	1	2	3	4	5	**6**		≥ 400m
Oil resistance	none	1	2	3	**4**				highest
Torsion	none	**1**	2	3	4				±360°

Electrical information

Nominal voltage	300/500V (following DIN VDE 0298-3) **Cores < 0.5mm²:** 300V (following UL) **Cores ≥ 0.5mm²:** 1000V (following UL)
Testing voltage	2,000V (following DIN EN 50395)

Properties and approvals

UV resistance	High
Oil resistance	Oil-resistant (following DIN EN 60811-404), bio-oil-resistant (following VDMA 24568 with Plantocut 8 S-MB tested by DEA), Class 4
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
Halogen-free	Following DIN EN 60754
UL verified	Certificate No. B129699: "igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL AWM	See data sheet for details ▶ www.igus-asean.com/CF10 (from production date 01/2022)
EAC	Certificate No. RU C-DE.ME77.B.00300/19
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 1. The outer jacket material of this series complies with CF9.15.07 - tested by IPA according to standard DIN EN ISO 14644-1
CE	Following 2014/35/EU
UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Guaranteed service life (details see page 28-29)

Double strokes*	5 million	7.5 million	12.5 million
Temperature, from/to [°C]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-35/-25	6.8	7.5	8.5
-25/+90	5	6	7
+90/+100	6.8	7.5	8.5

* Higher number of double strokes? Service life calculation online ▶ www.igus-asean.com/chainflexlife

Typical application areas

- For heavy-duty applications, Class 7
- Unsupported travels and up to 400m and more for gliding applications, Class 6
- Almost unlimited resistance to oil, also with bio-oils, Class 4
- No torsion, Class 1
- Indoor and outdoor applications, UV-resistant
- Storage and retrieval units for high-bay warehouses, machining units/machine tools, quick handling, cleanroom, semiconductor insertion, ship to shore, outdoor cranes, low-temperature applications

Control cable | TPE | chainflex® CF10

Strip cables 50% faster with CFRIP® tear strip



Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF10.01.12	(12x0.14)C	7.5	37	78
CF10.01.18	(18x0.14)C	9.5	63	119
CF10.02.04	(4x0.25)C	6.5	24	49
CF10.02.08	(8x0.25)C	8.0	40	79
CF10.02.12	(12x0.25)C	9.5	65	122
CF10.02.25	(25x0.25)C	12.0	110	211
CF10.03.05.INI	(5x0.34)C	7.0	33	63
CF10.05.04	(4x0.5)C	7.0	37	70
CF10.05.05	(5x0.5)C	7.5	44	81
CF10.05.07	(7x0.5)C	8.5	58	104
CF10.05.12	(12x0.5)C	12.0	107	198
CF10.05.18	(18x0.5)C	13.5	144	261
CF10.05.25	(25x0.5)C	15.0	186	332
CF10.07.04	(4G0.75)C	7.5	49	86
CF10.07.05	(5G0.75)C	8.0	58	102
CF10.07.07	(7G0.75)C	9.5	90	147
CF10.07.12	(12G0.75)C	12.5	139	244
CF10.07.20	(20G0.75)C	15.0	210	350
CF10.07.25	(25G0.75)C	17.0	255	443
CF10.10.02	(2x1.0)C	7.5	38	72
CF10.10.03	(3G1.0)C	7.5	48	84
CF10.10.04	(4G1.0)C	8.0	60	100
CF10.10.05	(5G1.0)C	8.5	72	118
CF10.10.07	(7G1.0)C	10.0	110	172
CF10.10.12	(12G1.0)C	13.5	175	294
CF10.10.18	(18G1.0)C	16.0	244	404
CF10.10.25	(25G1.0)C	19.0	323	550
CF10.15.04	(4G1.5)C	9.0	94	141
CF10.15.05	(5G1.5)C	9.5	111	163
CF10.15.07 [17)]	(7G1.5)C	11.5	148	224
CF10.15.12	(12G1.5)C	15.0	240	373
CF10.15.18	(18G1.5)C	18.5	365	568
CF10.25.04	(4G2.5)C	11.0	140	209
CF10.25.07 [17)]	(7G2.5)C	13.5	227	335
CF10.25.12	(12G2.5)C	19.5	402	636
CF10.40.04	(4G4.0)C	12.5	205	287
CF10.40.05 [11)]	(5G4.0)C	13.5	254	351

[11)] Phase-out model
[17)] When using the cables with "7G1.5mm²" and "7G2.5mm²" minimum bend radius must be 17.5xd with gliding travel distance ≥ 5m.
Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

EPLAN download, configurators ▶ www.igus-asean.com/CF10

36-month guarantee ... more than 1,350 cable types from stock ... no cutting charges

Class 7.6.4.1

Basic requirements	low	1	2	3	4	5	6	**7**	highest
Travel distance	unsupported	1	2	3	4	5	**6**		≥ 400m
Oil resistance	none	1	2	3	**4**				highest
Torsion	none	**1**	2	3	4				±360°



Order example: CF10.01.12 - to your desired length (0.5m steps)
CF10 chainflex® series .01 Code nominal cross section .12 Number of cores

Order online ▶ www.igus-asean.com/CF10

Delivery time 24hrs or today.
Delivery time means time until goods are shipped.



chainflex CF10 control cable in storage and retrieval units e-chain®: E2 system

Cables available in the chainflex® CASE

Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.

More on this on page 24/25 and online: www.igus-asean.com/cf-case

igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year

Control cable | TPE | chainflex® CF9.UL

10 million
Double strokes guaranteed

5 x d
Bend radius, e-chain®

400m
Travel distance, e-chain®

- For extremely heavy duty applications
- TPE outer jacket
- Oil and bio-oil-resistant
- Flame-retardant
- PVC-free
- Low-temperature-flexible
- Hydrolysis and microbe-resistant



Example image

Dynamic information

Bend radius	**e-chain® linear**	minimum 5 x d
	flexible	minimum 4 x d
	fixed	minimum 3 x d
Temperature	**e-chain® linear**	-35°C up to +100°C
	flexible	-45°C up to +100°C (following DIN EN 60811-504)
	fixed	-50°C up to +100°C (following DIN EN 50305)
v max.	**unsupported**	10m/s
	gliding	6m/s
a max.	100m/s²	
Travel distance	Unsupported travels and up to 400m for gliding applications, Class 6	
Torsion	Torsion ±90°, with 1m cable length, Class 2	

Cable structure

Conductor	Stranded conductor in especially bending-resistant version consisting of bare copper wires (following DIN EN 60228).
Core insulation	Mechanically high-quality TPE mixture.
Core structure	**Number of cores < 12:** Cores wound in a layer with short pitch length. **Number of cores ≥ 12:** Cores wound in bundles which are then wound around a high tensile strength centre element, all with optimised short pitch lengths and directions. Especially low-torsion structure.
Core identification	**Cores < 0.75mm²:** Colour code in accordance with DIN 47100. **Cores ≥ 0.75mm²:** Black cores with white numbers, one green-yellow core. **CF9.UL.02.03.INI:** brown, blue, black **CF9.UL.03.04.INI:** brown, blue, black, white **CF9.UL.03.05.INI:** braun, blau, schwarz, weiß, grüngelb
Outer jacket	Low-adhesion, extremely abrasion-resistant and highly flexible TPE mixture, adapted to suit the requirements in e-chains®. Colour: Slate grey (similar to RAL 7015)
CFRIP®	Strip cables faster: a tear strip is moulded into the outer jacket Video ▶ www.igus-asean.com/CFRIP

EPLAN download, configurators ▶ www.igus-asean.com/CF9UL

Class 6.6.4.2

Basic requirements	low	1	2	3	4	5	**6**	7	highest
Travel distance	unsupported	1	2	3	4	5	**6**		≥ 400m
Oil resistance	none	1	2	3	**4**				highest
Torsion	none	1	**2**	3	4				±360°

Electrical information

Nominal voltage
300/500V (following DIN VDE 0298-3)
Cores < 0.5mm²: 300V (following UL)
Cores ≥ 0.5mm²: 1000V (following UL)

Testing voltage
2,000V (following DIN EN 50395)

Properties and approvals

UV resistance
High

Oil resistance
Oil-resistant (following DIN EN 60811-404), bio-oil-resistant (following VDMA 24568 with Plantocut 8 S-MB tested by DEA), Class 4

Flame-retardant
According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame

Silicone-free
Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)

UL verified
Certificate No. B129699: "igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"

UL/CSA AWM
See data sheet for details ▶ www.igus-asean.com/CF9UL

NFPA
Following NFPA 79-2018, chapter 12.9

DNV
Type Approval Certificate TAE00003X2

EAC
Certificate No. RU C-DE.ME77.B.00300/19

REACH
In accordance with regulation (EC) No. 1907/2006 (REACH)

Lead-free
Following 2011/65/EC (RoHS-II/RoHS-III)

Cleanroom
According to ISO Class 1. The outer jacket material of this series complies with CF34.UL.25.04.D - tested by IPA according to standard DIN EN ISO 14644-1

CE
Following 2014/35/EU

UKCA
In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Guaranteed service life (details see page 28-29)

Double strokes*	5 million	7.5 million	10 million
Temperature, from/to [°C]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-35/-25	6.8	7.5	8.5
-25/+90	5	6	7
+90/+100	6.8	7.5	8.5

* Higher number of double strokes? Service life calculation online ▶ www.igus-asean.com/chainflexlife

Typical application areas

- For heavy-duty applications, Class 6
- Unsupported travels and up to 400m and more for gliding applications, Class 6
- Almost unlimited resistance to oil, also with bio-oils, Class 4
- Torsion ±90°, with 1m cable length, Class 2
- Indoor and outdoor applications, UV-resistant
- Storage and retrieval units for high-bay warehouses, machining units/machine tools, quick handling, cleanroom, semiconductor insertion, ship to shore, outdoor cranes, low-temperature applications

Control cable | TPE | chainflex® CF9.UL

Strip cables 50% faster with CFRIP® tear strip



Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF9.UL.02.02	2x0.25	5.0	5	24
CF9.UL.02.03.INI	3x0.25	5.0	8	28
CF9.UL.02.04	4x0.25	5.5	10	32
CF9.UL.02.06	6x0.25	6.0	15	42
CF9.UL.02.08	8x0.25	7.0	20	57
CF9.UL.02.12	12x0.25	7.5	30	81
CF9.UL.03.04.INI	4x0.34	5.5	14	38
CF9.UL.03.05.INI	5x0.34	6.0	17	46
CF9.UL.03.06	6x0.34	6.5	21	51
CF9.UL.03.08	8x0.34	7.5	28	67
CF9.UL.05.02	2x0.5	5.5	10	35
CF9.UL.05.03	3x0.5	6.0	15	42
CF9.UL.05.04	4x0.5	6.0	20	50
CF9.UL.05.05	5x0.5	6.5	25	56
CF9.UL.05.07	7x0.5	7.5	35	79
CF9.UL.05.12	12x0.5	9.5	60	137
CF9.UL.05.18	18x0.5	12.0	90	201
CF9.UL.07.05	5G0.75	7.0	38	77
CF9.UL.07.07	7G0.75	8.5	53	105
CF9.UL.07.12	12G0.75	11.0	90	191
CF9.UL.07.25	25G0.75	15.0	186	366
CF9.UL.10.03	3G1.0	6.5	30	62
CF9.UL.10.04	4G1.0	7.0	40	78
CF9.UL.10.12	12G1.0	11.5	119	228
CF9.UL.10.18 [11)]	18G1.0	14.5	178	332
CF9.UL.10.25	25G1.0	16.0	248	447
CF9.UL.15.04	4G1.5	8.0	60	102
CF9.UL.15.05	5G1.5	8.5	75	124
CF9.UL.15.07 [17)]	7G1.5	10.0	104	171
CF9.UL.15.12	12G1.5	13.5	178	309
CF9.UL.15.18	18G1.5	16.0	267	449
CF9.UL.15.25	25G1.5	19.0	371	650

[11)] Phase-out model
[17)] When using the cables with "7G1.5mm²" and "7G2.5mm²" minimum bend radius must be 17.5xd with gliding travel distance ≥ 5m.

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

EPLAN download, configurators ▶ www.igus-asean.com/CF9UL

Class 6.6.4.2

Basic requirements	low	1	2	3	4	5	**6**	7	highest
Travel distance	unsupported	1	2	3	4	5	**6**		≥ 400m
Oil resistance	none	1	2	3	**4**				highest
Torsion	none	1	**2**	3	4				±360°



Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF9.UL.25.04	4G2.5	9.0	100	159
CF9.UL.25.05	5G2.5	10.0	124	194
CF9.UL.25.07 [17)]	7G2.5	12.0	174	270
CF9.UL.25.12	12G2.5	16.0	297	502
CF9.UL.25.18	18G2.5	20.0	445	737
CF9.UL.25.25	25G2.5	23.5	612	1,011
CF9.UL.40.04	4G4.0	10.5	159	231

[17)] When using the cables with "7G1.5mm²" and "7G2.5mm²" minimum bend radius must be 17.5xd with gliding travel distance ≥ 5m.

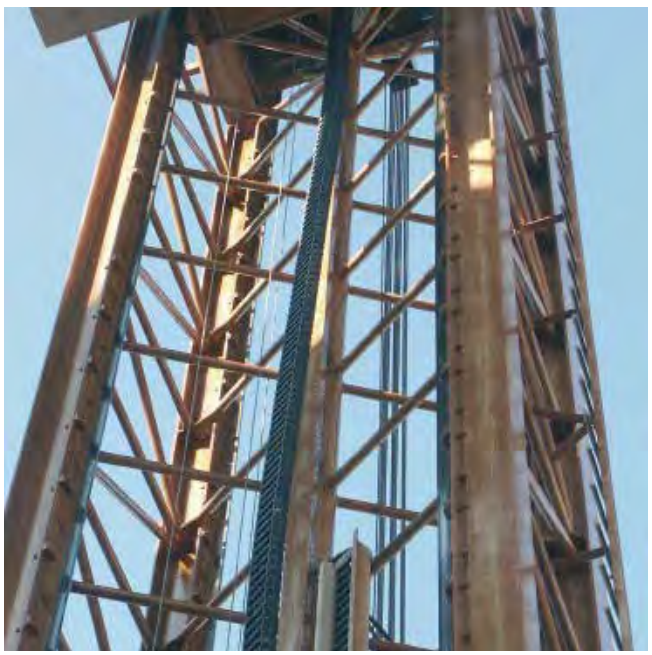
Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core



Cables available in the chainflex® CASE

Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.

More on this on page 24/25 and online: www.igus-asean.com/cf-case



igus® chainflex® cables in a drilling application.

Guarantee igus chainflex 36

igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year

Control cable | TPE | chainflex® CF10.UL

10 million
Double strokes guaranteed

5 x d
Bend radius, e-chain®

400m
Travel distance, e-chain®

- For extremely heavy duty applications
- TPE outer jacket
- Shielded
- Oil and bio-oil-resistant
- Flame-retardant
- PVC-free
- Low-temperature-flexible
- Hydrolysis and microbe-resistant



Example image

Dynamic information

Bend radius	**e-chain® linear**	minimum 5 x d
	flexible	minimum 4 x d
	fixed	minimum 3 x d
Temperature	**e-chain® linear**	-35°C up to +100°C
	flexible	-45°C up to +100°C (following DIN EN 60811-504)
	fixed	-50°C up to +100°C (following DIN EN 50305)
v max.	**unsupported**	10m/s
	gliding	6m/s
a max.	100m/s²	
Travel distance	Unsupported travels and up to 400m for gliding applications, Class 6	

Cable structure

Conductor	Stranded conductor in especially bending-resistant version consisting of bare copper wires (following DIN EN 60228).
Core insulation	Mechanically high-quality TPE mixture.
Core structure	**Number of cores < 12:** Cores wound in a layer with short pitch length. **Number of cores ≥ 12:** Cores wound in bundles which are then wound around a high tensile strength centre element, all with optimised short pitch lengths and directions. Especially low-torsion structure.
Core identification	**Cores < 0.75mm²:** Colour code in accordance with DIN 47100. **Cores ≥ 0.75mm²:** Black cores with white numbers, one green-yellow core.
Inner jacket	TPE mixture adapted to suit the requirements in e-chains®.
Overall shield	Extremely bending-resistant braiding made of tinned copper wires. Coverage linear approx. 70%, optical approx. 90%
Outer jacket	Low-adhesion, extremely abrasion-resistant and highly flexible TPE mixture, adapted to suit the requirements in e-chains®. Colour: Slate grey (similar to RAL 7015)
CFRIP®	Strip cables faster: a tear strip is moulded into the inner jacket Video ▶ www.igus-asean.com/CFRIP

EPLAN download, configurators ▶ www.igus-asean.com/CF10UL

Class 6.6.4.1

Basic requirements	low	1	2	3	4	5	**6**	7	highest
Travel distance	unsupported	1	2	3	4	5	**6**		≥ 400m
Oil resistance	none	1	2	3	**4**				highest
Torsion	none	**1**	2	3	4				±360°

Electrical information

Nominal voltage	300/500V (following DIN VDE 0298-3) **Cores < 0.5mm²:** 300V (following UL) **Cores ≥ 0.5mm²:** 1000V (following UL)
Testing voltage	2,000V (following DIN EN 50395)

Properties and approvals

UV resistance	High
Oil resistance	Oil-resistant (following DIN EN 60811-404), bio-oil-resistant (following VDMA 24568 with Plantocut 8 S-MB tested by DEA), Class 4
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
UL verified	Certificate No. B129699: "igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL/CSA AWM	See data sheet for details ▶ www.igus-asean.com/CF10UL
NFPA	Following NFPA 79-2018, chapter 12.9
DNV	Type Approval Certificate TAE00003X2
EAC	Certificate No. RU C-DE.ME77.B.00300/19
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 1. The outer jacket material of this series complies with CF34.UL.25.04.D - tested by IPA according to standard DIN EN ISO 14644-1
CE	Following 2014/35/EU
UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Guaranteed service life (details see page 28-29)

Double strokes*	5 million	7.5 million	10 million
Temperature, from/to [°C]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-35/-25	6.8	7.5	8.5
-25/+90	5	6	7
+90/+100	6.8	7.5	8.5

* Higher number of double strokes? Service life calculation online ▶ www.igus-asean.com/chainflexlife

Typical application areas

- For heavy-duty applications, Class 6
- Unsupported travels and up to 400m and more for gliding applications, Class 6
- Almost unlimited resistance to oil, also with bio-oils, Class 4
- No torsion, Class 1
- Indoor and outdoor applications, UV-resistant
- Storage and retrieval units for high-bay warehouses, machining units/machine tools, quick handling, cleanroom, semiconductor insertion, ship to shore, outdoor cranes, low-temperature applications

Control cable | TPE | chainflex® CF10.UL

Strip cables 50% faster with CFRIP® tear strip



Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF10.UL.02.04	(4x0.25)C	6.5	24	60
CF10.UL.02.08	(8x0.25)C	8.5	40	94
CF10.UL.02.12	(12x0.25)C	9.5	64	137
CF10.UL.02.25	(25x0.25)C	12.5	110	241
CF10.UL.05.04	(4x0.5)C	7.5	37	83
CF10.UL.05.05	(5x0.5)C	8.0	44	98
CF10.UL.05.12	(12x0.5)C	11.5	103	211
CF10.UL.05.25	(25x0.5)C	15.5	186	383
CF10.UL.07.04	(4G0.75)C	8.0	49	101
CF10.UL.07.05 [11)]	(5G0.75)C	8.5	59	119
CF10.UL.07.07	(7G0.75)C	10.0	89	171
CF10.UL.07.12	(12G0.75)C	12.5	135	268
CF10.UL.07.25 [11)]	(25G0.75)C	17.0	256	489
CF10.UL.10.02	(2x1.0)C	7.5	38	88
CF10.UL.10.03 [11)]	(3G1.0)C	8.0	48	99
CF10.UL.10.04	(4G1.0)C	8.5	61	117
CF10.UL.10.05 [11)]	(5G1.0)C	9.0	72	137
CF10.UL.10.07	(7G1.0)C	11.0	110	204
CF10.UL.10.25 [11)]	(25G1.0)C	18.5	348	608
CF10.UL.15.04	(4G1.5)C	9.0	83	144
CF10.UL.15.05 [11)]	(5G1.5)C	10.0	111	184
CF10.UL.15.07 [17)]	(7G1.5)C	11.5	148	250
CF10.UL.15.12	(12G1.5)C	15.0	240	420
CF10.UL.15.18	(18G1.5)C	18.5	365	613
CF10.UL.25.04	(4G2.5)C	11.0	140	232
CF10.UL.25.07 [17)]	(7G2.5)C	14.0	226	369
CF10.UL.25.12	(12G2.5)C	18.5	395	666
CF10.UL.40.04	(4G4.0)C	12.5	205	315

[11)] Phase-out model
[17)] When using the cables with "7G1.5mm²" and "7G2.5mm²" minimum bend radius must be 17.5xd with gliding travel distance ≥ 5m.

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

EPLAN download, configurators ▶ www.igus-asean.com/CF10UL

36-month guarantee ... more than 1,350 cable types from stock ... no cutting charges

Class 6.6.4.1

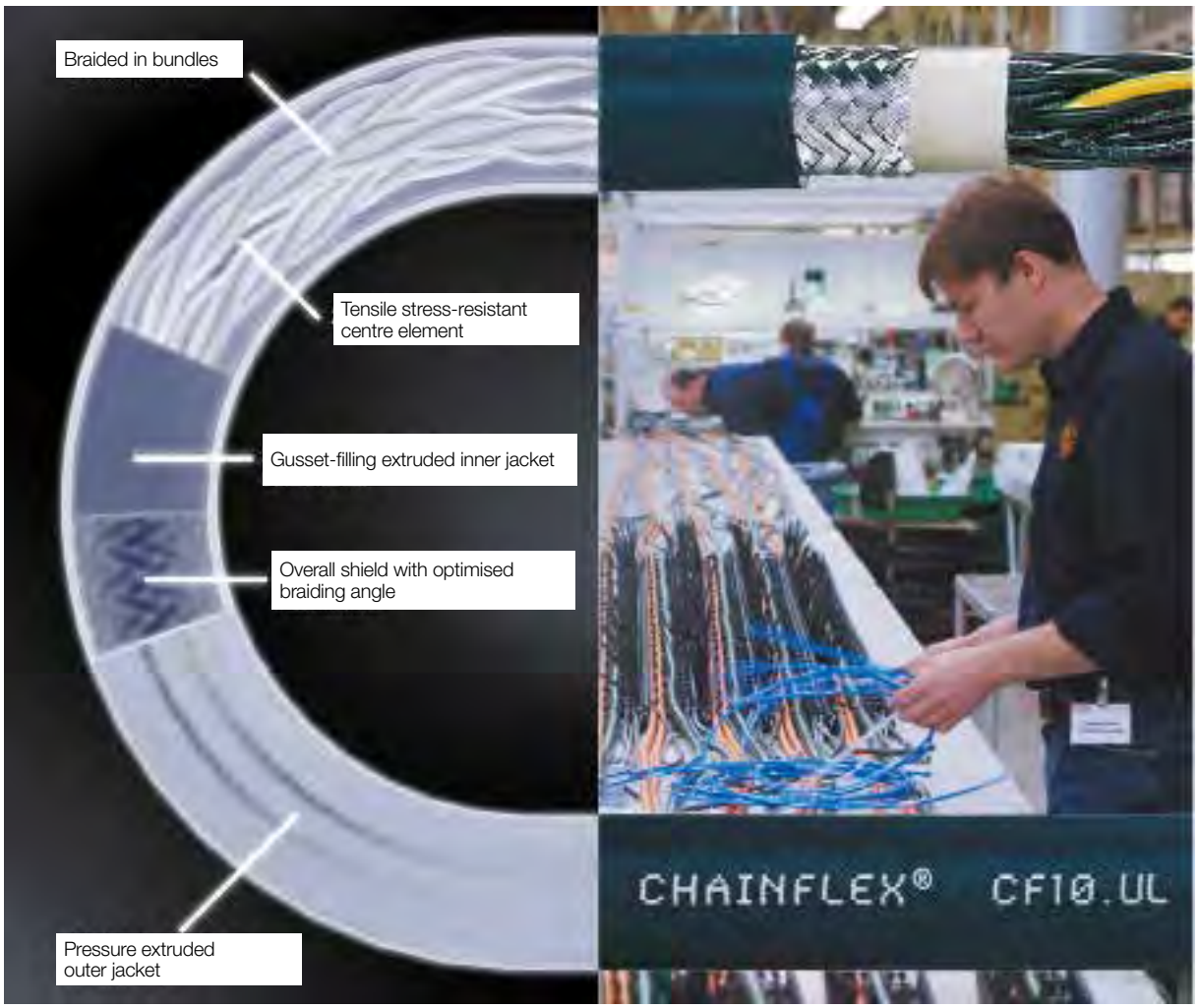
Basic requirements	low	1	2	3	4	5	**6**	7	highest
Travel distance	unsupported	1	2	3	4	5	**6**		≥ 400m
Oil resistance	none	1	2	3	**4**				highest
Torsion	none	**1**	2	3	4				±360°



Cables available in the chainflex® CASE

Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.

More on this on page 24/25 and online: www.igus-asean.com/cf-case



The special cable structure of chainflex® CF10.UL guarantees quality – offered by igus® fully harnessed.

Control cable | TPE | chainflex® CF98

40 million
Double strokes guaranteed

4 x d
Bend radius, e-chain®

100m
Travel distance, e-chain®

- For heaviest duty applications and very small radii down to 4 x d
- TPE outer jacket
- Oil and bio-oil-resistant
- PVC and halogen-free
- Low-temperature-flexible
- Hydrolysis and microbe-resistant

New generation
CF98.PLUS
▶ Page 134



Example image

Dynamic information

Bend radius	**e-chain® linear**	minimum 4 x d
	flexible	minimum 4 x d
	fixed	minimum 3 x d
Temperature	**e-chain® linear**	-35°C up to +90°C
	flexible	-50°C up to +90°C (following DIN EN 60811-504)
	fixed	-55°C up to +90°C (following DIN EN 50305)
v max.	**unsupported**	10m/s
	gliding	6m/s
a max.	100m/s²	
Travel distance	Short, very fast applications with small radii and restricted installation space, Class 5	
Torsion	Torsion ±90°, with 1m cable length, Class 2	

Cable structure

Conductor	Conductor consisting of a highly flexible special alloy.
Core insulation	Mechanically high-quality TPE mixture.
Core structure	Cores wound in a layer with especially short pitch length.
Core identification	Colour code in accordance with DIN 47100. **CF98.02.03.INI:** brown, blue, black **CF98.03.04.INI:** brown, blue, black, white
Outer jacket	Low-adhesion, extremely abrasion-resistant and highly flexible TPE mixture, adapted to suit the requirements in e-chains®. Colour: Steel blue (similar to RAL 5011)

Electrical information

Nominal voltage	300/300V
Testing voltage	1,500V

Properties and approvals

UV resistance	High
Oil resistance	Oil-resistant (following DIN EN 60811-404), bio-oil-resistant (following VDMA 24568 with Plantocut 8 S-MB tested by DEA), Class 4
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)

Class 7.5.4.2

Basic requirements	low	1 2 3 4 5 6 **7** highest
Travel distance	unsupported	1 2 3 4 **5** 6 ≥ 400m
Oil resistance	none	1 2 3 **4** highest
Torsion	none	1 **2** 3 4 ±360°

Halogen-free	Following DIN EN 60754
UL verified	Certificate No. B129699: "igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
EAC	Certificate No. RU C-DE.ME77.B.00300/19
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 1. The outer jacket material of this series complies with CF9.15.07 - tested by IPA according to standard DIN EN ISO 14644-1
CE	Following 2014/35/EU
UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Guaranteed service life (details see page 28-29)

Double strokes*	20 million	30 million	40 million
Temperature, from/to [°C]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-35/-25	5	6	7
-25/+80	4	5	6
+80/+90	5	6	7

* Higher number of double strokes? Service life calculation online ▶ www.igus-asean.com/chainflexlife

Typical application areas

- For heaviest duty applications and very small radii down to 4 x d, Class 7
- Especially for short, very fast applications with small radii and restricted installation space, Class 5
- Almost unlimited resistance to oil, also with bio-oils, Class 4
- Torsion ±90°, with 1m cable length, Class 2
- Indoor and outdoor applications, UV-resistant
- Pick and place machines, automatic doors, cleanroom, very quick handling

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF98.01.02 [11)]	2x0.14	4.5	5	18
CF98.01.03 [11)]	3x0.14	4.5	6	20
CF98.01.04 [11)]	4x0.14	5.0	8	25
CF98.01.08 [11)]	8x0.14	6.5	15	43
CF98.02.03.INI [11)]	3x0.25	5.0	11	29
CF98.02.04 [11)]	4x0.25	5.5	15	36
CF98.02.08 [11)]	8x0.25	7.5	30	67
CF98.03.04.INI [11)]	4x0.34	6.0	15	39
CF98.05.04 [11)]	4x0.5	6.0	33	53

[11)] Phase-out model (new generation CF98.PLUS ▶ Page 134)

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core



Cables available in the chainflex® CASE

Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.

More on this on page 24/25 and online: www.igus-asean.com/cf-case

Control cable | TPE | chainflex® CF99

40 million
Double strokes guaranteed

4 x d
Bend radius, e-chain®

100m
Travel distance, e-chain®

- For heaviest duty applications and especially small radii down to 4 x d
- TPE outer jacket
- Shielded
- Oil and bio-oil-resistant
- PVC and halogen-free
- Low-temperature-flexible
- Hydrolysis and microbe-resistant

New generation
CF99.PLUS
▶ Page 138



Example image

Dynamic information

Bend radius	**e-chain® linear**	minimum 4 x d
	flexible	minimum 4 x d
	fixed	minimum 3 x d
Temperature	**e-chain® linear**	-35°C up to +90°C
	flexible	-50°C up to +90°C (following DIN EN 60811-504)
	fixed	-55°C up to +90°C (following DIN EN 50305)
v max.	**unsupported**	10m/s
	gliding	6m/s
a max.		100m/s²
Travel distance		Short, very fast applications with small radii and restricted installation space, Class 5

Cable structure

Conductor	Conductor consisting of a highly flexible special alloy.
Core insulation	Mechanically high-quality TPE mixture.
Core structure	Cores wound in a layer with especially short pitch length.
Core identification	Colour code in accordance with DIN 47100.
Inner jacket	TPE mixture adapted to suit the requirements in e-chains®.
Overall shield	Extremely bending resistant braiding made of alloy wires. Coverage linear approx. 70%, optical approx. 90%
Outer jacket	Low-adhesion, extremely abrasion-resistant and highly flexible TPE mixture, adapted to suit the requirements in e-chains®. Colour: Steel blue (similar to RAL 5011)

Electrical information

Nominal voltage	300/300V
Testing voltage	1,500V

Properties and approvals

UV resistance	High
Oil resistance	Oil-resistant (following DIN EN 60811-404), bio-oil-resistant (following VDMA 24568 with Plantocut 8 S-MB tested by DEA), Class 4

Class 7.5.4.1

Basic requirements	low 1 2 3 4 5 6 **7** highest
Travel distance	unsupported 1 2 3 4 **5** 6 ≥ 400m
Oil resistance	none 1 2 3 **4** highest
Torsion	none **1** 2 3 4 ±360°

Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
Halogen-free	Following DIN EN 60754
UL verified	Certificate No. B129699: "igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
EAC	Certificate No. RU C-DE.ME77.B.00300/19
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 1. The outer jacket material of this series complies with CF9.15.07 - tested by IPA according to standard DIN EN ISO 14644-1
CE	Following 2014/35/EU
UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Guaranteed service life (details see page 28-29)

Double strokes*	20 million	30 million	40 million
Temperature, from/to [°C]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-35/-25	5	6	7
-25/+80	4	5	6
+80/+90	5	6	7

* Higher number of double strokes? Service life calculation online ▶ www.igus-asean.com/chainflexlife

Typical application areas

- For heaviest duty applications and very small radii down to 4 x d, Class 7
- Especially for short, very fast applications with small radii and restricted installation space, Class 5
- Almost unlimited resistance to oil, also with bio-oils, Class 4
- No torsion, Class 1
- Indoor and outdoor applications, UV-resistant
- Pick and place machines, automatic doors, cleanroom, very quick handling

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF99.01.02 [11)]	(2x0.14)C	6.0	12	37
CF99.01.04 [11)]	(4x0.14)C	6.5	17	47
CF99.01.08 [11)]	(8x0.14)C	8.0	29	76
CF99.02.04 [11)]	(4x0.25)C	7.0	24	60
CF99.03.08 [11)]	(8x0.34)C	9.5	45	108

[11)] Phase-out model (new generation CF99.PLUS ▶ Page 138)

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core



Cables available in the chainflex® CASE

Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.

More on this page 24/25 and online: www.igus-asean.com/cf-case

New

Control cable | TPE | chainflex® CF98.PLUS

100,000,000
Double strokes guaranteed

3 x d
Bend radius, e-chain®

100m
Travel distance, e-chain®

- For heaviest duty applications and very small radii down to 3 x d
- TPE outer jacket
- Oil and bio-oil-resistant
- PVC and halogen-free
- Low-temperature-flexible
- Hydrolysis and microbe-resistant

100 million double strokes in e-chains® guaranteed!



Example image

Dynamic information

Bend radius	**e-chain® linear**	minimum 3 x d
	flexible	minimum 3 x d
	fixed	minimum 3 x d
Temperature	**e-chain® linear**	-35°C up to +90°C
	flexible	-50°C up to +90°C (following DIN EN 60811-504)
	fixed	-55°C up to +90°C (following DIN EN 50305)
v max.	**unsupported**	10m/s
	gliding	6m/s
a max.		100m/s²
Travel distance		Short, very fast applications with small radii and restricted installation space, Class 5
Torsion		Torsion ±90°, with 1m cable length, Class 2

Cable structure

Conductor	Conductor consisting of a highly flexible special alloy.
Core insulation	Mechanically high-quality TPE mixture.
Core structure	Cores wound in a layer with especially short pitch length.
Core identification	Colour code in accordance with DIN 47100. **CF98.PLUS.02.03.INI:** brown, blue, black **CF98.PLUS.03.04.INI:** brown, blue, black, white
Outer jacket	Low-adhesion, extremely abrasion-resistant and highly flexible TPE mixture, adapted to suit the requirements in e-chains®. Colour: Steel blue (similar to RAL 5011)

Electrical information

Nominal voltage	300/300V
Testing voltage	1,500V

EPLAN download, configurators ▶ www.igus-asean.com/CF98PLUS

Class 7.5.4.2

Basic requirements	low	1	2	3	4	5	6	**7**	highest
Travel distance	unsupported	1	2	3	4	**5**	6	≥ 400m	
Oil resistance	none	1	2	3	**4**	highest			
Torsion	none	1	**2**	3	4	±360°			

Properties and approvals

UV resistance	High
Oil resistance	Oil-resistant (following DIN EN 60811-404), bio-oil-resistant (following VDMA 24568 with Plantocut 8 S-MB tested by DEA), Class 4
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
Halogen-free	Following DIN EN 60754
UL verified	Certificate No. B129699: "igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
EAC	Certificate No. RU C-DE.ME77.B.00300/19
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 1. The outer jacket material of this series complies with CF9.15.07 - tested by IPA according to standard DIN EN ISO 14644-1
CE	Following 2014/35/EU
UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Guaranteed service life (details see page 28-29)

Double strokes*	5 million	40 million	100 million
Temperature, from/to [°C]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-35/-25	4	6	7
-25/+80	3	5	6
+80/+90	4	6	7

* Higher number of double strokes? Service life calculation online ▶ www.igus-asean.com/chainflexlife

Typical application areas

- For heaviest duty applications and very small radii down to 3 x d, Class 7
- Especially for short, very fast applications with small radii and restricted installation space, Class 5
- Almost unlimited resistance to oil, also with bio-oils, Class 4
- Torsion ±90°, with 1m cable length, Class 2
- Indoor and outdoor applications, UV-resistant
- Pick and place machines, automatic doors, cleanroom, very quick handling

Control cable | TPE | chainflex® CF98.PLUS

New



Example image

	Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
New	CF98.PLUS.01.02	2x0.14	4.5	4	18
New	CF98.PLUS.01.03	3x0.14	4.5	6	20
New	CF98.PLUS.01.04	4x0.14	5.0	7	25
New	CF98.PLUS.01.08	8x0.14	6.5	15	45
New	CF98.PLUS.02.03.INI	3x0.25	5.0	10	29
New	CF98.PLUS.02.04	4x0.25	5.5	14	36
New	CF98.PLUS.02.08	8x0.25	7.5	29	68
New	CF98.PLUS.03.04.INI	4x0.34	6.0	15	38
New	CF98.PLUS.05.04	4x0.5	6.0	32	53

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core



Cables available in the chainflex® CASE

Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.

More on this page 24/25 and online: www.igus-asean.com/cf-case

Order example: CF98.PLUS.01.02 – to your desired length (0.5m steps)
CF98.PLUS **chainflex® series** .01 **Code nominal cross section** .02 **Number of cores**

Order online ▶ www.igus-asean.com/CF98PLUS

Delivery time 24hrs or today.
Delivery time means time until goods are shipped.

EPLAN download, configurators ▶ www.igus-asean.com/CF98PLUS

Class 7.5.4.2

Basic requirements	low	1	2	3	4	5	6	**7**	highest
Travel distance	unsupported	1	2	3	4	**5**	6		≥ 400m
Oil resistance	none	1	2	3	**4**				highest
Torsion	none	1	**2**	3	4				±360°





Smaller and smaller installation spaces, shorter and shorter cycle times, 99% availability. These are the requirements that innovative automation specialists must meet.
To do this, igus® has been working on an unprecedented innovation for more than ten years.
The new generation of chainflex® **CF98.PLUS** (unshielded) and chainflex® **CF99.PLUS** (shielded) control cables are a consistent development of the well-known, highly successful CF98/CF99 and CF298 and CF299 control cable series.

Systematic research on process technology and insulation and conductor materials supported by a wide variety of test series in the igus® laboratory enabled igus® to develop this new generation of control cables.
The result is cable series that can be used reliably with a minimum **bend radius of just 3 x d** (3 x cable diameter).

The cross-sectional areas range from 0.14mm² to 0.5mm² in both the shielded and unshielded versions.
This makes igus® the first and only manufacturer to offer catalogue goods for use in an e-chain® with a **guaranteed service life of 100 million double strokes!**
This is with acceleration values of up to 100m/s².

New

Control cable | TPE | chainflex® CF99.PLUS

100,000,000
Double strokes guaranteed

3 x d
Bend radius, e-chain®

100m
Travel distance, e-chain®

- For heaviest duty applications and very small radii down to 3 x d
- TPE outer jacket
- Shielded
- Oil and bio-oil-resistant
- PVC and halogen-free
- Low-temperature-flexible
- Hydrolysis and microbe-resistant

100 million double strokes in e-chains® guaranteed!



Example image

Dynamic information

Bend radius	**e-chain® linear**	minimum 3 x d
	flexible	minimum 3 x d
	fixed	minimum 2 x d
Temperature	**e-chain® linear**	-35°C up to +90°C
	flexible	-50°C up to +90°C (following DIN EN 60811-504)
	fixed	-55°C up to +90°C (following DIN EN 50305)
v max.	**unsupported**	10m/s
	gliding	6m/s
a max.		100m/s²
Travel distance		Short, very fast applications with small radii and restricted installation space, Class 5

Cable structure

Conductor	Conductor consisting of a highly flexible special alloy.
Core insulation	Mechanically high-quality TPE mixture.
Core structure	Cores wound in a layer with especially short pitch length.
Core identification	Colour code in accordance with DIN 47100.
Inner jacket	TPE mixture adapted to suit the requirements in e-chains®.
Overall shield	Extremely bending resistant braiding made of alloy wires. Coverage linear approx. 70%, optical approx. 90%
Outer jacket	Low-adhesion, extremely abrasion-resistant and highly flexible TPE mixture, adapted to suit the requirements in e-chains®. Colour: Steel blue (similar to RAL 5011)

Electrical information

Nominal voltage	300/300V
Testing voltage	1,500V

EPLAN download, configurators ▶ www.igus-asean.com/CF99PLUS

36-month guarantee ... more than 1,350 cable types from stock ... no cutting charges

igus

Class 7.5.4.1

Basic requirements	low	1	2	3	4	5	6	**7**	highest
Travel distance	unsupported	1	2	3	4	**5**	6	≥ 400m	
Oil resistance	none	1	2	3	**4**	highest			
Torsion	none	**1**	2	3	4	±360°			

Properties and approvals

UV resistance	High
Oil resistance	Oil-resistant (following DIN EN 60811-404), bio-oil-resistant (following VDMA 24568 with Plantocut 8 S-MB tested by DEA), Class 4
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
Halogen-free	Following DIN EN 60754
UL verified	Certificate No. B129699: "igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
EAC	Certificate No. RU C-DE.ME77.B.00300/19
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 1. The outer jacket material of this series complies with CF9.15.07 - tested by IPA according to standard DIN EN ISO 14644-1
CE	Following 2014/35/EU
UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Guaranteed service life (details see page 28-29)

Double strokes*	5 million	40 million	100 million
Temperature, from/to [°C]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-35/-25	4	6	7
-25/+80	3	5	6
+80/+90	4	6	7

* Higher number of double strokes? Service life calculation online ▶ www.igus-asean.com/chainflexlife

Typical application areas

- For heaviest duty applications and very small radii down to 3 x d, Class 7
- Especially for short, very fast applications with small radii and restricted installation space, Class 5
- Almost unlimited resistance to oil, also with bio-oils, Class 4
- No torsion, Class 1
- Indoor and outdoor applications, UV-resistant
- Pick and place machines, automatic doors, cleanroom, very quick handling

Control cable | TPE | chainflex® CF99.PLUS

New



Example image

	Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
New	CF99.PLUS.01.02	(2x0.14)C	6.0	12	39
New	CF99.PLUS.01.04	(4x0.14)C	6.5	16	48
New	CF99.PLUS.01.08	(8x0.14)C	8.0	28	76
New	CF99.PLUS.02.04	(4x0.25)C	7.0	23	60
New	CF99.PLUS.03.08	(8x0.34)C	9.5	45	111

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core



Cables available in the chainflex® CASE

imple savings on delivery, storage space and re-ordering with
ne chainflex® CASE - ship'n store by igus®.

ore on this on page 24/25 and online: www.igus-asean.com/cf-case

Order example: CF99.PLUS.01.02 – to your desired length (0.5m steps)
CF99.PLUS **chainflex® series** .01 **Code nominal cross section** .02 **Number of cores**

Order online ▶ www.igus-asean.com/CF99PLUS

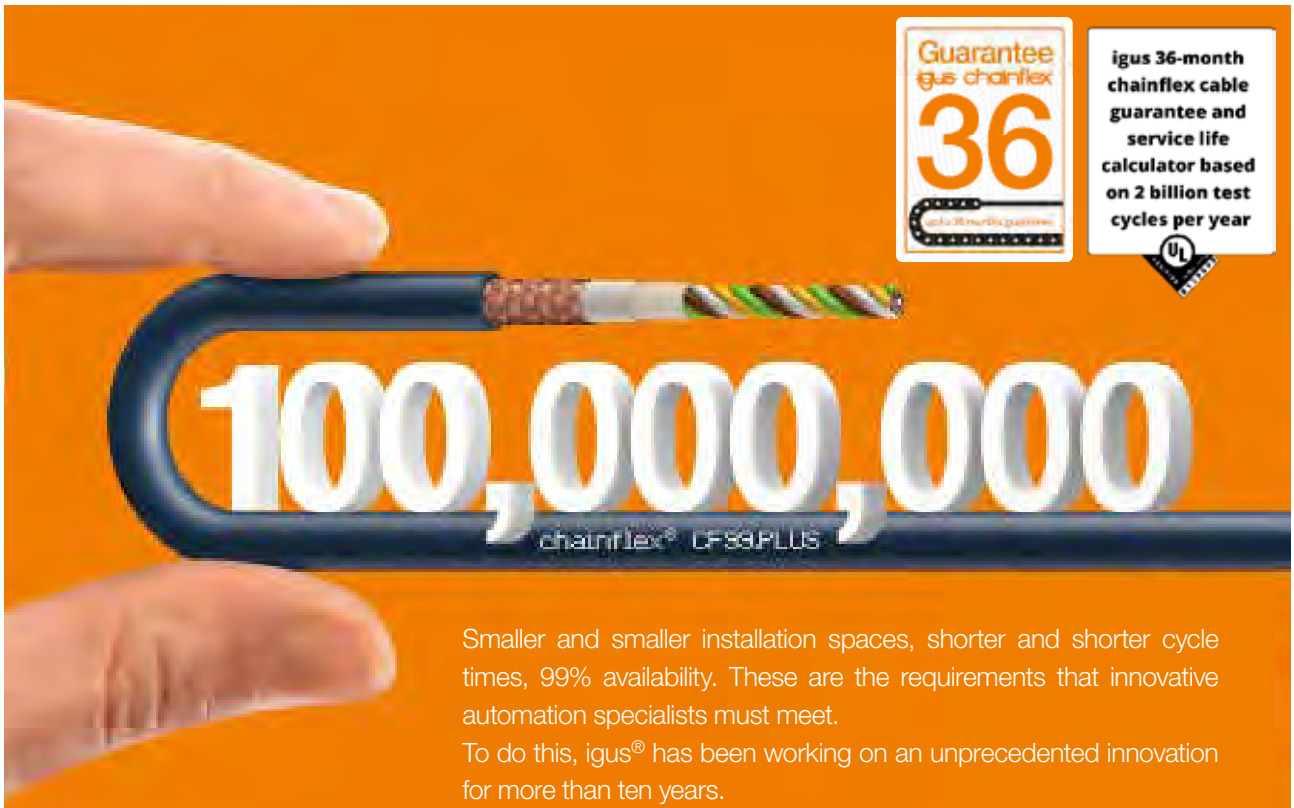
Delivery time 24hrs or today.
Delivery time means time until goods are shipped.

EPLAN download, configurators ▶ www.igus-asean.com/CF99PLUS

Class 7.5.4.1

Basic requirements	low	1	2	3	4	5	6	**7**	highest
Travel distance	unsupported	1	2	3	4	**5**	6	≥ 400m	
Oil resistance	none	1	2	3	**4**	highest			
Torsion	none	**1**	2	3	4	±360°			





Smaller and smaller installation spaces, shorter and shorter cycle times, 99% availability. These are the requirements that innovative automation specialists must meet.
To do this, igus® has been working on an unprecedented innovation for more than ten years.
The new generation of chainflex® **CF98.PLUS** (unshielded) and chainflex® **CF99.PLUS** (shielded) control cables are a consistent development of the well-known, highly successful CF98/CF99 and CF298 and CF299 control cable series.

Systematic research on process technology and insulation and conductor materials supported by a wide variety of test series in the igus® laboratory enabled igus® to develop this new generation of control cables.
The result is cable series that can be used reliably with a minimum **bend radius of just 3 x d** (3 x cable diameter).

The cross-sectional areas range from 0.14mm² to 0.5mm² in both the shielded and unshielded versions.
This makes igus® the first and only manufacturer to offer catalogue goods for use in an e-chain® with a **guaranteed service life of 100 million double strokes!**
This is with acceleration values of up to 100m/s².

Data cables

Coax cables



chainflex® cable	Jacket	Shield	Bend radius e-chain® [factor x d]	Temperature e-chain® from/to [°C]	Approvals and standards	Oil-resistant	Torsion-resistant	v max. [m/s] unsupported	v max. [m/s] gliding	a max.	Page
Data cables – wound in layers											
CF240	PVC	✓	10	+5/+70		✓		3	2	20	146
CF240.PUR	PUR	✓	10	-25/+80		✓		3	2	20	150
Data cables – twisted pair											
CF211	PVC	✓	7.5	+5/+70		✓		5	3	50	154
CF211.PUR	PUR	✓	7.5	-25/+80		✓		5	3	50	158
CF11	TPE	✓	6.8	-35/+100		✓		10	6	100	162
Data cables – twisted pair with pair shield											
CF112	PUR	✓	10	-25/+80		✓		10	5	80	166
CF12	TPE	✓	10	-35/+100		✓		10	6	100	170
Data cables – wound in layers											
CF298	TPE		4	-35/+90		✓	✓	10	6	100	172
CF299	TPE	✓	4	-35/+90		✓		10	6	100	174
Coax cable											
CFKoax	TPE	✓	10	-35/+100 -35/+70		✓		10	5	100	176
Twistable data cable (twistable cables chapter ► Page 378)											
CFROBOT3	PUR	✓	10	-25/+80		✓	✓				390

36-month chainflex® guarantee

Guaranteed service life for predictable reliability

► Selection table page 144

With the help of the chainflex® service life calculator, you can quickly and easily calculate the expected service life of chainflex® cables specifically for your application:

www.igus-asean.com/chainflexlife



igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year

chainflex® guarantee

	chainflex® cables	Temperature, from/to [°C]	v max. [m/s] unsupported	v max. [m/s] gliding	a max. [m/s²]	Travel distance [m]
Data cables						
	CF240	+5 / +15 +15 / +60 +60 / +70	3	2	20	≤ 50
	CF240.PUR	-25 / -15 -15 / +70 +70 / +80	3	2	20	≤ 50
	CF211	+5 / +15 +15 / +60 +60 / +70	5	3	50	≤ 100
	CF211.PUR	-25 / -15 -15 / +70 +70 / +80	5	3	50	≤ 100
	CF11	-35 / -25 -25 / +90 +90 / +100	10	6	100	≤ 400
	CF112	-20 / -15 -15 / +70 +70 / +80	10	5	80	≤ 100
	CF12	-35 / -25 -25 / +90 +90 / +100	10	6	100	≤ 400
	CF298	-35 / -25 -25 / +80 +80 / +90	10	6	100	≤ 100
	CF299	-35 / -25 -25 / +80 +80 / +90	10	6	100	≤ 100
Coax cables						
	CFKoax1/3	-35 / -25 -25 / +90 +90 / +100	10	5	100	≤ 400
	CFKoax2	-35 / -25 -25 / +60 +60 / +70	10	5	100	≤ 400

(1) Guaranteed service life for these series (details ▶ see page 28-29)

Guaranteed service life (1)

Minimum bend radius [factor x d] for travel distance		Minimum bend radius [factor x d] for travel distance		Minimum bend radius [factor x d] for travel distance		Page
< 10m	≥ 10m	< 10m	≥ 10m	< 10m	≥ 10m	
5 million (1 million) double strokes *		7.5 million (3 million) double strokes *		10 million (5 million) double strokes *		
12.5	15	13.5	16	14.5	17	
10	12.5	11	13.5	12	14.5	146
12.5	15	13.5	16	14.5	17	
12.5	15	13.5	16	14.5	17	
10	12.5	11	13.5	12	14.5	150
12.5	15	13.5	16	14.5	17	
10		11		12		
7.5		8.5		9.5		154
10		11		12		
10		11		12		
7.5		8.5		9.5		158
10		11		12		
5 million		7.5 million		12.5 million		
7.5		8.5		9.5		
6.8		7.5		8.5		162
7.5		8.5		9.5		
5 million		7.5 million		10 million		
12.5		13.5		14.5		
10		11		12		166
12.5		13.5		14.5		
5 million		7.5 million		12.5 million		
12.5		13.5		14.5		
10		11		12		170
12.5		13.5		14.5		
20 million		30 million		40 million		
5		6		7		
4		5		6		172
5		6		7		
5		6		7		
4		5		6		174
5		6		7		
5 million		7.5 million		10 million		
12.5		13.5		14.5		
10		11		12		176
12.5		13.5		14.5		
12.5		13.5		14.5		
10		11		12		176
12.5		13.5		14.5		

* Higher number of double strokes? Calculate service life online: ▶ www.igus-asean.com/chainflexlife
Values in brackets apply to the CF8821 series

Data cable | PVC | chainflex® CF240

10 million
Double strokes guaranteed

10 x d
Bend radius, e-chain®

50m
Travel distance, e-chain®

- For medium duty applications
- PVC outer jacket
- Shielded
- Oil-resistant
- Flame-retardant



Example image

Dynamic information

Bend radius	**e-chain® linear**	minimum 10 x d
	flexible	minimum 8 x d
	fixed	minimum 5 x d
Temperature	**e-chain® linear**	+5°C up to +70°C
	flexible	-5°C up to +70°C (following DIN EN 60811-504)
	fixed	-15°C up to +70°C (following DIN EN 50305)
v max.	**unsupported**	3m/s
	gliding	2m/s
a max.	20m/s²	
Travel distance	Unsupported travels and up to 50m for gliding applications, Class 4	

Cable structure

Conductor	Very finely stranded special conductors of particularly bending resistant design made of bare copper wires.
Core insulation	Mechanically high-quality TPE mixture.
Core structure	The individual cores are wound in layers with a short pitch length.
Core identification	Colour code in accordance with DIN 47100.
Intermediate layer	Foil taping over the outer layer.
Overall shield	Extremely bending-resistant braiding made of tinned copper wires. Coverage linear approx. 70%, optical approx. 90%
Outer jacket	Low-adhesion, oil-resistant PVC mixture, adapted to suit the requirements in e-chains® (following DIN EN 50363-4-1). Colour: Silver-grey (similar to RAL 7001)

Electrical information

Nominal voltage	300/300V (following DIN VDE 0298-3) 300V (following UL)
Testing voltage	1,500V (following DIN EN 50395)

EPLAN download, configurators ▶ www.igus-asean.com/CF240

36-month guarantee ... more than 1,350 cable types from stock ... no cutting charges

Class 4.4.2.1

Basic requirements	low	1	2	3	**4**	5	6	7	highest
Travel distance	unsupported	1	2	3	**4**	5	6		≥ 400m
Oil resistance	none	1	**2**	3	4				highest
Torsion	none	**1**	2	3	4				±360°

Properties and approvals

Oil resistance	Oil-resistant (following DIN EN 50363-4-1), Class 2
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
UL verified	Certificate No. B129699: "igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL/CSA AWM	See data sheet for details ▶ www.igus-asean.com/CF240
NFPA	Following NFPA 79-2018, chapter 12.9
EAC	Certificate No. RU C-DE.ME77.B.00300/19
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 1, material/cable tested by IPA according to DIN EN ISO standard 14644-1
CE	Following 2014/35/EU
UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Guaranteed service life (details see page 28-29)

Double strokes*	5 million		7.5 million		10 million	
Temperature, from/to [°C]	< 10m	≥ 10m	< 10m	≥ 10m	< 10m	≥ 10m
	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
+5/+15	12.5	15	13.5	16	14.5	17
+15/+60	10	12.5	11	13.5	12	14.5
+60/+70	12.5	15	13.5	16	14.5	17

* Higher number of double strokes? Service life calculation online ▶ www.igus-asean.com/chainflexlife

Typical application areas

- For medium duty applications, Class 4
- Unsupported travels and up to 50m for gliding applications, Class 4
- Light oil influence, Class 2
- No torsion, Class 1
- Preferably indoor applications, but also outdoor ones at temperatures > 5 °C
- Storage and retrieval units, machining units/packaging machines, handling, indoor cranes

Data cable | PVC | chainflex® CF240



Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF240.01.03	(3x0.14)C	4.5	12	28
CF240.01.04	(4x0.14)C	5.0	17	32
CF240.01.05	(5x0.14)C	5.5	19	37
CF240.01.07	(7x0.14)C	6.0	25	47
CF240.01.14	(14x0.14)C	7.0	41	75
CF240.01.18	(18x0.14)C	7.5	51	90
CF240.01.24	(24x0.14)C	8.5	64	125
CF240.02.03	(3x0.25)C	5.0	19	35
CF240.02.04	(4x0.25)C	5.5	23	45
CF240.02.05	(5x0.25)C	6.0	28	49
CF240.02.07	(7x0.25)C	6.5	35	61
CF240.02.08	(8x0.25)C	7.0	39	68
CF240.02.14	(14x0.25)C	7.5	60	92
CF240.02.18	(18x0.25)C	8.5	71	122
CF240.02.24	(24x0.25)C	10.0	95	161
CF240.03.02	(2x0.34)C	5.5	21	37
CF240.03.03	(3x0.34)C	5.5	29	42
CF240.03.04	(4x0.34)C	6.0	33	51
CF240.03.05	(5x0.34)C	6.5	38	56
CF240.03.07	(7x0.34)C	7.5	50	77
CF240.03.10	(10x0.34)C	8.0	58	97
CF240.03.14	(14x0.34)C	8.0	74	112
CF240.03.18	(18x0.34)C	9.0	91	139
CF240.03.24	(24x0.34)C	10.0	119	177

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core



Cables available in the chainflex® CASE

Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.

More on this page 24/25 and online: www.igus-asean.com/cf-case

EPLAN download, configurators ▶ www.igus-asean.com/CF240

Class 4.4.2.1

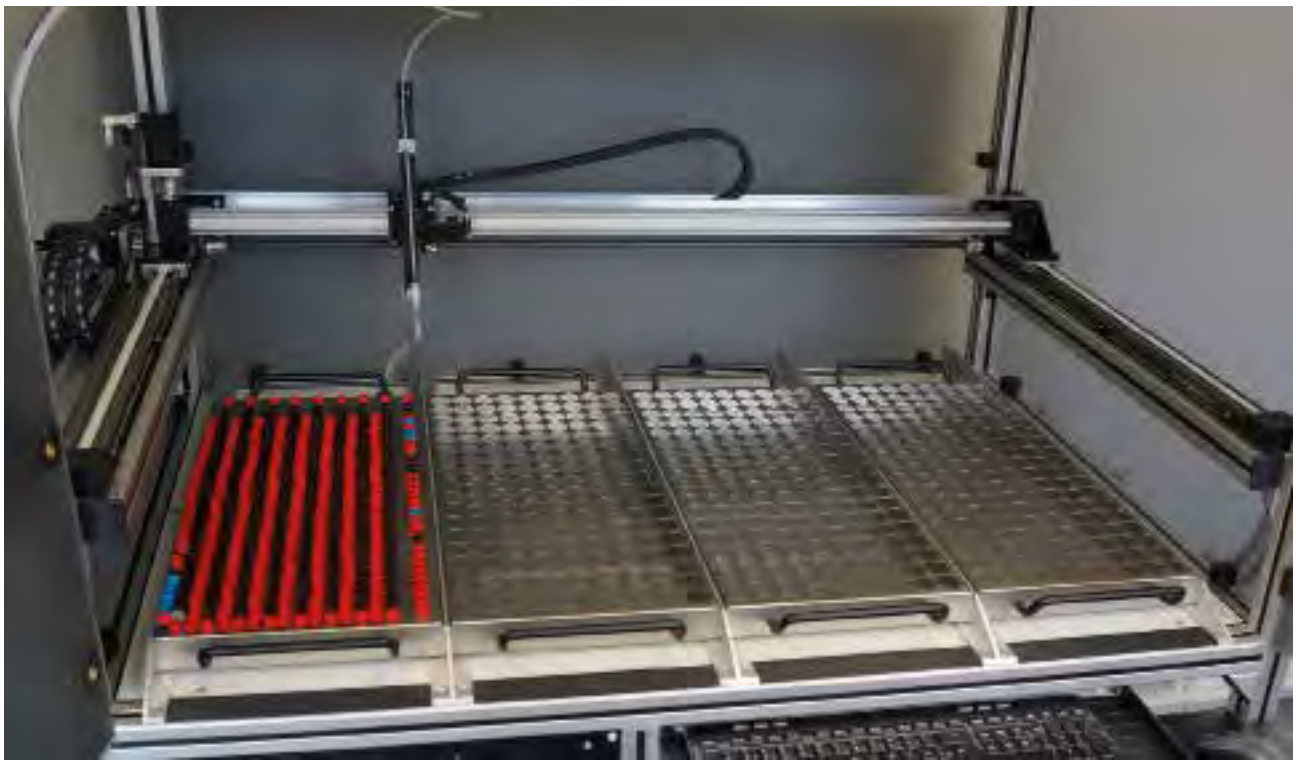
Basic requirements	low	1	2	3	**4**	5	6	7	highest
Travel distance	unsupported	1	2	3	**4**	5	6		≥ 400m
Oil resistance	none	1	**2**	3	4				highest
Torsion	none	**1**	2	3	4				±360°



Order example: CF240.01.03 - to your desired length (0.5m steps)
CF240 **chainflex® series** .01 **Code nominal cross section** .03 **Number of cores**

Order online ▶ www.igus-asean.com/CF240

Delivery time 24hrs or today.
Delivery time means time until goods are shipped.



chainflex® CF240 data cables in small handling machines

Guarantee igus chainflex 36

igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year

Data cable | PUR | chainflex® CF240.PUR



Example image

10 million
Double strokes guaranteed

10 x d
Bend radius, e-chain®

50m
Travel distance, e-chain®

- For medium duty applications
- PUR outer jacket
- Shielded
- Oil-resistant and coolant-resistant
- Flame-retardant
- PVC and halogen-free
- Notch-resistant
- Hydrolysis and microbe-resistant

Dynamic information

Bend radius	**e-chain® linear**	minimum 10 x d
	flexible	minimum 8 x d
	fixed	minimum 5 x d
Temperature	**e-chain® linear**	-25°C up to +80°C
	flexible	-40°C up to +80°C (following DIN EN 60811-504)
	fixed	-50°C up to +80°C (following DIN EN 50305)
v max.	**unsupported**	3m/s
	gliding	2m/s
a max.	20m/s²	
Travel distance	Unsupported travels and up to 50m for gliding applications, Class 4	

Cable structure

Conductor	Very finely stranded special conductors of particularly bending resistant design made of bare copper wires.
Core insulation	Mechanically high-quality TPE mixture.
Core structure	The individual cores are wound in layers with a short pitch length.
Core identification	Colour code in accordance with DIN 47100.
Intermediate layer	Foil taping over the outer layer.
Overall shield	Extremely bending-resistant braiding made of tinned copper wires. Coverage linear approx. 70%, optical approx. 90%
Outer jacket	Low-adhesion, halogen-free, highly abrasion resistant PUR mixture, adapted to suit the requirements in e-chains® (following DIN EN 50363-10-2) Colour: Window-grey (similar to RAL 7040)

Electrical information

Nominal voltage	300/300V (following DIN VDE 0298-3) 300V (following UL)
Testing voltage	1,500V (following DIN EN 50395)

Properties and approvals

UV resistance	Medium
Oil resistance	Oil-resistant (following DIN EN 50363-10-2), Class 3

EPLAN download, configurators ▶ www.igus-asean.com/CF240PUR

36-month guarantee ... more than 1,350 cable types from stock ... no cutting charges

Class 4.4.3.1

Basic requirements	low	1	2	3	**4**	5	6	7 highest
Travel distance	unsupported	1	2	3	**4**	5	6	≥ 400m
Oil resistance	none	1	2	**3**	4	highest		
Torsion	none	**1**	2	3	4	±360°		

Offshore	MUD-resistant following NEK 606 - status 2016
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
Halogen-free	Following DIN EN 60754
UL verified	Certificate No. B129699: "igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL/CSA AWM	See data sheet for details ▶ www.igus-asean.com/CF240PUR
NFPA	Following NFPA 79-2018, chapter 12.9
DNV	Type Approval Certificate TAE00003X3
EAC	Certificate No. RU C-DE.ME77.B.00300/19
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 1. The outer jacket material of this series complies with CF77.UL.05.12.D - tested by IPA according to standard DIN EN ISO 14644-1
CE	Following 2014/35/EU
UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Guaranteed service life (details see page 28-29)

Double strokes*	5 million		7.5 million		10 million	
Temperature, from/to [°C]	< 10m	≥ 10m	< 10m	≥ 10m	< 10m	≥ 10m
	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-25/-15	12.5	15	13.5	16	14.5	17
-15/+70	10	12.5	11	13.5	12	14.5
+70/+80	12.5	15	13.5	16	14.5	17

* Higher number of double strokes? Service life calculation online ▶ www.igus-asean.com/chainflexlife

Typical application areas

- For medium duty applications, Class 4
- Unsupported travels and up to 50m for gliding applications, Class 4
- Almost unlimited resistance to oil, Class 3
- No torsion, Class 1
- Indoor and outdoor applications with average sun radiation
- Machining units/machine tools, storage and retrieval units for high-bay warehouses, packaging industry, quick handling, refrigerating sector

Data cable | PUR | chainflex® CF240.PUR



Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF240.PUR.01.04	(4x0.14)C	5.5	15	39
CF240.PUR.01.07	(7x0.14)C	6.5	24	54
CF240.PUR.01.08 [11)]	(8x0.14)C	7.0	26	64
CF240.PUR.01.14	(14x0.14)C	7.5	41	79
CF240.PUR.01.18	(18x0.14)C	8.0	51	97
CF240.PUR.01.25	(25x0.14)C	8.5	66	101
CF240.PUR.02.03	(3x0.25)C	5.5	18	41
CF240.PUR.02.04	(4x0.25)C	6.0	22	45
CF240.PUR.02.05	(5x0.25)C	6.0	25	50
CF240.PUR.02.07	(7x0.25)C	7.0	33	65
CF240.PUR.02.08	(8x0.25)C	7.0	39	72
CF240.PUR.02.14	(14x0.25)C	8.0	60	103
CF240.PUR.02.18	(18x0.25)C	9.0	71	122
CF240.PUR.02.25	(25x0.25)C	10.5	97	152
CF240.PUR.03.03	(3x0.34)C	5.0	25	47
CF240.PUR.03.04	(4x0.34)C	5.5	30	54
CF240.PUR.03.05	(5x0.34)C	6.0	34	60
CF240.PUR.03.07	(7x0.34)C	6.5	45	84
CF240.PUR.03.14	(14x0.34)C	8.0	74	126
CF240.PUR.03.18	(18x0.34)C	8.5	91	156

[11)] Phase-out model

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core



Cables available in the chainflex® CASE

Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.

More on this on page 24/25 and online: www.igus-asean.com/cf-case

EPLAN download, configurators ▶ www.igus-asean.com/CF240PUR

36-month guarantee ... more than 1,350 cable types from stock ... no cutting charges

igus

ASEAN2023

Class 4.4.3.1

Basic requirements	low	1	2	3	**4**	5	6	7	highest
Travel distance	unsupported	1	2	3	**4**	5	6		≥ 400m
Oil resistance	none	1	2	3	**4**				highest
Torsion	none	**1**	2	3	4				±360°



Order example: CF240.PUR.01.04 **- to your desired length (0.5m steps)**
CF240.PUR **chainflex® series** .01 **Code nominal cross section** .04 **Number of cores**

Order online ▶ www.igus-asean.com/CF240PUR

Delivery time 24hrs or today.
Delivery time means time until goods are shipped.

cost down...



...life up

Reduce cost, improve technology, now!
Do the chainflex® price check ...
www.igus-asean.com/cf-price-check

… for example: reduce cost with CF240 ...

Guarantee igus chainflex 36

igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year

Data cable | PVC | chainflex® CF211

10 million
Double strokes guaranteed

7.5 x d
Bend radius, e-chain®

100m
Travel distance, e-chain®

- For heavy duty applications
- PVC outer jacket
- Shielded
- Twisted pair
- Oil-resistant
- Flame-retardant



Example image

Dynamic information

Bend radius	**e-chain® linear**	minimum 7.5 x d
	flexible	minimum 6 x d
	fixed	minimum 4 x d
Temperature	**e-chain® linear**	+5°C up to +70°C
	flexible	-5°C up to +70°C (following DIN EN 60811-504)
	fixed	-15°C up to +70°C (following DIN EN 50305)
v max.	**unsupported**	5m/s
	gliding	3m/s
a max.		50m/s²
Travel distance		Unsupported travels and up to 100m for gliding applications, Class 5

Cable structure

Conductor	Very finely stranded special conductors of particularly bending resistant design made of bare copper wires.
Core insulation	Mechanically high-quality TPE mixture.
Core structure	Cores twisted in pairs with a short pitch length, core pairs then wound with short pitch lengths.
Core identification	Colour code in accordance with DIN 47100.
Intermediate layer	Foil taping over the outer layer.
Overall shield	Extremely bending-resistant braiding made of tinned copper wires. Coverage linear approx. 70%, optical approx. 90%
Outer jacket	Low-adhesion, oil-resistant PVC mixture, adapted to suit the requirements in e-chains® (following DIN EN 50363-4-1). Colour: Silver-grey (similar to RAL 7001)

Electrical information

Nominal voltage	300/300V (following DIN VDE 0298-3) 300V (following UL)
Testing voltage	1,500V (following DIN EN 50395)

EPLAN download, configurators ▶ www.igus-asean.com/CF211DATA

36-month guarantee ... more than 1,350 cable types from stock ... no cutting charges

Class 5.5.2.1

Basic requirements	low	1	2	3	4	**5**	6	7	highest
Travel distance	unsupported	1	2	3	4	**5**	6		≥ 400m
Oil resistance	none	1	**2**	3	4				highest
Torsion	none	**1**	2	3	4				±360°

Properties and approvals

Oil resistance	Oil-resistant (following DIN EN 50363-4-1), Class 2
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
UL verified	Certificate No. B129699: "igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL/CSA AWM	See data sheet for details ▶ www.igus-asean.com/CF211DATA
NFPA	Following NFPA 79-2018, chapter 12.9
EAC	Certificate No. RU C-DE.ME77.B.00300/19
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 1. The outer jacket material of this series complies with CF240.02.24 - tested by IPA according to standard DIN EN ISO 14644-1
CE	Following 2014/35/EU
UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Guaranteed service life (details see page 28-29)

Double strokes*	5 million	7.5 million	10 million
Temperature, from/to [°C]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
+5/+15	10	11	12
+15/+60	7.5	8.5	9.5
+60/+70	10	11	12

* Higher number of double strokes? Service life calculation online ▶ www.igus-asean.com/chainflexlife

Typical application areas

- For heavy-duty applications, Class 5
- Unsupported travels and up to 100m for gliding applications, Class 5
- Light oil influence, Class 2
- No torsion, Class 1
- Preferably indoor applications, but also outdoor ones at temperatures > 5 °C
- Storage and retrieval units, machining units/packaging machines, handling, indoor cranes

Data cable | PVC | chainflex® CF211



Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF211.02.01.02	(2x0.25)C	5.0	18	33
CF211.02.02.02 [2)]	(2x(2x0.25))C	6.5	25	51
CF211.02.03.02	(3x(2x0.25))C	7.0	36	63
CF211.02.04.02	(4x(2x0.25))C	7.5	44	76
CF211.02.05.02	(5x(2x0.25))C	8.5	52	92
CF211.02.06.02	(6x(2x0.25))C	9.0	62	105
CF211.02.08.02	(8x(2x0.25))C	10.5	78	137
CF211.02.10.02	(10x(2x0.25))C	12.0	90	170
CF211.02.14.02	(14x(2x0.25))C	12.0	119	204
CF211.03.03.02	(3x(2x0.34))C	8.0	44	86
CF211.03.08.02	(8x(2x0.34))C	12.0	102	206
CF211.05.01.02	(2x0.5)C	6.0	26	51
CF211.05.02.02 [2)]	(2x(2x0.5))C	7.0	46	90
CF211.05.03.02	(3x(2x0.5))C	9.0	61	109
CF211.05.04.02	(4x(2x0.5))C	9.5	74	125
CF211.05.05.02	(5x(2x0.5))C	11.0	91	153
CF211.05.06.02	(6x(2x0.5))C	11.5	103	189
CF211.05.08.02	(8x(2x0.5))C	13.0	137	234
CF211.05.10.02	(10x(2x0.5))C	15.5	181	326
CF211.05.14.02	(14x(2x0.5))C	16.0	193	341

The chainflex® types marked with [2)] are cables designed as a star-quad.

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core



Cables available in the chainflex® CASE

Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.

More on this on page 24/25 and online: www.igus-asean.com/cf-case

EPLAN download, configurators ▶ www.igus-asean.com/CF211DATA

Class 5.5.2.1

Basic requirements	low	1	2	3	4	5	6	7	highest
Travel distance	unsupported	1	2	3	4	5	6		≥ 400m
Oil resistance	none	1	2	3	4				highest
Torsion	none	1	2	3	4				±360°



Order example: CF211.02.01.02 - to your desired length (0.5m steps)
CF211 **chainflex® series** .02 **Code nominal cross section** .01 **Number of cores** .02 **Identification pairs**

Order online ▶ www.igus-asean.com/CF211DATA

Delivery time 24hrs or today.
Delivery time means time until goods are shipped.





chainflex® cables (e.g. CF211) and igus® e-chains® (E065 series) in a pharmacy picking systems

Guarantee igus chainflex 36

igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year

Data cable | PUR | chainflex® CF211.PUR

10 million
Double strokes guaranteed

7.5 x d
Bend radius, e-chain®

100m
Travel distance, e-chain®

- For heavy duty applications
- PUR outer jacket
- Shielded, twisted pair
- Oil-resistant and coolant-resistant
- Flame-retardant
- PVC and halogen-free
- Notch-resistant
- Hydrolysis and microbe-resistant



Example image

Dynamic information

Bend radius	**e-chain® linear**	minimum 7.5 x d
	flexible	minimum 6 x d
	fixed	minimum 4 x d
Temperature	**e-chain® linear**	-25°C up to +80°C
	flexible	-40°C up to +80°C (following DIN EN 60811-504)
	fixed	-50°C up to +80°C (following DIN EN 50305)
v max.	**unsupported**	5m/s
	gliding	3m/s
a max.		50m/s²
Travel distance		Unsupported travels and up to 100m for gliding applications, Class 5

Cable structure

Conductor	Very finely stranded special conductors of particularly bending resistant design made of bare copper wires.
Core insulation	Mechanically high-quality TPE mixture.
Core structure	Cores twisted in pairs with a short pitch length, core pairs then wound with short pitch lengths.
Core identification	Colour code in accordance with DIN 47100.
Intermediate layer	Foil taping over the outer layer.
Overall shield	Extremely bending-resistant braiding made of tinned copper wires. Coverage linear approx. 70%, optical approx. 90%
Outer jacket	Low-adhesion, halogen-free, highly abrasion resistant PUR mixture, adapted to suit the requirements in e-chains® (following DIN EN 50363-10-2) Colour: Window-grey (similar to RAL 7040)

Electrical information

Nominal voltage	300/300V (following DIN VDE 0298-3) 300V (following UL)
Testing voltage	1,500V (following DIN EN 50395)

EPLAN download, configurators ▶ www.igus-asean.com/CF211PUR

36-month guarantee ... more than 1,350 cable types from stock ... no cutting charges

Class 5.5.3.1

Basic requirements	low	1	2	3	4	**5**	6	7	highest
Travel distance	unsupported	1	2	3	4	**5**	6		≥ 400m
Oil resistance	none	1	2	**3**	4				highest
Torsion	none	**1**	2	3	4				±360°

Properties and approvals

UV resistance	Medium
Oil resistance	Oil-resistant (following DIN EN 50363-10-2), Class 3
Offshore	MUD-resistant following NEK 606 - status 2016
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
Halogen-free	Following DIN EN 60754
UL verified	Certificate No. B129699: "igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL/CSA AWM	See data sheet for details ▶ www.igus-asean.com/CF211PUR
NFPA	Following NFPA 79-2018, chapter 12.9
DNV	Type Approval Certificate TAE00003X3
EAC	Certificate No. RU C-DE.ME77.B.00295/19
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 1. The outer jacket material of this series complies with CF77.UL.05.12.D - tested by IPA according to standard DIN EN ISO 14644-1
CE	Following 2014/35/EU
UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Guaranteed service life (details see page 28-29)

Double strokes*	5 million	7.5 million	10 million
Temperature, from/to [°C]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-25/-15	10	11	12
-15/+70	7.5	8.5	9.5
+70/+80	10	11	12

* Higher number of double strokes? Service life calculation online ▶ www.igus-asean.com/chainflexlife

Typical application areas

- For heavy-duty applications, Class 5
- Unsupported travels and up to 100m for gliding applications, Class 5
- Almost unlimited resistance to oil, Class 3
- No torsion, Class 1
- Indoor and outdoor applications with average sun radiation
- Machining units/machine tools, storage and retrieval units for high-bay warehouses, packaging industry, quick handling, refrigerating sector

Data cable | PUR | chainflex® CF211.PUR



Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF211.PUR.02.01.02	(2x0.25)C	5.0	18	32
CF211.PUR.02.02.02 2)	(2x(2x0.25))C	6.5	25	49
CF211.PUR.02.03.02	(3x(2x0.25))C	7.0	36	65
CF211.PUR.02.04.02	(4x(2x0.25))C	7.5	44	76
CF211.PUR.02.05.02	(5x(2x0.25))C	8.5	52	89
CF211.PUR.02.06.02	(6x(2x0.25))C	9.0	62	102
CF211.PUR.02.08.02	(8x(2x0.25))C	10.5	78	130
CF211.PUR.02.10.02	(10x(2x0.25))C	12.0	90	168
CF211.PUR.02.14.02	(14x(2x0.25))C	12.0	119	204
CF211.PUR.03.03.02	(3x(2x0.34))C	8.0	44	83
CF211.PUR.03.08.02	(8x(2x0.34))C	12.0	95	163
CF211.PUR.05.01.02	(2x0.5)C	6.0	26	51
CF211.PUR.05.02.02 2)	(2x(2x0.5))C	8.5	41	86
CF211.PUR.05.03.02	(3x(2x0.5))C	9.0	61	105
CF211.PUR.05.04.02	(4x(2x0.5))C	9.5	74	123
CF211.PUR.05.05.02	(5x(2x0.5))C	11.0	91	152
CF211.PUR.05.06.02	(6x(2x0.5))C	11.5	103	189
CF211.PUR.05.08.02	(8x(2x0.5))C	13.0	137	221
CF211.PUR.05.10.02	(10x(2x0.5))C	15.5	170	297
CF211.PUR.05.14.02	(14x(2x0.5))C	15.5	185	311

The chainflex® types marked with 2) are cables designed as a star-quad.

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core



ables available in the chainflex® CASE

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e chainflex® CASE - ship'n store by igus®.

ore on this on page 24/25 and online: www.igus-asean.com/cf-case

EPLAN download, configurators ▶ www.igus-asean.com/CF211PUR

Class 5.5.3.1

Basic requirements	low	1	2	3	4	5	6	7	highest
Travel distance	unsupported	1	2	3	4	5	6		≥ 400m
Oil resistance	none	1	2	3	4				highest
Torsion	none	1	2	3	4				±360°



Order example: CF211.PUR.02.01.02 - to your desired length (0.5m steps)
CF211.PUR chainflex® series .02 Code nominal cross section .01 Number of cores .02 Identification pairs

Order online ▶ www.igus-asean.com/CF211PUR

Delivery time 24hrs or today.
Delivery time means time until goods are shipped.



Reduce cost, improve technology, now!
Do the chainflex® price check ...
www.igus-asean.com/cf-price-check

… for example: reduce cost with CF211 ...

Data cable | TPE | chainflex® CF11

12.5 million
Double strokes guaranteed

6.8 x d
Bend radius, e-chain®

400m
Travel distance, e-chain®

- For extremely heavy duty applications
- TPE outer jacket
- Shielded
- Twisted pair
- Oil and bio-oil-resistant
- PVC and halogen-free
- Hydrolysis and microbe-resistant

Now available with UL approval & 25% longer service life



Example image

Dynamic information

Bend radius	**e-chain® linear**	minimum 6.8 x d
	flexible	minimum 5 x d
	fixed	minimum 4 x d
Temperature	**e-chain® linear**	-35°C up to +100°C
	flexible	-50°C up to +100°C (following DIN EN 60811-504)
	fixed	-55°C up to +100°C (following DIN EN 50305)
v max.	**unsupported**	10m/s
	gliding	6m/s
a max.	100m/s²	
Travel distance	Unsupported travels and up to 400m and more for gliding applications, Class 6	

Cable structure

Conductor	Stranded conductor in especially bending-resistant version consisting of bare copper wires (following DIN EN 60228).
Core insulation	Mechanically high-quality TPE mixture.
Core structure	Cores twisted in pairs with a short pitch length, core pairs then wound with short pitch lengths.
Core identification	**Cores < 1.0mm²:** Colour code in accordance with DIN 47100. **Cores ≥ 1.0mm²:** Black cores with white numbers.
Inner jacket	TPE mixture adapted to suit the requirements in e-chains®.
Overall shield	Extremely bending-resistant braiding made of tinned copper wires. Coverage linear approx. 70%, optical approx. 90%
Outer jacket	Low-adhesion, extremely abrasion-resistant and highly flexible TPE mixture, adapted to suit the requirements in e-chains®. Colour: Steel blue (similar to RAL 5011)

Electrical information

Nominal voltage	300/300V (following DIN VDE 0298-3) 300V (following UL)
Testing voltage	1,500V (following DIN EN 50395)

EPLAN download, configurators ▶ www.igus-asean.com/CF11

Class 6.6.4.1

Basic requirements	low	1	2	3	4	5	6	7	highest
Travel distance	unsupported	1	2	3	4	5	6		≥ 400m
Oil resistance	none	1	2	3	4				highest
Torsion	none	1	2	3	4				±360°

Properties and approvals

UV resistance	High
Oil resistance	Oil-resistant (following DIN EN 60811-404), bio-oil-resistant (following VDMA 24568 with Plantocut 8 S-MB tested by DEA), Class 4
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
Halogen-free	Following DIN EN 60754
UL verified	Certificate No. B129699: "igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL AWM	See data sheet for details ▶ www.igus-asean.com/CF11 (from production date 01/2022)
EAC	Certificate No. RU C-DE.ME77.B.00300/19
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 1. The outer jacket material of this series complies with CF9.15.07 - tested by IPA according to standard DIN EN ISO 14644-1
CE	Following 2014/35/EU
UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Guaranteed service life (details see page 28-29)

Double strokes*	5 million	7.5 million	12.5 million
Temperature, from/to [°C]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-35/-25	7.5	8.5	9.5
-25/+90	6.8	7.5	8.5
+90/+100	7.5	8.5	9.5

* Higher number of double strokes? Service life calculation online ▶ www.igus-asean.com/chainflexlife

Typical application areas

- For heavy-duty applications, Class 6
- Unsupported travels and up to 400m and more for gliding applications, Class 6
- Almost unlimited resistance to oil, also with bio-oils, Class 4
- No torsion, Class 1
- Indoor and outdoor applications, UV-resistant
- Storage and retrieval units for high-bay warehouses, machining units/machine tools, quick handling, cleanroom, semiconductor insertion, outdoor cranes, low-temperature applications

Data cable | TPE | chainflex® CF11



Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF11.01.04.02	(4x(2x0.14))C	7.5	30	63
CF11.01.18.02	(18x(2x0.14))C	12.5	101	202
CF11.02.01.02	(2x0.25)C	6.0	17	39
CF11.02.02.02 [2)]	(2x(2x0.25))C	6.5	26	47
CF11.02.03.02	(3x(2x0.25))C	8.0	35	78
CF11.02.04.02	(4x(2x0.25))C	8.5	42	90
CF11.02.05.02	(5x(2x0.25))C	9.0	49	100
CF11.02.06.02	(6x(2x0.25))C	10.0	69	125
CF11.02.10.02	(10x(2x0.25))C	13.5	103	207
CF11.02.14.02	(14x(2x0.25))C	14.0	124	228
CF11.03.08.02	(8x(2x0.34))C	13.0	106	209
CF11.05.04.02	(4x(2x0.5))C	9.5	77	140
CF11.05.06.02	(6x(2x0.5))C	12.0	103	198
CF11.05.08.02	(8x(2x0.5))C	14.5	135	251
CF11.07.03.02	(3x(2x0.75))C	10.5	83	155
CF11.10.04.02	(4x(2x1.0))C	12.5	125	232
CF11.15.06.02	(6x(2x1.5))C	16.5	247	420

The chainflex® types marked with [2)] are cables designed as a star-quad.

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core



Cables available in the chainflex® CASE

Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.

More on this on page 24/25 and online: www.igus-asean.com/cf-case

EPLAN download, configurators ▶ www.igus-asean.com/CF11

Class 6.6.4.1

Basic requirements	low	1	2	3	4	5	6	7	highest
Travel distance	unsupported	1	2	3	4	5	6		≥ 400m
Oil resistance	none	1	2	3	4				highest
Torsion	none	1	2	3	4				±360°



Order example: CF11.01.04.02 **- to your desired length (0.5m steps)**
CF11 **chainflex® series** .01 **Code nominal cross section** .04 **Number of cores** .02 **Identification pairs**

Order online ▶ www.igus-asean.com/CF11

Delivery time 24hrs or today.
Delivery time means time until goods are shipped.



Reduce cost, improve technology, now!
Do the chainflex® price check ...
www.igus-asean.com/cf-price-check

… for example: reduce cost with CF211.PUR ...

Data cable | PUR | chainflex® CF112



Example image

10 million
Double strokes guaranteed

10 x d
Bend radius, e-chain®

100m
Travel distance, e-chain®

- For extremely heavy duty applications
- PUR outer jacket
- Double shielded, twisted pair
- Oil-resistant and coolant-resistant
- Flame-retardant
- PVC and halogen-free
- Notch-resistant
- Hydrolysis and microbe-resistant

Dynamic information

Bend radius	**e-chain® linear**	minimum 10 x d
	flexible	minimum 8 x d
	fixed	minimum 5 x d
Temperature	**e-chain® linear**	-25°C up to +80°C
	flexible	-40°C up to +80°C (following DIN EN 60811-504)
	fixed	-50°C up to +80°C (following DIN EN 50305)
v max.	**unsupported**	10m/s
	gliding	5m/s
a max.		80m/s²
Travel distance		Unsupported travels and up to 100m for gliding applications, Class 5

Cable structure

Conductor	Very finely stranded special conductors of particularly bending resistant design made of bare copper wires.
Core insulation	Mechanically high-quality TPE mixture.
Core structure	Cores twisted in pairs with a short pitch length, core pairs then wound with short pitch lengths.
Core identification	Colour code in accordance with DIN 47100.
Element shield	Extremely bending-resistant braiding made of tinned copper wires. Coverage linear approx. 70%, optical approx. 90%
Inner jacket	TPE mixture adapted to suit the requirements in e-chains®.
Overall shield	Extremely bending-resistant braiding made of tinned copper wires. Coverage linear approx. 70%, optical approx. 90%
Outer jacket	Low-adhesion, halogen-free, highly abrasion resistant PUR mixture, adapted to suit the requirements in e-chains® (following DIN EN 50363-10-2) Colour: Anthracite grey (similar to RAL 7016)

Electrical information

Nominal voltage	300/300V (following DIN VDE 0298-3) 300V (following UL)
Testing voltage	1,500V (following DIN EN 50395)

EPLAN download, configurators ▶ www.igus-asean.com/CF112

Class 6.5.3.1

Basic requirements	low	1	2	3	4	5	6	7	highest
Travel distance	unsupported	1	2	3	4	5	6		≥ 400m
Oil resistance	none	1	2	3	4				highest
Torsion	none	1	2	3	4				±360°

Properties and approvals

UV resistance	High
Oil resistance	Oil-resistant (following DIN EN 50363-10-2), Class 3
Offshore	MUD-resistant following NEK 606 - status 2016
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
Halogen-free	Following DIN EN 60754
UL verified	Certificate No. B129699: "igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL/CSA AWM	See data sheet for details ▶ www.igus-asean.com/CF112
NFPA	Following NFPA 79-2018, chapter 12.9
DNV	Type Approval Certificate TAE00003X3
EAC	Certificate No. RU C-DE.ME77.B.00300/19
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 1. The outer jacket material of this series complies with CF77.UL.05.12.D - tested by IPA according to standard DIN EN ISO 14644-1
CE	Following 2014/35/EU
UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Guaranteed service life (details see page 28-29)

Double strokes*	5 million	7.5 million	10 million
Temperature, from/to [°C]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-25/-15	12.5	13.5	14.5
-15/+70	10	11	12
+70/+80	12.5	13.5	14.5

* Higher number of double strokes? Service life calculation online ▶ www.igus-asean.com/chainflexlife

Typical application areas

- For heavy-duty applications, Class 6
- Unsupported travels and up to 100m for gliding applications, Class 5
- Almost unlimited resistance to oil, Class 3
- No torsion, Class 1
- Indoor and outdoor applications with average sun radiation
- Machining units/machine tools, storage and retrieval units for high-bay warehouses, packaging industry, quick handling, refrigerating sector

Data cable | PUR | chainflex® CF112



Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF112.02.02.02	(2x(2x0.25)C)C	9.5	57	118
CF112.02.03.02	(3x(2x0.25)C)C	10.0	71	133
CF112.02.04.02	(4x(2x0.25)C)C	11.0	78	153
CF112.02.05.02	(5x(2x0.25)C)C	11.5	99	178
CF112.05.02.02	(2x(2x0.5)C)C	11.5	75	163
CF112.05.04.02	(4x(2x0.5)C)C	13.0	117	217
CF112.05.06.02	(6x(2x0.5)C)C	14.5	160	285

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core



Cables available in the chainflex® CASE

Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.

More on this on page 24/25 and online: www.igus-asean.com/cf-case

Order example: CF112.02.02.02 **- to your desired length (0.5m steps)**
CF112 **chainflex® series** .02 **Code nominal cross section** .02 **Number of cores** .02 **Identification pairs**

Order online ▶ www.igus-asean.com/CF112

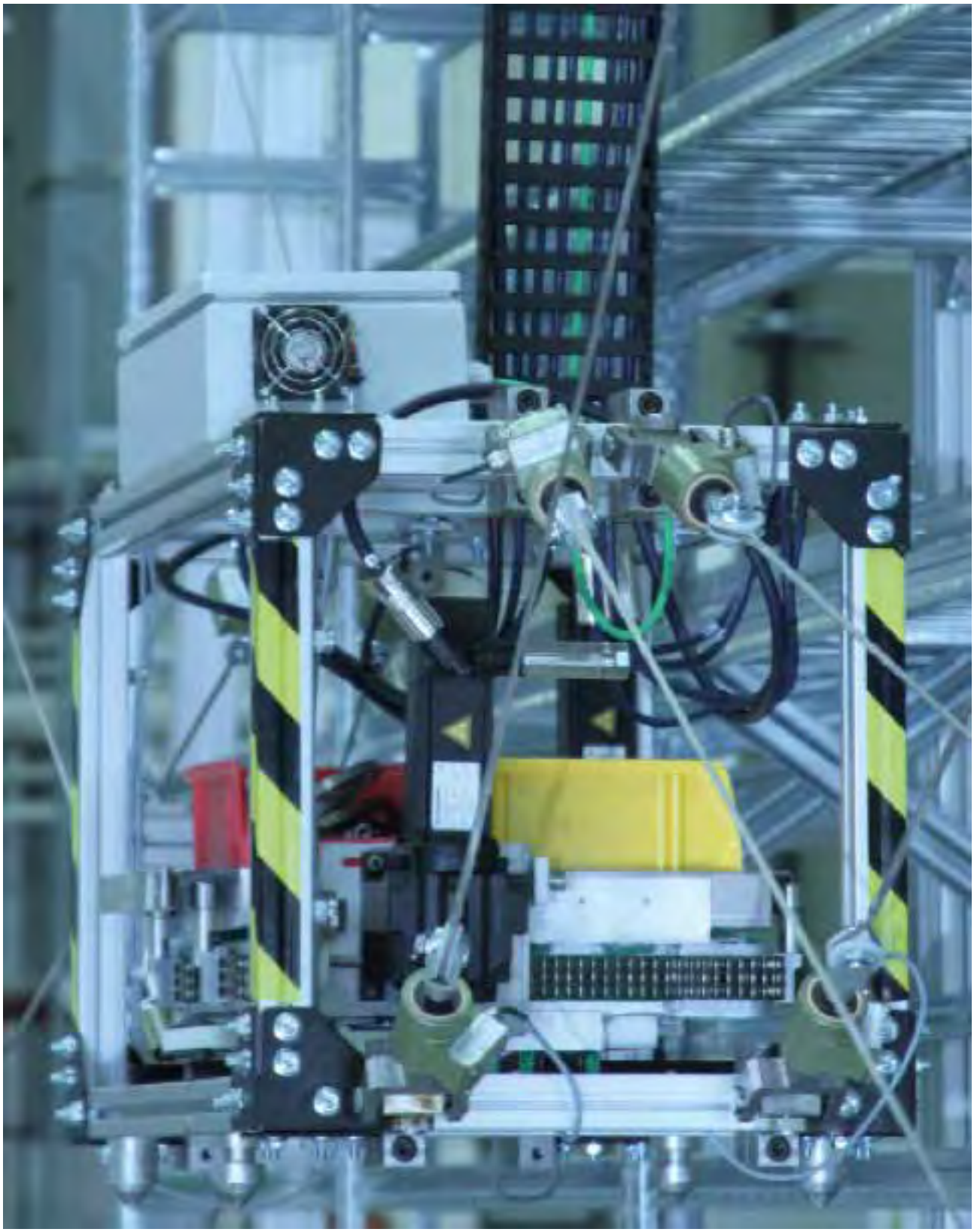
Delivery time 24hrs or today.
Delivery time means time until goods are shipped.

EPLAN download, configurators ▶ www.igus-asean.com/CF112

Class 6.5.3.1

Basic requirements	low	1	2	3	4	5	**6**	7	highest
Travel distance	unsupported	1	2	3	4	**5**	6		≥ 400m
Oil resistance	none	1	2	**3**	4				highest
Torsion	none	**1**	2	3	4				±360°





Hanging application with chainflex® CF112 data cables

Data cable | TPE | chainflex® CF12

12.5 million
Double strokes guaranteed

10 x d
Bend radius, e-chain®

400m
Travel distance, e-chain®

- For extremely heavy duty applications
- TPE outer jacket
- Double-shielded
- Oil and bio-oil-resistant
- PVC and halogen-free
- Hydrolysis and microbe-resistant

Now available with UL approval & 25% longer service life



Example image

Dynamic information

Bend radius	**e-chain® linear**	minimum 10 x d
	flexible	minimum 8 x d
	fixed	minimum 5 x d
Temperature	**e-chain® linear**	-35°C up to +100°C
	flexible	-50°C up to +100°C (following DIN EN 60811-504)
	fixed	-55°C up to +100°C (following DIN EN 50305)
v max.	**unsupported**	10m/s
	gliding	6m/s
a max.	100m/s²	
Travel distance	Unsupported travels and up to 400m and more for gliding applications, Class 6	

Cable structure

Conductor	Stranded conductor in especially bending-resistant version consisting of bare copper wires (following DIN EN 60228).
Core insulation	Mechanically high-quality TPE mixture.
Core structure	Cores twisted in pairs with a short pitch length, core pairs then wound with short pitch lengths.
Core identification	**Cores < 0.5mm²:** Colour code in accordance with DIN 47100. **Cores ≥ 0.5mm²:** Black cores with white numbers.
Element shield	Extremely bending-resistant braiding made of tinned copper wires. Coverage linear approx. 70%, optical approx. 90%
Element shield	TPE mixture on pair shielding adapted to suit the requirements in e-chains®.
Inner jacket	TPE mixture adapted to suit the requirements in e-chains®.
Overall shield	Highly flexible shield consisting of galvanised steel wire braid. Coverage linear approx. 70%, optical approx. 90%
Outer jacket	Low-adhesion, extremely abrasion-resistant and highly flexible TPE mixture, adapted to suit the requirements in e-chains®. Colour: Steel blue (similar to RAL 5011)

Electrical information

Nominal voltage	300/300V (following DIN VDE 0298-3) 300V (following UL)
Testing voltage	1,500V (following DIN EN 50395)

Properties and approvals

UV resistance	High

Class 6.6.4.1

Basic requirements	low 1 2 3 4 5 6 7 highest
Travel distance	unsupported 1 2 3 4 5 6 ≥ 400m
Oil resistance	none 1 2 3 4 highest
Torsion	none 1 2 3 4 ±360°

Oil resistance	Oil-resistant (following DIN EN 60811-404), bio-oil-resistant (following VDMA 24568 with Plantocut 8 S-MB tested by DEA), Class 4
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
Halogen-free	Following DIN EN 60754
UL verified	Certificate No. B129699: "igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL AWM	See data sheet for details ▶ www.igus-asean.com/CF12 (from production date 01/2022)
EAC	Certificate No. RU C-DE.ME77.B.00300/19
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 1. The outer jacket material of this series complies with CF9.15.07 - tested by IPA according to standard DIN EN ISO 14644-1
CE	Following 2014/35/EU
UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Guaranteed service life (details see page 28-29)

Double strokes*	5 million	7.5 million	12.5 million
Temperature, from/to [°C]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-35/-25	12.5	13.5	14.5
-25/+90	10	11	12
+90/+100	12.5	13.5	14.5

* Higher number of double strokes? Service life calculation online ▶ www.igus-asean.com/chainflexlife

Typical application areas

- For heavy-duty applications, Class 6
- Unsupported travels and up to 400m and more for gliding applications, Class 6
- Almost unlimited resistance to oil, also with bio-oils, Class 4
- No torsion, Class 1
- Indoor and outdoor applications, UV-resistant
- For maximum EMC protection
- Storage and retrieval units for high-bay warehouses, machining units/machine tools, quick handling, cleanroom, semiconductor insertion, outdoor cranes, low-temperature applications

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF12.02.04.02	(4x(2x0.25)C)C	11.5	52	172
CF12.05.03.02	(3x(2x0.5))C	13.5	65	224
CF12.05.04.02	(4x(2x0.5)C)C	14.5	83	267
CF12.05.06.02	(6x(2x0.5)C)C	17.0	128	376
CF12.05.08.02	(8x(2x0.5)C)C	20.5	163	503
CF12.05.10.02 [11)]	(10x(2x0.5)C)C	22.5	203	605
CF12.05.14.02	(14x(2x0.5)C)C	22.5	297	679
CF12.10.06.02	(6x(2x1.0)C)C	20.0	198	529

[11)] Phase-out model
Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

Data cable | TPE | chainflex® CF298

40 million
Double strokes guaranteed

4 x d
Bend radius, e-chain®

100m
Travel distance, e-chain®

- For heaviest duty applications and especially small radii down to 4 x d
- TPE outer jacket
- Oil and bio-oil-resistant
- PVC and halogen-free
- Low-temperature-flexible
- Hydrolysis and microbe-resistant

New generation
CF98.PLUS
▶ Page 134



Example image

Dynamic information

Bend radius	**e-chain® linear**	minimum 4 x d
	flexible	minimum 4 x d
	fixed	minimum 3 x d
Temperature	**e-chain® linear**	-35°C up to +90°C
	flexible	-50°C up to +90°C (following DIN EN 60811-504)
	fixed	-55°C up to +90°C (following DIN EN 50305)
v max.	**unsupported**	10m/s
	gliding	6m/s
a max.		100m/s²
Travel distance		Short, very fast applications with small radii and restricted installation space, Class 5
Torsion		Torsion ±90°, with 1m cable length, Class 2

Cable structure

Conductor	Conductor consisting of a highly flexible special alloy.
Core insulation	Mechanically high-quality TPE mixture.
Core structure	Cores wound in a layer with especially short pitch length.
Core identification	Colour code in accordance with DIN 47100. **CF298.02.03:** brown, blue, black **CF298.03.04:** brown, blue, black, white
Outer jacket	Low-adhesion, extremely abrasion-resistant and highly flexible TPE mixture, adapted to suit the requirements in e-chains®. Colour: Steel blue (similar to RAL 5011)

Electrical information

Nominal voltage	300/300V
Testing voltage	1,500V

Properties and approvals

UV resistance	High
Oil resistance	Oil-resistant (following DIN EN 60811-404), bio-oil-resistant (following VDMA 24568 with Plantocut 8 S-MB tested by DEA), Class 4

EPLAN download, configurators ▶ www.igus-asean.com/CF298

Class 7.5.4.2

Basic requirements	low 1 2 3 4 5 6 **7** highest
Travel distance	unsupported 1 2 3 4 **5** 6 ≥ 400m
Oil resistance	none 1 2 3 **4** highest
Torsion	none **1** 2 3 4 ±360°

Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
Halogen-free	Following DIN EN 60754
UL verified	Certificate No. B129699: "igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 1. The outer jacket material of this series complies with CF9.15.07 - tested by IPA according to standard DIN EN ISO 14644-1
CE	Following 2014/35/EU
UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Guaranteed service life (details see page 28-29)

Double strokes*	20 million	30 million	40 million
Temperature, from/to [°C]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-35/-25	5	6	7
-25/+80	4	5	6
+80/+90	5	6	7

* Higher number of double strokes? Service life calculation online ▶ www.igus-asean.com/chainflexlife

Typical application areas

- For heaviest duty applications and especially small radii down to 4 x d, Class 7
- Especially for short, very fast applications with small radii and restricted installation space, Class 5
- Almost unlimited resistance to oil, also with bio-oils, Class 4
- Torsion ±90°, with 1m cable length, Class 2
- Indoor and outdoor applications, UV-resistant
- Pick and place machines, automatic doors, cleanroom, very quick handling

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF298.01.02 [11]	2x0.14	4.5	5	17
CF298.01.04 [11]	4x0.14	5.5	9	28
CF298.01.08 [11]	8x0.14	7.0	17	49
CF298.02.03 [11]	3x0.25	5.5	12	28
CF298.02.04 [11]	4x0.25	6.0	16	34
CF298.02.07 [11]	7x0.25	7.0	28	52
CF298.02.08 [11]	8x0.25	7.5	32	60
CF298.03.04 [11]	4x0.34	6.0	19	37
CF298.03.07 [11]	7x0.34	7.5	34	62
CF298.05.04 [11]	4x0.5	6.5	28	49

[11] Phase-out model (new generation CF98.PLUS ▶ Page 134)

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

Data cable | TPE | chainflex® CF299

40 million
Double strokes guaranteed

4 x d
Bend radius, e-chain®

100m
Travel distance, e-chain®

- For heaviest duty applications and especially small radii down to 4 x d
- TPE outer jacket
- Shielded
- Oil and bio-oil-resistant
- PVC and halogen-free
- Low-temperature-flexible
- Hydrolysis and microbe-resistant

New generation CF99.PLUS ▶ Page 138



Example image

Dynamic information

Bend radius	**e-chain® linear**	minimum 4 x d
	flexible	minimum 4 x d
	fixed	minimum 3 x d
Temperature	**e-chain® linear**	-35°C up to +90°C
	flexible	-50°C up to +90°C (following DIN EN 60811-504)
	fixed	-55°C up to +90°C (following DIN EN 50305)
v max.	**unsupported**	10m/s
	gliding	6m/s
a max.	100m/s²	
Travel distance	Short, very fast applications with small radii and restricted installation space, Class 5	

Cable structure

Conductor	Conductor consisting of a highly flexible special alloy.
Core insulation	Mechanically high-quality TPE mixture.
Core structure	Cores wound in a layer with especially short pitch length.
Core identification	Colour code in accordance with DIN 47100.
Inner jacket	TPE mixture adapted to suit the requirements in e-chains®.
Overall shield	Extremely bending resistant braiding made of alloy wires. Coverage linear approx. 70%, optical approx. 90%
Outer jacket	Low-adhesion, extremely abrasion-resistant and highly flexible TPE mixture, adapted to suit the requirements in e-chains®. Colour: Steel blue (similar to RAL 5011)

Electrical information

Nominal voltage	300/300V
Testing voltage	1,500V

EPLAN download, configurators ▶ www.igus-asean.com/CF299

Class 7.5.4.1

Basic requirements	low	1	2	3	4	5	6	7	highest
Travel distance	unsupported	1	2	3	4	5	6		≥ 400m
Oil resistance	none	1	2	3	4				highest
Torsion	none	1	2	3	4				±360°

Properties and approvals

UV resistance	High
Oil resistance	Oil-resistant (following DIN EN 60811-404), bio-oil-resistant (following VDMA 24568 with Plantocut 8 S-MB tested by DEA), Class 4
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
Halogen-free	Following DIN EN 60754
UL verified	Certificate No. B129699: "igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 1. The outer jacket material of this series complies with CF9.15.07 - tested by IPA according to standard DIN EN ISO 14644-1
CE	Following 2014/35/EU
UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Guaranteed service life (details see page 28-29)

Double strokes*	20 million	30 million	40 million
Temperature, from/to [°C]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-35/-25	5	6	7
-25/+80	4	5	6
+80/+90	5	6	7

* Higher number of double strokes? Service life calculation online ▶ www.igus-asean.com/chainflexlife

Typical application areas

- For heaviest duty applications and especially small radii down to 4 x d, Class 7
- Especially for short, very fast applications with small radii and restricted installation space, Class 5
- Almost unlimited resistance to oil, also with bio-oils, Class 4
- No torsion, Class 1
- Indoor and outdoor applications, UV-resistant
- Pick and place machines, automatic doors, cleanroom, very quick handling

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF299.01.02 [11)]	(2x0.14)C	6.0	17	37
CF299.01.04 [11)]	(4x0.14)C	6.5	22	47
CF299.01.08 [11)]	(8x0.14)C	8.5	35	80
CF299.02.04 [11)]	(4x0.25)C	7.0	32	56
CF299.02.07 [11)]	(7x0.25)C	8.5	46	82

[11)] Phase-out model (new generation CF99.PLUS ▶ Page 138)

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

Coax cable | TPE | chainflex® CFKoax

10 million
Double strokes guaranteed

10 x d
Bend radius, e-chain®

400m
Travel distance, e-chain®

- For extremely heavy duty applications
- TPE outer jacket
- Oil and bio-oil-resistant
- UV-resistant
- Hydrolysis and microbe-resistant



Example image

Dynamic information

Bend radius	**e-chain® linear**	minimum 10 x d
	flexible	minimum 8 x d
	fixed	minimum 5 x d
Temperature	**e-chain® linear**	-35°C up to +100°C (CFKoax1/3) -35°C up to +70°C (CFKoax2)
	flexible	-50°C up to+100°C (CFKoax1/3) -50°C up to +70°C (CFKoax2)
	fixed	-55°C up to +100°C (CFKoax1/3) -55°C up to +70°C (CFKoax2)
v max.	**unsupported**	10m/s
	gliding	5m/s
a max.		100m/s²
Travel distance		Unsupported travels and up to 400m and more for gliding applications, Class 6

Cable structure

Conductor	Multi-wire; adapted to single-wire diameter with pitch length to suit the requirements in e-chains®.
Core insulation	Special FEP mixture (CFKoax1/3) Special PE mixture (CFKoax2)
Core structure	Cores wound in a layer with especially short pitch length.
Core identification	Coaxial elements ▶ Product range table
Element shield	Extremely bending-resistant braiding made of tinned copper wires. Coverage linear approx. 70%, optical approx. 90%
Element shield	TPE mixture adapted to suit the requirements in e-chains®.
Outer jacket	Low-adhesion, extremely abrasion-resistant and highly flexible TPE mixture, adapted to suit the requirements in e-chains®. Colour: ▶ Product range table

Electrical information

Nominal voltage	500/500V (following DIN VDE 0298-3)
Testing voltage	1,500V (following DIN EN 50395)

EPLAN download, configurators ▶ www.igus-asean.com/CFKOAX

Class 6.6.4.1

Basic requirements	low	1	2	3	4	5	**6**	7	highest
Travel distance	unsupported	1	2	3	4	5	**6**		≥ 400m
Oil resistance	none	1	2	3	**4**				highest
Torsion	none	**1**	2	3	4				±360°

Properties and approvals

UV resistance	Medium
Oil resistance	Oil-resistant (following DIN EN 60811-404), bio-oil-resistant (following VDMA 24568 with Plantocut 8 S-MB tested by DEA), Class 4
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
UL verified	Certificate No. B129699: "igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
EAC	Certificate No. RU C-DE.ME77.B.00300/19
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 1. The outer jacket material of this series complies with CF9.15.07 - tested by IPA according to standard DIN EN ISO 14644-1
CE	Following 2014/35/EU
UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)
Info	The coaxial elements used in cables of the CFKoax1 series are comparable with a HF75-0.3/1.6 according to MIL-C-17/94-RG179 and thus fit into an RG179 plug! The coaxial elements used in cables of the CFKoax2 series are comparable with a HF50-0.9/2.95 according to MIL-C-17/28-RG58 and thus fit into an RG58 plug! The coaxial elements used in cables of the CFKoax3 series are comparable with a HF50-0.3/0.84 according to MIL-C-17/93-RG178 and thus fit into an RG178 plug!

Guaranteed service life (details see page 28-29)

Double strokes*	5 million	7.5 million	10 million
Temperature, from/to [°C]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-35/-25	12.5	13.5	14.5
-25/+60 (CFKoax2)	10	11	12
-25/+90 (CFKoax1/CFKoax3)	10	11	12
+60/+70 (CFKoax2)	12.5	13.5	14.5
+90/+100 (CFKoax1/CFKoax3)	12.5	13.5	14.5

* Higher number of double strokes? Service life calculation online ▶ www.igus-asean.com/chainflexlife

Typical application areas

- For heavy-duty applications, Class 6
- Unsupported travels and up to 400m and more for gliding applications, Class 6
- Almost unlimited resistance to oil, also with bio-oils, Class 4
- No torsion, Class 1
- Indoor and outdoor applications with average sun radiation
- Storage and retrieval units for high-bay warehouses, machining units/machine tools, quick handling, cleanroom, semiconductor insertion, indoor cranes, low temperature applications

Coax cable | TPE | chainflex® CFKoax



Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CFKoax1.01	1xHF75-0.3/1.6	4.5	8	23
CFKoax1.05	5xHF75-0.3/1.6	10.0	34	110
CFKoax2.01	1xHF50-0.9/2.95	5.5	19	36
CFKoax3.01	1xHF50-0.3/0.84	3.5	6	12

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

Part No.	Characteristic wave impedance approx. [Ω]	Core identification	Colour outer jacket
CFKoax1.01	75	red	Steel-blue (similar to RAL 5011)
CFKoax1.05	75	red, green, blue, white, black	Steel-blue (similar to RAL 5011)
CFKoax2.01	50		Jet black (similar to RAL 9005)
CFKoax3.01	50		Window-grey (similar to RAL 7040)



Cables available in the chainflex® CASE

Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.

More on this page 24/25 and online: www.igus-asean.com/cf-case

EPLAN download, configurators ▶ www.igus-asean.com/CFKOAX

Class 6.6.4.1

Basic requirements	low	1	2	3	4	5	6	7	highest
Travel distance	unsupported	1	2	3	4	5	6		≥ 400m
Oil resistance	none	1	2	3	4				highest
Torsion	none	1	2	3	4				±360°



Order example: CFKoax1.01 **- to your desired length (0.5m steps)**
CFKoax **chainflex® series** .01 **Number of coaxial elements**

Order online ▶ www.igus-asean.com/CFKoax

Delivery time 24hrs or today.
Delivery time means time until goods are shipped.



Coax cable and other chainflex® cables in a stage technology application. e-chain®: E4/4 system

Guarantee igus chainflex 36

igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year

Bus cables



chainflex® cable	Jacket	Shield	Bend radius e-chain® [factor x d]	Temperature e-chain® from/to [°C]	Approvals and standards	Oil-resistant	Torsion-resistant	v max. [m/s] unsupported	v max. [m/s] gliding	a max.	Page
Bus cables											
Selection chart for chainflex® bus cables											184
Selection chart for chainflex® Ethernet cables											187
CF888	PVC	✓	15	+5/+70				3		20	188
CFBUS.PVC	PVC	✓	12.5	+5/+70		✓		3	2	30	192
CF898	iguPUR	✓	15	-20/+70		✓		3		20	196
CFBUS.PUR	PUR	✓	12.5	-20/+70		✓		3	2	30	200
CFBUS	TPE	✓	10	-35/+70		✓		10	6	100	204
CFBUS.LB	TPE	✓	7.5	-35/+70		✓		10	6	100	210
Twistable bus cables (twistable cables chapter ► Page 378)											
CFROBOT8	PUR	✓	10	-25/+70		✓	✓				406
CFROBOT8.PLUS	PUR	✓	10	-25/+70		✓	✓				410 New

36-month chainflex® guarantee

Guaranteed service life for predictable reliability

► Selection table page 182

With the help of the chainflex® service life calculator, you can quickly and easily calculate the expected service life of chainflex® cables specifically for your application:

www.igus-asean.com/chainflexlife



igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year

chainflex® guarantee

	chainflex® cables	Temperature, from/to [°C]	v max. [m/s] unsupported	v max. [m/s] gliding	a max. [m/s²]	Travel distance [m]
Bus cables						
	CF888	+5 / +15 +15 / +60 +60 / +70	3	-	20	≤ 10
	CFBUS.PVC	+5 / +15 +15 / +60 +60 / +70	3	2	30	≤ 20
	CF898	-20 / -10 -10 / +60 +60 / +70	3	-	20	≤ 10
	CFBUS.PUR	-20 / -10 -10 / +60 +60 / +70	3	2	30	≤ 20
	CFBUS.001-.049 CFBUS.060	-35 / -25 -25 / +60 +60 / +70	10	6	100	≤ 400
	CFBUS.050-.055 CFBUS.065-.070	-35 / -25 -25 / +60 +60 / +70	10	6	100	≤ 400
	CFBUS.LB .001-.022	-35 / -25 -25 / +60 +60 / +70	10	6	100	≤ 400
	CFBUS.LB. .040-.060	-35 / -25 -25 / +60 +60 / +70	10	6	100	≤ 400

(1) Guaranteed service life for these series (details ▶ see page 28-29)

Guaranteed service life (1)

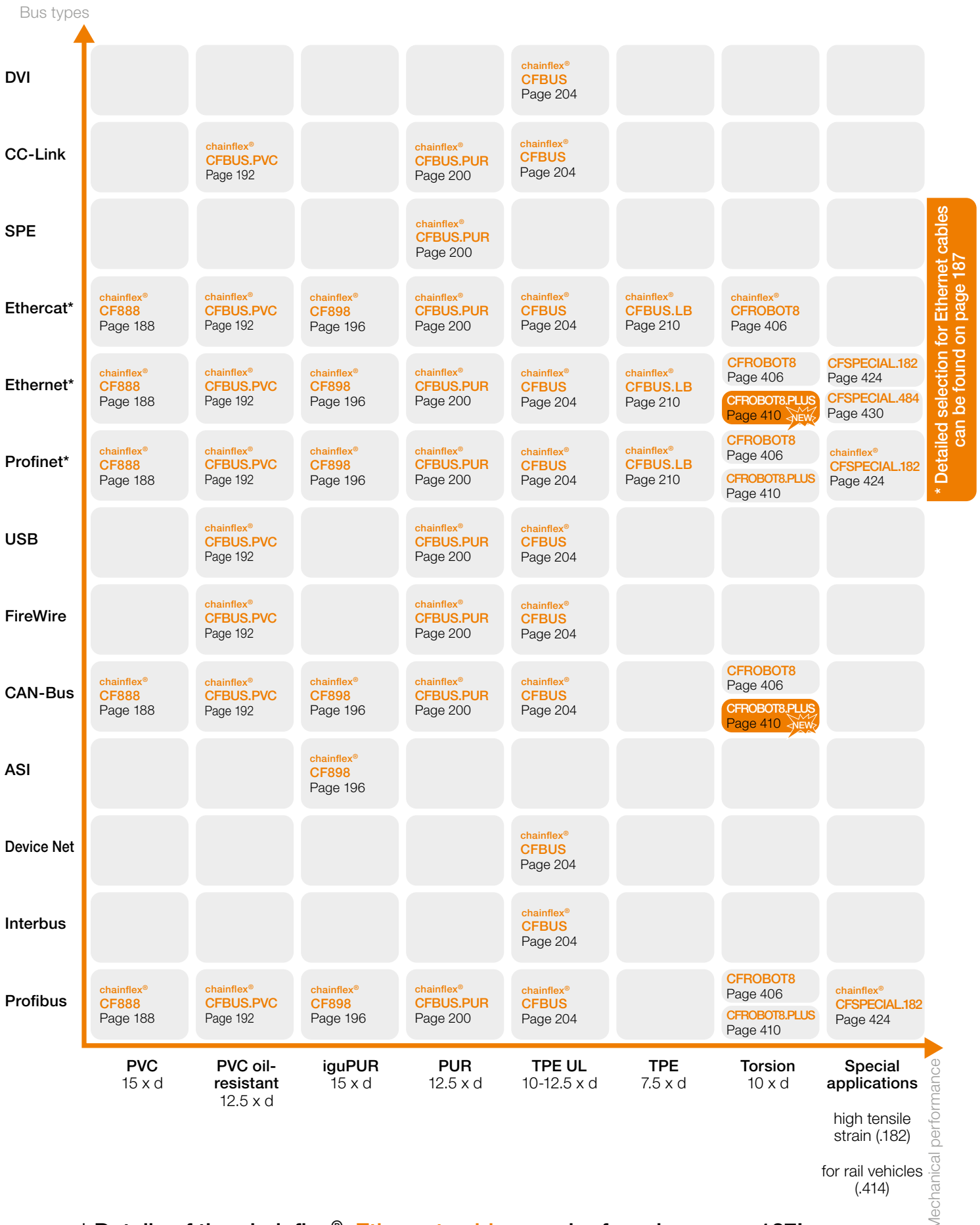
Minimum bend radius [factor x d]	Minimum bend radius [factor x d]	Minimum bend radius [factor x d]	Page
5 million (1 million) double strokes *	7.5 million (3 million) double strokes *	10 million (5 million) double strokes *	
17.5	18.5	19.5	
15	16	17	188
17.5	18.5	19.5	
15	16	17	
12.5	13.5	14.5	192
15	16	17	
17.5	18.5	19.5	
15	16	17	196
17.5	18.5	19.5	
15	16	17	
12.5	13.5	14.5	200
15	16	17	
12.5	13.5	14.5	
10	11	12	204
12.5	13.5	14.5	
15	16	17	
12.5	13.5	14.5	204
15	16	17	
5 million	7.5 million	12.5 million	
12.5	13.5	14.5	
10	11	12	210
12.5	13.5	14.5	
10	11	12	
7.5	8.5	9.5	210
10	11	12	

* Higher number of double strokes? Calculate service life online: ▶ www.igus-asean.com/chainflexlife
Figures in brackets refer to series CF888 and CF898



igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year

The right cable for every bus system …
The chainflex® bus cables product range at a glance



*** Details of the chainflex® Ethernet cables can be found on page 187!**

Bus system/ chainflex® type	Jacket	Number of cores and conductor nominal cross section[mm²]	Page
Profibus (1x2x0.64mm)		**150Ohm**	
CF888.001	PVC	(2x0.25)C	190
CFBUS.PVC.001	PVC	(2x0.25)C	194
CF898.001	iguPUR	(2x0.25)C	198
CFBUS.PUR.001	PUR	(2x0.25)C	202
CFBUS.001	TPE	(2x0.25)C	206
CFBUS.002	TPE	(2x0.25)C+4x1.5	206
CFBUS.003	TPE	(2x0.25)C+3G0.75	206
CFBUS.LB.001	TPE	(2x0.25)C	212
CFROBOT8.001	PUR	(2x0.35)C	408
CFROBOT8.PLUS.001	PUR	(2x0.25)C	412
CFSPECIAL.182.001	PUR	(2x0.25)C	424
Interbus		**100Ohm**	
CFBUS.010	TPE	(3x(2x0.25))C	206
CFBUS.011	TPE	(3x(2x0.25)+(3G1.0))C	206
CAN-Bus		**120Ohm**	
CF888.021	PVC	(2x0.5)C	190
CFBUS.PVC.020	PVC	(4x0.25)C	194
CFBUS.PVC.021	PVC	(2x0.5)C	194
CFBUS.PVC.022	PVC	(4x0.5)C	194
CF898.021	iguPUR	(2x0.5)C	198
CFBUS.PUR.020	PUR	(4x0.25)C	202
CFBUS.PUR.021	PUR	(2x0.5)C	202
CFBUS.PUR.022	PUR	(4x0.5)C	202
CFBUS.020	TPE	(4x0.25)C	206
CFBUS.021	TPE	(2x0.5)C	206
CFBUS.022	TPE	(4x0.5)C	206
CFBUS.LB.020	TPE	(4x0.25)C	212
CFBUS.LB.021	TPE	(2x0.5)C	212
CFBUS.LB.022	TPE	(4x0.5)C	212
CFROBOT8.022	PUR	(4x0.5)C	408
CFROBOT8.PLUS.022 New	PUR	(4x0.5)C	412
Device Net		**120Ohm**	
CFBUS.030	TPE	((2xAWG24)C+2xAWG22)C	206
CFBUS.031	TPE	((2xAWG18)C+2xAWG15)C	206
CC-Link		**110Ohm**	
CFBUS.PVC.035	PVC	(3x0.5)C	194
CFBUS.PUR.035	PUR	(3x0.5)C	204
CFBUS.035	TPE	(3xAWG20)C	206
Ethernet/CAT5l		**100Ohm**	
CFBUS.PVC.040	PVC	(4x0.25)C	194
CFBUS.PUR.040	PUR	(4x0.25)C	202
CFBUS.040	TPE	(4x0.25)C	208
CFBUS.LB.040	TPE	(4x(0.25)C	212
Single Pair Ethernet		**100Ohm**	
CFBUS.PUR.042	PUR	(2x0.15)C	202
Ethernet/CAT5e		**100Ohm**	
CF888.045	PVC	(4x(2x0.14))C	190
CFBUS.PVC.045	PVC	(4x(2x0.15))C	194
CF898.045	iguPUR	(4x(2x0.14))C	198

Bus system/ chainflex® type	Jacket	Number of cores and conductor nominal cross section[mm²]	Page
Ethernet/CAT5e		**100Ohm**	
CFBUS.PUR.045	PUR	(4x(2x0.15))C	202
CFBUS.045	TPE	(4x(2x0.15))C	208
CFBUS.LB.045	TPE	(4x(2x0.15))C	212
CFROBOT8.045	PUR	4x(2x0.15)C	408
CFROBOT8.PLUS.045	PUR	(4x(2x0.15))C	412
CFSPECIAL.182.045	PUR	(4x(2x0.15))C	424
Ethernet/CAT6		**100Ohm**	
CFBUS.PVC.049	PVC	(4x(2x0.15))C	194
CFBUS.PUR.049	PUR	(4x(2x0.15))C	202
CFBUS.PUR.H01.049	PUR	(4x(2x0.15))C+4x1.5	202
CFBUS.049	TPE	(4x(2x0.15))C	208
CFBUS.LB.049	TPE	(4x(2x0.15))C	212
CFROBOT8.049	PUR	4x(2x0.15)C	408
CFROBOT8.PLUS.049 New	PUR	(4x(2x0.15))C	412
CFSPECIAL.484.049	-	(4x(2x0.15))C	424
Ethernet/CAT6A		**100Ohm**	
CFBUS.PVC.050	PVC	4x(2x0.20)C	194
CFBUS.PUR.050	PUR	4x(2x0.20)C	202
CFBUS.050	TPE	(4x(2x0.15)C)C	208
CFROBOT8.050	PUR	4x(2x0.15)C	408
CFROBOT8.PLUS.050 New	PUR	(4x(2x0.15)C)C	412
Ethernet/CAT7		**100Ohm**	
CFBUS.PVC.052	PVC	(4x(2x0.15)C)C	192
CFBUS.PUR.052	PUR	(4x(2x0.15)C)C	200
CFBUS.052	TPE	(4x(2x0.15)C)C	206
FireWire IEEE 1394a/b		**100Ohm**	
CFBUS.PUR.056	PUR	(2x(2x0.15)C+2x0.38)C	202
CFBUS.055	TPE	2x(2x0.15)C+2x(0.34)C	208
Profinet		**100Ohm**	
CF888.060	PVC	(4x0.38)C	190
CFBUS.PVC.060	PVC	(4x0.38)C	194
CF898.060	iguPUR	(4x0.34)C	198
CF898.061.FC	iguPUR	(4x0.34)C	198
CFBUS.PUR.060	PUR	(4x0.38)C	202
CFBUS.PUR.H01.060	PUR	(4x0.38)C+4x1.5	202
CFBUS.060	TPE	(4x0.38)C	208
CFBUS.LB.060	TPE	(4x0.38)C	212
CFROBOT8.060	PUR	(2x(2x0.34))C	408
CFROBOT8.PLUS.060	PUR	(4x0.38)C	412
USB		**90Ohm**	
CFBUS.065	TPE	((2xAWG28)+2xAWG20)C	208
CFBUS.066	TPE	((2xAWG24)+2xAWG20)C	208
USB 3.0		**90Ohm**	
CFBUS.PVC.068	PVC	(2x(2xAWG28)+2x(2xAWG28)C)C	194
CFBUS.PUR.068	PUR	(2x(2xAWG28)+2x(2xAWG28)C)C	202
DVI		**100Ohm**	
CFBUS.070	TPE	(4x(2xAWG28)C +(2xAWG28)+3xAWG28)C	208
ASI BUS (flat cables)			
CF898.082 (yellow)	iguPUR	2x2.5	198
CF898.083 (black)	iguPUR	2x2.5	198

For all data rates and types of movement …
Networking your machine with chainflex® Ethernet cables

In our catalogue range you will find the right Ethernet solution for every type of motion. We have prepared a wide range of products both sold by the metre and also a wide variety of ready-to-connect cables with connectors. All chainflex® cables come with a **36-month guarantee** and up to 10 million double strokes as standard, giving you peace-of-mind and confidence.

We support you in three aspects of machine networking with Ethernet cables for moving applications that have been developed, manufactured and tested for high quality:

For your system, we offer Ethernet cables from **CAT5 to CAT7** so that you have the right solution for all data volumes. With that you can safely use Bus systems such as Ethernet/IP, Profinet, EtherCAT, Sercos and many other derivatives. The different quality levels of cable mean that there are opportunities for very large savings or future-proofing.

With the new **Single Pair Ethernet (SPE)** bus technology, it is now possible to create Ethernet connections all the way from the control cabinet to each machine element and thus connect the entire machine with one single bus system. Due to the construction using only one pair of wires, the cable can be manufactured with a considerable weight decrease and a 25% smaller outer diameter. For this pioneering development, we are a member in the Industrial Partner Network for SPE.

By taking into account the individual mechanical requirements in your application, we can offer more customised solutions. There are cables for large and small bend radii for linear movements in energy chains or torsional movements on robots. We can offer you a reasonably priced PVC solution, an oil-resistant PUR cable or a solution with highly abrasion-resistant TPE. Also, **special solutions** for long travels or high tensile strength versions for hanging applications or rolling solutions are standard products for us.

Our **online tools** also enable you to reduce process costs and help you to find the right cable with just a few clicks.

Also visit our Ethernet website:

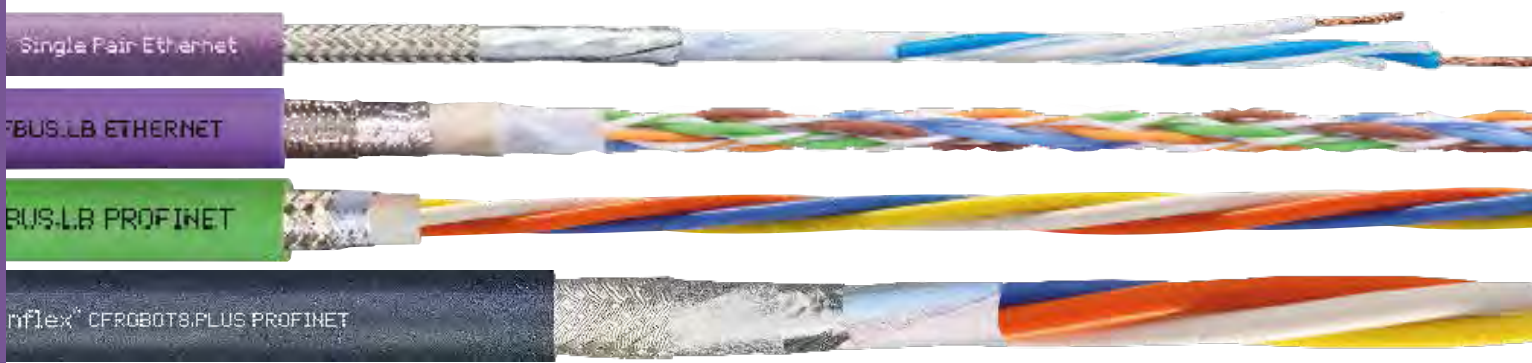
www.chainflex.eu/ethernet

All common Bus types in different cable quality levels for your diverse applications. From stock. Tested. With a guarantee.

EtherCAT.

CC-Link IE Field

PROFINET®



Always find the Ethernet cable that works, for less.
Selection table for the largest range of flexible Ethernet cables

Electrical performance

	CF888 PVC 15 x d	CFBUS.PVC PVC, oil-res. 12.5 x d	CF898 iguPUR 15 x d	CFBUS.PUR PUR 12.5 x d	CFBUS TPE UL 10 x d	CFBUS.LB TPE Hal 7.5 x d	CFROBOT8 PUR ± 180°/m	CFROBOT8.PLUS PUR ± 360°/m	Special cables
CAT7 10GBit 600MHz		chainflex® CFBUS.PVC.052 Page 194		chainflex® CFBUS.PUR.052 Page 202	chainflex® CFBUS.052 Page 208		chainflex® CFROBOT8.052 Page 408		
CAT6A 10GBit 500MHz		chainflex® CFBUS.PVC.050 Page 194		chainflex® CFBUS.PUR.050 Page 202	chainflex® CFBUS.050 Page 208		chainflex® CFROBOT8.050 Page 408	NEW chainflex® CFROBOT8. PLUS.050 Page 412	
CAT6 1GBit 250MHz		chainflex® CFBUS.PVC.049 Page 194		chainflex® CFBUS.PUR.049 Page 202	chainflex® CFBUS.049 Page 208	chainflex® CFBUS.LB.049 Page 212	chainflex® CFROBOT8.049 Page 408	NEW chainflex® CFROBOT8. PLUS.049 Page 412	chainflex® CFSPECIAL. 484.049 Page 430
CAT5e 1GBit 100MHz	chainflex® CF888.045 Page 190	chainflex® CFBUS.PVC.045 Page 194	chainflex® CF898.045 Page 198	chainflex® CFBUS.PUR.045 Page 202	chainflex® CFBUS.045 Page 208	chainflex® CFBUS.LB.045 Page 212	chainflex® CFROBOT8.045 Page 408	chainflex® CFROBOT8. PLUS.045 Page 412	CFSPECIAL. 182.045 p. 424 CFCLEAN8.045 Page 460
SPE 1GBit 600MHz				chainflex® CFBUS.PUR.042 Page 202					
Profinet 100MBit 100MHz	chainflex® CF888.060 Page 190	chainflex® CFBUS.PVC.060 Page 194	CF898.060 Page 198 CF898.061.FC Page 198	chainflex® CFBUS.PUR.060 Page 202	chainflex® CFBUS.060 Page 208	chainflex® CFBUS.LB.060 Page 212	chainflex® CFROBOT8.060 Page 408	chainflex® CFROBOT8. PLUS.060 Page 412	
CAT5 100MBit 100MHz		chainflex® CFBUS.PVC.040 Page 194		chainflex® CFBUS.PUR.040 Page 202	chainflex® CFBUS.040 Page 208	chainflex® CFBUS.LB.040 Page 212			

Mechanical performance

SPE Single Pair Ethernet (SPE) ...
... the key to smart industrial automation

In the area of mechanical engineering, a strong trend in recent years has been a continuous increase in the need for more and faster data. Fieldbuses such as Profibus and CC-Link in Ethernet derivates such as Profinet and CC-Link IE have been developed further in order to enable improved performance in machines.
The situation is similar in the case of the Ethernet types. Whereas CAT5 used to be the standard and a quantum leap was achieved with CAT5e, everyone is now talking about CAT6A and CAT7 for the future. This is not only true with regard to building infrastructure but is also in the case of machine and robot cabling.

However, all products end at the last "intelligent" component of the machine. Due to the sheer size of the cable and the connector solutions, connections extending as far as the smallest sensor had not yet been possible. This is where we and our partners of the Industrial Partner Network e.V. are now breaking new ground with the Single Pair Ethernet (SPE). The idea is to reduce to one data pair in order to keep connector and cable small.

This is most evident in the case of the connector. It is now the size of an M8 round connector and is therefore considerably smaller than the normal RJ45. As regards the cable, we have reduced the diameter by 25% and have now also arrived in the range of a proximity switch cable. This allows smaller installation spaces and energy chains, which will be welcome in the field of machine design.

As a clear service life together with a guarantee is always given for all cables in the igus® catalogue; thorough testing is what allows us to do it. This also applies to the new member of the family, of course: CFBUS.PUR.042 is guaranteed to last for 10 million double strokes or 36 months.

Bus cable | PVC | chainflex® CF888

5,000,000
Double strokes guaranteed

15 x d
Bend radius, e-chain®

10m
Travel distance, e-chain®

- For flexing applications
- PVC outer jacket
- Shielded
- Flame-retardant



Example image

Dynamic information

Bend radius	**e-chain® linear**	minimum 15 x d
	flexible	minimum 12 x d
	fixed	minimum 8 x d
Temperature	**e-chain® linear**	+5°C up to +70°C
	flexible	-5°C up to +70°C (following DIN EN 60811-504)
	fixed	-15°C up to +70°C (following DIN EN 50305)
v max.	**unsupported**	3m/s
a max.		20m/s²
Travel distance		Unsupported travels up to 10m, Class 1

Cable structure

Conductor	Conductor consisting of bare copper wires (according to DIN EN 60228).
Core insulation	According to bus specification.
Core structure	According to bus specification.
Core identification	According to bus specification. ▶ Product range table
Overall shield	Braiding made of tinned copper wires. Coverage approx. 60% optical
Outer jacket	Low-adhesion PVC mixture, adapted to suit the requirements in e-chains®. Colour: Red lilac (similar to RAL 4001) Variants ▶ Product range table

Electrical information

Nominal voltage	50V 300V (following UL), except **CF888.001:** 30V (following UL)
Testing voltage	500V

EPLAN download, configurators ▶ www.igus-asean.com/CF888

Class 3.1.1.1

Basic requirements	low	1	2	**3**	4	5	6	7	highest
Travel distance	unsupported	**1**	2	3	4	5	6		≥ 400m
Oil resistance	none	**1**	2	3	4				highest
Torsion	none	**1**	2	3	4				±360°

Properties and approvals

Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
UL verified	Certificate No. B129699: "igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL/CSA AWM	See data sheet for details ▶ www.igus-asean.com/CF888
NFPA	Following NFPA 79-2018, chapter 12.9
EAC	Certificate No. RU C-DE.ME77.B.00295/19
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
CE	Following 2014/35/EU
UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Guaranteed service life (details see page 28-29)

Double strokes*	1 million	3 million	5 million
Temperature, from/to [°C]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
+5/+15	17.5	18.5	19.5
+15/+60	15	16	17
+60/+70	17.5	18.5	19.5

* Higher number of double strokes? Service life calculation online ▶ www.igus-asean.com/chainflexlife

Typical application areas

- For flexing applications, Class 3
- Especially for unsupported travels, Class 1
- Without influence of oil, Class 1
- No torsion, Class 1
- Preferably indoor applications
- Wood/stone processing, packaging industry, feeding, handling, adjusting devices

Bus cable | PVC | chainflex® CF888



Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
Profibus (1x2x0.64mm)				
CF888.001	(2x0.25)C	8.0	18	59
CAN-Bus				
CF888.021	(2x0.5)C	8.5	24	73
Ethernet/CAT5e				
CF888.045	(4x(2x0.14))C	7.0	25	62
Profinet				
CF888.060 [2) 13)]	(4x0.34)C	7.0	25	59

The chainflex® types marked with [2)] are cables designed as a star-quad.
[13)] Colour outer jacket: Yellow-green (RAL 6018)

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core



Cables available in the chainflex® CASE

Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.

More on this on page 24/25 and online: www.igus-asean.com/cf-case

Technical note on bus cables
chainflex® bus cables have been specially developed and tested for continuously moving use in e-chains®. Depending on the material used for the outer jacket and on the underlying construction principle, the bus cables are designed for different mechanical requirements and resistance to diverse media.
The cables have been electrically designed in such a way that, on the one hand, the electrical requirements of the respective bus specification are reliably met and, on the other, that greater value is placed on a high degree of EMC reliability.
It is also ensured that the electrical values remain stable over the long term in spite of permanent movement.
The overall quality of transmission in a complete bus communication system, however, is not solely dependent on the cable used. What is also essential is that all components (electronic parts, connecting system and cable) are precisely matched to each other and that the maximum transmission lengths, which are dependent on the respective system, are adhered to with regard to the data transmission rates needed. A cable is thus not solely responsible for the reliable transmission of signals.
igus® advises you when you are designing your bus system to take all these factors into account and, with extensive tests, helps you to ensure the process reliability of your system from the very beginning.

EPLAN download, configurators ▶ www.igus-asean.com/CF888

Class 3.1.1.1

Basic requirements	low	1	2	**3**	4	5	6	7 highest
Travel distance	unsupported	**1**	2	3	4	5	6	≥ 400m
Oil resistance	none	**1**	2	3	4			highest
Torsion	none	**1**	2	3	4			±360°



Part No.	Characteristic wave impedance approx. [Ω]	Core group	Colour code
Profibus (1x2x0.64mm)			
CF888.001	150	2x0.25	red, green
CAN-Bus			
CF888.021	120	2x0.5	white, brown
Ethernet/CAT5e			
CF888.045	100	4x(2x0.14)	white-blue/blue, white-orange/orange, white-green/green, white-brown/brown
Profinet			
CF888.060 [2) 13)]	100	4x0.34	white, orange, blue, yellow (star-quad)



chainflex® CF888 bus cables in a handling application

Guarantee igus chainflex 36
igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year

Bus cable | PVC | chainflex® CFBUS.PVC

10 million
Double strokes guaranteed

12.5 x d
Bend radius, e-chain®

20m
Travel distance, e-chain®

- For medium duty applications
- PVC outer jacket
- Shielded
- Oil-resistant
- Flame-retardant



Example image

Dynamic information

Bend radius	**e-chain® linear**	minimum 12.5 x d
	flexible	minimum 10 x d
	fixed	minimum 7 x d
Temperature	**e-chain® linear**	+5°C up to +70°C
	flexible	-5°C up to +70°C (following DIN EN 60811-504)
	fixed	-15°C up to +70°C (following DIN EN 50305)
v max.	**unsupported**	3m/s
	gliding	2m/s
a max.		30m/s²
Travel distance		Unsupported travels and up to 20m for gliding applications, Class 3

Cable structure

Conductor	Stranded conductor in especially bending-resistant version consisting of bare copper wires (following DIN EN 60228).
Core insulation	According to bus specification.
Core structure	According to bus specification.
Core identification	According to bus specification. ▶ Product range table
Overall shield	Bending-resistant braiding made of tinned copper wires. Coverage linear approx. 55%, optical approx. 80%
Outer jacket	Low-adhesion, oil-resistant PVC mixture, adapted to suit the requirements in e-chains® (following DIN EN 50363-4-1). Colour: Red lilac (similar to RAL 4001) Variants ▶ Product range table

Electrical information

Nominal voltage	50V 300V (following UL), except **CFBUS.PVC.020:** 30V (following UL)
Testing voltage	500V

EPLAN download, configurators ▶ www.igus-asean.com/CFBUSPVC

Class 4.3.2.1

Basic requirements	low	1	2	3	**4**	5	6	7	highest
Travel distance	unsupported	1	2	**3**	4	5	6		≥ 400m
Oil resistance	none	1	**2**	3	4				highest
Torsion	none	**1**	2	3	4				±360°

Properties and approvals

UV resistance	Medium
Oil resistance	Oil-resistant (following DIN EN 50363-4-1), Class 2
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
UL verified	Certificate No. B129699: "igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL listed	CMX, 75°C (except CFBUS.PVC.068)
UL/CSA AWM	See data sheet for details ▶ www.igus-asean.com/CFBUSPVC
NFPA	Following NFPA 79-2018, chapter 12.9
CLPA	**CFBUS.PVC.045:** CC-Link IE TSN, Reference no. 153 **CFBUS.PVC.049:** CC-Link IE TSN, Reference no. 154
EAC	Certificate No. RU C-DE.ME77.B.00295/19
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 1. The outer jacket material of this series complies with CF240.02.24 - tested by IPA according to standard DIN EN ISO 14644-1
CE	Following 2014/35/EU
UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Guaranteed service life (details see page 28-29)

Double strokes*	5 million	7.5 million	10 million
Temperature, from/to [°C]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
+5/+15	15	16	17
+15/+60	12.5	13.5	14.5
+60/+70	15	16	17

* Higher number of double strokes? Service life calculation online ▶ www.igus-asean.com/chainflexlife

Typical application areas

- For medium duty applications, Class 4
- Unsupported travels and up to 20m for gliding applications, Class 3
- Light oil influence, Class 2
- No torsion, Class 1
- Preferably indoor applications, but also outdoor ones at temperatures > 5 °C
- Machining units/packaging machines, handling, indoor cranes





Bus cable | PVC | chainflex® CFBUS.PVC



Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
Profibus (1x2x0.64mm)				
CFBUS.PVC.001	(2x0.25)C	8.5	25	77
CAN-Bus				
CFBUS.PVC.020 [2]	(4x0.25)C	7.0	23	57
CFBUS.PVC.021	(2x0.5)C	8.5	32	86
CFBUS.PVC.022 [2]	(4x0.5)C	8.5	43	94
CC-Link				
CFBUS.PVC.035	(3x0.5)C	8.0	40	82
Ethernet/CAT5I				
CFBUS.PVC.040 [2]	(4x0.25)C	6.5	29	70
Ethernet/CAT5e				
CFBUS.PVC.045	(4x(2x0.15))C	7.5	33	67
Ethernet/CAT6				
CFBUS.PVC.049	(4x(2x0.15))C	7.5	33	67
Ethernet/CAT6A				
CFBUS.PVC.050	4x(2x0.20)C	10.0	65	123
Ethernet/CAT7				
CFBUS.PVC.052	(4x(2x0.15)C)C	9.5	89	136
Profinet				
CFBUS.PVC.060 [2] [13]	(4x0.38)C	7.0	33	67
USB 3.0				
CFBUS.PVC.068	(2x(2xAWG28) +2x(2xAWG28)C)C	7.0	39	68

The chainflex® types marked with [2] are cables designed as a star-quad.
[13] Colour outer jacket: Yellow-green (RAL 6018)

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

chainflex CASE

Cables available in the chainflex® CASE

Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.

More on this on page 24/25 and online: www.igus-asean.com/cf-case

Class 4.3.2.1

Basic requirements	low	1	2	3	**4**	5	6	7 highest
Travel distance	unsupported	1	2	**3**	4	5	6	≥ 400m
Oil resistance	none	1	**2**	3	4	highest		
Torsion	none	**1**	2	3	4	±360°		



Part No.	Characteristic wave impedance approx. [Ω]	Core group	Colour code
Profibus (1x2x0.64mm)			
CFBUS.PVC.001	150	2x0.25	red, green
CAN-Bus			
CFBUS.PVC.020 [2]	120	4x0.25	white, green, brown, yellow (star-quad)
CFBUS.PVC.021	120	2x0.5	white, brown
CFBUS.PVC.022 [2]	120	4x0.5	white, green, brown, yellow (star-quad)
CC-Link			
CFBUS.PVC.035	110	3x0.5	white, blue, yellow
Ethernet/CAT5I			
CFBUS.PVC.040 [2]	100	4x0.25	white, green, brown, yellow (star-quad)
Ethernet/CAT5e			
CFBUS.PVC.045	100	4x(2x0.15)	white-blue/blue, white-orange/orange, white-green/green, white-brown/brown
Ethernet/CAT6			
CFBUS.PVC.049	100	4x(2x0.15)	white-blue/blue, white-orange/orange, white-green/green, white-brown/brown
Ethernet/CAT6A			
CFBUS.PVC.050	100	4x(2x0.20)C	white-blue/blue, white-orange/orange, white-green/green, white-brown/brown
Ethernet/CAT7			
CFBUS.PVC.052	100	4x(2x0.15)C	white-blue/blue, white-orange/orange, white-green/green, white-brown/brown
Profinet			
CFBUS.PVC.060 [2] [13]	100	4x0.38	white, orange, blue, yellow (star-quad)
USB 3.0			
CFBUS.PVC.068	90	2x(2xAWG28)	red/black, green/white-green
		2x(2xAWG28)C	blue/yellow, orange/violet

Technical note on bus cables
chainflex® bus cables have been specially developed and tested for continuously moving use in e-chains®. Depending on the material used for the outer jacket and on the underlying construction principle, the bus cables are designed for different mechanical requirements and resistance to diverse media.
The cables have been electrically designed in such a way that, on the one hand, the electrical requirements of the respective bus specification are reliably met and, on the other, that greater value is placed on a high degree of EMC reliability.
It is also ensured that the electrical values remain stable over the long term in spite of permanent movement.
The overall quality of transmission in a complete bus communication system, however, is not solely dependent on the cable used. What is also essential is that all components (electronic parts, connecting system and cable) are precisely matched to each other and that the maximum transmission lengths, which are dependent on the respective system, are adhered to with regard to the data transmission rates needed. A cable is thus not solely responsible for the reliable transmission of signals.
igus® advises you when you are designing your bus system to take all these factors into account and, with extensive tests, helps you to ensure the process reliability of your system from the very beginning.

Bus cable | iguPUR | chainflex® CF898

5,000,000
Double strokes guaranteed

15 x d
Bend radius, e-chain®

10m
Travel distance, e-chain®

- For flexing applications
- iguPUR outer jacket
- Oil-resistant
- Shielded
- Flame-retardant



Example image

Dynamic information

Bend radius	**e-chain® linear**	minimum 15 x d
	flexible	minimum 12 x d
	fixed	minimum 8 x d
Temperature	**e-chain® linear**	-20°C up to +70°C
	flexible	-40°C up to +70°C (following DIN EN 60811-504)
	fixed	-50°C up to +70°C (following DIN EN 50305)
v max.	**unsupported**	3m/s
a max.		20m/s²
Travel distance		Unsupported travels up to 10m, Class 1

Cable structure

Conductor	Conductor consisting of bare copper wires (according to DIN EN 60228).
Core insulation	According to bus specification.
Core structure	According to bus specification.
Core identification	According to bus specification. ▶ Product range table
Overall shield	Braiding made of tinned copper wires. Coverage approx. 60% optical
Outer jacket	Low-adhesion iguPUR mixture, adapted to suit the requirements in e-chains®. Colour: Red lilac (similar to RAL 4001) Variants ▶ Product range table

Electrical information

Nominal voltage	50V 300V (following UL), except **CF898.001:** 30V (following UL)
Testing voltage	500V

EPLAN download, configurators ▶ www.igus-asean.com/CF898

Class 3.1.3.1

Basic requirements	low	1	2	**3**	4	5	6	7	highest
Travel distance	unsupported	**1**	2	3	4	5	6		≥ 400m
Oil resistance	none	1	2	**3**	4				highest
Torsion	none	**1**	2	3	4				±360°

Properties and approvals

UV resistance	Medium
Oil resistance	Oil-resistant (following DIN EN 50363-10-2), Class 3
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame **CF898.082-CF898.083:** According to IEC 60332-1-2, FT2
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
UL verified	Certificate No. B129699: "igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL/CSA AWM	See data sheet for details ▶ www.igus-asean.com/CF898
NFPA	**CF898.001-CF898.060:** Following NFPA 79-2018, Kapitel 12.9
EAC	Certificate No. RU C-DE.ME77.B.00295/19
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
CE	Following 2014/35/EU
UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Guaranteed service life (details see page 28-29)

Double strokes*	1 million	3 million	5 million
Temperature, from/to [°C]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-20/-10	17.5	18.5	19.5
-10/+60	15	16	17
+60/+70	17.5	18.5	19.5

* Higher number of double strokes? Service life calculation online ▶ www.igus-asean.com/chainflexlife

Typical application areas

- For flexing applications, Class 3
- Especially for unsupported travels, Class 1
- With influence of oil, Class 3
- No torsion, Class 1
- Indoor and outdoor applications without direct sun radiation
- Machining units/machine tools, low temperature applications

Bus cable | iguPUR | chainflex® CF898



Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
Profibus (1x2x0.64mm)				
CF898.001	(2x0.25)C	8.0	18	56
CAN-Bus				
CF898.021	(2x0.5)C	8.5	24	80
Ethernet/CAT5e				
CF898.045	(4x(2x0.14))C	7.0	25	54
Profinet				
CF898.060 [13]	(4x0.34)C	7.0	25	58
CF898.061.FC	(4x0.34)C	7.0	25	72
ASI BUS (flat cables)				
CF898.082 [14]	According to ASI	4.0	50	82
CF898.083 [15]	According to ASI	4.0	50	79

[13] Colour outer jacket: Yellow-green (RAL 6018)
[14] Colour outer jacket: Yellow (RAL 1021)
[15] Colour outer jacket: Jet black (RAL 9005)

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core



Cables available in the chainflex® CASE

Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.

More on this on page 24/25 and online: www.igus-asean.com/cf-case

Technical note on bus cables
chainflex® bus cables have been specially developed and tested for continuously moving use in e-chains®. Depending on the material used for the outer jacket and on the underlying construction principle, the bus cables are designed for different mechanical requirements and resistance to diverse media.
The cables have been electrically designed in such a way that, on the one hand, the electrical requirements of the respective bus specification are reliably met and, on the other, that greater value is placed on a high degree of EMC reliability.
It is also ensured that the electrical values remain stable over the long term in spite of permanent movement.
The overall quality of transmission in a complete bus communication system, however, is not solely dependent on the cable used. What is also essential is that all components (electronic parts, connecting system and cable) are precisely matched to each other and that the maximum transmission lengths, which are dependent on the respective system, are adhered to with regard to the data transmission rates needed. A cable is thus not solely responsible for the reliable transmission of signals.
igus® advises you when you are designing your bus system to take all these factors into account and, with extensive tests, helps you to ensure the process reliability of your system from the very beginning.

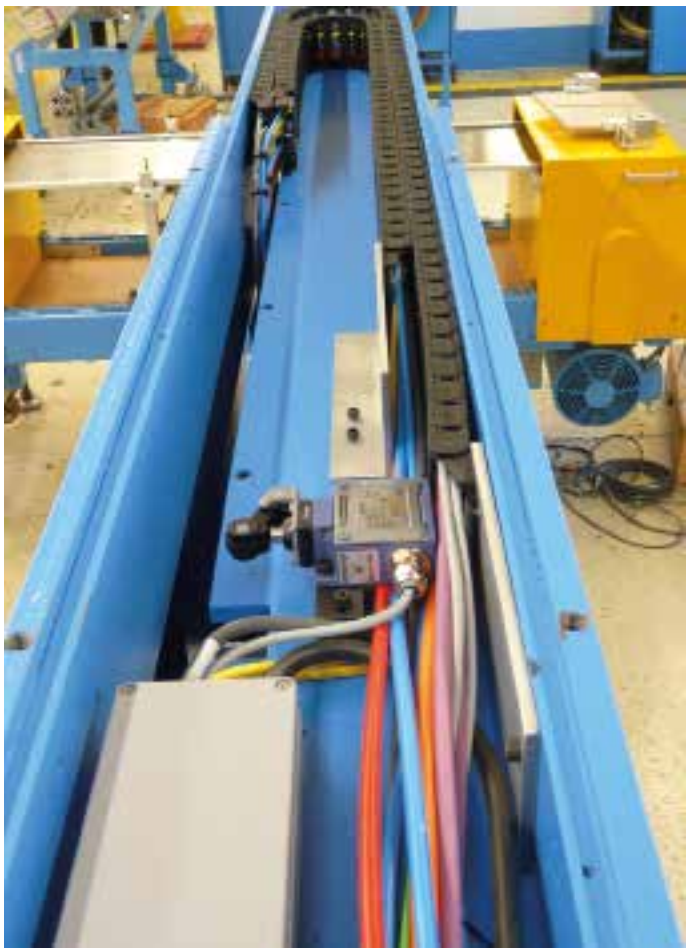
EPLAN download, configurators ▶ www.igus-asean.com/CF898

Class 3.1.3.1

Basic requirements	low	1	2	**3**	4	5	6	7 highest
Travel distance	unsupported	**1**	2	3	4	5	6	≥ 400m
Oil resistance	none	1	2	**3**	4			highest
Torsion	none	**1**	2	3	4			±360°



Part No.	Characteristic wave impedance approx. [Ω]	Core group	Colour code
Profibus (1x2x0.64mm)			
CF898.001	150	2x0.25	red, green
CAN-Bus			
CF898.021	120	2x0.5	white, brown
Ethernet/CAT5e			
CF898.045	100	4x(2x0.14)	white-blue/blue, white-orange/orange, white-green/green, white-brown/brown
Profinet			
CF898.060 [13]	100	4x0.34	white, orange, blue, yellow (star-quad)
CF898.061.FC	100	4x0.34	white, orange, blue, yellow (star-quad)
ASI BUS (flat cables)			
CF898.082 [14]	According to ASI	2x2.5	blue, brown
CF898.083 [15]	According to ASI	2x2.5	blue, brown



**Adjustment device with chainflex®
CF898 bus cables**

Guarantee igus chainflex 36

igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year

Bus cable | PUR | chainflex® CFBUS.PUR

10 million
Double strokes guaranteed

12.5 x d
Bend radius, e-chain®

20m
Travel distance, e-chain®

- For medium duty applications
- PUR outer jacket
- Shielded
- Oil-resistant and coolant-resistant
- Flame-retardant
- PVC and halogen-free
- Notch-resistant
- Hydrolysis and microbe-resistant

Single Pair Ethernet for e-chains®

SPE



Example image

Dynamic information

Bend radius	**e-chain® linear**	minimum 12.5 x d
	flexible	minimum 10 x d
	fixed	minimum 7 x d
Temperature	**e-chain® linear**	-20°C up to +70°C
	flexible	-40°C up to +70°C (following DIN EN 60811-504)
	fixed	-50°C up to +70°C (following DIN EN 50305)
v max.	**unsupported**	3m/s
	gliding	2m/s
a max.	30m/s²	
Travel distance	Unsupported travels and up to 20m for gliding applications, Class 3	

Cable structure

Conductor	Stranded conductor in especially bending-resistant version consisting of bare copper wires (following DIN EN 60228).
Core insulation	According to bus specification.
Core structure	According to bus specification.
Core identification	According to bus specification. ▶ Product range table
Overall shield	Bending-resistant braiding made of tinned copper wires. Coverage linear approx. 55%, optical approx. 80%
Outer jacket	Low-adhesion, halogen-free, highly abrasion resistant PUR mixture, adapted to suit the requirements in e-chains® (following DIN EN 50363-10-2) Colour: Red lilac (similar to RAL 4001) Variants ▶ Product range table

Electrical information

Nominal voltage	50V 300V (following UL), except **CFBUS.PUR.020:** 30V (following UL)
Testing voltage	500V

Properties and approvals

UV resistance	Medium

EPLAN download, configurators ▶ www.igus-asean.com/CFBUSPUR

Class 4.3.3.1

Basic requirements	low	1 2 3 **4** 5 6 7 highest
Travel distance	unsupported	1 2 **3** 4 5 6 ≥ 400m
Oil resistance	none	1 2 **3** 4 highest
Torsion	none	**1** 2 3 4 ±360°

Oil resistance	Oil-resistant (following DIN EN 50363-10-2), Class 3
Offshore	MUD-resistant following NEK 606 - status 2016
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
Halogen-free	Following DIN EN 60754
UL verified	Certificate No. B129699: "igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL listed	CMX, 75°C (except CFBUS.PUR.068)
UL/CSA AWM	See data sheet for details ▶ www.igus-asean.com/CFBUSPUR
NFPA	Following NFPA 79-2018, chapter 12.9
CLPA	**CFBUS.PUR.045:** CC-Link IE Field, Reference no. 151 **CFBUS.PUR.049:** CC-Link IE Field, Reference no. 152
DNV	Type Approval Certificate TAE00003X6 **CFBUS.PUR.040-.052:** Type Approval Certificate TAE00003X8
EAC	Certificate No. RU C-DE.ME77.B.00295/19
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 1. The outer jacket material of this series complies with CF77.UL.05.12.D - tested by IPA according to standard DIN EN ISO 14644-1
DESINA	According to VDW, DESINA standardisation
CE	Following 2014/35/EU
UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Guaranteed service life (details see page 28-29)

Double strokes*	5 million	7.5 million	10 million
Temperature, from/to [°C]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-20/-10	15	16	17
-10/+60	12.5	13.5	14.5
+60/+70	15	16	17

* Higher number of double strokes? Service life calculation online ▶ www.igus-asean.com/chainflexlife

Typical application areas

- For medium duty applications, Class 4
- Unsupported travels and up to 20m for gliding applications, Class 3
- Almost unlimited resistance to oil, Class 3
- No torsion, Class 1
- Indoor and outdoor applications without direct sun radiation
- Machining units/machine tools, low temperature applications

Bus cable | PUR | chainflex® CFBUS.PUR



Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
Profibus (1x2x0.64mm)				
CFBUS.PUR.001	(2x0.25)C	8.5	25	75
CAN-Bus				
CFBUS.PUR.020 [2]	(4x0.25)C	7.5	23	64
CFBUS.PUR.021	(2x0.5)C	8.5	32	82
CFBUS.PUR.022 [2]	(4x0.5)C	8.5	43	91
CC-Link				
CFBUS.PUR.035	(3x0.5)C	8.0	40	76
Ethernet/CAT5I				
CFBUS.PUR.040 [2]	(4x0.25)C	6.5	29	69
Single Pair Ethernet/CAT5e				
CFBUS.PUR.042	(2x0.15)C	5.5	12	33
Ethernet/CAT5e				
CFBUS.PUR.045	(4x(2x0.15))C	7.5	33	66
Ethernet/CAT6				
CFBUS.PUR.049	(4x(2x0.15))C	7.5	33	66
CFBUS.PUR.H01.049	((4x(2x0.15))C+4x1.5)C	12.5	125	202
Ethernet/CAT6A				
CFBUS.PUR.050	4x(2x0.20)C	10.0	65	120
Ethernet/CAT7				
CFBUS.PUR.052	(4x(2x0.15)C)C	9.5	89	129
FireWire IEEE 1394b				
CFBUS.PUR.056	(2x(2x0.15)C+2x0.38)C	9.0	59	91
Profinet				
CFBUS.PUR.060 [2] [13]	(4x0.38)C	7.0	33	64
CFBUS.PUR.H01.060	((4x0.38)C+4x1.5)C	11.5	120	196
USB 3.0				
CFBUS.PUR.068	(2x(2xAWG28) +2x(2xAWG28)C)C	7.0	39	64

The chainflex® types marked with [2] are cables designed as a star-quad.
[13] Colour outer jacket: Yellow-green (RAL 6018)

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

EPLAN download, configurators ▶ www.igus-asean.com/CFBUSPUR

Class 4.3.3.1

Basic requirements — low 1 2 3 4 5 6 7 highest
Travel distance — unsupported 1 2 3 4 5 6 ≥ 400m
Oil resistance — none 1 2 3 4 highest
Torsion — none 1 2 3 4 ±360°



Part No.	Characteristic wave impedance approx. [Ω]	Core group	Colour code
Profibus (1x2x0.64mm)			
CFBUS.PUR.001	150	2x0.25	red, green
CAN-Bus			
CFBUS.PUR.020 [2)]	120	4x0.25	white, green, brown, yellow (star-quad)
CFBUS.PUR.021	120	2x0.5	white, brown
CFBUS.PUR.022 [2)]	120	4x0.5	white, green, brown, yellow (star-quad)
CC-Link			
CFBUS.PUR.035	110	3x0.5	white, blue, yellow
Ethernet/CAT5I			
CFBUS.PUR.040 [2)]	100	4x0.25	white, green, brown, yellow (star-quad)
Single Pair Ethernet/CAT5e			
CFBUS.PUR.042		2x0.15	white/blue
Ethernet/CAT5e			
CFBUS.PUR.045	100	4x(2x0.15)	white-blue/blue, white-orange/orange, white-green/green, white-brown/brown
Ethernet/CAT6			
CFBUS.PUR.049	100	4x(2x0.15)	white-blue/blue, white-orange/orange, white-green/green, white-brown/brown
CFBUS.PUR.H01.049	100	(4x(2x0.15))C	white-blue/blue, white-orange/orange, white-green/green, white-brown/brown
		4x1.5	black, brown, grey, blue
Ethernet/CAT6A			
CFBUS.PUR.050	100	4x(2x0.20)C	white-blue/blue, white-orange/orange, white-green/green, white-brown/brown
Ethernet/CAT7			
CFBUS.PUR.052	110	(4x(2x0.15))C	white-blue/blue, white-orange/orange, white-green/green, white-brown/brown
FireWire IEEE 1394b			
CFBUS.PUR.056	110	2x(2x0.15)C	orange/blue, blue/red
		2x0.38	black, white
Profinet			
CFBUS.PUR.060 [2) 13)]	100	4x0.38	white, orange, blue, yellow (star-quad)
CFBUS.PUR.H01.060	100	(4x0.38)C	white, orange, blue, yellow (star-quad)
		4x1.5	black, brown, grey, blue
USB 3.0			
CFBUS.PUR.068	90	2x(2xAWG28)	red/black, green/white-green
		2x(2xAWG28)C	blue/yellow, orange/violet

Bus cable | TPE | chainflex® CFBUS

10 million
Double strokes guaranteed

10 x d
Bend radius, e-chain®

400m
Travel distance, e-chain®

- For extremely heavy duty applications
- TPE outer jacket
- Shielded
- Oil and bio-oil-resistant
- Flame-retardant
- Hydrolysis and microbe-resistant



Example image

Dynamic information

Bend radius	**e-chain® linear**	minimum 10 x d (CFBUS.001-.049 and CFBUS.060)
	flexible	minimum 8 x d
	fixed	minimum 5 x d
Temperature	**e-chain® linear**	-35°C up to +70°C
	flexible	-45°C up to +70°C (following DIN EN 60811-504)
	fixed	-50°C up to +70°C (following DIN EN 50305)
v max.	**unsupported**	10m/s
	gliding	6m/s
a max.		100m/s²
Travel distance		Unsupported travels and up to 400m and more for gliding applications, Class 6

Cable structure

Conductor	Stranded conductor in especially bending-resistant version consisting of bare copper wires (following DIN EN 60228).
Core insulation	According to bus specification.
Core structure	According to bus specification.
Core identification	According to bus specification. ▶ Product range table
Inner jacket	TPE mixture adapted to suit the requirements in e-chains®.
Overall shield	Extremely bending-resistant braiding made of tinned copper wires. Coverage linear approx. 70%, optical approx. 90%
Outer jacket	Low-adhesion, extremely abrasion-resistant and highly flexible TPE mixture, adapted to suit the requirements in e-chains®. Colour: Red lilac (similar to RAL 4001) Variants ▶ Product range table

Electrical information

Nominal voltage	50V 600V (following UL), except **CFBUS.065/.066:** 30V (following UL)
Testing voltage	500V (following DIN EN 50289-1-3)

Properties and approvals

UV resistance	Medium

Class 6.6.4.1

Basic requirements	low	1 2 3 4 5 **6** 7 highest
Travel distance	unsupported	1 2 3 4 5 **6** ≥ 400m
Oil resistance	none	1 2 3 **4** highest
Torsion	none	**1** 2 3 4 ±360°

Oil resistance	Oil-resistant (following DIN EN 60811-404), bio-oil-resistant (following VDMA 24568 with Plantocut 8 S-MB tested by DEA), Class 4
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame **CFBUS.030/CFBUS.065/CFBUS.066:** According to IEC 60332-1-2, FT2
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
UL verified	Certificate No. B129699: "igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL/CSA AWM	See data sheet for details ▶www.igus-asean.com/CFBUS
NFPA	Following NFPA 79-2018, chapter 12.9
CLPA	**CFBUS.045:** CC-Link IE Field, Reference no. 130 **CFBUS.049:** CC-Link IE Field, Reference no. 137
DNV	Type Approval Certificate TAE00003X5 **CFBUS.040-.052:** Type Approval Certificate TAE00003X7
EAC	Certificate No. RU C-DE.ME77.B.00295/19
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 1. The outer jacket material of this series complies with CF34.UL.25.04.D - tested by IPA according to standard DIN EN ISO 14644-1
DESINA	According to VDW, DESINA standardisation
CE	Following 2014/35/EU
UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Guaranteed service life (details see page 28-29)

Double strokes*	5 million		7.5 million		10 million	
Temperature, from/to [°C]	CFBUS .001-.049	CFBUS .050-.070	CFBUS .001-.049	CFBUS .050-.070	CFBUS .001-.049	CFBUS .050-.070
	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-35/-25	12.5	15	13.5	16	14.5	17
-25/+60	10	12.5	11	13.5	12	14.5
+60/+70	12.5	15	13.5	16	14.5	17

* Higher number of double strokes? Service life calculation online ▶ www.igus-asean.com/chainflexlife

Typical application areas

- For heavy-duty applications, Class 6
- Unsupported travels and up to 400m and more for gliding applications, Class 6
- Almost unlimited resistance to oil, also with bio-oils, Class 4
- No torsion, Class 1
- Indoor and outdoor applications without direct sun radiation
- Storage and retrieval units for high-bay warehouses, machining units/machine tools, quick handling, cleanroom, semiconductor insertion, indoor cranes, low temperature applications

Bus cable | TPE | chainflex® CFBUS



Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
Profibus (1x2x0.64mm)				
CFBUS.001	(2x0.25)C	9.0	33	92
CFBUS.002	(2x0.25)C+4x1.5	12.5	94	191
CFBUS.003	(2x0.25)C+3G0.75	11.5	55	145
Interbus				
CFBUS.010	(3x(2x0.25))C	9.0	47	91
CFBUS.011	(3x(2x0.25)+(3G1.0))C	10.5	87	152
CAN-Bus				
CFBUS.020 [2)]	(4x0.25)C	6.5	28	58
CFBUS.021	(2x0.5)C	8.0	39	81
CFBUS.022 [2)]	(4x0.5)C	8.0	43	87
DeviceNet				
CFBUS.030 [4)]	((2xAWG24)C +2xAWG22)C	7.0	36	57
CFBUS.031 [4)]	((2xAWG18)C +2xAWG15)C	11.5	103	174
CC-Link				
CFBUS.035	(3xAWG20)C	8.5	43	96

The chainflex® types marked with [2)] are cables designed as a star-quad.
[4)] Manufactured without inner jacket

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core



Cables available in the chainflex® CASE

Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.

More on this on page 24/25 and online: www.igus-asean.com/cf-case

EPLAN download, configurators ▶ www.igus-asean.com/CFBUS

Class 6.6.4.1

Basic requirements	low	1	2	3	4	5	**6**	7	highest
Travel distance	unsupported	1	2	3	4	5	**6**		≥ 400m
Oil resistance	none	1	2	3	**4**				highest
Torsion	none	**1**	2	3	4				±360°



Part No.	Characteristic wave impedance approx. [Ω]	Core group	Colour code
Profibus (1x2x0.64mm)			
CFBUS.001	150	2x0.25	red, green
CFBUS.002	150	(2x0.25)C	red/green
		4x1.5	black with white numbers 1-4
CFBUS.003	150	(2x0.25)C	red/green
		3G0.75	black, blue, green-yellow
Interbus			
CFBUS.010	100	3x(3x0.25)	white/brown, green/yellow, grey/pink
CFBUS.011	100	3x(2x0.25)	white/brown, green/yellow, grey/pink
		(3G1.0)	red, blue, green-yellow
CAN-Bus			
CFBUS.020 [2]	120	4x0.25	white, green, brown, yellow (star-quad)
CFBUS.021	120	2x0.5	white, brown
CFBUS.022 [2]	120	4x0.5	white, green, brown, yellow (star-quad)
DeviceNet			
CFBUS.030 [4]	120	(2xAWG24)C	white/blue
		2xAWG22	red, black
CFBUS.031 [4]	120	(2xAWG18)C	white/blue
		2xAWG15	red, black
CC-Link			
CFBUS.035	110	3xAWG20	white, blue, yellow

Technical note on bus cables
chainflex® bus cables have been specially developed and tested for continuously moving use in e-chains®. Depending on the material used for the outer jacket and on the underlying construction principle, the bus cables are designed for different mechanical requirements and resistance to diverse media.
The cables have been electrically designed in such a way that, on the one hand, the electrical requirements of the respective bus specification are reliably met and, on the other, that greater value is placed on a high degree of EMC reliability.
It is also ensured that the electrical values remain stable over the long term in spite of permanent movement.
The overall quality of transmission in a complete bus communication system, however, is not solely dependent on the cable used. What is also essential is that all components (electronic parts, connecting system and cable) are precisely matched to each other and that the maximum transmission lengths, which are dependent on the respective system, are adhered to with regard to the data transmission rates needed. A cable is thus not solely responsible for the reliable transmission of signals.
igus® advises you when you are designing your bus system to take all these factors into account and, with extensive tests, helps you to ensure the process reliability of your system from the very beginning.

Guarantee igus chainflex 36
igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year

Bus cable | TPE | chainflex® CFBUS



Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
Ethernet/CAT5I				
CFBUS.040	(4x0.25)C	7.0	33	59
Ethernet/CAT5e				
CFBUS.045	(4x(2x0.15))C	8.5	42	84
Ethernet/CAT6				
CFBUS.049	(4x(2x0.15))C	8.5	42	84
Ethernet/CAT6A				
CFBUS.050 [4]	(4x(2x0.15)C)C	10.5	83	134
Ethernet/CAT7				
CFBUS.052 [4]	(4x(2x0.15)C)C	10.5	89	133
FireWire 1394a				
CFBUS.055	2x(2x0.15)C+2x(0.34)C	8.0	39	76
Profinet				
CFBUS.060 [2] [13]	(4x0.38)C	7.5	39	74
USB				
CFBUS.065	((2xAWG28)+2xAWG20)C	5.5	28	45
CFBUS.066	((2xAWG24)+2xAWG20)C	6.5	32	51
DVI				
CFBUS.070 [4] [6]	(4x(2xAWG28)C +(2xAWG28)+3xAWG28)C	9.0	35	95

The chainflex® types marked with [2] are cables designed as a star-quad.
[4] Manufactured without inner jacket
[6] without cULus
[13] Colour outer jacket: Yellow-green (RAL 6018)

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

EPLAN download, configurators ▶ www.igus-asean.com/CFBUS

Class 6.6.4.1

Basic requirements	low	1	2	3	4	5	**6**	7 highest
Travel distance	unsupported	1	2	3	4	5	**6**	≥ 400m
Oil resistance	none	1	2	3	**4**	highest		
Torsion	none	**1**	2	3	4	±360°		



Part No.	Characteristic wave impedance approx. [Ω]	Core group	Colour code
Ethernet/CAT5I			
CFBUS.040	100	4x0.25	white, green, brown, yellow (star-quad)
Ethernet/CAT5e			
CFBUS.045	100	4x(2x0.15)	white-blue/blue, white-orange/orange, white-green/green, white-brown/brown
Ethernet/CAT6			
CFBUS.049	100	4x(2x0.15)	white-blue/blue, white-orange/orange, white-green/green, white-brown/brown
Ethernet/CAT6A			
CFBUS.050 [4]	100	4x(2x0.15)C	white-blue/blue, white-orange/orange, white-green/green, white-brown/brown
Ethernet/CAT7			
CFBUS.052 [4]	100	4x(2x0.15)C	white-blue/blue, white-orange/orange, white-green/green, white-brown/brown
FireWire 1394a			
CFBUS.055	100	2x(2x0.15)C	orange/blue, green/red
		2x(0.34)C	white, black
Profinet			
CFBUS.060 [2] [13]	100	4x0.38	white, orange, blue, yellow (star-quad)
USB			
CFBUS.065	90	(2xAWG28)	white/green
		2xAWG20	red, black
CFBUS.066	90	(2xAWG24)	white/green
		2xAWG20	red, black
DVI			
CFBUS.070 [4] [6]	100	4x(2xAWG28)C	4 x white/yellow with element-shield in blue, black, red, white
		(2xAWG28)	white/brown
		3xAWG28)C	green, yellow, grey

Technical note on bus cables
chainflex® bus cables have been specially developed and tested for continuously moving use in e-chains®. Depending on the material used for the outer jacket and on the underlying construction principle, the bus cables are designed for different mechanical requirements and resistance to diverse media.
The cables have been electrically designed in such a way that, on the one hand, the electrical requirements of the respective bus specification are reliably met and, on the other, that greater value is placed on a high degree of EMC reliability.
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igus® advises you when you are designing your bus system to take all these factors into account and, with extensive tests, helps you to ensure the process reliability of your system from the very beginning.

Bus cable | TPE | chainflex® CFBUS.LB

12.5 million
Double strokes guaranteed

7.5 x d
Bend radius, e-chain®

400m
Travel distance, e-chain®

- For heaviest duty applications
- TPE outer jacket
- Shielded
- Oil and bio-oil-resistant
- Low-temperature-flexible
- PVC and halogen-free
- Hydrolysis and microbe-resistant

Now available with UL approval & 25% longer service life



Example image

Dynamic information

Bend radius	**e-chain® linear**	minimum 7.5 x d
	flexible	minimum 6 x d
	fixed	minimum 4 x d
Temperature	**e-chain® linear**	-35°C up to +70°C
	flexible	-50°C up to +70°C (following DIN EN 60811-504)
	fixed	-55°C up to +70°C (following DIN EN 50305)
v max.	**unsupported**	10m/s
	gliding	6m/s
a max.		100m/s²
Travel distance		Unsupported travels and up to 400m and more for gliding applications, Class 6

Cable structure

Conductor	Stranded conductor in especially bending-resistant version consisting of bare copper wires (following DIN EN 60228).
Core insulation	According to bus specification.
Core structure	According to bus specification.
Core identification	According to bus specification. ▶ Product range table
Inner jacket	TPE mixture adapted to suit the requirements in e-chains®.
Overall shield	Extremely bending-resistant braiding made of tinned copper wires. Coverage linear approx. 70%, optical approx. 90%
Outer jacket	Low-adhesion, extremely abrasion-resistant and highly flexible TPE mixture, adapted to suit the requirements in e-chains®. Colour: Red lilac (similar to RAL 4001) Variants ▶ Product range table

Electrical information

Nominal voltage	50V 600V (following UL)
Testing voltage	500V (following DIN EN 50289-1-3)

EPLAN download, configurators ▶ www.igus-asean.com/CFBUSLB

Class 7.6.4.1

Basic requirements	low	1	2	3	4	5	6	**7**	highest
Travel distance	unsupported	1	2	3	4	5	**6**		≥ 400m
Oil resistance	none	1	2	3	**4**				highest
Torsion	none	**1**	2	3	4				±360°

Properties and approvals

UV resistance	Medium
Oil resistance	Oil-resistant (following DIN EN 60811-404), bio-oil-resistant (following VDMA 24568 with Plantocut 8 S-MB tested by DEA), Class 4
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
Halogen-free	Following DIN EN 60754
UL verified	Certificate No. B129699: "igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL AWM	See data sheet for details ▶ www.igus-asean.com/CFBUSLB (from production date 01/2022)
CLPA	**CFBUS.LB.045:** CC-Link IE Field, Reference no. 131 **CFBUS.LB.049:** CC-Link IE Field, Reference no. 138
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 1. The outer jacket material of this series complies with CF9.15.07 - tested by IPA according to standard DIN EN ISO 14644-1
DESINA	According to VDW, DESINA standardisation
CE	Following 2014/35/EU
UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Guaranteed service life (details see page 28-29)

Double strokes*	5 million		7.5 million		12.5 million	
Temperature, from/to [°C]	CFBUS.LB .001-.022	CFBUS.LB .040-.060	CFBUS.LB .001-.022	CFBUS.LB .040-.060	CFBUS.LB .001-.022	CFBUS.LB .040-.060
	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-35/-25	12.5	10	13.5	11	14.5	12
-25/+60	10	7.5	11	8.5	12	9.5
+60/+70	12.5	10	13.5	11	14.5	12

* Higher number of double strokes? Service life calculation online ▶ www.igus-asean.com/chainflexlife

Typical application areas

- For heavy-duty applications, Class 7
- Unsupported travels and up to 400m and more for gliding applications, Class 6
- Almost unlimited resistance to oil, also with bio-oils, Class 4
- No torsion, Class 1
- Indoor and outdoor applications without direct sun radiation
- Storage and retrieval units for high-bay warehouses, machining units/machine tools, quick handling, cleanroom, semiconductor insertion, indoor cranes, low temperature applications

Bus cable | TPE | chainflex® CFBUS.LB



Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
Profibus (1x2x0.64mm)				
CFBUS.LB.001	(2x0.25)C	9.0	33	78
CAN-Bus/Feldbus				
CFBUS.LB.020 [2]	(4x0.25)C	6.5	28	49
CFBUS.LB.021	(2x0.5)C	8.0	39	67
CFBUS.LB.022 [2]	(4x0.5)C	8.0	43	78
Ethernet/CAT5I				
CFBUS.LB.040 [2]	(4x0.25)C	7.0	33	50
Ethernet/CAT5e				
CFBUS.LB.045	(4x(2x0.15))C	8.5	42	71
Ethernet/CAT6				
CFBUS.LB.049	(4x(2x0.15))C	8.5	42	71
Profinet				
CFBUS.LB.060 [2] [13]	(4x0.38)C	7.5	39	67

The chainflex® types marked with [2] are cables designed as a star-quad.
[13] Colour outer jacket: Yellow-green (RAL 6018)

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core



ables available in the chainflex® CASE

imple savings on delivery, storage space and re-ordering with e chainflex® CASE - ship'n store by igus®.

ore on this on page 24/25 and online: www.igus-asean.com/cf-case

Technical note on bus cables
chainflex® bus cables have been specially developed and tested for continuously moving use in e-chains®. Depending on the material used for the outer jacket and on the underlying construction principle, the bus cables are designed for different mechanical requirements and resistance to diverse media.
The cables have been electrically designed in such a way that, on the one hand, the electrical requirements of the respective bus specification are reliably met and, on the other, that greater value is placed on a high degree of EMC reliability.
It is also ensured that the electrical values remain stable over the long term in spite of permanent movement.
The overall quality of transmission in a complete bus communication system, however, is not solely dependent on the cable used. What is also essential is that all components (electronic parts, connecting system and cable) are precisely matched to each other and that the maximum transmission lengths, which are dependent on the respective system, are adhered to with regard to the data transmission rates needed. A cable is thus not solely responsible for the reliable transmission of signals.
igus® advises you when you are designing your bus system to take all these factors into account and, with extensive tests, helps you to ensure the process reliability of your system from the very beginning.

Class 7.6.4.1

Basic requirements	low	1	2	3	4	5	6	**7** highest
Travel distance	unsupported	1	2	3	4	5	**6**	≥ 400m
Oil resistance	none	1	2	3	**4** highest			
Torsion	none	**1**	2	3	4	±360°		



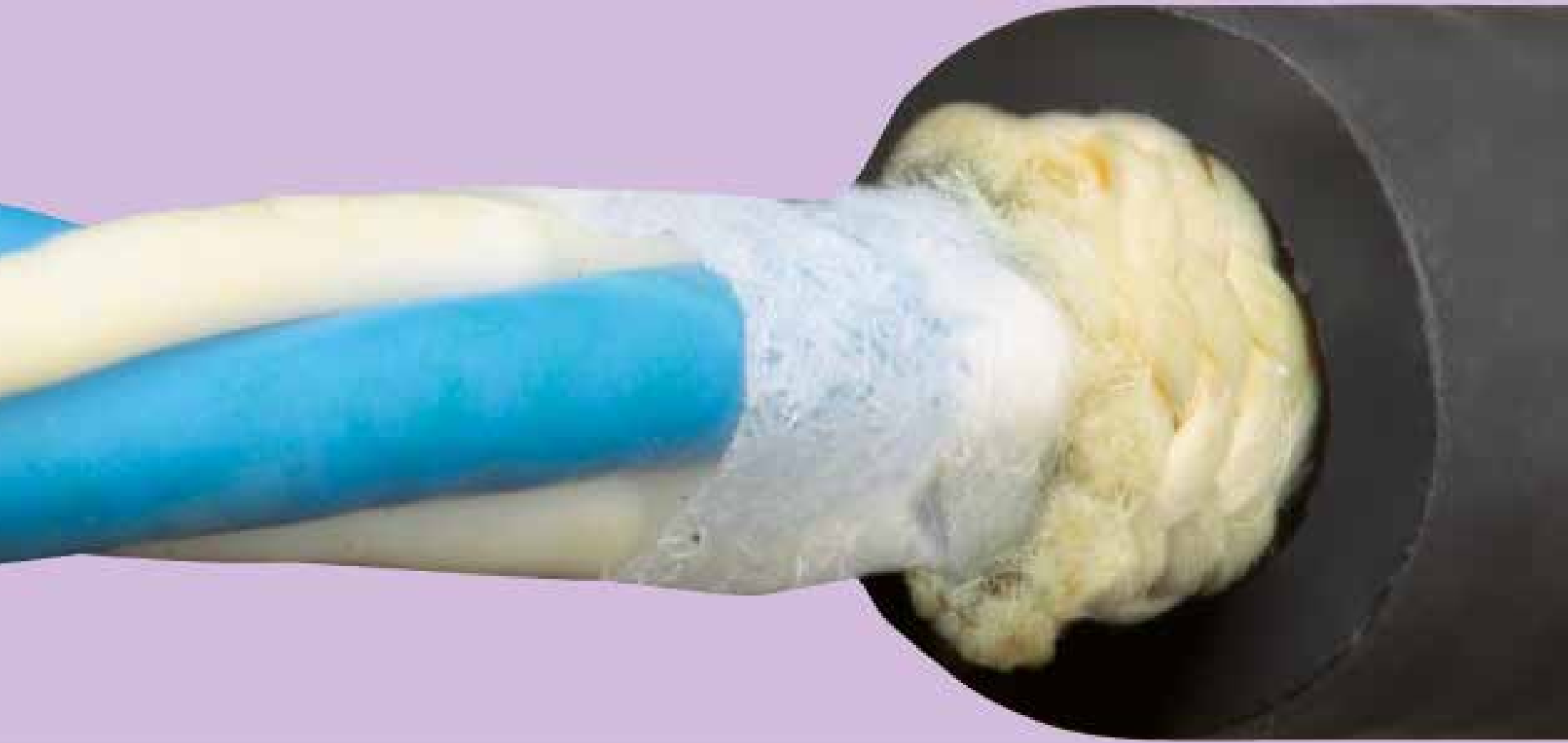
Part No.	Characteristic wave impedance approx. [Ω]	Core group	Colour code
Profibus (1x2x0.64mm)			
CFBUS.LB.001	150	2x0.25	red, green
CAN-Bus/Feldbus			
CFBUS.LB.020 [2]	120	4x0.25	white, green, brown, yellow (star-quad)
CFBUS.LB.021	120	2x0.5	white, brown
CFBUS.LB.022 [2]	120	4x0.5	white, green, brown, yellow (star-quad)
Ethernet/CAT5I			
CFBUS.LB.040 [2]	100	4x0.25	white, green, brown, yellow (star-quad)
Ethernet/CAT5e			
CFBUS.LB.045	100	4x(2x0.15)	white-blue/blue, white-orange/orange, white-green/green, white-brown/brown
Ethernet/CAT6			
CFBUS.LB.049	100	4x(2x0.15)	white-blue/blue, white-orange/orange, white-green/green, white-brown/brown
Profinet			
CFBUS.LB.060 [2] [13]	100	4x0.38	white, orange, blue, yellow (star-quad)



Reduce cost, improve technology, now!
Do the chainflex® price check ...
www.igus-asean.com/cf-price-check

… for example: reduce cost with CFBUS.PUR ...

Fibre Optic Cables



chainflex® cable	Jacket	Bend radius e-chain® [factor x d]	Temperature e-chain® from/to [°C]	Approvals and standards	Oil-resistant	Torsion-resistant	v max. [m/s] unsupported	v max. [m/s] gliding	a max.	Page
Fibre Optic Cables										
Information about fibre optic cables										216
CFLK	PUR	12.5	-20/+60		✓		10	5	20	220
CFLG88	PVC	7.5	+5/+70				3	2	20	222
CFLG.LB.PUR	PUR	5	-25/+80		✓		10	6	20	224
CFLG.LB	TPE	5	-35/+80		✓		10	6	20	228
CFLG.G	TPE	10	-40/+80		✓		10	6	20	232
Twistable fibre optic cable (twistable cables chapter ► Page 378)										
CFROBOT5	TPE	10	-20/+80		✓		180	180		396

Overview to find the right fibre optic cable

	POF Plastic FOC 980/1,000µm	PCF Glass fibre FOC 200/230µm	GOF Multimode Glass fibre FOC 50/125µm 62.5/125µm	GOF Singlemode Glass fibre FOC 9/125µm
CFLK	✓			
CFLG88			✓	
CFLG.LB.PUR			✓	✓
CFLG.LB		✓	✓	
CFLG.G			✓	✓
CFROBOT5			✓	

36-month chainflex® guarantee

Guaranteed service life for predictable reliability

► Selection table page 218

With the help of the chainflex® service life calculator, you can quickly and easily calculate the expected service life of chainflex® cables specifically for your application:

www.igus-asean.com/chainflexlife



igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year

The safest and often most cost-efficient way to transfer data to machines and plant.

Communication between systems in machines and plant is becoming more and more complex all the time, yet fault-free performance is becoming ever more important.

However, many plant manufacturers or operators have major EMC problems that occur sporadically or even after years of operation.

These problems are often based on conventional bus cables that either have insufficient or unreliable shielding.

Alongside igus® chainflex® bus cables that already prevent these problems to a large extent, chainflex® fibre optic cables provide further advantages for even greater data safety.

Fibre Optic Cables (FOC) do not require a braided shielding that is susceptible to mechanical damage as EMC protection, and are insensitive to EMC on account of their very nature, since industrial conventional interference fields do not have any effect on light signals. In addition, fibre optic cables can be used independently of the system, since a special bus cable is not required for every bus system type, rather one FOC type can usually be used to operate any bus system providing the bus system manufacturer provides respective FOC converters.

The large number of fibre optic cables in industrial data transmission is also much more manageable than the large number of different field or high-speed buses which require a separate cable for each bus.

Thus the following fibre types can be used for industrial data communication, completely independently of the type of field bus used. The fibre type and number depends only on which converters are used and which fibre type the respective manufacturer prescribes. The fibres are defined on the basis of diameter and result in a clear and limited choice.

Important fibre types:

- **Multi-mode fibres**
  50/125µm
  62.5/125µm
  The ideal fibre for large data volumes and longer transmission lengths in the field of automation. Transmission lengths of several hundred metres can be realised quite easily, due to the very low output attenuation (0.8-3db/km per fibre and light wave length) of these fibre types.

- **POF (plastic fibres)**
  980/1,000µm
  The ideal and low-cost fibre for short transmission paths. On account of the high output attenuation of the fibre type of 160-230dB/km, lengths over 15m must be avoided in constantly moving energy chains.

- **PCF (Polymer Cladded Fiber)**
  200/230µm
  The ideal compromise for POF fibre. This plastic coated quartz glass fibre is a viable alternative for many terminal devices that have been designed for POF.
  This means greater transmission lengths (100m and more) are possible without the original POF terminal devices having to be replaced.

chainflex® FOC offer the operator the following advantages:

1. Greater data security

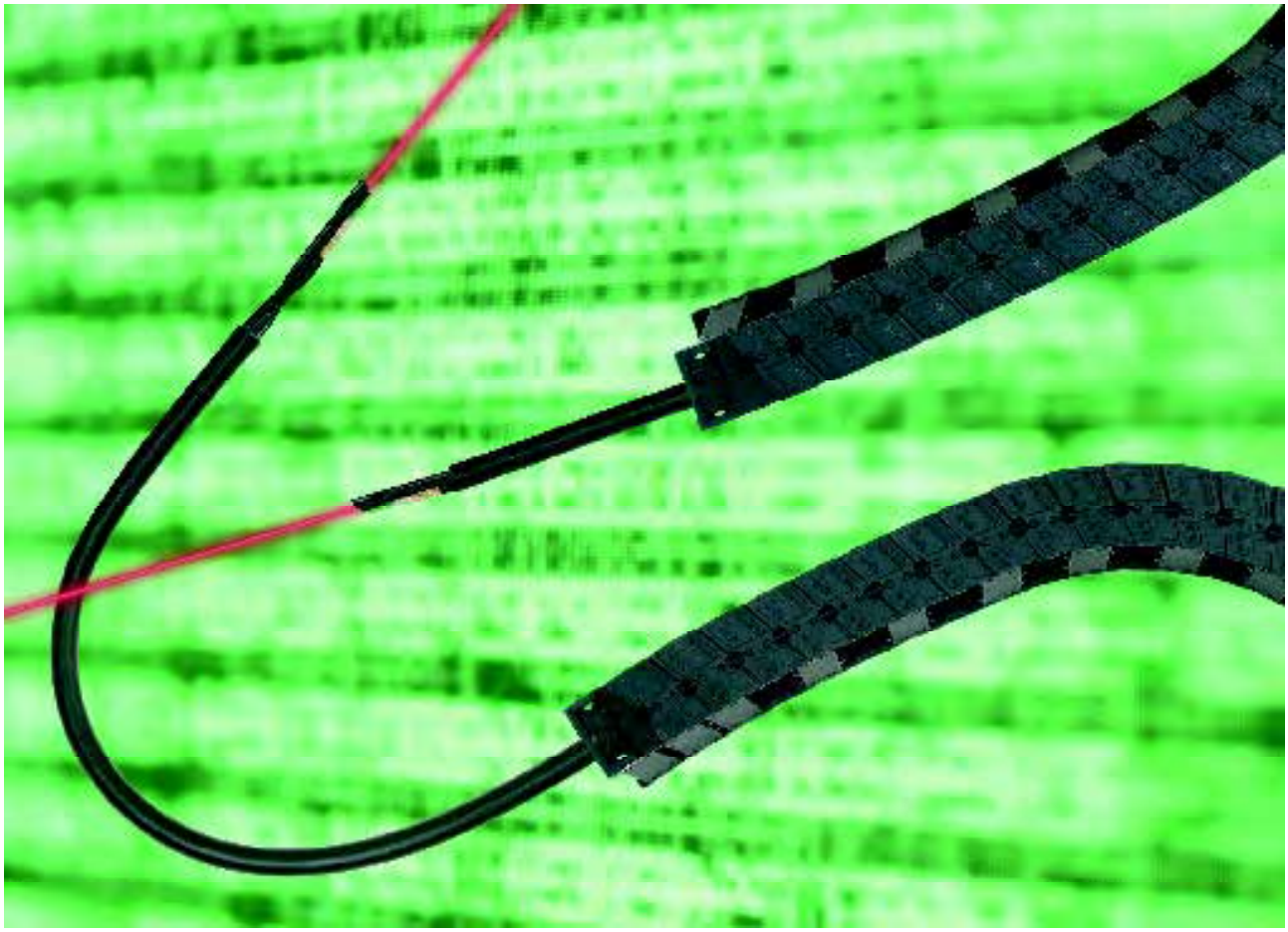
- Better transmission characteristics
- Greater possible transmission lengths of several 100m
- Greater possible data volumes thanks to lower attenuation values
- Maximum EMC protection for the data transmitted
- Future-proof installation (no cable replacement with new bus systems)

2. Greater mechanical protection

- The FOC designed for permanent mechanical movement
- The igus® typical highly abrasion-proof and chemical-resistant sheathing materials
- The special chainflex® design concept (tested for 30 million cycles without a significant increase in attenuation)

3. Future-oriented cost reduction

- Bus-independent bus cable wiring
- Longer service life in e-chains®
- Extendable without transmission limits







chainflex® guarantee

	chainflex® cables	Temperature, from/to [°C]	v max. [m/s] unsupported	v max. [m/s] gliding	a max. [m/s²]	Travel distance [m]
Fibre Optic Cables						
	CFLK	-20 / -10 -10/+50 +50/+60	10	5	20	≤ 20
	CFLG88	+5 / +15 +15 / +60 +60 / +70	3	-	20	≤ 10
	CFLG.LB.PUR	-35 / -25 -25 / +70 +70 / +80	10	6	20	≤ 100
	CFLG.LB	-35 / -25 -25 / +70 +70 / +80	10	6	20	≤ 100
	CFLG.G	-40 / -30 -30 / +60 +60 / +70	10	6	20	> 400

(1) Guaranteed service life for these series (details ▶ see page 28-29)

Guaranteed service life (1)

Minimum bend radius [factor x d]	Minimum bend radius [factor x d]	Minimum bend radius [factor x d]	Page
5 million (1 million) double strokes *	7.5 million (3 million) double strokes *	10 million (5 million) double strokes *	
15	16	17	
12.5	13.5	14.5	220
15	16	17	
10	11	12	
7.5	8.5	9.5	222
10	11	12	
7.5	8.5	9.5	
5	6	7	224
7.5	8.5	9.5	
7.5	8.5	9.5	
5	6	7	228
7.5	8.5	9.5	
12.5	13.5	14.5	
10	11	12	232
12.5	13.5	14.5	

* Higher number of double strokes? Calculate service life online: ▶ www.igus-asean.com/chainflexlife
Figures in brackets refer to series CFLG88



igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year

Fibre Optic Cable | PUR | chainflex® CFLK

10 million
Double strokes guaranteed

12.5 x d
Bend radius, e-chain®

20m
Travel distance, e-chain®

- POF fibre for heavy duty applications and interference-free transmission
- PUR outer jacket
- Oil-resistant and coolant-resistant



Example image

Dynamic information

Bend radius	**e-chain® linear**	minimum 12.5 x d
	flexible	minimum 10 x d
	fixed	minimum 7 x d
Temperature	**e-chain® linear**	-20°C up to +60°C
	flexible	-40°C up to +60°C (following DIN EN 60811-504)
	fixed	-50°C up to +60°C (following DIN EN 50305)
v max.	**unsupported**	10m/s
	gliding	5m/s
a max.		20m/s²
Travel distance		Unsupported travels and up to 20m for gliding applications, Class 3

Cable structure

Fibre Optic Cable	980/1000 µm fibre with PE isolation.
Core structure	POF fibre with stranded high-tensile plastic reinforcement.
Core identification	▶ Product range table
Outer jacket	Low-adhesion, halogen-free PUR mixture, adapted to suit the requirements in e-chains® (following DIN EN 50363-10-2). Colour: Red lilac (similar to RAL 4001)

Properties and approvals

UV resistance	Medium
Oil resistance	Oil-resistant (following DIN EN 50363-10-2), Class 3
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
Halogen-free	Following DIN EN 60754
UL verified	Certificate No. B129699: "igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
CE	Following 2014/35/EU
UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

EPLAN download, configurators ▶ www.igus-asean.com/CFLK

Class 5.3.3.1

Basic requirements	low	1 2 3 4 5 6 7 highest
Travel distance	unsupported	1 2 3 4 5 6 ≥ 400m
Oil resistance	none	1 2 3 4 highest
Torsion	none	1 2 3 4 ±360°

Guaranteed service life (details see page 28-29)

Double strokes*	5 million	7.5 million	10 million
Temperature, from/to [°C]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-20/-10	15	16	17
-10/+50	12.5	13.5	14.5
+50/+60	15	16	17

* Higher number of double strokes? Service life calculation online ▶ www.igus-asean.com/chainflexlife

Typical application areas

- For heavy-duty applications, Class 5
- Unsupported travels and up to 20m for gliding applications, Class 3
- Almost unlimited resistance to oil, Class 3
- No torsion, Class 1
- Highest EMC safety
- Preferably indoor applications
- Wood/stone processing, packaging industry, feeding, handling, adjusting devices

Part No.	Number of fibres/ Fibre diameter	Outer diameter (d) max. [mm]	Weight [kg/km]
CFLK.L1.01	1x980/1,000	6.0	27
CFLK.L1.02	2x980/1,000	7.0	31

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.

Part No.	Bandwidth [MHz x km] @ 650nm	Attenuation [dB/km] @ 650nm	Fibre identification
CFLK.L1.01	2	200	black
CFLK.L1.02	2	200	black, blue



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ore on this on page 24/25 and online: www.igus-asean.com/cf-case



Woodworking machines with e-chains® and chainflex® cables

Guarantee igus chainflex 36

igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year

Fibre Optic Cable | PVC | chainflex® CFLG88

5,000,000
Double strokes guaranteed

7.5 x d
Bend radius, e-chain®

10m
Travel distance, e-chain®

- Graded index glass-fibre cable for flexing applications
- PVC outer jacket
- Flame-retardant



Example image

Dynamic information

Bend radius	**e-chain® linear**	minimum 7.5 x d
	flexible	minimum 6 x d
	fixed	minimum 4 x d
Temperature	**e-chain® linear**	+5°C up to +70°C
	flexible	-5°C up to +70°C (following DIN EN 60811-504)
	fixed	-15°C up to +70°C (following DIN EN 50305)
v max.	**unsupported**	3m/s
a max.		20m/s²
Travel distance		Unsupported travels up to 10m, Class 1

Cable structure

Fibre Optic Cable	50/125µm, 62.5/125µm bending-resistant solid glass fibre optic cores, with aramid strain relief elements.
Core structure	FOC cores wound with a short pitch length with high-tensile aramid dampers.
Core identification	FOC cores: Orange or blue with black numbers.
Outer jacket	Low-adhesion PVC mixture, adapted to suit the requirements in e-chains®. Colour: jet black (similar to RAL 9005)

Properties and approvals

Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
UL verified	Certificate No. B129699: "igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 1. The outer jacket material of this series complies with CF240.02.24 - tested by IPA according to standard DIN EN ISO 14644-1
CE	Following 2014/35/EU
UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

EPLAN download, configurators ▶ www.igus-asean.com/CFLG88

Class 3.1.1.1

Basic requirements	low	1 2 3 4 5 6 7 highest
Travel distance	unsupported	1 2 3 4 5 6 ≥ 400m
Oil resistance	none	1 2 3 4 highest
Torsion	none	1 2 3 4 ±360°

Guaranteed service life (details see page 28-29)

Double strokes*	1 million	3 million	5 million
Temperature, from/to [°C]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
+5/+15	10	11	12
+15/+60	7.5	8.5	9.5
+60/+70	10	11	12

* Higher number of double strokes? Service life calculation online ▶ www.igus-asean.com/chainflexlife

Typical application areas

- For flexing applications, Class 3
- Especially for unsupported travels, Class 1
- Without influence of oil, Class 1
- No torsion, Class 1
- Highest EMC safety
- Preferably indoor applications
- Wood/stone processing, packaging industry, feeding, handling, adjusting devices

Part No.	Number of fibres/ Fibre diameter	Outer diameter (d) max. [mm]	Weight [kg/km]
CFLG88.2.62.5/125 [11)]	2x62.5/125	7.0	44
CFLG88.2.50/125	2x50/125	7.0	44

[11)] Phase-out model
Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.

Part No.	Bandwidth [MHz x km] @ 850nm	Attenuation [dB/km] @ 850nm	Bandwidth [MHz x km] @ 1,300nm	Attenuation [dB/km] @ 1,300nm	Fibre identification
CFLG88.2.62.5/125	≥ 200	≤ 3.5	≥ 500	≤ 1.5	orange with black numbers
CFLG88.2.50/125	≥ 200	≤ 3.0	≥ 500	≤ 1.0	blue with black numbers



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ore on this on page 24/25 and online: www.igus-asean.com/cf-case

Fibre Optic Cable | PUR | chainflex® CFLG.LB.PUR

10 million
Double strokes guaranteed

5 x d
Bend radius, e-chain®

100m
Travel distance, e-chain®

- Graded index glass-fibre cable for heaviest duty applications
- PUR outer jacket
- Metal-free
- Oil-resistant
- Low-temperature-flexible
- PVC and halogen-free
- UV-resistant

Dynamic information

Bend radius	**e-chain® linear**	minimum 5 x d
	flexible	minimum 4 x d
	fixed	minimum 3 x d
Temperature	**e-chain® linear**	-25°C up to +80°C
	flexible	-40°C up to +80°C (following DIN EN 60811-504)
	fixed	-50°C up to +80°C (following DIN EN 50305)
v max.	**unsupported**	10m/s
	gliding	6m/s
a max.	20m/s²	
Travel distance	Unsupported travels and up to 100m for gliding applications, Class 5	

Cable structure

Fibre Optic Cable	50/125 µm, 62.5/125 µm, 9/125 µm especially bending-resistant solid glass fibre optic cores, with aramid strain relief elements.
Core structure	FOC cores wound with a short pitch length with high-tensile aramid dampers.
Core identification	Orange, blue or yellow with black numbers.
Overall shield	Extremely bending-resistant aramid braid for torsion protection.
Outer jacket	Low-adhesion, halogen-free, highly abrasion resistant PUR mixture, adapted to suit the requirements in e-chains® (following DIN EN 50363-10-2) Colour: jet black (similar to RAL 9005)



Example image

EPLAN download, configurators ▶ www.igus-asean.com/CFLGLBPUR

Class 6.5.3.1

Basic requirements	low	1	2	3	4	5	6	7	highest
Travel distance	unsupported	1	2	3	4	5	6		≥ 400m
Oil resistance	none	1	2	3	4				highest
Torsion	none	1	2	3	4				±360°

Properties and approvals

UV resistance	High
Oil resistance	Oil-resistant (following DIN EN 50363-10-2), Class 3
Offshore	MUD-resistant following NEK 606 - status 2016
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
Halogen-free	Following DIN EN 60754
UL verified	Certificate No. B129699: "igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
DNV	Type Approval Certificate TAE000048J
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 1. The outer jacket material of this series complies with CF77.UL.05.12.D - tested by IPA according to standard DIN EN ISO 14644-1
CE	Following 2014/35/EU
UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Guaranteed service life (details see page 28-29)

Double strokes*	5 million	7.5 million	10 million
Temperature, from/to [°C]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-25/-15	7.5	8.5	9.5
-15/+70	5	6	7
+70/+80	7.5	8.5	9.5

* Higher number of double strokes? Service life calculation online ▶ www.igus-asean.com/chainflexlife

Typical application areas

- For heaviest duty applications with 5-7.5 x d, Class 6
- Unsupported travels and up to 100 m for gliding applications (horizontal + vertical), Class 5
- Almost unlimited resistance to oil, Class 3
- No torsion, Class 1
- Maximum EMC protection, with high transmission qualities
- Indoor and outdoor applications
- Offshore, ships, storage and retrieval units, processing/packaging machines, fast handling, semiconductor assembly, refrigeration area

Fibre Optic Cable | PUR | chainflex® CFLG.LB.PUR



Example image

Part No.	Number of fibres/ Fibre diameter	Outer diameter (d) max. [mm]	Weight [kg/km]
CFLG.2LB.PUR.62.5/125	2x62.5/125	8.5	62
CFLG.4LB.PUR.62.5/125	4x62.5/125	9.0	68
CFLG.6LB.PUR.62.5/125 [11)]	6x62.5/125	11.0	96
CFLG.12LB.PUR.62.5/125	12x62.5/125	14.0	150
CFLG.6LB.PUR.50/125	6x50/125	11.0	95
CFLG.12LB.PUR.50/125	12x50/125	14.0	160
CFLG.6LB.PUR.9/125	6x9/125	11.0	95

[11)] Phase-out model
Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.

Part No.	Bandwidth [MHz x km] @ 850nm	Attenuation [dB/km] @ 850nm	Bandwidth [MHz x km] @ 1,300nm	Attenuation [dB/km] @ 1,300nm	Fibre identification
CFLG.2LB.PUR.62.5/125	≥ 200	≤ 3.5	≥ 500	≤ 1.5	orange with black numbers
CFLG.4LB.PUR.62.5/125	≥ 200	≤ 3.5	≥ 500	≤ 1.5	orange with black numbers
CFLG.6LB.PUR.62.5/125	≥ 200	≤ 3.5	≥ 500	≤ 1.5	orange with black numbers
CFLG.12LB.PUR.62.5/125	≥ 200	≤ 3.0	≥ 500	≤ 0.7	orange with black numbers
CFLG.6LB.PUR.50/125	≥ 500	≤ 3.0	≥ 500	≤ 1.0	blue with black numbers
CFLG.12LB.PUR.50/125	≥ 200	≤ 3.0	≥ 500	≤ 1.0	blue with black numbers

Part No.	Attenuation [dB/km] @ 1,310nm	Chromatic dispersion [ps/nm/km] @ 1,310nm	Attenuation [dB/km] @ 1,550nm	Chromatic dispersion [ps/nm/km] @ 1,550nm	Fibre identification
CFLG.6LB.PUR.9/125	≤ 0.35	3.5	≤ 0.25	18	yellow with black numbers

EPLAN download, configurators ▶ www.igus-asean.com/CFLGLBPUR

Class 6.5.3.1

Basic requirements	low	1	2	3	4	5	6	7	highest
Travel distance	unsupported	1	2	3	4	5	6		≥ 400m
Oil resistance	none	1	2	3	4				highest
Torsion	none	1	2	3	4				±360°



Order example: CFLG.4LB.PUR.62.5/125 **- to your desired length (0.5m steps)**
CFLG.LB.PUR **chainflex® series** .4 **Number of fibres** .62.5/125 **Fibre diameter**

Order online ▶ www.igus-asean.com/CFLGLBPUR

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ore on this on page 24/25 and online: www.igus-asean.com/cf-case

Guarantee igus chainflex 36

igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year

Fibre Optic Cable | TPE | chainflex® CFLG.LB

10 million
Double strokes guaranteed

5 x d
Bend radius, e-chain®

100m
Travel distance, e-chain®

- Graded index glass-fibre cable for heaviest duty applications
- TPE outer jacket
- Metal-free
- Oil and bio-oil-resistant
- Low-temperature-flexible
- PVC and halogen-free
- UV-resistant

Dynamic information

Bend radius	**e-chain® linear**	minimum 5 x d
	flexible	minimum 4 x d
	fixed	minimum 3 x d
Temperature	**e-chain® linear**	-35°C up to +80°C
	flexible	-50°C up to +80°C (following DIN EN 60811-504)
	fixed	-55°C up to +80°C (following DIN EN 50305)
v max.	**unsupported**	10m/s
	gliding	6m/s
a max.	20m/s²	
Travel distance	Unsupported travels and up to 100m for gliding applications, Class 5 **CFLG.12.LB:**Unsupported travels and up to 400m for gliding applications, Class 6	

Cable structure

Fibre Optic Cable	50/125µm, 62.5/125µm bending-resistant solid glass fibre optic cores, with aramid strain relief elements.
Core structure	FOC cores wound with a short pitch length with high-tensile aramid dampers.
Core identification	Orange or blue with black numbers.
Overall shield	Extremely bending-resistant aramid braid for torsion protection.
Outer jacket	Low-adhesion, extremely abrasion-resistant and highly flexible TPE mixture, adapted to suit the requirements in e-chains®. Colour: jet black (similar to RAL 9005)



Example image

EPLAN download, configurators ▶ www.igus-asean.com/CFLGLB

Class 7.5.4.1

Basic requirements	low	1	2	3	4	5	6	7	highest
Travel distance	unsupported	1	2	3	4	5	6		≥ 400m
Oil resistance	none	1	2	3	4				highest
Torsion	none	1	2	3	4				±360°

Properties and approvals

UV resistance	High
Oil resistance	Oil-resistant (following DIN EN 60811-404), bio-oil-resistant (following VDMA 24568 with Plantocut 8 S-MB tested by DEA), Class 4
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
Halogen-free	Following DIN EN 60754
UL verified	Certificate No. B129699: "igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 1. The outer jacket material of this series complies with CF9.15.07 - tested by IPA according to standard DIN EN ISO 14644-1
CE	Following 2014/35/EU
UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Guaranteed service life (details see page 28-29)

Double strokes*	5 million	7.5 million	10 million
Temperature, from/to [°C]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-35/-25	7.5	8.5	9.5
-25/+70	5	6	7
+70/+80	7.5	8.5	9.5

* Higher number of double strokes? Service life calculation online ▶ www.igus-asean.com/chainflexlife

Typical application areas

- For heaviest duty applications with 5-7.5 x d, Class 7
- Unsupported travels and up to 100m for gliding applications (horizontal + vertical), Class 5, **CFLG.12.LB:** Unsupported travels and up to 400m in gliding applications (horizontal + vertical), Class 6
- Almost unlimited resistance to oil, also with bio-oils, Class 4
- No torsion, Class 1
- Maximum EMC protection, with high transmission qualities
- Indoor and outdoor applications
- Crane applications, conveyor technology, storage and retrieval units, processing/ packaging machines, fast handling, semiconductor assembly, refrigeration area

Fibre Optic Cable | TPE | chainflex® CFLG.LB



Example image

Part No.	Number of fibres/ Fibre diameter	Outer diameter (d) max. [mm]	Weight [kg/km]
CFLG.2LB.62.5/125	2x62.5/125	8.5	57
CFLG.4LB.62.5/125	4x62.5/125	9.0	68
CFLG.6LB.62.5/125	6x62.5/125	11.0	91
CFLG.12LB.62.5/125	12x62.5/125	14.0	150
CFLG.2LB.50/125	2x50/125	8.5	54
CFLG.4LB.50/125	4x50/125	9.0	64
CFLG.6LB.50/125	6x50/125	11.0	86
CFLG.12LB.50/125	12x50/125	14.0	150

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.

Part No.	Bandwidth [MHz x km] @ 850nm	Attenuation [dB/km] @ 850nm	Bandwidth [MHz x km] @ 1,300nm	Attenuation [dB/km] @ 1,300nm	Fibre identification
CFLG.2LB.62.5/125	≥ 200	≤ 3.5	≥ 500	≤ 1.5	orange with black numbers
CFLG.4LB.62.5/125	≥ 200	≤ 3.5	≥ 500	≤ 1.5	orange with black numbers
CFLG.6LB.62.5/125	≥ 200	≤ 3.5	≥ 500	≤ 1.5	orange with black numbers
CFLG.12LB.62.5/125	≥ 200	≤ 3.0	≥ 500	≤ 0.7	orange with black numbers
CFLG.2LB.50/125	≥ 500	≤ 3.0	≥ 500	≤ 1.0	blue with black numbers
CFLG.4LB.50/125	≥ 500	≤ 3.0	≥ 500	≤ 1.0	blue with black numbers
CFLG.6LB.50/125	≥ 500	≤ 3.0	≥ 500	≤ 1.0	blue with black numbers
CFLG.12LB.50/125	≥ 500	≤ 3.0	≥ 500	≤ 1.0	blue with black numbers



Cables available in the chainflex® CASE

Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.

More on this on page 24/25 and online: www.igus-asean.com/cf-case

EPLAN download, configurators ▶ www.igus-asean.com/CFLGLB

Class 7.5.4.1

Basic requirements	low	1	2	3	4	5	6	7	highest
Travel distance	unsupported	1	2	3	4	5	6		≥ 400m
Oil resistance	none	1	2	3	4				highest
Torsion	none	1	2	3	4				±360°



Order example: CFLG.4LB.62.5/125 - to your desired length (0.5m steps)
CFLG.LB **chainflex® series** .4 **Number of fibres** .62.5/125 **Fibre diameter**

Order online ▶ www.igus-asean.com/CFLGLB

Delivery time 24hrs or today.
Delivery time means time until goods are shipped.



chainflex® fibre optic cable on an STS crane

Guarantee igus chainflex 36

igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year

Fibre Optic Cable | TPE | chainflex® CFLG.G

10 million
Double strokes guaranteed

10 x d
Bend radius, e-chain®

400m
Travel distance, e-chain®

- Glass-fibre cable for heaviest duty applications
- TPE outer jacket
- Oil and bio-oil-resistant
- PVC and halogen-free
- Low-temperature-flexible
- Hydrolysis and microbe-resistant

Dynamic information

Bend radius	**e-chain® linear**	minimum 10 x d
	flexible	minimum 8 x d
	fixed	minimum 5 x d
Temperature	**e-chain® linear**	-40°C up to +80°C
	flexible	-50°C up to +80°C (following DIN EN 60811-504)
	fixed	-55°C up to +80°C (following DIN EN 50305)
v max.	**unsupported**	10m/s
	gliding	6m/s
a max.		20m/s²
Travel distance		Unsupported travels and up to 400m and more for gliding applications, Class 6

Cable structure

Fibre Optic Cable	9/125 µm, 50/125 µm, 62.5/125 µm fibres in gel-filled tubes.
Core structure	Gel-filled fibre sheath surrounded by GRP rods and torsion protection braid in the outer jacket.
Core identification	Fibres ▶ Product range table
Outer jacket	Low-adhesion, extremely abrasion-resistant and highly flexible TPE mixture, adapted to suit the requirements in e-chains®. Colour: jet black (similar to RAL 9005)



Example image

EPLAN download, configurators ▶ www.igus-asean.com/CFLGG

Class 7.6.4.1

Basic requirements	low	1	2	3	4	5	6	7	highest
Travel distance	unsupported	1	2	3	4	5	6		≥ 400m
Oil resistance	none	1	2	3	4				highest
Torsion	none	1	2	3	4				±360°

Properties and approvals

UV resistance	High
Oil resistance	Oil-resistant (following DIN EN 60811-404), bio-oil-resistant (following VDMA 24568 with Plantocut 8 S-MB tested by DEA), Class 4
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
Halogen-free	Following DIN EN 60754
UL verified	Certificate No. B129699: "igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 1. The outer jacket material of this series complies with CF9.15.07 - tested by IPA according to standard DIN EN ISO 14644-1
CE	Following 2014/35/EU
UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)
Info	For hanging applications, please use cables of the series CFLG.LB - see page 228!

Guaranteed service life (details see page 28-29)

Double strokes*	5 million	7.5 million	10 million
Temperature, from/to [°C]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-40/-30	12.5	13.5	14.5
-30/+70	10	11	12
+70/+80	12.5	13.5	14.5

* Higher number of double strokes? Service life calculation online ▶ www.igus-asean.com/chainflexlife

Typical application areas

- For heavy-duty applications, Class 7
- Unsupported travels and up to 400m and more for gliding applications (horizontal), Class 6
- Almost unlimited resistance to oil, also with bio-oils, Class 4
- No torsion, Class 1
- Maximum EMC protection, with high transmission qualities
- Indoor and outdoor applications
- Crane applications, conveyor technology, low temperature applications

Fibre Optic Cable | TPE | chainflex® CFLG.G



Example image

Part No.	Number of fibres/ Fibre diameter	Outer diameter (d) max. [mm]	Weight [kg/km]
CFLG.6G.62.5/125.TC	6x62.5/125	10.0	80
CFLG.12G.62.5/125.TC	12x62.5/125	10.0	80
CFLG.6G.50/125.TC [11)]	6x50/125	10.0	60
CFLG.12G.50/125.TC	12x50/125	10.0	75
CFLG.12E.9/125.TC	12x9/125	10.0	75

[11)] Phase-out model
Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.

Part No.	Bandwidth [MHz x km] @ 850nm	Attenuation [dB/km] @ 850nm	Bandwidth [MHz x km] @ 1,300nm	Attenuation [dB/km] @ 1,300nm
CFLG.6G.62.5/125.TC	≥ 200	≤ 3.5	≥ 500	≤ 1.0
CFLG.12G.62.5/125.TC	≥ 200	≤ 3.5	≥ 500	≤ 1.0
CFLG.6G.50/125.TC	≥ 500	≤ 3.0	≥ 500	≤ 1.0
CFLG.12G.50/125.TC	≥ 500	≤ 3.0	≥ 500	≤ 1.0

Part No.	Attenuation [dB/km] @ 1,310nm	Chromatic dispersion [ps/nm/km] @ 1,310nm	Attenuation [dB/km] @ 1,550nm	Chromatic dispersion [ps/nm/km] @ 1,550nm
CFLG.12E.9/125.TC	≤ 0.35	3.5	≤ 0.25	18

Part No.	Fibre identification	Hollow core identification
CFLG.6G.62.5/125.TC	ecru, yellow, green, red, violet, blue	orange
CFLG.12G.62.5/125.TC	ecru, yellow, green, red, violet, blue, turquoise, grey, brown, black, orange, pink	orange
CFLG.6G.50/125.TC	ecru, yellow, green, red, violet, blue	blue
CFLG.12G.50/125.TC	ecru, yellow, green, red, violet, blue, turquoise, grey, brown, black, orange, pink	blue
CFLG.12E.9/125.TC	ecru, yellow, green, red, violet, blue, turquoise, grey, brown, black, orange, pink	yellow



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EPLAN download, configurators ▶ www.igus-asean.com/CFLGG

Class 7.6.4.1

Basic requirements	low	1	2	3	4	5	6	7	highest
Travel distance	unsupported	1	2	3	4	5	6		≥ 400m
Oil resistance	none	1	2	3	4				highest
Torsion	none	1	2	3	4				±360°



Order example: CFLG.6G.62.5/125.TC - to your desired length (0.5m steps)
CFLG.G **chainflex® series** .6G **Number of fibres** .62.5/125 **Fibre diameter** .TC **Special marking**

Order online ▶ www.igus-asean.com/CFLGG

Delivery time 24hrs or today.
Delivery time means time until goods are shipped.

cost down...
...life up

Reduce cost, improve technology, now!
Do the chainflex® price check ...
www.igus-asean.com/cf-price-check

... for example: Reduce bend radius with CFLG.LB ...



chainflex® fibre optic cable in a sea lock

Measuring system cables



chainflex® cable	Jacket	Shield	Bend radius e-chain® [factor x d]	Temperature e-chain® from/to [°C]	Approvals and standards	Oil-resistant	Torsion-resistant	v max. [m/s] unsupported	v max. [m/s] gliding	a max.	Page
Measuring system cables											
Selection chart for chainflex® measuring system cables											240
CF884	PVC	✓	15	+5/+70				3		20	242
CF211	PVC	✓	10	+5/+70		✓		5	3	30	246 New
CF894	iguPUR	✓	15	-20/+80		✓		3		20	252
CF111.D	PUR	✓	10	-25/+80		✓		5	3	30	256 New
CF113.D	PUR	✓	7.5	-25/+80		✓		10	5	50	262
CF11.D	TPE	✓	6.8	-35/+90		✓		10	6	100	268
Twistable measuring system cable (twistable cables chapter ► Page 378)											
CFROBOT4	PUR	✓	10	-25/+80		✓	✓				392

36-month chainflex® guarantee

Guaranteed service life for predictable reliability

► Selection table page 238

With the help of the chainflex® service life calculator, you can quickly and easily calculate the expected service life of chainflex® cables specifically for your application:

www.igus-asean.com/chainflexlife



igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year

chainflex® guarantee

	chainflex® cables		Temperature, from/to [°C]	v max. [m/s] unsupported	v max. [m/s] gliding	a max. [m/s²]	Travel distance [m]
Measuring system cables							
	CF884		+5 / +15 +15 / +60 +60 / +70	3	-	20	≤ 10
	CF211	New!	+5 / +15 +15 / +60 +60 / +70	5	3	30	≤ 10
	CF894		-20 / -10 -10 / +70 +70 / +80	3	-	20	≤ 10
	CF111.D	New!	-25 / -15 -15 / +70 +70 / +80	5	3	30	≤ 10
	CF113.D		-25 / -15 -15 / +70 +70 / +80	10	5	50	≤ 100
	CF11.D		-35 / -25 -25 / +80 +80 / +90	10	6	100	≤ 400

(1) Guaranteed service life for these series (details ▶ see page 28-29)

Guaranteed service life (1)

Minimum bend radius [factor x d]		Minimum bend radius [factor x d]		Minimum bend radius [factor x d]		Page
< 10m	≥ 10m	< 10m	≥ 10m	< 10m	≥ 10m	
5 million (1 million) double strokes *		**7.5 million (3 million) double strokes ***		**10 million (5 million) double strokes ***		
17.5		18.5		19.5		
15		16		17		242
17.5		18.5		19.5		
12.5		13.5		14.5		
10		11		12		246
12.5		13.5		14.5		
17.5		18.5		19.5		
15		16		17		252
17.5		18.5		19.5		
12.5		13.5		14.5		
10		11		12		256
12.5		13.5		14.5		
10		11		12		
7.5		8.5		9.5		262
10		11		12		
5 million		**7.5 million**		**12.5 million**		
8.5	10	9.5	11	10.5	12	
6.8	7.5	7.5	8.5	8.5	9.5	268
7.5	10	9.5	11	10.5	12	

* Higher number of double strokes? Calculate service life online: ▶ www.igus-asean.com/chainflexlife

Figures in brackets refer to series CF884 and CF894



igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year

Selection chart for chainflex® measuring system cables

Drive technology system	chainflex® series Class Jacket Page Number of cores and conductor nominal cross section[mm²]	CF884.yyy 3.1.1.1 PVC 242	CF211.yyy 4.2.2.1 PVC 246	CF894.yyy 3.1.3.1 PUR 252	CF111.yyy.D 4.2.3.1 PUR 256	CF113.yyy.D 6.5.3.1 PUR 262	CF11.yyy.D 6.6.4.1 TPE 268
Allen Bradley							
CFxxx.040.D	(3x(4x0.14)+(2x0.14+2x0.34)+2x1.5)C				✓	✓	
B&R							
CFxxx.024.D	((4x0.14)+2x(2x0.34))C		✓		✓		
CFxxx.027.D	(5x(2x0.14)+2x0.5)C		✓		✓	✓	✓
Baumüller							
CFxxx.027.D	(5x(2x0.14)+2x0.5)C		✓		✓	✓	✓
Beckhoff							
CFxxx.007.D	(4x0.34)C						✓
Berger Lahr							
CFxxx.011.D	(4x(2x0.34)+4x0.5)C	✓	✓	✓		✓	✓
Control Techniques							
CFxxx.001.D	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	✓	✓		✓	✓	✓
CFxxx.011.D	(4x(2x0.34)+4x0.5)C	✓	✓	✓		✓	✓
CFxxx.026.D	(6x(2x0.25)+(2x0.34)C+2x0.5)C				✓		
ELAU							
CFxxx.009.D	(4x(2x0.25)+2x0.5)C	✓	✓	✓		✓	✓
Fagor							
CFxxx.002.D	(3x(2x0.14)C+2x(0.5)C)C		✓		✓	✓	✓
CFxxx.004.D	(2x(2x2x0.14)+(4x0.14)C+(4x0.5))C				✓	✓	✓
CFxxx.015.D	(4x(2x0.14)+4x0.5)C	✓		✓	✓	✓	✓
FANUC							
CFxxx.021.D	((4x0.25)+3x(2x0.25+2x0.5))C				✓		✓
CFxxx.022.D	((2x0.25)+5x0.5)C	✓		✓	✓	✓	✓
CFxxx.041.D	(2x(2x0.18)+5x0.5)C		✓		✓		
CFxxx.042.D	(3x(2x0.18)+6x0.5)C		✓		✓		
Festo							
CFxxx.002.D	(3x(2x0.14)C+2x(0.5)C)C		✓		✓	✓	✓
Heidenhain							
CFxxx.002.D	(3x(2x0.14)C+2x(0.5)C)C		✓		✓	✓	✓
CFxxx.004.D	(2x(2x2x0.14)+(4x0.14)C+(4x0.5))C				✓	✓	✓
CFxxx.005.D	(4x(2x0.14)+4x0.5)C					✓	✓
CFxxx.015.D	(4x(2x0.14)+4x0.5)C	✓		✓	✓	✓	✓
CFxxx.017.D	(4x(2x0.14)+(4x0.14)C+4x1.0)C		✓			✓	✓
CFxxx.025.D	(3x(2x0.14)C+(2x0.5)C)C					✓	✓
Jetter							
CFxxx.025.D	(3x(2x0.14)C+(2x0.5)C)C					✓	✓
Lenze							
CFxxx.002.D	(3x(2x0.14)C+2x(0.5)C)C		✓		✓	✓	✓
CFxxx.010.D	(4x(2x0.25)+2x1.0)C		✓			✓	✓
CFxxx.025.D	(3x(2x0.14)C+(2x0.5)C)C					✓	✓
CFxxx.032.D	3x(2x0.14)C+(3x0.14)C		✓			✓	✓
CFxxx.033.D	4x(2x0.14)C+2x(1.0)C		✓			✓	✓
CFxxx.034.D	3x(2x0.14)C+(4x0.14)C+2x(2x0.5)C					✓	✓

ASEAN2023

Drive technology system	chainflex® series Class Jacket Page Number of cores and conductor nominal cross section[mm²]	CF884.yyy 3.1.1.1 PVC 242	CF211.yyy 4.2.2.1 PVC 246	CF894.yyy 3.1.3.1 PUR 252	CF111.yyy.D 4.2.3.1 PUR 256	CF113.yyy.D 6.5.3.1 PUR 262	CF11.yyy.D 6.6.4.1 TPE 268
LTi DRiVES							
CFxxx.004.D	(2x(2x2x0.14)+(4x0.14)C+(4x0.5))C				✓	✓	✓
CFxxx.009.D	(4x(2x0.25)+2x0.5)C	✓	✓	✓		✓	✓
CFxxx.010.D	(4x(2x0.25)+2x1.0)C		✓				✓
NUM							
CFxxx.001.D	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	✓	✓	✓			✓
Omron							
CFxxx.008.D	(3x(2x0.25))C					✓	✓
CFxxx.009.D	(4x(2x0.25)+2x0.5)C	✓	✓	✓		✓	✓
CFxxx.010.D	(4x(2x0.25)+2x1.0)C		✓			✓	✓
CFxxx.018.D	(2x(2x0.25)+2x0.5)C		✓			✓	✓
Rexroth							
CFxxx.009.D	(4x(2x0.25)+2x0.5)C	✓	✓	✓		✓	✓
CFxxx.010.D	(4x(2x0.25)+2x1.0)C		✓			✓	✓
CFxxx.017.D	(4x(2x0.14)+(4x0.14)C+4x1.0)C		✓			✓	✓
CFxxx.018.D	(2x(2x0.25)+2x0.5)C		✓			✓	✓
CFxxx.019.D	(3x(2x0.25)C+(3x0.25)+2x1.0)C		✓			✓	✓
Schneider Electric							
CFxxx.009.D	(4x(2x0.25)+2x0.5)C	✓	✓	✓		✓	✓
SEW							
CFxxx.008.D	(3x(2x0.25))C					✓	
CFxxx.036.D	(5x(2x0.25))C		✓			✓	
CFxxx.037.D	(6x(2x0.25))C		✓			✓	
Siemens							
CFxxx.001.D	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	✓	✓	✓		✓	✓
CFxxx.002.D	(3x(2x0.14)C+2x(0.5)C)C		✓		✓	✓	✓
CFxxx.006.D	(3x(2x0.14)C+2x0.5+4x0.14+4x0.23)C	✓	✓	✓		✓	✓
CFxxx.011.D	(4x(2x0.34)+4x0.5)C	✓	✓	✓		✓	✓
CFxxx.028.D	(2x(2x0.15)+(2x0.38))C	✓	✓	✓	✓	✓	✓
Stöber							
CFxxx.008.D	(3x(2x0.25))C					✓	✓
CFxxx.009.D	(4x(2x0.25)+2x0.5)C	✓	✓	✓		✓	✓
CFxxx.011.D	(4x(2x0.34)+4x0.5)C	✓	✓	✓	✓	✓	✓
CFxxx.016.D	(3x(2x0.25)C)C		✓				
CFxxx.021.D	(3x(2x0.5+2x0.25)+(4x0.25))C				✓		✓



igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year

Measuring system cable | PVC | chainflex® CF884

5,000,000
Double strokes guaranteed

15 x d
Bend radius, e-chain®

10m
Travel distance, e-chain®

- For flexing applications
- PVC outer jacket
- Shielded
- Flame-retardant



Example image

Dynamic information

Bend radius	**e-chain® linear**	minimum 15 x d
	flexible	minimum 12 x d
	fixed	minimum 8 x d
Temperature	**e-chain® linear**	+5°C up to +70°C
	flexible	-5°C up to +70°C (following DIN EN 60811-504)
	fixed	-15°C up to +70°C (following DIN EN 50305)
v max.	**unsupported**	3m/s
a max.		20m/s²
Travel distance		Unsupported travels up to 10m, Class 1

Cable structure

Conductor	Conductor consisting of bare copper wires (according to DIN EN 60228).
Core insulation	Mechanically high-quality TPE mixture.
Core structure	According to measuring system specification.
Core identification	According to measuring system specification. ▶ Product range table
Element shield	Foil taping of optimised, bending-resistant foil shield. Coverage approx. 100% optical
Overall shield	Braiding made of tinned copper wires. Coverage approx. 60% optical
Outer jacket	Low-adhesion PVC mixture, adapted to suit the requirements in e-chains®. Colour: Yellow-green (similar to RAL 6018)

Electrical information

Nominal voltage	50V 30V (following UL)
Testing voltage	500V

EPLAN download, configurators ▶ www.igus-asean.com/CF884

Class 3.1.1.1

Basic requirements	low	1	2	**3**	4	5	6	7	highest
Travel distance	unsupported	**1**	2	3	4	5	6		≥ 400m
Oil resistance	none	**1**	2	3	4				highest
Torsion	none	**1**	2	3	4				±360°

Properties and approvals

Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
UL verified	Certificate No. B129699: "igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL/CSA AWM	See data sheet for details ▶www.igus-asean.com/CF884
NFPA	Following NFPA 79-2018, chapter 12.9
EAC	Certificate No. RU C-DE.ME77.B.00295/19
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
CE	Following 2014/35/EU
UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Guaranteed service life (details see page 28-29)

Double strokes*	1 million	3 million	5 million
Temperature, from/to [°C]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
+5/+15	17.5	18.5	19.5
+15/+60	15	16	17
+60/+70	17.5	18.5	19.5

* Higher number of double strokes? Service life calculation online ▶ www.igus-asean.com/chainflexlife

Typical application areas

- For flexing applications, Class 3
- Especially for unsupported travels, Class 1
- Without influence of oil, Class 1
- No torsion, Class 1
- Preferably indoor applications
- Wood/stone processing, packaging industry, feeding, handling, adjusting devices

Measuring system cable | PVC | chainflex® CF884



Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF884.001	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	8.5	41	91
CF884.006	(3x(2x0.14)C+(4x0.14)+(4x0.22) +(2x0.5))C	9.0	50	101
CF884.009	(4x(2x0.25)+2x0.5)C	8.0	44	91
CF884.011	(4x(2x0.34)+4x0.5)C	9.5	64	117
CF884.015	(4x(2x0.14)+4x0.5)C	8.5	44	92
CF884.022	((2x0.25)+5x0.5)C	8.0	44	79
CF884.028	(2x(2x0.15)+(2x0.38))C	7.5	41	58

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core



Cables available in the chainflex® CASE

Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.

More on this on page 24/25 and online: www.igus-asean.com/cf-case

Order example: CF884.015 – to your desired length (0.5m steps)
CF884 chainflex® series .015 Code measuring system type

Order online ▶ www.igus-asean.com/CF884

Delivery time 24hrs or today.
Delivery time means time until goods are shipped.

EPLAN download, configurators ▶ www.igus-asean.com/CF884

Class 3.1.1.1

Basic requirements	low	1	2	**3**	4	5	6	7	highest
Travel distance	unsupported	**1**	2	3	4	5	6		≥ 400m
Oil resistance	none	**1**	2	3	4				highest
Torsion	none	**1**	2	3	4				±360°



Part No.	Core group	Colour code
CF884.001	3x(2x0.14)C	green/yellow, black/brown, red/orange
	4x0.14	grey, blue, white-yellow, white-black
	2x0.5	brown-red, brown-blue
CF884.006	3x(2x0.14)C	green/yellow, black/brown, red/orange
	4x0.14	grey, blue, white-yellow, white-black
	4x0.22	yellow-brown, grey-brown, green-black, green-red
	2x0.5	brown-red, brown-blue
CF884.009	4x(2x0.25)	brown/green, blue/violet, grey/pink, red/black
	2x0.5	white, brown
CF884.011	4x(2x0.34)	black/brown, red/orange, yellow/green, blue/violet
	4x0.5	blue-white, black-white, red-white, yellow-white
CF884.015	4x(2x0.14)	brown/green, yellow/violet, grey/pink, red/black
	4x0.5	blue, white, brown-green, white-green
CF884.022	2x0.25	white, brown
	5x0.5	green, yellow, grey, pink, blue
CF884.028	2x(2x0.15)	green/yellow, pink/blue
	2x0.38	red/black



Reduce cost, improve technology, now!
Do the chainflex® price check ...
www.igus-asean.com/cf-price-check

... for example: Reduce bend radius with CF113.D ...

New

Measuring system cable | PVC | chainflex® CF211

10 million
Double strokes guaranteed

10 x d
Bend radius, e-chain®

10m
Travel distance, e-chain®

- For medium duty applications
- PVC outer jacket
- Shielded
- Oil-resistant
- Flame-retardant



Example image

Dynamic information

Bend radius	**e-chain® linear**	minimum 10 x d
	flexible	minimum 8 x d
	fixed	minimum 5 x d
Temperature	**e-chain® linear**	+5°C up to +70°C
	flexible	-5°C up to +70°C (following DIN EN 60811-504)
	fixed	-15°C up to +70°C (following DIN EN 50305)
v max.	**unsupported**	5m/s
	gliding	3m/s
a max.		30m/s²
Travel distance		Unsupported travels and up to 10m for gliding applications, Class 2

Cable structure

Conductor	Very finely stranded special conductors of particularly bending resistant design made of tinned copper wires.
Core insulation	Mechanically high-quality TPE mixture.
Core structure	According to measuring system specification.
Core identification	According to measuring system specification. ▶ Product range table
Element shield	Extremely bending-resistant, tinned copper cover. Coverage approx. 90% optical
Element shield	TPE mixture on pair shielding adapted to suit the requirements in e-chains®.
Intermediate layer	Foil taping over the outer layer.
Overall shield	Extremely bending-resistant braiding made of tinned copper wires. Coverage linear approx. 55%, optical approx. 80%
Outer jacket	Low-adhesion, oil-resistant PVC mixture, adapted to suit the requirements in e-chains® (following DIN EN 50363-4-1). Colour: Yellow-green (similar to RAL 6018)

Electrical information

Nominal voltage	50V 300V (following UL)
Testing voltage	500V

EPLAN download, configurators ▶ www.igus-asean.com/CF211

Class 4.2.2.1

Basic requirements	low	1	2	3	**4**	5	6	7	highest
Travel distance	unsupported	1	**2**	3	4	5	6		≥ 400m
Oil resistance	none	1	**2**	3	4				highest
Torsion	none	**1**	2	3	4				±360°

Properties and approvals

Oil resistance	Oil-resistant (following DIN EN 50363-4-1), Class 2
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
UL verified	Certificate No. B129699: "igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL/CSA AWM	See data sheet for details ▶ www.igus-asean.com/CF211
NFPA	Following NFPA 79-2018, chapter 12.9
EAC	Certificate No. RU C-DE.ME77.B.00295/19
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 2. The outer jacket material of this series complies with CF5.10.07 - tested by IPA according to standard DIN EN ISO 14644-1
CE	Following 2014/35/EU
UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Guaranteed service life (details see page 28-29)

Double strokes*	5 million	7.5 million	10 million
Temperature, from/to [°C]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
+5/+15	12.5	13.5	14.5
+15/+60	10	11	12
+60/+70	12.5	13.5	14.5

* Higher number of double strokes? Service life calculation online ▶ www.igus-asean.com/chainflexlife

Typical application areas

- For medium duty applications, Class 4
- Unsupported travels and up to 10m for gliding applications, Class 2
- Light oil influence, Class 2
- No torsion, Class 1
- Preferably indoor applications, but also outdoor ones at temperatures > 5 °C
- Storage and retrieval units, machining units/packaging machines, handling, indoor cranes, wood/stone processing

Measuring system cable | PVC | chainflex® CF211



Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF211.001	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	9.0	64	100
CF211.002	(3x(2x0.14)C+2x(0.5)C)C	9.5	66	106
CF211.004	(2x(2x(2x0.14))+(4x0.14)C +(4x0.5))C	10.0	70	115
CF211.006	(3x(2x0.14)C+(4x0.14)+(4x0.25) +(2x0.5))C	10.0	76	122
CF211.009	(4x(2x0.25)+2x0.5)C	8.0	49	79
CF211.010	(4x(2x0.25)+2x1.0)C	8.5	61	92
CF211.011	(4x(2x0.34)+4x0.5)C	9.5	72	109
CF211.014	(4x(2x0.25)C+(2x0.5))C	10.5	77	124
CF211.015	(4x(2x0.14)+4x0.5)C	8.5	54	86
CF211.016	(3x(2x0.25)C)C	9.0	51	89
CF211.017	(4x(2x0.14)+(4x0.14)C+4x1.0)C	10.0	92	134
CF211.018	(2x(2x0.25)+2x0.5)C	6.5	34	54
CF211.019	(3x(2x0.25)C+(3x0.25)+2x1.0)C	10.0	86	125
CF211.022	((2x0.25)+5x0.5)C	7.0	46	71
CF211.024	((4x0.14)+2x(2x0.34))C	7.0	36	61
CF211.027	(5x(2x0.14)+2x0.5)C	8.0	45	75

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

EPLAN download, configurators ▶ www.igus-asean.com/CF211

Class 4.2.2.1

Basic requirements low 1 2 3 4 5 6 7 highest
Travel distance unsupported 1 2 3 4 5 6 ≥ 400m
Oil resistance none 1 2 3 4 highest
Torsion none 1 2 3 4 ±360°



Part No.	Core group	Colour code
CF211.001	3x(2x0.14)C	green/yellow, black/brown, red/orange
	(4x0.14)	grey/blue/white-yellow/white-black
	(2x0.5)	brown-red, brown-blue
CF211.002	3x(2x0.14)C	green/yellow, black/brown, red/orange
	2x(0.5)C	black, red
CF211.004	2x(2x(2x0.14))	(brown/green)/(yellow/violet), (grey/pink)/(red/black)
	(4x0.14)C	yellow-black/red-black/green-black/blue-black
	(4x0.5)	brown-green/white-green/blue/white
CF211.006	3x(2x0.14)C	green/yellow, black/brown, red/orange
	(4x0.14)	grey/blue/white-yellow/white-black
	(4x0.25)	yellow-brown/grey-brown/green-black/green-red
	(2x0.5)	brown-red, brown-blue
CF211.009	4x(2x0.25)	brown/green, blue/violet, grey/pink, red/black
	2x0.5	white, brown
CF211.010	4x(2x0.25)	brown/green, blue/violet, grey/pink, red/black
	2x1.0	white, brown
CF211.011	4x(2x0.34)	black/brown, red/orange, green/yellow, blue/violet
	4x0.5	black-white, red-white, yellow-white, blue-white
CF211.014	4x(2x0.25)C	white/brown, green/yellow, grey/pink, blue/red
	(2x0.5)	black no. 1/black no. 2
CF211.015	4x(2x0.14)	brown/green, yellow/violet, grey/pink, red/black
	4x0.5	blue, white, brown-green, white-green
CF211.016	3x(2x0.25)C	white/brown, green/yellow, grey/pink
CF211.017	4x(2x0.14)	red/black, brown/green, yellow/violet, grey/pink
	(4x0.14)C	blue-black/yellow-black/red-black/green-black
	4x1.0	white-green, brown-green, blue, white
CF211.018	2x(2x0.25)	red/black, grey/pink
	2x0.5	white, brown
CF211.019	3x(2x0.25)C	brown/green, grey/pink, red/black
	(3x0.25)	blue/violet/yellow
	2x1.0	white, brown
CF211.022	(2x0.25)	white/brown
	5x0.5	green, yellow, grey, pink, blue
CF211.024	(4x0.14)	yellow/grey/violet/pink
	2x(2x0.34)	white-green/white, brown-green/blue
CF211.027	5x(2x0.14)	brown/green, yellow/grey, white/violet, red/black, pink/blue
	2x0.5	white-green, white-red

Further cable types ▶ Page 250

Measuring system cable | PVC | chainflex® CF211

New



Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF211.028	(2x(2x0.15)+(2x0.38))C	7.5	40	77
CF211.032 [5]	3x(2x0.14)C+(3x0.14)C	8.0	35	79
CF211.033 [5]	4x(2x0.14)C+2x(1.0)C	9.5	64	112
CF211.036	(5x(2x0.25))C	8.0	42	69
CF211.037	(6x(2x0.25))C	8.5	51	83
CF211.038	(3x(2x0.14)+(2x0.34))C	7.5	33	62
CF211.039	(4x(2x0.14)C+2x(0.5)C)C	10.0	77	125
New **CF211.041**	(2x(2x0.18)+5x0.5)C	7.5	49	79
New **CF211.042**	(3x(2x0.18)+6x0.5)C	8.5	62	98

[5] Manufactured without overall shield

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

Further cable types ▶ Page 248



Cables available in the chainflex® CASE

Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.

More on this on page 24/25 and online: www.igus-asean.com/cf-case

Order example: CF211.038 – to your desired length (0.5m steps)
CF211 chainflex® series .038 Code measuring system type

Order online ▶ www.igus-asean.com/CF211

Delivery time 24hrs or today.
Delivery time means time until goods are shipped.

Class 4.2.2.1

Basic requirements	low	1	2	3	**4**	5	6	7	highest
Travel distance	unsupported	1	**2**	3	4	5	6		≥ 400m
Oil resistance	none	1	**2**	3	4				highest
Torsion	none	**1**	2	3	4				±360°



Part No.	Core group	Colour code
CF211.028	2x(2x0.15)	green/yellow, pink/blue
	(2x0.38)	red/black
CF211.032 [5)]	3x(2x0.14)C	green/black, yellow/black, red/black
	(3x0.14)C	grey/pink/black
CF211.033 [5)]	4x(2x0.14)C	yellow/black, red/black, blue/black, green/black
	2x(1.0)C	white, brown
CF211.036	5x(2x0.25)	white/brown green/yellow, grey/pink, blue/red, black/violet
CF211.037	6x(2x0.25)	white/brown, green/yellow, grey/pink, blue/red, black/violet, grey-pink/ red-blue
CF211.038	3x(2x0.14)	white/brown, green/yellow, grey/pink
	(2x0.34)	blue/red
CF211.039	(4x(2x0.14)C	green/yellow, grey/pink, blue/red, black/violet
	2x(0.5)C	brown, black
CF211.041	2x(2x0.18)	white/brown, black/violet
	5x0.5	blue, violet, green, yellow, grey
CF211.042	3x(2x0.18)	white/black, red/white, black/red
	6x0.5	black no. 1, black no. 2, black no. 3, red no. 4, red no. 5, red no. 6

cost down...
...life up

Reduce cost, improve technology, now!
Do the chainflex® price check ...
www.igus-asean.com/cf-price-check

… for example: reduce cost with CF884 ...

Measuring system cable | iguPUR | chainflex® CF894

5,000,000
Double strokes guaranteed

15 x d
Bend radius, e-chain®

10m
Travel distance, e-chain®

- For flexing applications
- iguPUR outer jacket
- Oil-resistant
- Shielded
- Flame-retardant



Example image

Dynamic information

Bend radius	**e-chain® linear**	minimum 15 x d
	flexible	minimum 12 x d
	fixed	minimum 8 x d
Temperature	**e-chain® linear**	-20°C up to +80°C
	flexible	-40°C up to +80°C (following DIN EN 60811-504)
	fixed	-50°C up to +80°C (following DIN EN 50305)
v max.	**unsupported**	3m/s
a max.		20m/s²
Travel distance		Unsupported travels up to 10m, Class 1

Cable structure

Conductor	Conductor consisting of bare copper wires (according to DIN EN 60228).
Core insulation	Mechanically high-quality TPE mixture.
Core structure	According to measuring system specification.
Core identification	According to measuring system specification. ▶ Product range table
Element shield	Foil taping of optimised, bending-resistant foil shield. Coverage approx. 100% optical
Overall shield	Braiding made of tinned copper wires. Coverage approx. 60% optical
Outer jacket	Low-adhesion iguPUR mixture, adapted to suit the requirements in e-chains®. Colour: Yellow-green (similar to RAL 6018)

Electrical information

Nominal voltage	50V 30V (following UL)
Testing voltage	500V

EPLAN download, configurators ▶ www.igus-asean.com/CF894

Class 3.1.3.1

Basic requirements	low	1	2	**3**	4	5	6	7	highest
Travel distance	unsupported	**1**	2	3	4	5	6		≥ 400m
Oil resistance	none	1	2	**3**	4				highest
Torsion	none	**1**	2	3	4				±360°

Properties and approvals

UV resistance	Medium
Oil resistance	Oil-resistant (following DIN EN 50363-10-2), Class 3
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
UL verified	Certificate No. B129699: "igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL/CSA AWM	See data sheet for details ▶ www.igus-asean.com/CF894
NFPA	Following NFPA 79-2018, chapter 12.9
EAC	Certificate No. RU C-DE.ME77.B.00295/19
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
CE	Following 2014/35/EU
UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Guaranteed service life (details see page 28-29)

Double strokes*	1 million	3 million	5 million
Temperature, from/to [°C]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-20/-10	17.5	18.5	19.5
-10/+70	15	16	17
+70/+80	17.5	18.5	19.5

* Higher number of double strokes? Service life calculation online ▶ www.igus-asean.com/chainflexlife

Typical application areas

- For flexing applications, Class 3
- Especially for unsupported travels, Class 1
- With influence of oil, Class 3
- No torsion, Class 1
- Indoor and outdoor applications without direct sun radiation
- Machining units/machine tools, low temperature applications

Measuring system cable | iguPUR | chainflex® CF894



Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF894.001	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	8.5	41	80
CF894.006	(3x(2x0.14)C+(4x0.14)+(4x0.22) +(2x0.5))C	9.0	50	105
CF894.009	(4x(2x0.25)+2x0.5)C	8.0	44	80
CF894.011	(4x(2x0.34)+4x0.5)C	9.5	64	126
CF894.015	(4x(2x0.14)+4x0.5)C	8.5	44	84
CF894.022	((2x0.25)+5x0.5)C	8.0	44	78
CF894.028	(2x(2x0.15)+(2x0.38))C	7.5	41	57

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core



Cables available in the chainflex® CASE

Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.

More on this on page 24/25 and online: www.igus-asean.com/cf-case

Order example: CF894.011 – to your desired length (0.5m steps)
CF894 **chainflex® series** .011 **Code measuring system type**

Order online ▶ www.igus-asean.com/CF894

Delivery time 24hrs or today.
Delivery time means time until goods are shipped.

EPLAN download, configurators ▶ www.igus-asean.com/CF894

Class 3.1.3.1

Basic requirements	low	1	2	**3**	4	5	6	7	highest
Travel distance	unsupported	**1**	2	3	4	5	6		≥ 400m
Oil resistance	none	1	2	**3**	4				highest
Torsion	none	**1**	2	3	4				±360°



Part No.	Core group	Colour code
CF894.001	3x(2x0.14)C	green/yellow, black/brown, red/orange
	4x0.14	grey, blue, white-yellow, white-black
	2x0.5	brown-red, brown-blue
CF894.006	3x(2x0.14)C	green/yellow, black/brown, red/orange
	4x0.14	grey, blue, white-yellow, white-black
	4 x 0.22	yellow-brown, grey-brown, green-black, brown-red
	2x0.5	brown-red, brown-blue
CF894.009	4x(2x0.25)	brown/green, blue/violet, grey/pink, red/black
	2x0.5	white/brown
CF894.011	4x(2x0.34)	black/brown, red/orange, yellow/green, blue/violet
	4x0.5	blue-white, black-white, red-white, yellow-white
CF894.015	4x(2x0.14)	brown/green, yellow/violet, grey/pink, red/black
	4x0.5	blue, white, brown-green, white-green
CF894.022	2x0.25	white, brown
	5x0.5	green, yellow, grey, pink, blue
CF894.028	2x(2x0.15)	green/yellow, pink/blue
	2x0.38	red/black



Reduce cost, improve technology, now!
Do the chainflex® price check ...
www.igus-asean.com/cf-price-check

... for example: Reduce bend radius with CF113.D ...



New

Measuring system cable | PUR | chainflex® CF111.D

10 million
Double strokes guaranteed

10 x d
Bend radius, e-chain®

10m
Travel distance, e-chain®

- For medium duty applications
- PUR outer jacket
- Shielded
- Oil-resistant and coolant-resistant
- Flame-retardant
- PVC and halogen-free
- Notch-resistant
- Hydrolysis and microbe-resistant



Example image

Dynamic information

Bend radius	**e-chain® linear**	minimum 10 x d
	flexible	minimum 8 x d
	fixed	minimum 5 x d
Temperature	**e-chain® linear**	-25°C up to +80°C
	flexible	-40°C up to +80°C (following DIN EN 60811-504)
	fixed	-50°C up to +80°C (following DIN EN 50305)
v max.	**unsupported**	5m/s
	gliding	3m/s
a max.		30m/s²
Travel distance		Unsupported travels and up to 10m for gliding applications, Class 2

Cable structure

Conductor	Very finely stranded special conductors of particularly bending resistant design made of tinned copper wires.
Core insulation	Mechanically high-quality TPE mixture.
Core structure	According to measuring system specification.
Core identification	According to measuring system specification. ▶ Product range table
Element shield	Extremely bending-resistant, tinned copper cover. Coverage approx. 90% optical
Element shield	TPE mixture on pair shielding adapted to suit the requirements in e-chains®.
Intermediate layer	Foil taping over the outer layer.
Overall shield	Bending-resistant braiding made of tinned copper wires. Coverage linear approx. 55%, optical approx. 80%
Outer jacket	Low-adhesion, halogen-free, highly abrasion resistant PUR mixture, adapted to suit the requirements in e-chains® (following DIN EN 50363-10-2) Colour: Yellow-green (similar to RAL 6018)

Electrical information

Nominal voltage	50V 300V (following UL)
Testing voltage	500V

Class 4.2.3.1

Basic requirements	low	1	2	3	**4**	5	6	7	highest
Travel distance	unsupported	1	**2**	3	4	5	6		≥ 400m
Oil resistance	none	1	2	**3**	4				highest
Torsion	none	**1**	2	3	4				±360°

Properties and approvals

UV resistance	Medium
Oil resistance	Oil-resistant (following DIN EN 50363-10-2), Class 3
Offshore	MUD-resistant following NEK 606 - status 2016
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
Halogen-free	Following DIN EN 60754
UL verified	Certificate No. B129699: "igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL/CSA AWM	See data sheet for details ▶ www.igus-asean.com/CF111D
NFPA	Following NFPA 79-2018, chapter 12.9
DNV	Type Approval Certificate TAE00003X4
EAC	Certificate No. RU C-DE.ME77.B.00295/19
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 1. The outer jacket material of this series complies with CF77.UL.05.12.D - tested by IPA according to standard DIN EN ISO 14644-1
DESINA	According to VDW, DESINA standardisation
CE	Following 2014/35/EU
UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Guaranteed service life (details see page 28-29)

Double strokes*	5 million	7.5 million	10 million
Temperature, from/to [°C]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-25/-15	12.5	13.5	14.5
-15/+70	10	11	12
+70/+80	12.5	13.5	14.5

* Higher number of double strokes? Service life calculation online ▶ www.igus-asean.com/chainflexlife

Typical application areas

- For medium duty applications, Class 4
- Unsupported travels and up to 10m for gliding applications, Class 2
- Almost unlimited resistance to oil, Class 3
- No torsion, Class 1
- Indoor and outdoor applications without direct sun radiation
- Machining units/machine tools, low temperature applications

Measuring system cable | PUR | chainflex® CF111.D



Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF111.001.D	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	9.5	64	104
CF111.002.D	(3x(2x0.14)C+2x(0.5)C)C	9.5	66	109
CF111.004.D	(2x(2x(2x0.14))+(4x0.14)C +(4x0.5))C	10.5	70	116
CF111.006.D	(3x(2x0.14)C+(4x0.14)+(4x0.25) +(2x0.5))C	10.0	76	122
CF111.009.D	(4x(2x0.25)+2x0.5)C	8.0	49	79
CF111.010.D	(4x(2x0.25)+2x1.0)C	8.5	61	94
CF111.011.D	(4x(2x0.34)+4x0.5)C	9.5	72	115
CF111.014.D	(4x(2x0.25)C+(2x0.5))C	10.5	77	124
CF111.015.D	(4x(2x0.14)+4x0.5)C	8.5	54	87
CF111.020.D	(3x(2x0.14)+2x(4x0.14)+(2x0.5))C	8.5	52	87
CF111.021.D	((4x0.25)+3x(2x0.25+2x0.5))C	9.5	80	117
CF111.022.D	((2x0.25)+5x0.5)C	7.0	46	75
CF111.024.D	((4x0.14)+2x(2x0.34))C	7.0	36	61
CF111.026.D	(6x(2x0.25)+(2x0.34)C+(2x0.5))C	10.5	74	119

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

EPLAN download, configurators ▶ www.igus-asean.com/CF111D

Class 4.2.3.1

Basic requirements	low	1	2	3	**4**	5	6	7	highest
Travel distance	unsupported	1	**2**	3	4	5	6		≥ 400m
Oil resistance	none	1	2	**3**	4				highest
Torsion	none	**1**	2	3	4				±360°



Part No.	Core group	Colour code
CF111.001.D	3x(2x0.14)C	green/yellow, black/brown, red/orange
	(4x0.14)	grey/blue/white-yellow/white-black
	(2x0.5)	brown-red/brown-blue
CF111.002.D	3x(2x0.14)C	green/yellow, black/brown, red/orange
	2x(0.5)C	black, red
CF111.004.D	2x(2x(2x0.14))	(brown/green)/(yellow/violet), (grey/pink)/(red/black)
	(4x0.14)C	yellow-black/red-black/green-black/blue-black
	(4x0.5)	brown-green/white-green/blue/white
CF111.006.D	3x(2x0.14)C	green/yellow, black/brown, red/orange
	(4x0.14)	grey/blue/white-yellow/white-black
	(4x0.25)	yellow-brown/grey-brown/green-black/green-red
	(2x0.5)	brown-red/brown-blue
CF111.009.D	4x(2x0.25)	brown/green, blue/violet, grey/pink, red/black
	2x0.5	white, brown
CF111.010.D	4x(2x0.25)	brown/green, blue/violet, grey/pink, red/black
	2x1.0	white, brown
CF111.011.D	4x(2x0.34)	black/brown, red/orange, green/yellow, blue/violet
	4x0.5	black-white, red-white, yellow-white, blue-white
CF111.014.D	4x(2x0.25)C	white/brown, green/yellow, grey/pink, blue/red
	(2x0.5)	black no. 1/black no. 2
CF111.015.D	4x(2x0.14)	brown/green, yellow/violet, grey/pink, red/black
	4x0.5	blue, white, brown-green, white-green
CF111.020.D	3x(2x0.14)	blue/red, black/violet, grey-pink/red-blue
	2x(4x0.14)	green/grey/yellow/pink, white-green/white-yellow/brown-green/yellow-brown
	(2x0.5)	white/brown
CF111.021.D	(4x0.25)	white/brown/grey/black
	3x2x0.25	white/yellow, white/grey, black/orange
	3x2x0.5	black no. 1/black no. 2, black no. 3/black no. 4, black no. 5/black no. 6
CF111.022.D	(2x0.25)	white/brown
	5x0.5	green, yellow, grey, pink, blue
CF111.024.D	(4x0.14)	yellow/grey/violet/pink
	2x(2x0.34)	white-green/white, brown-green/blue
CF111.026.D	6x(2x0.25)	green/yellow, grey/pink, blue/red, black/violet, grey-pink/red-blue, white-green/brown-green
	(2x0.34)C	white/brown
	(2x0.5)	blue/red

Further cable types ▶ Page 260

Measuring system cable | PUR | chainflex® CF111.D

New



Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF111.027.D	(5x(2x0.14)+2x0.5)C	8.0	45	76
CF111.028.D	(2x(2x0.15)+(2x0.38))C	7.5	40	73
CF111.032.D [5)]	3x(2x0.14)C+(3x0.14)C	8.5	35	82
CF111.040.D	(3x(4x0.14)+(2x0.14+2x0.34)+2x1.5)C	9.0	81	118
New **CF111.041.D**	(2x(2x0.18)+5x0.5)C	7.5	49	80
New **CF111.042.D**	(3x(2x0.18)+6x0.5)C	8.5	62	99

[5)] Manufactured without overall shield

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

Further cable types ▶ Page 258



readychain® systems from igus® are completely pre-harnessed with chainflex® cables, hoses, metal parts etc.

EPLAN download, configurators ▶ www.igus-asean.com/CF111D

Class 4.2.3.1

Basic requirements	low	1	2	3	**4**	5	6	7	highest
Travel distance	unsupported	1	**2**	3	4	5	6		≥ 400m
Oil resistance	none	1	2	**3**	4				highest
Torsion	none	**1**	2	3	4				±360°



Part No.	Core group	Colour code
CF111.027.D	5x(2x0.14)	brown/green, yellow/grey, white/violet, red/black, pink/blue
	2x0.5	white-green, white-red
CF111.028.D	2x(2x0.15)	green/yellow, pink/blue
	(2x0.38)	red/black
CF111.032.D [5)]	3x(2x0.14)C	green/black, yellow/black, red/black
	(3x0.14)C	grey/pink/black
CF111.040.D	3x(4x0.14)	black/red/white-black/white-red, green/blue/white-green/white-blue, yellow/brown/white-yellow/white-brown
	(2x0.14+2x0.34)	violett/orange/weißviolett/weißorange
	2x1.5	white-grey, grey
CF111.041.D	2x(2x0.18)	white/brown, black/violet
	5x0.5	blue, violet, green, yellow, grey
CF111.042.D	3x(2x0.18)	white/black, red/white, black/red
	6x0.5	black no. 1, black no. 2, black no. 3, red no. 4, red no. 5, red no. 6



Cables available in the chainflex® CASE

Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.

More on this on page 24/25 and online: www.igus-asean.com/cf-case

cost down...



...life up

Reduce cost, improve technology, now!

Do the chainflex® price check ...
www.igus-asean.com/cf-price-check

… for example: reduce cost with CF211 ...

igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year

Measuring system cable | PUR | chainflex® CF113.D

10 million
Double strokes guaranteed

7.5 x d
Bend radius, e-chain®

100m
Travel distance, e-chain®

- For extremely heavy duty applications
- PUR outer jacket
- Shielded
- Oil-resistant and coolant-resistant
- Flame-retardant
- PVC and halogen-free
- Notch-resistant
- Hydrolysis and microbe-resistant

DriveCliq with 300V UL approval



Example image

Dynamic information

Bend radius	**e-chain® linear**	minimum 7.5 x d
	flexible	minimum 6 x d
	fixed	minimum 4 x d
Temperature	**e-chain® linear**	-25°C up to +80°C
	flexible	-40°C up to +80°C (following DIN EN 60811-504)
	fixed	-50°C up to +80°C (following DIN EN 50305)
v max.	**unsupported**	10m/s
	gliding	5m/s
a max.		50m/s²
Travel distance		Unsupported travels and up to 100m for gliding applications, Class 5

Cable structure

Conductor	Stranded conductor in especially bending-resistant version consisting of tinned copper wires (following DIN EN 60228).
Core insulation	Mechanically high-quality TPE mixture.
Core structure	According to measuring system specification.
Core identification	According to measuring system specification. ▶ Product range table
Element shield	Extremely bending-resistant braiding made of tinned copper wires. Coverage linear approx. 70%, optical approx. 90%
Element shield	TPE mixture on pair shielding adapted to suit the requirements in e-chains®.
Inner jacket	TPE mixture adapted to suit the requirements in e-chains®.
Overall shield	Extremely bending-resistant braiding made of tinned copper wires. Coverage linear approx. 70%, optical approx. 90%
Outer jacket	Low-adhesion, halogen-free, highly abrasion resistant PUR mixture, adapted to suit the requirements in e-chains® (following DIN EN 50363-10-2) Colour: Yellow-green (similar to RAL 6018)
CFRIP®	Strip cables faster: a tear strip is moulded into the inner jacket Video ▶ www.igus-asean.com/CFRIP

Electrical information

Nominal voltage	50V 300V (following UL)
Testing voltage	500V

Class 6.5.3.1

Basic requirements	low	1	2	3	4	5	**6**	7	highest
Travel distance	unsupported	1	2	3	4	**5**	6		≥ 400m
Oil resistance	none	1	2	**3**	4				highest
Torsion	none	**1**	2	3	4				±360°

Properties and approvals

UV resistance	Medium
Oil resistance	Oil-resistant (following DIN EN 50363-10-2), Class 3
Offshore	MUD-resistant following NEK 606 - status 2016
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
Halogen-free	Following DIN EN 60754
UL verified	Certificate No. B129699: "igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL/CSA AWM	See data sheet for details ▶ www.igus-asean.com/CF113D
NFPA	Following NFPA 79-2018, chapter 12.9
DNV	Type Approval Certificate TAE00003X4
EAC	Certificate No. RU C-DE.ME77.B.00295/19
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 1. The outer jacket material of this series complies with CF77.UL.05.12.D - tested by IPA according to standard DIN EN ISO 14644-1
DESINA	According to VDW, DESINA standardisation
CE	Following 2014/35/EU
UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Guaranteed service life (details see page 28-29)

Double strokes*	5 million	7.5 million	10 million
Temperature, from/to [°C]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-25/-15	10	11	12
-15/+70	7.5	8.5	9.5
+70/+80	10	11	12

* Higher number of double strokes? Service life calculation online ▶ www.igus-asean.com/chainflexlife

Typical application areas

- For heavy-duty applications, Class 6
- Unsupported travels and up to 100m for gliding applications, Class 5
- Almost unlimited resistance to oil, Class 3
- No torsion, Class 1
- Indoor and outdoor applications without direct sun radiation
- Storage and retrieval units for high-bay warehouses, machining units/machine tools, quick handling, cleanroom, semiconductor insertion, indoor cranes, low temperature applications

Measuring system cable | PUR | chainflex® CF113.D

Strip cables 50% faster with CFRIP® tear strip



Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF113.001.D	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	10.0	71	137
CF113.002.D	(3x(2x0.14)C+2x(0.5)C)C	10.0	74	144
CF113.003.D	(3x(2x0.14)+2x1.0)C	8.0	56	103
CF113.004.D	(2x(2x(2x0.14))+(4x0.14)C+(4x0.5))C	11.0	78	152
CF113.005.D	(4x(2x0.14)+4x0.5)C	9.0	60	115
CF113.006.D	(3x(2x0.14)C+(4x0.14)+(4x0.25) +(2x0.5))C	11.0	85	158
CF113.007.D [2]	(4x0.34)C	6.5	31	54
CF113.008.D	(3x(2x0.25))C	7.5	36	76
CF113.009.D	(4x(2x0.25)+2x0.5)C	8.5	57	99
CF113.010.D	(4x(2x0.25)+2x1.0)C	9.0	68	122
CF113.011.D	(4x(2x0.34)+4x0.5)C	10.0	81	142
CF113.013.D	(3x(2x0.14)C+2x0.5)C	9.0	62	121
CF113.014.D	(4x(2x0.25)C+(2x0.5))C	11.0	86	163
CF113.015.D	(4x(2x0.14)+4x0.5)C	9.0	60	114
CF113.016.D	(3x(2x0.25)C)C	10.0	60	126
CF113.017.D [4]	(4x(2x0.14)+(4x0.14)C+4x1.0)C	10.0	100	150
CF113.018.D [4]	(2x(2x0.25)+2x0.5)C	6.5	41	65

The chainflex® types marked with [2] are cables designed as a star-quad.
[4] Manufactured without inner jacket

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

Class 6.5.3.1

Basic requirements	low	1	2	3	4	5	**6**	7	highest
Travel distance	unsupported	1	2	3	4	**5**	6		≥ 400m
Oil resistance	none	1	2	**3**	4				highest
Torsion	none	**1**	2	3	4				±360°



Part No.	Core group	Colour code
CF113.001.D	3x(2x0.14)C	green/yellow, black/brown, red/orange
	(4x0.14)	grey/blue/white-yellow/white-black
	(2x0.5)	brown-red/brown-blue
CF113.002.D	3x(2x0.14)C	green/yellow, black/brown, red/orange
	2x(0.5)C	black, red
CF113.003.D	3x(2x0.14)	white/brown, green/yellow, grey/pink
	2x1.0	blue, red
CF113.004.D	2x(2x(2x0.14))	(brown/green)/(yellow/violet), (grey/pink)/(red/black)
	(4x0.14)C	yellow-black/red-black/green-black/blue-black
	(4x0.5)	brown-green/white-green/blue/white
CF113.005.D	4x(2x0.14)	white/brown, green/yellow, grey/pink, blue/red
	4x0.5	black, violet, grey-pink, red-blue
CF113.006.D	3x(2x0.14)C	green/yellow, black/brown, red/orange
	(4x0.14)	grey/blue/white-yellow/white-black
	(4x0.25)	yellow-brown/grey-brown/green-black/green-red
	(2x0.5)	brown-red/brown-blue
CF113.007.D [2]	4x0.34	white, green, brown, yellow (star-quad)
CF113.008.D	3x(2x0.25)	white/brown, green/yellow, grey/pink
CF113.009.D	4x(2x0.25)	brown/green, blue/violet, grey/pink, red/black
	2x0.5	white, brown
CF113.010.D	4x(2x0.25)	brown/green, blue/violet, grey/pink, red/black
	2x1.0	white, brown
CF113.011.D	4x(2x0.34)	black/brown, red/orange, green/yellow, blue/violet
	4x0.5	black-white, red-white, yellow-white, blue-white
CF113.013.D	3x(2x0.14)C	white/brown, green/yellow, grey/pink
	2x0.5	blue, red
CF113.014.D	4x(2x0.25)C	white/brown, green/yellow, grey/pink, blue/red
	(2x0.5)	black no. 1/black no. 2
CF113.015.D	(4x(2x0.15))C	brown/green, yellow/violet, grey/pink, red/black
	4x0.5	blue, white, brown-green, white-green
CF113.016.D	3x(2x0.25)C	white/brown, green/yellow, grey/pink
CF113.017.D [4]	4x(2x0.14)	red/black, brown/green, yellow/violet, grey/pink
	(4x0.14)C	blue-black/yellow-black/red-black/green-black
	4x1.0	white-green, brown-green, blue, white
CF113.018.D [4]	2x(2x0.25)	red/black, grey/pink
	2x0.5	white, brown

Further cable types ► Page 266

Measuring system cable | PUR | chainflex® CF113.D

Strip cables 50% faster with CFRIP® tear strip



Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF113.019.D [4]	(3x(2x0.25)C+(3x0.25)+2x1.0)C	10.0	93	143
CF113.022.D	((2x0.25)+5x0.5)C	8.0	54	94
CF113.025.D	(3x(2x0.14)C+(2x0.5)C)C	10.0	72	141
CF113.027.D	(5x(2x0.14)+2x0.5)C	9.0	52	105
CF113.028.D [4]	(2x(2x0.20)+(2x0.38))C	7.5	44	69
CF113.029.D	(5x(2x0.25)C+(2x0.25+2x0.5))C	12.0	105	192
CF113.031.D	(2x(2x0.25)C+2x1.0)C	9.5	69	133
CF113.032.D [5]	3x(2x0.14)C+(3x0.14)C	8.5	35	82
CF113.033.D [5]	4x(2x0.14)C+2x(1.0)C	9.5	64	111
CF113.036.D	(5x(2x0.25))C	8.5	51	103
CF113.037.D	(6x(2x0.25))C	9.0	58	114
CF113.038.D	(3x(2x0.14)+(2x0.34))C	8.5	36	87
CF113.040.D	(3x(4x0.14)+(2x0.14+2x0.34) +2x1.5)C	10.0	88	155

[4] Manufactured without inner jacket
[5] Manufactured without overall shield

Further cable types ▶ Page 264

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core



Cables available in the chainflex® CASE

Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.

More on this on page 24/25 and online: www.igus-asean.com/cf-case

EPLAN download, configurators ▶ www.igus-asean.com/CF113D

Class 6.5.3.1

Basic requirements	low	1	2	3	4	5	**6**	7	highest
Travel distance	unsupported	1	2	3	4	**5**	6		≥ 400m
Oil resistance	none	1	2	**3**	4				highest
Torsion	none	**1**	2	3	4				±360°



Part No.	Core group	Colour code
CF113.019.D [4]	3x(2x0.25)C	brown/green, grey/pink, red/black
	(3x0.25)	blue/violet/yellow
	2x1.0	white, brown
CF113.022.D	(2x0.25)	white/brown
	5x0.5	green, yellow, grey, pink, blue
CF113.025.D	3x(2x0.14)C	green/yellow, blue/red, grey/pink
	(2x0.5)C	white/brown
CF113.027.D	5x(2x0.14)	brown/green, yellow/grey, white/violet, red/black, pink/blue
	2x0.5	white-green, white-red
CF113.028.D [4]	2x(2x0.20)	green/yellow, pink/blue
	(2x0.38)	red/black
CF113.029.D	5x(2x0.25)C	white/brown green/yellow, grey/pink, blue/red, black/violet
	(2x0,25+2x0.5)	grey-pink/brown-green/white-green/red-blue
CF113.031.D	2x(2x0.25)C	white/brown, green/yellow
	2x1.0	black no. 1, black no. 2
CF113.032.D [5]	3x(2x0.14)C	green/black, yellow/black, red/black
	(3x0.14)C	grey/pink/black
CF113.033.D [5]	4x(2x0.14)C	yellow/black, red/black, blue/black, green/black
	2x(1.0)C	white, brown
CF113.036.D	5x(2x0.25)	white/brown green/yellow, grey/pink, blue/red, black/violet
CF113.037.D	6x(2x0.25)	white/brown, green/yellow, grey/pink, blue/red, black/violet, grey-pink/red-blue
CF113.038.D	3x(2x0.14)	white/brown, green/yellow, grey/pink
	(2x0.34)	blue/red
CF113.040.D	3x(4x0.14)	black/red/white-black/white-red, green/blue/white-green/white-blue, yellow/brown/white-yellow/white-brown
	(2x0.14+2x0.34)	violett/orange/weißviolett/weißorange
	2x1.5	white-grey, grey



chainflex® measuring system cables in a double-spindle machining centre.

Guarantee igus chainflex 36
igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year

Measuring system cable | TPE | chainflex® CF11.D

12.5 million
Double strokes guaranteed

6.8 x d
Bend radius, e-chain®

400m
Travel distance, e-chain®

- For extremely heavy duty applications
- TPE outer jacket
- Shielded
- Oil and bio-oil-resistant
- PVC and halogen-free
- Hydrolysis and microbe-resistant

Now available with UL approval & 25% longer service life



Example image

Dynamic information

Bend radius	**e-chain® linear**	minimum 6.8 x d
	flexible	minimum 5 x d
	fixed	minimum 4 x d
Temperature	**e-chain® linear**	-35°C up to +90°C
	flexible	-50°C up to +90°C (following DIN EN 60811-504)
	fixed	-55°C up to +90°C (following DIN EN 50305)
v max.	**unsupported**	10m/s
	gliding	6m/s
a max.		100m/s²
Travel distance		Unsupported travels and up to 400m and more for gliding applications, Class 6

Cable structure

Conductor	Stranded conductor in especially bending-resistant version consisting of tinned copper wires (following DIN EN 60228).
Core insulation	Mechanically high-quality TPE mixture.
Core structure	According to measuring system specification.
Core identification	According to measuring system specification. ▶ Product range table
Element shield	Extremely bending-resistant braiding made of tinned copper wires. Coverage linear approx. 70%, optical approx. 90%
Element shield	TPE mixture on pair shielding adapted to suit the requirements in e-chains®.
Inner jacket	TPE mixture adapted to suit the requirements in e-chains®.
Overall shield	Extremely bending-resistant braiding made of tinned copper wires. Coverage linear approx. 70%, optical approx. 90%
Outer jacket	Low-adhesion, extremely abrasion-resistant and highly flexible TPE mixture, adapted to suit the requirements in e-chains®. Colour: Yellow-green (similar to RAL 6018)
CFRIP®	Strip cables faster: a tear strip is moulded into the inner jacket Video ▶ www.igus-asean.com/CFRIP

Electrical information

Nominal voltage	50V 300V (following UL)
Testing voltage	500V

Class 6.6.4.1

Basic requirements	low	1	2	3	4	5	6	7	highest
Travel distance	unsupported	1	2	3	4	5	6		≥ 400m
Oil resistance	none	1	2	3	4				highest
Torsion	none	1	2	3	4				±360°

Properties and approvals

UV resistance	Medium
Oil resistance	Oil-resistant (following DIN EN 60811-404), bio-oil-resistant (following VDMA 24568 with Plantocut 8 S-MB tested by DEA), Class 4
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
Halogen-free	Following DIN EN 60754
UL verified	Certificate No. B129699: "igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL AWM	See data sheet for details ▶ www.igus-asean.com/CF11D
EAC	Certificate No. RU C-DE.ME77.B.00295/19
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 1. The outer jacket material of this series complies with CF9.15.07 - tested by IPA according to standard DIN EN ISO 14644-1
DESINA	According to VDW, DESINA standardisation
CE	Following 2014/35/EU
UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Guaranteed service life (details see page 28-29)

Double strokes*	5 million		7.5 million		12.5 million	
Temperature, from/to [°C]	< 10m	≥ 10m	< 10m	≥ 10m	< 10m	≥ 10m
	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-35/-25	8.5	10	9.5	11	10.5	12
-25/+80	6.8	7.5	7.5	8.5	8.5	9.5
+80/+90	8.5	10	9.5	11	10.5	12

* Higher number of double strokes? Service life calculation online ▶ www.igus-asean.com/chainflexlife

Typical application areas

- For heavy-duty applications, Class 6
- Unsupported travels and up to 400m and more for gliding applications, Class 6
- Almost unlimited resistance to oil, also with bio-oils, Class 4
- No torsion, Class 1
- Indoor and outdoor applications without direct sun radiation
- Storage and retrieval units for high-bay warehouses, machining units/machine tools, quick handling, cleanroom, semiconductor insertion, indoor cranes, low temperature applications

Measuring system cable | TPE | chainflex® CF11.D

Strip cables 50% faster with CFRIP® tear strip



Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF11.001.D	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	10.0	71	119
CF11.002.D	(3x(2x0.14)C+2x(0.5)C)C	10.0	74	125
CF11.003.D	(3x(2x0.14)+2x1.0)C	8.0	56	86
CF11.004.D [11)]	(2x(2x(2x0.14))+(4x0.14)C +(4x0.5))C	11.0	78	127
CF11.005.D	(4x(2x0.14)+4x0.5)C	9.0	60	97
CF11.006.D	(3x(2x0.14)C+(4x0.14)+(4x0.25) +(2x0.5))C	10.5	85	139
CF11.007.D [2)]	(4x0.34)C	6.0	31	48
CF11.008.D	(3x(2x0.25))C	7.5	36	60
CF11.009.D	(4x(2x0.25)+2x0.5)C	8.5	57	91
CF11.010.D	(4x(2x0.25)+2x1.0)C	9.0	68	105
CF11.011.D	(4x(2x0.34)+4x0.5)C	10.0	81	124
CF11.012.D	(3x(2x0.14)C+(3x0.14)C +(4x0.14)+(2x0.14+2x0.5))C	11.0	89	140
CF11.013.D	(3x(2x0.14)C+2x0.5)C	9.0	62	104
CF11.014.D	(4x(2x0.25)C+(2x0.5))C	11.0	86	138
CF11.015.D	(4x(2x0.14)+4x0.5)C	9.0	60	97

The chainflex® types marked with [2)] are cables designed as a star-quad.
[11)] Phase-out model

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

EPLAN download, configurators ▶ www.igus-asean.com/CF11D

36-month guarantee ... more than 1,350 cable types from stock ... no cutting charges

Class 6.6.4.1

Basic requirements	low	1	2	3	4	5	6	7	highest
Travel distance	unsupported	1	2	3	4	5	6		≥ 400m
Oil resistance	none	1	2	3	4				highest
Torsion	none	1	2	3	4				±360°



Part No.	Core group	Colour code
CF11.001.D	3x(2x0.14)C	green/yellow, black/brown, red/orange
	(4x0.14)	grey/blue/white-yellow/white-black
	(2x0.5)	brown-red/brown-blue
CF11.002.D	3x(2x0.14)C	green/yellow, black/brown, red/orange
	2x(0.5)C	black, red
CF11.003.D	3x(2x0.14)	white/brown, green/yellow, grey/pink
	2x1.0	blue, red
CF11.004.D [11)]	2x(2x(2x0.14))	(brown/green)/(yellow/violet), (grey/pink)/(red/black)
	(4x0.14)C	yellow-black/red-black/green-black/blue-black
	(4x0.5)	brown-green/white-green/blue/white
CF11.005.D	4x(2x0.14)	white/brown, green/yellow, grey/pink, blue/red
	4x0.5	black, violet, grey-pink, red-blue
CF11.006.D	3x(2x0.14)C	green/yellow, black/brown, red/orange
	(4x0.14)	grey/blue/white-yellow/white-black
	(4x0.25)	yellow-brown/grey-brown/green-black/green-red
	(2x0.5)	brown-red/brown-blue
CF11.007.D [2)]	4x0.34	white, green, brown, yellow (star-quad)
CF11.008.D	3x(2x0.25)	white/brown, green/yellow, grey/pink
CF11.009.D	4x(2x0.25)	brown/green, blue/violet, grey/pink, red/black
	2x0.5	white, brown
CF11.010.D	4x(2x0.25)	brown/green, blue/violet, grey/pink, red/black
	2x1.0	white, brown
CF11.011.D	4x(2x0.34)	black/brown, red/orange, green/yellow, blue/violet
	4x0.5	black-white, red-white, yellow-white, blue-white
CF11.012.D	3x(2x0.14)C	green/yellow, white/grey, blue/red
	(3x0.14)C	red/green/brown
	(4x0.14)	grey/yellow/pink/violet
	(2x0.14+2x0.5)	blue/brown-blue/grey/brown-red
CF11.013.D	3x(2x0.14)C	white/brown, green/yellow, grey/pink
	2x0.5	blue, red
CF11.014.D	4x(2x0.25)C	white/brown, green/yellow, grey/pink, blue/red
	(2x0.5)	black no. 1/black no. 2
CF11.015.D	4x(2x0.14)	brown/green, yellow/violet, grey/pink, red/black
	4x0.5	blue, white, brown-green, white-green

Further cable types ▶ Page 272

Guarantee igus chainflex 36
igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year

Measuring system cable | TPE | chainflex® CF11.D

Strip cables 50% faster with CFRIP® tear strip



Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF11.017.D [4) 11)]	(4x(2x0.14)+(4x0.14)C+4x1.0)C	10.0	100	126
CF11.018.D [4)]	(2x(2x0.25)+2x0.5)C	6.5	41	51
CF11.019.D [4)]	(3x(2x0.25)C+(3x0.25)+2x1.0)C	10.0	93	120
CF11.021.D	((4x0.25)+3x(2x0.25+2x0.5))C	10.0	88	130
CF11.022.D	((2x0.25)+5x0.5)C	7.5	54	79
CF11.025.D	(3x(2x0.14)C+(2x0.5)C)C	10.0	72	123
CF11.027.D	(5x(2x0.14)+2x0.5)C	8.5	52	88
CF11.028.D	(2x(2x0.20)+(2x0.38))C	7.5	44	63
CF11.031.D	(2x(2x0.25)C+2x1.0)C	9.5	69	116
CF11.032.D [5)]	3x(2x0.14)C+(3x0.14)C	8.0	35	71
CF11.033.D [5)]	4x(2x0.14)C+2x(1.0)C	9.5	64	104
CF11.038.D	(3x(2x0.14)+(2x0.34))C	8.0	36	71

[4)] Manufactured without inner jacket
[5)] Manufactured without overall shield
[11)] Phase-out model

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

Further cable types ▶ Page 270

EPLAN download, configurators ▶ www.igus-asean.com/CF11D

Class 6.6.4.1

Basic requirements	low	1	2	3	4	5	**6**	7	highest
Travel distance	unsupported	1	2	3	4	5	**6**		≥ 400m
Oil resistance	none	1	2	3	**4**				highest
Torsion	none	**1**	2	3	4				±360°



Part No.	Core group	Colour code
CF11.017.D [4) 11)]	4x(2x0.14)	red/black, brown/green, yellow/violet, grey/pink
	(4x0.14)C	blue-black/yellow-black/red-black/green-black
	4x1.0	white-green, brown-green, blue, white
CF11.018.D [4)]	2x(2x0.25)	red/black, grey/pink
	2x0.5	white, brown
CF11.019.D [4)]	3x(2x0.25)C	brown/green, grey/pink, red/black
	(3x0.25)	blue/violet/yellow
	2x1.0	white, brown
CF11.021.D	(4x0.25)	white/brown/grey/black
	3x2x0.25	white/yellow, white/grey, black/orange
	3x2x0.5	black no. 1/black no. 2, black no. 3/black no. 4, black no. 5/black no. 6
CF11.022.D	(2x0.25)	white/brown
	5x0.5	green, yellow, grey, pink, blue
CF11.025.D	3x(2x0.14)C	green/yellow, blue/red, grey/pink
	(2x0.5)	white/brown
CF11.027.D	5x(2x0.14)	brown/green, yellow/grey, white/violet, red/black, pink/blue
	2x0.5	white-green, white-red
CF11.028.D	2x(2x0.20)	green/yellow, pink/blue
	(2x0.38)	red/black
CF11.031.D	2x(2x0.25)C	white/brown, green/yellow
	2x1.0	black no. 1, black no. 2
CF11.032.D [5)]	3x(2x0.14)C	green/black, yellow/black, red/black
	(3x0.14)C	grey/pink/black
CF11.033.D [5)]	4x(2x0.14)C	yellow/black, red/black, blue/black, green/black
	2x(1.0)C	white, brown
CF11.038.D	3x(2x0.14)	white/brown, green/yellow, grey/pink
	(2x0.34)	blue/red



Cables available in the chainflex® CASE

Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.

More on this page 24/25 and online: www.igus-asean.com/cf-case

Servo cables

Hybrid cables



chainflex® cable	Jacket	Shield	Bend radius e-chain® [factor x d]	Temperature e-chain® from/to [°C]	Approvals and standards	Oil-resistant	Torsion-resistant	v max. [m/s] unsupported	v max. [m/s] gliding	a max.	Page	
Servo cables												
Information and selection chart for hybrid servo cables											278	
CF887	PVC	✓	15	+5/+70				3		20	280	
CF210.UL	PVC	✓	10	+5/+70			✓	10	2	50	282	
CF21.UL	PVC	✓	7.5	+5/+70			✓	10	5	80	286	
CF897	iguPUR	✓	15	-20/+80			✓	3		20	290	
CF270.UL.D	PUR	✓	10	-25/+80			✓	10	2	50	292	
CF27.D	PUR	✓	7.5	-25/+80			✓	10	5	80	296	
CF29.D	TPE	✓	6.8	-35/+100			✓	10	5	80	300	
Hybrid cables												
CF220.UL.H	PVC	✓	10	+5/+70			✓	10	2	50	302	New
CF280.UL.H	PUR	✓	10	-25/+80			✓	10	2	50	306	New
Twistable hybrid cable (twistable cables chapter ► Page 378)												
CFROBOT9	PUR	✓	10	-25/+80			✓ ✓				414	

36-month chainflex® guarantee

Guaranteed service life for predictable reliability

► Selection table page 276

With the help of the chainflex® service life calculator, you can quickly and easily calculate the expected service life of chainflex® cables specifically for your application:

www.igus-asean.com/chainflexlife



igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year

chainflex® guarantee

	chainflex® cables	Temperature, from/to [°C]	v max. [m/s] unsupported	v max. [m/s] gliding	a max. [m/s²]	Travel distance [m]
Servo cables						
	CF887	+5 / +15 +15 / +60 +60 / +70	3	-	20	≤ 10
	CF210.UL	+5 / +15 +15 / +60 +60 / +70	10	2	50	≤ 10
	CF21.UL	+5 / +15 +15 / +60 +60 / +70	10	5	80	≤ 100
	CF897	-20 / -10 -10 / +70 +70 / +80	3	-	20	≤ 10
	CF270.UL.D	-25 / -15 -15 / +70 +70 / +80	10	2	50	≤ 10
	CF27.D	-25 / -15 -15 / +70 +70 / +80	10	5	80	≤ 100
	CF29.D	-35 / -25 -25 / +90 +90 / +100	10	5	80	> 400
Hybrid cables						
	CF220.UL.H New!	+5 / +15 +15 / +60 +60 / +70	10	2	50	≤ 10
	CF280.UL.H New!	-25 / -15 -15 / +70 +70 / +80	10	2	50	≤ 10

(1) Guaranteed service life for these series (details ▶ see page 28-29)

Guaranteed service life (1)

Minimum bend radius [factor x d]		Minimum bend radius [factor x d]		Minimum bend radius [factor x d]		Page
< 10m	≥ 10m	< 10m	≥ 10m	< 10m	≥ 10m	
5 million (1 million) double strokes *		7.5 million (3 million) double strokes *		10 million (5 million) double strokes *		
17.5		18.5		19.5		
15		16		17		280
17.5		18.5		19.5		
12.5		13.5		14.5		
10		11		12		282
12.5		13.5		14.5		
10		11		12		
7.5		8.5		9.5		286
10		11		12		
17.5		18.5		19.5		
15		16		17		290
17.5		18.5		19.5		
12.5		13.5		14.5		
10		11		12		292
12.5		13.5		14.5		
10		11		12		
7.5		8.5		9.5		296
10		11		12		
5 million		7.5 million		12.5 million		
8.5	10	9.5	11	10.5	12	
6.8	7.5	7.5	8.5	8.5	9.5	300
7.5	10	9.5	11	10.5	12	
12.5		13.5		14.5		
10		11		12		302
12.5		13.5		14.5		
12.5		13.5		14.5		
10		11		12		306
12.5		13.5		14.5		

* Higher number of double strokes? Calculate service life online: ▶ www.igus-asean.com/chainflexlife
Figures in brackets refer to series CF887 and CF897



igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year

igus® chainflex® system cables (hybrid servo cables) …
… for single-cable solutions in drive technology

In chainflex® series **CF220.UL.H** and **CF280.UL.H**, you will see system cables for intelligent drive concepts for many well known system manufacturers.

To save installation space in e-chain systems® some manufacturers combine the servo cable for power with the measuring system cable for position data to make a so-called hybrid cable. The feedback of the position data to the servo controller is done frequently by various digital bus technologies.

When combining these two cables into a hybrid cable, it is necessary to guarantee the data transmission properties and the EMC behavior of the cable for many millions of movement cycles.

High optical coverage shielding designs are used in igus® chainflex® servo hybrid cables because of the close proximity of the power cores carrying high interference square-wave signals to the bus cores.

A secure transmission of bus signals at maximum cable length and at maximum speed makes high demands on the insulating materials of the bus or data cores.

In the 3,800m² large igus® laboratory, electrical parameters such as capacitance, impedance, attenuation and crosstalk are measured over the entire test period of several million double strokes and monitored for compliance with the specifications.

igus® chainflex® servo hybrid cables are available in cost-effective PVC and oil-resistant, halogen-free PUR.

As with all chainflex® cables, igus® also offers a guarantee of 36 months or 10 million double strokes for the servo hybrid cables and 5 million for chainflex® M.

In the chart on the opposite page you will find an overview of all currently available hybrid cables grouped by system manufacturer.

The companies listed are drive systems manufacturers or technology providers whose rotation sensors are commonly available.



Two become one: hybrid servo cables combine servo and measuring system cables.

Selection table hybrid servo cables		
Hybrid technology/ Manufacturer	**CF220.UL.H** **PVC** **10 x d** Page 302	**CF280.UL.H** **PUR** **10 x d** Page 306
SICK (HIPERFACE DSL)		
ABB	CF220.UL.H100-.H102	CF280.UL.H100-.H102
AMK		
B&R		
Baumüller		
BCB		
Beckhoff		
BMP		
CEDS		
Fertig		
Fine		
Han´s		
Harmonic Drive AG		
Heidrive		
Infranor		
IRT		
Jetter		
KEBA		
Kinavo		
Kollmorgen		
Lafert		
LTi DRiVES		
Mavilor		
Maxsine		
metronix		
NUM		
Parker		
PowerMotor		
ROBOX		
Selema		
Siboni		
Sigmatek		
STEP		
TG-Drives		
WEG		
SEW cable type A, B, C, D, E		
SEW	CF220.UL.H203	CF280.UL.H200-.H206
MOVILINK DDI		
SEW	-	CF280.UL.H207
SINAMICS S210		
Siemens	CF220.UL.H300-.H304	CF280.UL.H300-.H304
IndraDrive / crtlXDRIVE		
Bosch Rexroth	-	CF280.UL.H400-.H401
HEIDENHAIN		
B&R	CF220.UL.H501	CF280.UL.H501-.H502

Servo cable | PVC | chainflex® CF887

5,000,000
Double strokes guaranteed

15 x d
Bend radius, e-chain®

10m
Travel distance, e-chain®

- For flexing applications
- PVC outer jacket
- Shielded
- Flame-retardant



Example image

Dynamic information

Bend radius	**e-chain® linear**	minimum 15 x d
	flexible	minimum 12 x d
	fixed	minimum 8 x d
Temperature	**e-chain® linear**	+5°C up to +70°C
	flexible	-5°C up to +70°C (following DIN EN 60811-504)
	fixed	-15°C up to +70°C (following DIN EN 50305)
v max.	**unsupported**	3m/s
a max.		20m/s²
Travel distance		Unsupported travels up to 10m, Class 1

Cable structure

Conductor	Conductor consisting of bare copper wires (according to DIN EN 60228).
Core insulation	Mechanically high-quality, especially low-capacitance TPE mixture.
Core structure	Power cores and control pair elements wound together in an optimised pitch length.
Core identification	**Power cores:** Black cores with white numbers, one green-yellow core. 1. Core: U / L1 / C / L+ 2. Core: V / L2 3. Core: W / L3 / D / L- **1 control pair:** Black cores with white numbers. 1. Control core: 5 2. Control core: 6 **2 control pairs:** Black cores with white numbers. 1. Control core: 5 2. Control core: 6 3. Control core: 7 4. Control core: 8
Element shield	Foil taping of optimised, bending-resistant foil shield.
Overall shield	Braiding made of tinned copper wires. Coverage approx. 60% optical
Outer jacket	Low-adhesion PVC mixture, adapted to suit the requirements in e-chains®. Colour: Pastel orange (similar to RAL 2003)

Electrical information

Nominal voltage	600/1,000V (following DIN VDE 0298-3) 1,000V (following UL)
Testing voltage	4,000V (following DIN EN 50395)

EPLAN download, configurators ▶ www.igus-asean.com/CF887

Class 3.1.1.1

Basic requirements	low	1	2	**3**	4	5	6	7	highest
Travel distance	unsupported	**1**	2	3	4	5	6		≥ 400m
Oil resistance	none	**1**	2	3	4				highest
Torsion	none	**1**	2	3	4				±360°

Properties and approvals

Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
UL verified	Certificate No. B129699: "igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL/CSA AWM	See data sheet for details ▶ www.igus-asean.com/CF887
NFPA	Following NFPA 79-2018, chapter 12.9
EAC	Certificate No. RU C-DE.ME77.B.00302/19
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
CE	Following 2014/35/EU
UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Guaranteed service life (details see page 28-29)

Double strokes*	1 million	3 million	5 million
Temperature, from/to [°C]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
+5/+15	17.5	18.5	19.5
+15/+60	15	16	17
+60/+70	17.5	18.5	19.5

* Higher number of double strokes? Service life calculation online ▶ www.igus-asean.com/chainflexlife

Typical application areas

- For flexing applications, Class 3
- Especially for unsupported travels, Class 1
- Without influence of oil, Class 1
- No torsion, Class 1
- Preferably indoor applications
- Wood/stone processing, packaging industry, feeding, handling, adjusting devices

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
1 control pair shielded				
CF887.07.05.02.01	(4G0.75+(2x0.5)C)C	10.0	69	119
CF887.15.15.02.01	(4G1.5+(2x1.5)C)	12.5	124	200
CF887.25.15.02.01	(4G2.5+(2x1.5)C)C	13.5	182	254
CF887.40.15.02.01	(4G4.0+(2x1.5)C)C	14.5	236	340
2 control pairs shielded				
CF887.10.07.02.02	(4G1.0+2x(2x0.75)C)	11.5	110	184
CF887.15.15.02.02	(4G1.5+2x(2x1.5)C)C	13.5	164	253
CF887.25.15.02.02	(4G2.5+2x(2x1.5)C)C	14.5	217	325

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

Servo cable | PVC | chainflex® CF210.UL

10 million
Double strokes guaranteed

10 x d
Bend radius, e-chain®

10m
Travel distance, e-chain®

- For medium duty applications
- PVC outer jacket
- Shielded
- Oil-resistant
- Flame-retardant



Example image

Dynamic information

Bend radius	**e-chain® linear**	minimum 10 x d
	flexible	minimum 8 x d
	fixed	minimum 5 x d
Temperature	**e-chain® linear**	+5°C up to +70°C
	flexible	-5°C up to +70°C (following DIN EN 60811-504)
	fixed	-15°C up to +70°C (following DIN EN 50305)
v max.	**unsupported**	10m/s
	gliding	2m/s
a max.		50m/s²
Travel distance		Unsupported travels and up to 10m for gliding applications, Class 2

Cable structure

Conductor	Stranded conductor in bending-resistant version consisting of bare copper wires (following DIN EN 60228).
Core insulation	Mechanically high-quality, especially low-capacitance XLPE mixture.
Core structure	Power cores and control pair elements wound with a short pitch length around a high tensile strength centre element.
Core identification	**Power cores:** Black cores with white numbers, one green-yellow core. 1. Core: U / L1 / C / L+ 2. Core: V / L2 3. Core: W / L3 / D / L- **1 control pair:** Black cores with white numbers. 1. Control core: 4 2. Control core: 5 **2 control pairs:** Black cores with white numbers. 1. Control core: 5 2. Control core: 6 3. Control core: 7 4. Control core: 8
Element shield	Bending-resistant braiding made of tinned copper wires.
Intermediate layer	Foil taping over the outer layer.
Overall shield	Bending-resistant braiding made of tinned copper wires. Coverage linear approx. 55%, optical approx. 80%
Outer jacket	Low-adhesion, oil-resistant PVC mixture, adapted to suit the requirements in e-chains® (following DIN EN 50363-4-1). Colour: Pastel orange (similar to RAL 2003)

EPLAN download, configurators ▶ www.igus-asean.com/CF210UL

Class 4.2.2.1

Basic requirements	low	1	2	3	**4**	5	6	7	highest
Travel distance	unsupported	1	**2**	3	4	5	6		≥ 400m
Oil resistance	none	1	**2**	3	4				highest
Torsion	none	**1**	2	3	4				±360°

Electrical information

Nominal voltage	600/1,000V (following DIN VDE 0298-3) 1,000V (following UL)
Testing voltage	4,000V (following DIN EN 50395)

Properties and approvals

UV resistance	Medium
Oil resistance	Oil-resistant (following DIN EN 50363-4-1), Class 2
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
UL verified	Certificate No. B129699: "igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL/CSA AWM	See data sheet for details ▶ www.igus-asean.com/CF210UL
NFPA	Following NFPA 79-2018, chapter 12.9
EAC	Certificate No. RU C-DE.ME77.B.00863/20
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 2. The outer jacket material of this series complies with CF5.10.07 - tested by IPA according to standard DIN EN ISO 14644-1
CE	Following 2014/35/EU
UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Guaranteed service life (details see page 28-29)

Double strokes*	5 million	7.5 million	10 million
Temperature, from/to [°C]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
+5/+15	12.5	13.5	14.5
+15/+60	10	11	12
+60/+70	12.5	13.5	14.5

* Higher number of double strokes? Service life calculation online ▶ www.igus-asean.com/chainflexlife

Typical application areas

- For medium duty applications, Class 4
- Unsupported travels and up to 10m for gliding applications, Class 2
- Light oil influence, Class 2
- No torsion, Class 1
- Preferably indoor applications, but also outdoor ones at temperatures > 5 °C
- Wood/stone processing, packaging industry, feeding, handling, adjusting devices

Servo cable | PVC | chainflex® CF210.UL



Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
1 control pair shielded				
CF210.UL.15.15.02.01	(4G1.5+(2x1.5)C)	12.5	154	245
CF210.UL.25.15.02.01	(4G2.5+(2x1.5)C)C	14.0	210	299
CF210.UL.40.15.02.01	(4G4.0+(2x1.5)C)C	15.0	255	383
CF210.UL.60.15.02.01	(4G6.0+(2x1.5)C)C	16.5	343	488
2 control pairs shielded				
CF210.UL.15.07.02.02	(4G1.5+2x(2x0.75)C)C	13.5	161	278
CF210.UL.25.15.02.02	(4G2.5+2x(2x1.5)C)C	16.0	244	381
CF210.UL.40.15.02.02	(4G4.0+2x(2x1.5)C)C	17.0	332	428
CF210.UL.60.15.02.02	(4G6.0+2x(2x1.5)C)C	19.0	403	598
without control pair				
CF210.UL.05.04	(4G0.5)C	7.0	34	63
CF210.UL.15.04	(4G1.5)C	10.0	86	140
CF210.UL.25.04	(4G2.5)C	11.5	146	209
CF210.UL.40.04	(4G4.0)C	13.0	195	288

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

Order example: CF210.UL.40.15.02.01 - to your desired length (0.5m steps)
CF210.UL **chainflex® series** .40 **Code nominal cross section** .15 **Code nominal cross section signal pairs** .02 **Identification pairs** .01 **Number of pairs**

Order online ▶ www.igus-asean.com/CF210UL

Delivery time 24hrs or today.
Delivery time means time until goods are shipped.



Cables available in the chainflex® CASE
Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.
More on this on page 24/25 and online: www.igus-asean.com/cf-case

EPLAN download, configurators ▶ www.igus-asean.com/CF210UL

Class 4.2.2.1

Basic requirements	low	1	2	3	**4**	5	6	7	highest
Travel distance	unsupported	1	**2**	3	4	5	6		≥ 400m
Oil resistance	none	1	**2**	3	4				highest
Torsion	none	**1**	2	3	4				±360°





chainflex® servo cable in a vertical e-chain®

Guarantee igus chainflex 36

igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year

Servo cable | PVC | chainflex® CF21.UL

10 million
Double strokes guaranteed

7.5 x d
Bend radius, e-chain®

100m
Travel distance, e-chain®

- For heavy duty applications
- PVC outer jacket
- Shielded
- Oil-resistant
- Flame-retardant



Example image

Dynamic information

Bend radius	**e-chain® linear**	minimum 7.5 x d
	flexible	minimum 6 x d
	fixed	minimum 4 x d
Temperature	**e-chain® linear**	+5°C up to +70°C
	flexible	-5°C up to +70°C (following DIN EN 60811-504)
	fixed	-15°C up to +70°C (following DIN EN 50305)
v max.	**unsupported**	10m/s
	gliding	5m/s
a max.		80m/s²
Travel distance		Unsupported travels and up to 100m for gliding applications, Class 5

Cable structure

Conductor	Stranded conductor in especially bending-resistant version consisting of bare copper wires (following DIN EN 60228).
Core insulation	Mechanically high-quality, especially low-capacitance XLPE mixture.
Core structure	Power cores with control pair elements wound with elements for high tensile stresses.
Core identification	**Power cores:** Black cores with white numbers, one green-yellow core. 1. Core: U / L1 / C / L+ 2. Core: V / L2 3. Core: W / L3 / D / L- **1 control pair:** Black cores with white numbers. 1. Control core: 4 2. Control core: 5 **2 control pairs:** Black cores with white numbers. 1. Control core: 5 2. Control core: 6 3. Control core: 7 4. Control core: 8
Element shield	Extremely bending-resistant braiding made of tinned copper wires.
Inner jacket	PVC mixture adapted to suit the requirements in e-chains®.
Overall shield	Extremely bending-resistant braiding made of tinned copper wires. Coverage linear approx. 70%, optical approx. 90%
Outer jacket	Low-adhesion, oil-resistant PVC mixture, adapted to suit the requirements in e-chains® (following DIN EN 50363-4-1). Colour: Moss green (similar to RAL 6005)
CFRIP®	Strip cables faster: a tear strip is moulded into the inner jacket Video ▶ www.igus-asean.com/CFRIP

EPLAN download, configurators ▶ www.igus-asean.com/CF21UL

Class 5.5.2.1

Basic requirements	low	1	2	3	4	**5**	6	7	highest
Travel distance	unsupported	1	2	3	4	**5**	6		≥ 400m
Oil resistance	none	1	**2**	3	4				highest
Torsion	none	**1**	2	3	4				±360°

Electrical information

Nominal voltage	600/1,000V (following DIN VDE 0298-3) 1,000V (following UL)
Testing voltage	4,000V (following DIN EN 50395)

Properties and approvals

UV resistance	Medium
Oil resistance	Oil-resistant (following DIN EN 50363-4-1), Class 2
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
UL verified	Certificate No. B129699: "igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL/CSA AWM	See data sheet for details ▶ www.igus-asean.com/CF21UL
NFPA	Following NFPA 79-2018, chapter 12.9
EAC	Certificate No. RU C-DE.ME77.B.00863/20
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 2. The outer jacket material of this series complies with CF5.10.07 - tested by IPA according to standard DIN EN ISO 14644-1
CE	Following 2014/35/EU
UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Guaranteed service life (details see page 28-29)

Double strokes*	5 million	7.5 million	10 million
Temperature, from/to [°C]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
+5/+15	10	11	12
+15/+60	7.5	8.5	9.5
+60/+70	10	11	12

* Higher number of double strokes? Service life calculation online ▶www.igus-asean.com/chainflexlife

Typical application areas

- For heavy-duty applications, Class 5
- Unsupported travels and up to 100m for gliding applications, Class 5
- Light oil influence, Class 2
- No torsion, Class 1
- Preferably indoor applications, but also outdoor ones at temperatures > 5 °C
- Storage and retrieval units, machining units/packaging machines, quick handling, indoor cranes

Servo cable | PVC | chainflex® CF21.UL

Strip cables 50% faster with CFRIP® tear strip



Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
1 control pair shielded				
CF21.07.05.02.01.UL	(4G0.75+(2x0.5)C)C	11.0	76	159
CF21.15.15.02.01.UL	(4G1.5+(2x1.5)C)	13.0	145	256
CF21.25.15.02.01.UL	(4G2.5+(2x1.5)C)C	14.5	199	330
CF21.40.15.02.01.UL	(4G4.0+(2x1.5)C)C	16.0	256	406
CF21.60.15.02.01.UL	(4G6.0+(2x1.5)C)C	18.0	343	546
CF21.100.15.02.01.UL	(4G10+(2x1.5)C)C	21.5	536	828
2 control pairs shielded				
CF21.07.03.02.02.UL	(4G0.75+2x(2x0.34)C)C	12.5	103	208
CF21.10.07.02.02.UL	(4G1.0+2x(2x0.75)C)	13.5	148	269
CF21.15.07.02.02.UL	(4G1.5+2x(2x0.75)C)C	14.5	167	309
CF21.25.15.02.02.UL	(4G2.5+2x(2x1.5)C)C	17.0	254	434
CF21.40.15.02.02.UL	(4G4.0+2x(2x1.5)C)C	18.0	308	515
CF21.60.15.02.02.UL	(4G6.0+2x(2x1.5)C)C	21.0	412	695
CF21.100.15.02.02.UL	(4G10+2x(2x1.5)C)C	23.0	592	925
CF21.160.15.02.02.UL	(4G16+2x(2x1.5)C)C	26.5	878	1287

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

Order example: CF21.40.15.02.01.UL - to your desired length (0.5m steps)
CF21.UL chainflex® series .40 Code nominal cross section .15 Code nominal cross section signal pairs .02 Identification pairs .01 Number of pairs

Order online ▶ www.igus-asean.com/CF21UL

Delivery time 24hrs or today.
Delivery time means time until goods are shipped.

Cables available in the chainflex® CASE
Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.
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EPLAN download, configurators ▶ www.igus-asean.com/CF21UL

Class 5.5.2.1

Basic requirements	low	1	2	3	4	**5**	6	7	highest
Travel distance	unsupported	1	2	3	4	**5**	6		≥ 400m
Oil resistance	none	1	**2**	3	4				highest
Torsion	none	**1**	2	3	4				±360°





chainflex® CF21.UL: cables for energy supply systems
in spinneret production. e-chain®: E2/000

igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year

Servo cable | iguPUR | chainflex® CF897

5,000,000
Double strokes guaranteed

15 x d
Bend radius, e-chain®

10m
Travel distance, e-chain®

- For flexing applications
- iguPUR outer jacket
- Oil-resistant
- Shielded
- Flame-retardant



Example image

Dynamic information

Bend radius	**e-chain® linear**	minimum 15 x d
	flexible	minimum 12 x d
	fixed	minimum 8 x d
Temperature	**e-chain® linear**	-20°C up to +80°C
	flexible	-40°C up to +80°C (following DIN EN 60811-504)
	fixed	-50°C up to +80°C (following DIN EN 50305)
v max.	**unsupported**	3m/s
a max.		20m/s²
Travel distance		Unsupported travels up to 10m, Class 1

Cable structure

Conductor	Conductor consisting of bare copper wires (according to DIN EN 60228).
Core insulation	Mechanically high-quality, especially low-capacitance TPE mixture.
Core structure	Power cores and control pair elements wound together in an optimised pitch length.
Core identification	**Power cores:** Black cores with white numbers, one green-yellow core. 1. Core: U / L1 / C / L+ 2. Core: V / L2 3. Core: W / L3 / D / L- **1 control pair:** Black cores with white numbers. 1. Control core: 5 2. Control core: 6 **2 control pairs:** Black cores with white numbers. 1. Control core: 5 2. Control core: 6 3. Control core: 7 4. Control core: 8
Element shield	Foil taping of optimised, bending-resistant foil shield.
Overall shield	Braiding made of tinned copper wires. Coverage approx. 60% optical
Outer jacket	Low-adhesion iguPUR mixture, adapted to suit the requirements in e-chains®. Colour: Pastel orange (similar to RAL 2003)

Electrical information

Nominal voltage	600/1,000V (following DIN VDE 0298-3) 1,000V (following UL)
Testing voltage	4,000V (following DIN EN 50395)

EPLAN download, configurators ▶ www.igus-asean.com/CF897

Class 3.1.3.1

Basic requirements	low	1	2	**3**	4	5	6	7	highest
Travel distance	unsupported	**1**	2	3	4	5	6		≥ 400m
Oil resistance	none	1	2	**3**	4				highest
Torsion	none	**1**	2	3	4				±360°

Properties and approvals

UV resistance	Medium
Oil resistance	Oil-resistant (following DIN EN 50363-10-2), Class 3
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
UL verified	Certificate No. B129699: "igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL/CSA AWM	See data sheet for details ▶ www.igus-asean.com/CF897
NFPA	Following NFPA 79-2018, chapter 12.9
EAC	Certificate No. RU C-DE.ME77.B.00302/19
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
CE	Following 2014/35/EU
UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Guaranteed service life (details see page 28-29)

Double strokes*	1 million	3 million	5 million
Temperature, from/to [°C]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-20/-10	17.5	18.5	19.5
-10/+70	15	16	17
+70/+80	17.5	18.5	19.5

* Higher number of double strokes? Service life calculation online ▶ www.igus-asean.com/chainflexlife

Typical application areas

- For flexing applications, Class 3
- Especially for unsupported travels, Class 1
- With influence of oil, Class 3
- No torsion, Class 1
- Indoor and outdoor applications without direct sun radiation
- Machining units/machine tools, low temperature applications

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
1 control pair shielded				
CF897.15.15.02.01	(4G1.5+(2x1.5)C)	12.5	124	201
CF897.25.15.02.01	(4G2.5+(2x1.5)C)C	13.5	182	248
CF897.40.15.02.01	(4G4.0+(2x1.5)C)C	14.5	236	329
2 control pairs shielded				
CF897.15.15.02.02	(4G1.5+2x(2x1.5)C)C	13.5	164	246

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

Servo cable | PUR | chainflex® CF270.UL.D

10 million
Double strokes guaranteed

10 x d
Bend radius, e-chain®

10m
Travel distance, e-chain®

- For medium duty applications
- PUR outer jacket
- Shielded
- Oil-resistant and coolant-resistant
- Notch-resistant
- Flame-retardant
- Hydrolysis and microbe-resistant
- PVC and halogen-free



Example image

Dynamic information

Bend radius	**e-chain® linear**	minimum 10 x d
	flexible	minimum 8 x d
	fixed	minimum 5 x d
Temperature	**e-chain® linear**	-25°C up to +80°C
	flexible	-40°C up to +80°C (following DIN EN 60811-504)
	fixed	-50°C up to +80°C (following DIN EN 50305)
v max.	**unsupported**	10m/s
	gliding	2m/s
a max.		50m/s²
Travel distance		Unsupported travels and up to 10m for gliding applications, Class 2

Cable structure

Conductor	Stranded conductor in bending-resistant version consisting of bare copper wires (following DIN EN 60228).
Core insulation	Mechanically high-quality, especially low-capacitance XLPE mixture.
Core structure	Power cores and control pair elements wound with a short pitch length around a high tensile strength centre element.
Core identification	**Power cores:** Black cores with white numbers, one green-yellow core. 1. Core: U / L1 / C / L+ 2. Core: V / L2 3. Core: W / L3 / D / L- **1 control pair:** Black cores with white numbers. 1. Control core: 4 2. Control core: 5 **2 control pairs:** Black cores with white numbers. 1. Control core: 5 2. Control core: 6 3. Control core: 7 4. Control core: 8
Element shield	Bending-resistant braiding made of tinned copper wires.
Intermediate layer	Foil taping over the outer layer.
Overall shield	Bending-resistant braiding made of tinned copper wires. Coverage linear approx. 55%, optical approx. 80%
Outer jacket	Low-adhesion, halogen-free, highly abrasion resistant PUR mixture, adapted to suit the requirements in e-chains® (following DIN EN 50363-10-2) Colour: Pastel orange (similar to RAL 2003)

Electrical information

Nominal voltage	600/1,000V (following DIN VDE 0298-3) 1,000V (following UL)
Testing voltage	4,000V (following DIN EN 50395)

EPLAN download, configurators ▶ www.igus-asean.com/CF270ULD

36-month guarantee ... more than 1,350 cable types from stock ... no cutting charges

Class 4.2.3.1

Basic requirements	low	1	2	3	**4**	5	6	7	highest
Travel distance	unsupported	1	**2**	3	4	5	6		≥ 400m
Oil resistance	none	1	2	**3**	4		highest		
Torsion	none	**1**	2	3	4		±360°		

Properties and approvals

UV resistance	Medium
Oil resistance	Oil-resistant (following DIN EN 50363-10-2), Class 3
Offshore	MUD-resistant following NEK 606 - status 2016
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
Halogen-free	Following DIN EN 60754
UL verified	Certificate No. B129699: "igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL/CSA AWM	See data sheet for details ▶ www.igus-asean.com/CF270ULD
NFPA	Following NFPA 79-2018, chapter 12.9
EAC	Certificate No. RU C-DE.ME77.B.00863/20
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 1. The outer jacket material of this series complies with CF77.UL.05.12.D - tested by IPA according to standard DIN EN ISO 14644-1
DESINA	According to VDW, DESINA standardisation
CE	Following 2014/35/EU
UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Guaranteed service life (details see page 28-29)

Double strokes*	5 million	7.5 million	10 million
Temperature, from/to [°C]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-25/-15	12.5	13.5	14.5
-15/+70	10	11	12
+70/+80	12.5	13.5	14.5

* Higher number of double strokes? Service life calculation online ▶ www.igus-asean.com/chainflexlife

Typical application areas

- For medium duty applications, Class 4
- Unsupported travels and up to 10m for gliding applications, Class 2
- Almost unlimited resistance to oil, Class 3
- No torsion, Class 1
- Indoor and outdoor applications without direct sun radiation
- Machining units/machine tools, low temperature applications

Servo cable | PUR | chainflex® CF270.UL.D



Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
1 control pair shielded				
CF270.UL.15.15.02.01.D	(4G1.5+(2x1.5)C)	11.5	146	190
CF270.UL.25.15.02.01.D	(4G2.5+(2x1.5)C)C	13.0	195	248
CF270.UL.40.15.02.01.D	(4G4.0+(2x1.5)C)C	15.0	260	328
CF270.UL.60.15.02.01.D	(4G6.0+(2x1.5)C)C	16.5	350	430
CF270.UL.100.15.02.01.D	(4G10+(2x1.5)C)C	19.0	541	624
CF270.UL.160.15.02.01.D	(4G16+(2x1.5)C)C	22.0	786	900
2 control pairs shielded				
CF270.UL.07.03.02.02.D	(4G0.75+2x(2x0.34)C)C	11.0	96	151
CF270.UL.10.07.02.02.D	(4G1.0+2x(2x0.75)C)	12.5	139	200
CF270.UL.15.07.02.02.D	(4G1.5+2x(2x0.75)C)C	12.5	162	210
CF270.UL.25.15.02.02.D	(4G2.5+2x(2x1.5)C)C	15.5	265	322
CF270.UL.40.15.02.02.D	(4G4.0+2x(2x1.5)C)C	16.5	322	403
CF270.UL.60.15.02.02.D	(4G6.0+2x(2x1.5)C)C	18.5	407	505
CF270.UL.100.15.02.02.D	(4G10+2x(2x1.5)C)C	21.0	604	703
CF270.UL.160.15.02.02.D	(4G16+2x(2x1.5)C)C	24.0	857	997
CF270.UL.250.15.02.02.D	(4G25+2x(2x1.5)C)C	27.5	1219	1422
without control pair				
CF270.UL.07.04.D	(4G0.75)C	8.0	47	81
CF270.UL.10.06.D	(6G1.0)C	9.5	87	133
CF270.UL.15.04.D	(4G1.5)C	9.0	78	116
CF270.UL.25.04.D	(4G2.5)C	10.5	129	173
CF270.UL.40.04.D	(4G4.0)C	12.5	193	255
CF270.UL.60.04.D	(4G6.0)C	14.5	297	356
CF270.UL.100.04.D	(4G10)C	17.0	495	551
CF270.UL.160.04.D	(4G16)C	20.5	755	819
CF270.UL.250.04.D	(4G25)C	25.0	1117	1256
CF270.UL.350.04.D	(4G35)C	28.0	1597	1696
Spindle cable/Single core				
CF270.UL.60.01.D	(1x6.0)C	7.5	72	95
CF270.UL.100.01.D	(1x10)C	8.5	114	145
CF270.UL.160.01.D	(1x16)C	9.5	178	209
CF270.UL.250.01.D	(1x25)C	11.0	269	304
CF270.UL.350.01.D	(1x35)C	13.0	374	419
CF270.UL.500.01.D	(1x50)C	15.0	525	579
CF270.UL.700.01.D	(1x70)C	17.0	751	804

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

EPLAN download, configurators ▶ www.igus-asean.com/CF270ULD

Class 4.2.3.1

Basic requirements	low	1	2	3	**4**	5	6	7	highest
Travel distance	unsupported	1	**2**	3	4	5	6		≥ 400m
Oil resistance	none	1	2	**3**	4				highest
Torsion	none	**1**	2	3	4				±360°



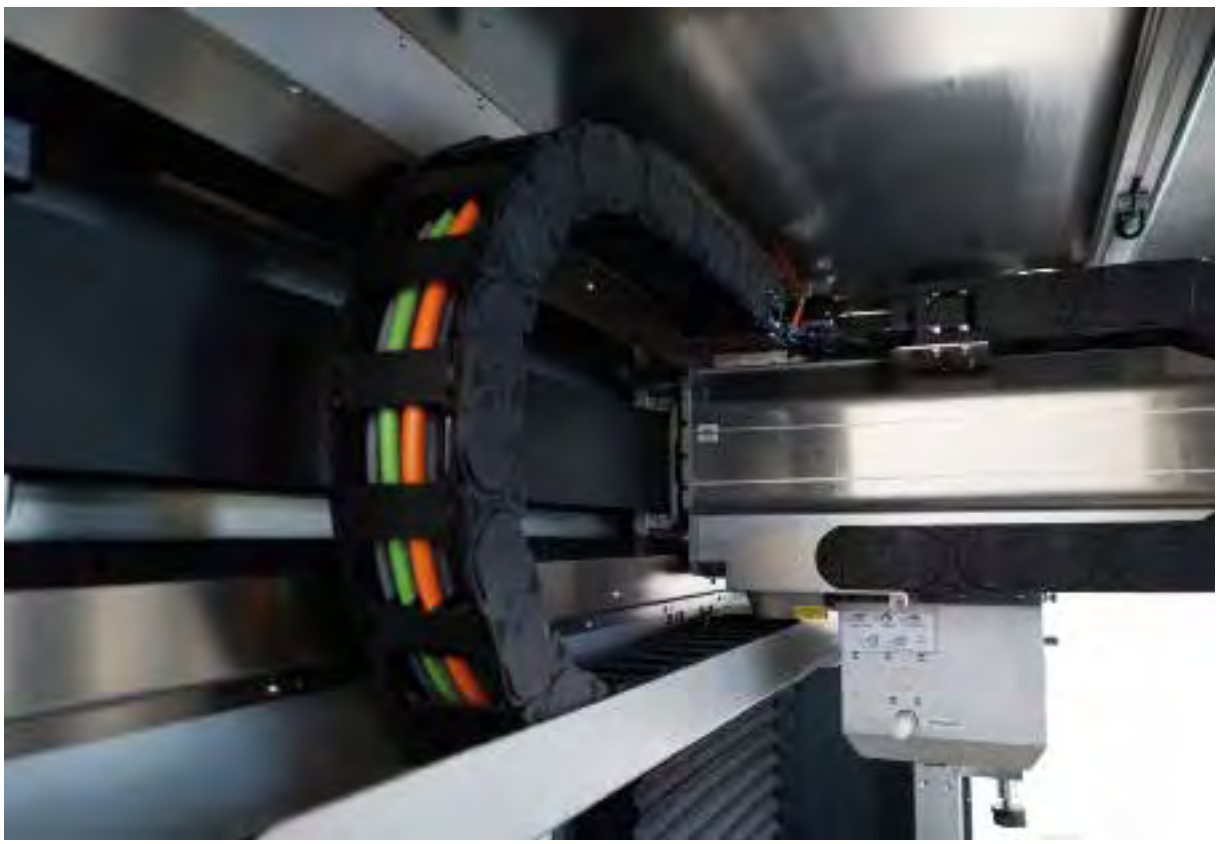
Order example: CF270.UL.40.15.02.01.D - to your desired length (0.5m steps)
CF270.UL.D chainflex® series .40 Code nominal cross section .15 Code nominal cross section signal pairs .02 Identification pairs .01 Number of pairs

Order online ▶ www.igus-asean.com/CF270ULD

Delivery time 24hrs or today.
Delivery time means time until goods are shipped.



Cables available in the chainflex® CASE
Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.
More on this on page 24/25 and online: www.igus-asean.com/cf-case



Linear robot with chainflex® servo and measuring system cables, short travel distance

Servo cable | PUR | chainflex® CF27.D

10 million
Double strokes guaranteed

7.5 x d
Bend radius, e-chain®

100m
Travel distance, e-chain®

- For extremely heavy duty applications
- PUR outer jacket
- Shielded
- Oil-resistant and coolant-resistant
- Notch-resistant
- Flame-retardant
- Hydrolysis and microbe-resistant
- PVC and halogen-free



Example image

Dynamic information

Bend radius	**e-chain® linear**	minimum 7.5 x d
	flexible	minimum 6 x d
	fixed	minimum 4 x d
Temperature	**e-chain® linear**	-25°C up to +80°C
	flexible	-40°C up to +80°C (following DIN EN 60811-504)
	fixed	-50°C up to +80°C (following DIN EN 50305)
v max.	**unsupported**	10m/s
	gliding	5m/s
a max.		80m/s²
Travel distance		Unsupported travels and up to 100m for gliding applications, Class 5

Cable structure

Conductor	Stranded conductor in especially bending-resistant version consisting of bare copper wires (following DIN EN 60228).
Core insulation	Mechanically high-quality, especially low-capacitance XLPE mixture.
Core structure	Power cores with control pair elements wound with elements for high tensile stresses.
Core identification	**Power cores:** Black cores with white numbers, one green-yellow core. 1. Core: U / L1 / C / L+ 2. Core: V / L2 3. Core: W / L3 / D / L- **1 control pair:** Black cores with white numbers. 1. Control core: 4 2. Control core: 5 **2 control pairs:** Black cores with white numbers. 1. Control core: 5 2. Control core: 6 3. Control core: 7 4. Control core: 8 **Star quad:** yellow, black, red, white
Element shield	Extremely bending-resistant braiding made of tinned copper wires.
Inner jacket	TPE mixture adapted to suit the requirements in e-chains®.
Overall shield	Extremely bending-resistant braiding made of tinned copper wires. Coverage linear approx. 70%, optical approx. 90%
Outer jacket	Low-adhesion, halogen-free, highly abrasion resistant PUR mixture, adapted to suit the requirements in e-chains® (following DIN EN 50363-10-2) Colour: Pastel orange (similar to RAL 2003)
CFRIP®	Strip cables faster: a tear strip is moulded into the inner jacket Video ▶ www.igus-asean.com/CFRIP

Electrical information

Nominal voltage	600/1,000V (following DIN VDE 0298-3) 1,000V (following UL)
Testing voltage	4,000V (following DIN EN 50395)

Class 6.5.3.1

Basic requirements	low	1	2	3	4	5	**6**	7 highest
Travel distance	unsupported	1	2	3	4	**5**	6	≥ 400m
Oil resistance	none	1	2	**3**	4	highest		
Torsion	none	**1**	2	3	4	±360°		

Properties and approvals

UV resistance	Medium
Oil resistance	Oil-resistant (following DIN EN 50363-10-2), Class 3
Offshore	MUD-resistant following NEK 606 - status 2016
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
Halogen-free	Following DIN EN 60754
UL verified	Certificate No. B129699: "igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL/CSA AWM	See data sheet for details ▶ www.igus-asean.com/CF27D
NFPA	Following NFPA 79-2018, chapter 12.9
DNV	Type Approval Certificate TAE00003XA
EAC	Certificate No. RU C-DE.ME77.B.00863/20
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 1. The outer jacket material of this series complies with CF77.UL.05.12.D - tested by IPA according to standard DIN EN ISO 14644-1
DESINA	According to VDW, DESINA standardisation
CE	Following 2014/35/EU
UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Guaranteed service life (details see page 28-29)

Double strokes*	5 million	7.5 million	10 million
Temperature, from/to [°C]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-25/-15	10	11	12
-15/+70	7.5	8.5	9.5
+70/+80	10	11	12

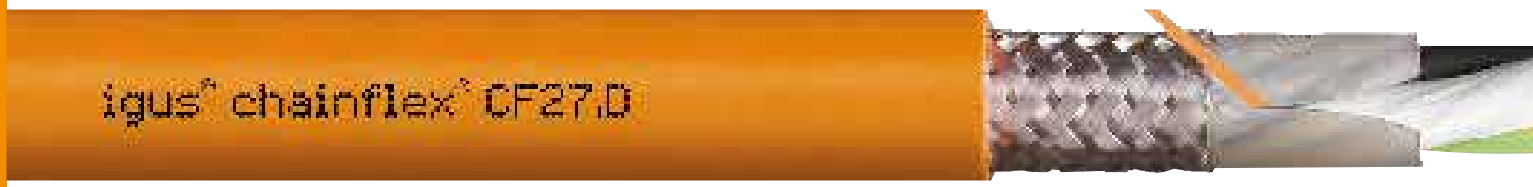
* Higher number of double strokes? Service life calculation online ▶ www.igus-asean.com/chainflexlife

Typical application areas

- For heavy-duty applications, Class 6
- Unsupported travels and up to 100m for gliding applications, Class 5
- Almost unlimited resistance to oil, Class 3
- No torsion, Class 1
- Indoor and outdoor applications, UV-resistant
- Storage and retrieval units for high-bay warehouses, machining units/machine tools, quick handling, cleanroom, semiconductor insertion, outdoor cranes, low-temperature applications

Servo cable | PUR | chainflex® CF27.D

Strip cables 50% faster with CFRIP® tear strip



Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
1 control pair shielded				
CF27.07.05.02.01.D	(4G0.75+(2x0.5)C)C	11.5	76	169
CF27.15.15.02.01.D	(4G1.5+(2x1.5)C)	13.0	145	244
CF27.25.15.02.01.D	(4G2.5+(2x1.5)C)C	14.5	199	306
CF27.40.15.02.01.D	(4G4.0+(2x1.5)C)C	16.0	256	403
CF27.60.15.02.01.D	(4G6.0+(2x1.5)C)C	17.5	343	505
CF27.100.15.02.01.D	(4G10+(2x1.5)C)C	21.0	536	746
CF27.160.15.02.01.D	(4G16+(2x1.5)C)C	24.0	797	1086
CF27.250.15.02.01.D	(4G25+(2x1.5)C)C	28.0	1173	1528
CF27.350.15.02.01.D	(4G35+(2x1.5)C)C	32.0	1618	1998
2 control pairs shielded				
CF27.07.03.02.02.D	(4G0.75+2x(2x0.34)C)C	12.5	103	196
CF27.10.07.02.02.D	(4G1.0+2x(2x0.75)C)	13.5	148	245
CF27.15.07.02.02.D	(4G1.5+2x(2x0.75)C)C	14.5	167	287
CF27.25.15.02.02.D	(4G2.5+2x(2x1.5)C)C	16.0	254	383
CF27.40.15.02.02.D	(4G4.0+2x(2x1.5)C)C	17.5	308	459
CF27.60.15.02.02.D	(4G6.0+2x(2x1.5)C)C	19.5	412	604
CF27.100.15.02.02.D	(4G10+2x(2x1.5)C)C	22.5	592	842
CF27.160.15.02.02.D	(4G16+2x(2x1.5)C)C	26.0	878	1223
CF27.250.15.02.02.D	(4G25+2x(2x1.5)C)C	31.0	1250	1699
1 star-quad shielded				
CF27.15.05.04.D	(4G1.5+(4x0.5)C)C	12.5	131	231
CF27.25.05.04.D	(4G2.5+(4x0.5)C)C	14.0	176	292
CF27.40.05.04.D	(4G4.0+(4x0.5)C)	16.0	244	376
without control pair				
CF27.07.04.D	(4G0.75)C	9.5	55	115
CF27.15.04.D	(4G1.5)C	11.0	90	165
CF27.25.04.D	(4G2.5)C	12.5	135	231
CF27.500.04.D	(4G50)C	37.0	2244	2817

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core



ables available in the chainflex® CASE

imple savings on delivery, storage space and re-ordering with
e chainflex® CASE - ship'n store by igus®.

ore on this on page 24/25 and online: www.igus-asean.com/cf-case

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Class 6.5.3.1

Basic requirements	low	1	2	3	4	5	**6**	7	highest
Travel distance	unsupported	1	2	3	4	**5**	6		≥ 400m
Oil resistance	none	1	2	**3**	4				highest
Torsion	none	**1**	2	3	4				±360°



Order example: CF27.40.15.02.01.D - to your desired length (0.5m steps)
CF27.D chainflex® series .40 Code nominal cross section .10 Code nominal cross section
.02 Identification pairs .01 Number of pairs

Order online ▶ www.igus-asean.com/CF27D

Delivery time 24hrs or today.
Delivery time means time until goods are shipped.

cost down...
...life up

Reduce cost, improve technology, now!
Do the chainflex® price check ...
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… for example: reduce cost with CF21.UL ...



Modular design, easy to retrofit: igus® E4 e-chain® and chainflex® cables.

Guarantee igus chainflex 36

igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year

Servo cable | TPE | chainflex® CF29.D

12.5 million
Double strokes guaranteed

6.8 x d
Bend radius, e-chain®

400m
Travel distance, e-chain®

- For heaviest duty applications
- TPE outer jacket
- Shielded
- Oil and bio-oil-resistant
- PVC and halogen-free
- UV-resistant
- Hydrolysis and microbe-resistant

Now available with UL approval & 25% longer service life



Example image

Dynamic information

Bend radius	**e-chain® linear**	minimum 6.8 x d
	flexible	minimum 5 x d
	fixed	minimum 4 x d
Temperature	**e-chain® linear**	-35°C up to +100°C
	flexible	-50°C up to +100°C (following DIN EN 60811-504)
	fixed	-55°C up to +100°C (following DIN EN 50305)
v max.	**unsupported**	10m/s
	gliding	5m/s
a max.	80m/s²	
Travel distance	Unsupported travels and up to 400m and more for gliding applications, Class 6	

Cable structure

Conductor	Stranded conductor in especially bending-resistant version consisting of bare copper wires (following DIN EN 60228).
Core insulation	Mechanically high-quality, especially low-capacitance XLPE mixture.
Core structure	Power cores with control pair elements wound with elements for high tensile stresses.
Core identification	**Power cores:** Black cores with white numbers, one green-yellow core. 1. Core: U / L1 / C / L+ 2. Core: V / L2 3. Core: W / L3 / D / L- **1 control pair:** Black cores with white numbers. 1. Control core: 4 2. Control core: 5
Element shield	Extremely bending-resistant braiding made of tinned copper wires.
Inner jacket	TPE mixture adapted to suit the requirements in e-chains®.
Overall shield	Extremely bending-resistant braiding made of tinned copper wires. Coverage linear approx. 70%, optical approx. 90%
Outer jacket	Low-adhesion, extremely abrasion-resistant and highly flexible TPE mixture, adapted to suit the requirements in e-chains®. Colour: Pastel orange (similar to RAL 2003)

Electrical information

Nominal voltage	600/1,000V (following DIN VDE 0298-3) 1,000V (following UL)
Testing voltage	4,000V (following DIN EN 50395)

EPLAN download, configurators ▶ www.igus-asean.com/CF29D

Class 7.6.4.1

Basic requirements	low	1	2	3	4	5	6	**7**	highest
Travel distance	unsupported	1	2	3	4	5	**6**		≥ 400m
Oil resistance	none	1	2	3	**4**				highest
Torsion	none	**1**	2	3	4				±360°

Properties and approvals

UV resistance	Medium
Oil resistance	Oil-resistant (following DIN EN 60811-404), bio-oil-resistant (following VDMA 24568 with Plantocut 8 S-MB tested by DEA), Class 4
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
Halogen-free	Following DIN EN 60754
UL verified	Certificate No. B129699: "igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL AWM	See data sheet for details ▶ www.igus-asean.com/CF29D (from production date 01/2022)
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 1. The outer jacket material of this series complies with CF9.15.07 - tested by IPA according to standard DIN EN ISO 14644-1
DESINA	According to VDW, DESINA standardisation
CE	Following 2014/35/EU
UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Guaranteed service life (details see page 28-29)

Double strokes*	5 million		7.5 million		12.5 million	
Temperature, from/to [°C]	< 10m	≥ 10m	< 10m	≥ 10m	< 10m	≥ 10m
	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-35/-25	8.5	10	9.5	11	10.5	12
-25/+90	6.8	7.5	7.5	8.5	8.5	9.5
+90/+100	8.5	10	9.5	11	10.5	12

* Higher number of double strokes? Service life calculation online ▶ www.igus-asean.com/chainflexlife

Typical application areas

- For heavy-duty applications, Class 7
- Unsupported travels and up to 400m and more for gliding applications, Class 6
- Almost unlimited resistance to oil, also with bio-oils
- No torsion, Class 1
- Indoor and outdoor applications, UV-resistant, Class 4
- Storage and retrieval units for high-bay warehouses, machining units/machine tools, quick handling, cleanroom, semiconductor insertion, outdoor cranes, low-temperature applications

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
1 control pair shielded				
CF29.15.15.02.01.D	(4G1.5+(2x1.5)C)	13.0	145	231
CF29.25.15.02.01.D	(4G2.5+(2x1.5)C)C	14.0	199	291
CF29.40.15.02.01.D	(4G4.0+(2x1.5)C)C	15.5	256	367

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

New

Hybrid servo cable | PVC | chainflex® CF220.UL.H

10 million
Double strokes guaranteed

10 x d
Bend radius, e-chain®

10m
Travel distance, e-chain®

- For medium duty applications
- PVC outer jacket
- Shielded
- Oil-resistant
- Flame-retardant

New cable suitable for Siemens SINAMICS S210



Example image

Dynamic information

Bend radius	**e-chain® linear**	minimum 10 x d
	flexible	minimum 8 x d
	fixed	minimum 5 x d
Temperature	**e-chain® linear**	+5°C up to +70°C
	flexible	-5°C up to +70°C (following DIN EN 60811-504)
	fixed	-15°C up to +70°C (following DIN EN 50305)
v max.	**unsupported**	10m/s
	gliding	2m/s
a max.		50m/s²
Travel distance		Unsupported travels and up to 10m for gliding applications, Class 2

Cable structure

Conductor	Stranded conductor in bending-resistant version consisting of bare copper wires (following DIN EN 60228).
Core insulation	Mechanically high-quality, especially low-capacitance XLPE mixture.
Core structure	Power cores and control pair elements wound with a short pitch length around a high tensile strength centre element.
Core identification	According to Servo-Hybrid specification. Current data sheet ▶ www.chainflex.eu/CF220ULH
Element shield	Bending-resistant braiding made of tinned copper wires.
Intermediate layer	Foil taping over the outer layer.
Overall shield	Bending-resistant braiding made of tinned copper wires. Coverage linear approx. 55%, optical approx. 80%
Outer jacket	Low-adhesion, oil-resistant PVC mixture, adapted to suit the requirements in e-chains® (following DIN EN 50363-4-1). Colour: Pastel orange (similar to RAL 2003) Variants ▶ Product range table

Electrical information

Nominal voltage	600/1,000V (following DIN VDE 0298-3) 1,000V (following UL) Variants ▶ Product range table
Testing voltage	4,000V (following DIN EN 50395)

EPLAN download, configurators ▶ www.igus-asean.com/CF220ULH

36-month guarantee ... more than 1,350 cable types from stock ... no cutting charges

igus

Class 4.2.2.1

Basic requirements	low	1	2	3	**4**	5	6	7	highest
Travel distance	unsupported	1	**2**	3	4	5	6		≥ 400m
Oil resistance	none	1	**2**	3	4				highest
Torsion	none	**1**	2	3	4				±360°

Properties and approvals

UV resistance	Medium
Oil resistance	Oil-resistant (following DIN EN 50363-4-1), Class 2
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
UL verified	Certificate No. B129699: "igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL/CSA AWM	See data sheet for details ▶ www.igus-asean.com/CF220ULH
NFPA	Following NFPA 79-2018, chapter 12.9
EAC	Certificate No. RU C-DE.ME77.B.00863/20
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 2. The outer jacket material of this series complies with CF5.10.07 - tested by IPA according to standard DIN EN ISO 14644-1
CE	Following 2014/35/EU
UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)
Info	As hybrid cables are always designed for specific drive systems, additional electrotechnical data may need to be considered. You will find more information in the latest data sheet for the cable series.

Guaranteed service life (details see page 28-29)

Double strokes*	5 million	7.5 million	10 million
Temperature, from/to [°C]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
+5/+15	12.5	13.5	14.5
+15/+60	10	11	12
+60/+70	12.5	13.5	14.5

* Higher number of double strokes? Service life calculation online ▶ www.igus-asean.com/chainflexlife

Typical application areas

- For medium duty applications, Class 4
- Unsupported travels and up to 10m for gliding applications, Class 2
- Light oil influence, Class 2
- No torsion, Class 1
- Preferably indoor applications, but also outdoor ones at temperatures > 5 °C
- Wood/stone processing, packaging industry, feeding, handling, adjusting devices

New

Hybrid servo cable | PVC | chainflex® CF220.UL.H



Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
SICK (HIPERFACE DSL)				
CF220.UL.H100.07.04	(4G0.75+(2x0.34)C +(2xAWG22)C)C	12.0	110	214
CF220.UL.H101.10.04	(4G1.0+(2x0.75)C +(2xAWG22)C)C	12.0	133	202
CF220.UL.H101.15.04	(4G1.5+(2x0.75)C +(2xAWG22)C)C	13.0	156	230
CF220.UL.H102.25.04	(4G2.5+(2x1.0)C +(2xAWG22)C)C	14.5	203	348
CF220.UL.H102.40.04 [11)]	(4G4.0+(2x1.0)C +(2xAWG22)C)C	16.5	281	434
SEW cable type E/1.5				
CF220.UL.H203.15.04	(4G1.5+(3x1.0)C)C	11.5	133	219
SINAMICS S210				
CF220.UL.H300.03.04	(4Gx0.34+(2x0.34)C +(4xAWG26)C)C	10.0	78	139
CF220.UL.H301.07.04	(4Gx0.75+(2x0.5)C +(4xAWG26)C)C	11.0	100	168
New **CF220.UL.H304.15.04**	(4G1.5+(2x1.5)C +(4xAWG26)C)C	13.0	159	233
HEIDENHAIN				
CF220.UL.H501.15.04	(4G1.5+(2x0.75)C +(2x2x0.14+2x0.25)C)C	13.5	170	239

[11)] Phase-out model

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core



Drilling machine for wooden plates equipped with latest hybrid cable technology with Hiperface DSL

EPLAN download, configurators ▶ www.igus-asean.com/CF220ULH

Class 4.2.2.1

Basic requirements
Travel distance
Oil resistance
Torsion

low 1 2 3 **4** 5 6 7 highest
unsupported 1 **2** 3 4 5 6 ≥ 400m
none 1 **2** 3 4 highest
none **1** 2 3 4 ±360°



Part No.	Hybrid technology	Hybrid manufacturer
SICK (HIPERFACE DSL)		
CF220.UL.H100.07.04	SICK (HIPERFACE DSL)	please see selection table on page 278
CF220.UL.H101.10.04	SICK (HIPERFACE DSL)	please see selection table on page 278
CF220.UL.H101.15.04	SICK (HIPERFACE DSL)	please see selection table on page 278
CF220.UL.H102.25.04	SICK (HIPERFACE DSL)	please see selection table on page 278
CF220.UL.H102.40.04 [11)]	SICK (HIPERFACE DSL)	please see selection table on page 278
SEW cable type E/1.5		
CF220.UL.H203.15.04	SEW cable type E/1.5	SEW
SINAMICS S210		
CF220.UL.H300.03.04	SINAMICS S210	Siemens
CF220.UL.H301.07.04	SINAMICS S210	Siemens
CF220.UL.H304.15.04	SINAMICS S210	Siemens
HEIDENHAIN		
CF220.UL.H501.15.04	HEIDENHAIN	B&R



ables available in the chainflex® CASE

imple savings on delivery, storage space and re-ordering with
e chainflex® CASE - ship'n store by igus®.

ore on this on page 24/25 and online: www.igus-asean.com/cf-case





igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year

New

Hybrid servo cable | PUR | chainflex® CF280.UL.H

10 million
Double strokes guaranteed

10 x d
Bend radius, e-chain®

10m
Travel distance, e-chain®

- For medium duty applications
- PUR outer jacket
- Shielded
- Oil-resistant and coolant-resistant
- Flame-retardant
- PVC and halogen-free
- Notch-resistant
- Hydrolysis and microbe-resistant

New cable suitable for Bosch Rexroth ctrlX DRIVE



Example image

Dynamic information

Bend radius	**e-chain® linear**	minimum 10 x d
	flexible	minimum 8 x d
	fixed	minimum 5 x d
Temperature	**e-chain® linear**	-25°C up to +80°C
	flexible	-40°C up to +80°C (following DIN EN 60811-504)
	fixed	-50°C up to +80°C (following DIN EN 50305)
v max.	**unsupported**	10m/s
	gliding	2m/s
a max.		50m/s²
Travel distance		Unsupported travels and up to 10m for gliding applications, Class 2

Cable structure

Conductor	Stranded conductor in bending-resistant version consisting of bare copper wires (following DIN EN 60228).
Core insulation	Mechanically high-quality, especially low-capacitance XLPE mixture.
Core structure	Power cores and control pair elements wound with a short pitch length around a high tensile strength centre element.
Core identification	According to Servo-Hybrid specification. Current data sheet ▶ www.chainflex.eu/CF220ULH
Element shield	Bending-resistant braiding made of tinned copper wires.
Intermediate layer	Foil taping over the outer layer.
Overall shield	Bending-resistant braiding made of tinned copper wires. Coverage linear approx. 55%, optical approx. 80%
Outer jacket	Low-adhesion, halogen-free, highly abrasion resistant PUR mixture, adapted to suit the requirements in e-chains® (following DIN EN 50363-10-2) Colour: Pastel orange (similar to RAL 2003) Variants ▶ Product range table

Electrical information

Nominal voltage	600/1,000V (following DIN VDE 0298-3) 1,000V (following UL) Variants ▶ Product range table
Testing voltage	4,000V (following DIN EN 50395)

Class 4.2.3.1

Basic requirements	low	1	2	3	**4**	5	6	7	highest
Travel distance	unsupported	1	**2**	3	4	5	6		≥ 400m
Oil resistance	none	1	2	**3**	4				highest
Torsion	none	**1**	2	3	4				±360°

Properties and approvals

UV resistance	Medium
Oil resistance	Oil-resistant (following DIN EN 50363-10-2), Class 3
Offshore	MUD-resistant following NEK 606 - status 2016
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
Halogen-free	Following DIN EN 60754
UL verified	Certificate No. B129699: "igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL/CSA AWM	See data sheet for details ▶ www.igus-asean.com/CF280ULH
NFPA	Following NFPA 79-2018, chapter 12.9
EAC	Certificate No. RU C-DE.ME77.B.00863/20
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 1. The outer jacket material of this series complies with CF77.UL.05.12.D - tested by IPA according to standard DIN EN ISO 14644-1
DESINA	According to VDW, DESINA standardisation
CE	Following 2014/35/EU
UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)
Info	As hybrid cables are always designed for specific drive systems, additional electrotechnical data may need to be considered. You will find more information in the latest data sheet for the cable series.

Guaranteed service life (details see page 28-29)

Double strokes*	5 million	7.5 million	10 million
Temperature, from/to [°C]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-25/-15	12.5	13.5	14.5
-15/+70	10	11	12
+70/+80	12.5	13.5	14.5

* Higher number of double strokes? Service life calculation online ▶ www.igus-asean.com/chainflexlife

Typical application areas

- For medium duty applications, Class 4
- Unsupported travels and up to 10m for gliding applications, Class 2
- Almost unlimited resistance to oil, Class 3
- No torsion, Class 1
- Indoor and outdoor applications without direct sun radiation
- Machining units/machine tools, low temperature applications

Hybrid servo cable | PUR | chainflex® CF280.UL.H



Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
SICK (HIPERFACE DSL)				
CF280.UL.H100.07.04.D	(4G0.75+(2x0.34)C +(2xAWG22)C)C	12.0	110	200
CF280.UL.H101.10.04.D	(4G1.0+(2x0.75)C +(2xAWG22)C)C	12.0	133	205
CF280.UL.H101.15.04.D	(4G1.5+(2x0.75)C +(2xAWG22)C)C	13.0	156	215
CF280.UL.H102.25.04.D	(4G2.5+(2x1.0)C +(2xAWG22)C)C	14.5	203	324
CF280.UL.H102.40.04.D [11)]	(4G4.0+(2x1.0)C +(2xAWG22)C)C	16.5	281	431
CF280.UL.H102.60.04.D	(4G6.0+(2x1.0)C +(2xAWG22)C)C	17.5	364	499
SEW cable type A, B, C, D, E				
CF280.UL.H200.15.07.D [15)]	(7x1.5+(2x0.75)C)C	16.0	202	354
CF280.UL.H200.25.07.D [15)]	(7x2.5+(2x0.75)C)C	20.0	289	521
CF280.UL.H201.15.04.D [15)]	4G1.5+(2x0.75)C +(3x0.75)C	14.0	139	272
CF280.UL.H201.25.04.D [15)]	4G2.5+(2x0.75)C +(3x0.75)	14.5	183	318
CF280.UL.H203.15.04.D	(4G1.5+(3x1.0)C)C	12.0	158	253
CF280.UL.H203.25.04.D	(4G2.5+(3x1.0)C)C	13.5	197	277
CF280.UL.H204.15.04.D	(4G1.5+(2x0.75)C +(3x1.0)C)C	15.0	200	340
CF280.UL.H206.40.04.D	(4G4.0+(2x0.75)C +(3x1.5)C)C	17.5	339	482
CF280.UL.H206.60.04.D	(4G6.0+(2x0.75)C +(3x1.5)C)C	19.0	431	648
MOVILINK DDI				
CF280.UL.H207.15.04.D	(4G1.5+2x(2x1.0)C +HF50-0.9/2.95)C	15.5	191	303
CF280.UL.H207.25.04.D	(4G2.5+2x(2x1.0)C +HF50-0.9/2.95)C	16.5	232	351

[11)] Phase-out model
[15)] Colour outer jacket: Jet black (RAL 9005)

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

EPLAN download, configurators ▶ www.igus-asean.com/CF280ULH

Class 4.2.3.1

Basic requirements	low	1	2	3	**4**	5	6	7	highest
Travel distance	unsupported	1	**2**	3	4	5	6		≥ 400m
Oil resistance	none	1	2	**3**	4				highest
Torsion	none	**1**	2	3	4				±360°



Part No.	Hybrid technology	Hybrid manufacturer
SICK (HIPERFACE DSL)		
CF280.UL.H100.07.04.D	SICK (HIPERFACE DSL)	please see selection table on page 278
CF280.UL.H101.10.04.D	SICK (HIPERFACE DSL)	please see selection table on page 278
CF280.UL.H101.15.04.D	SICK (HIPERFACE DSL)	please see selection table on page 278
CF280.UL.H102.25.04.D	SICK (HIPERFACE DSL)	please see selection table on page 278
CF280.UL.H102.40.04.D [11)]	SICK (HIPERFACE DSL)	please see selection table on page 278
CF280.UL.H102.60.04.D	SICK (HIPERFACE DSL)	please see selection table on page 278
SEW cable type A, B, C, D, E		
CF280.UL.H200.15.07.D [15)]	SEW cable type A/1.5	SEW
CF280.UL.H200.25.07.D [15)]	SEW cable type A/2.5	SEW
CF280.UL.H201.15.04.D [15)]	SEW cable type B/1.5	SEW
CF280.UL.H201.25.04.D [15)]	SEW cable type B/2.5	SEW
CF280.UL.H203.15.04.D	SEW cable type E/1.5	SEW
CF280.UL.H203.25.04.D	SEW cable type E/2.5	SEW
CF280.UL.H204.15.04.D	SEW cable type D/1.5	SEW
CF280.UL.H206.40.04.D	SEW cable type D/4.0	SEW
CF280.UL.H206.60.04.D	SEW cable type D/6.0	SEW
MOVILINK DDI		
CF280.UL.H207.15.04.D	MOVILINK DDI	SEW
CF280.UL.H207.25.04.D	MOVILINK DDI	SEW

Further cable types ▶ Page 310

Guarantee igus chainflex 36

igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year

Hybrid servo cable | PUR | chainflex® CF280.UL.H

New



Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
SINAMICS S210				
CF280.UL.H300.03.04.D	(4G0.34+(2x0.34)C +(4xAWG26)C)C	10.0	74	139
CF280.UL.H301.07.04.D	(4G0.75+(2x0.5)C +(4xAWG26)C)C	11.0	100	169
CF280.UL.H304.15.04.D	(4G1.5+(2x1.5)C +(4xAWG26)C)C	13.0	170	240
CF280.UL.H304.25.04.D	(4G2.5+(2x1.5)C +(2xAWG26)C)C	14.5	215	289
IndraDrive				
CF280.UL.H400.25.05.D	(5x2.5+(5x0,35) +(4xAWG22)C)C	17.0	240	389
ctrlX DRIVE				
New **CF280.UL.H401.07.04.D**	(4G0.75+(2x0.5)C +(4xAWG24)C)C	13.0	144	220
HEIDENHAIN				
CF280.UL.H501.15.04.D	(4G1.5+(2x0.75)C +(2x2x0.14+2x0.25)C)C	15.0	181	281
CF280.UL.H502.40.04.D	(4G4.0+(2x1.0)C +(2x2x0.14+2x0.25)C)C	16.5	295	407

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

Further cable types ▶ Page 308



Cables available in the chainflex® CASE

Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.

More on this on page 24/25 and online: www.igus-asean.com/cf-case

EPLAN download, configurators ▶ www.igus-asean.com/CF280ULH

Class 4.2.3.1

Basic requirements	low	1	2	3	**4**	5	6	7	highest
Travel distance	unsupported	1	**2**	3	4	5	6		≥ 400m
Oil resistance	none	1	2	**3**	4				highest
Torsion	none	**1**	2	3	4				±360°



Part No.	Hybrid technology	Hybrid manufacturer
SINAMICS S210		
CF280.UL.H300.03.04.D	SINAMICS S210	Siemens
CF280.UL.H301.07.04.D	SINAMICS S210	Siemens
CF280.UL.H304.15.04.D	SINAMICS S210	Siemens
CF280.UL.H304.25.04.D	SINAMICS S210	Siemens
IndraDrive		
CF280.UL.H400.25.05.D	IndraDrive	Bosch Rexroth
ctrlX DRIVE		
CF280.UL.H401.07.04.D	ctrlX DRIVE	Bosch Rexroth
HEIDENHAIN		
CF280.UL.H501.15.04.D	HEIDENHAIN	B&R
CF280.UL.H502.40.04.D	HEIDENHAIN	B&R

Order example: CF280.UL.H101.10.04 – to your desired length (0.5m steps)
CF280.UL.H **chainflex® series** .101.10.04 **Code hybrid bus element**

Order online ▶ www.igus-asean.com/CF280ULH

Delivery time 24hrs or today.
Delivery time means time until goods are shipped.

igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year

Motor cables



chainflex® cable	Jacket	Shield	Bend radius e-chain® [factor x d]	Temperature e-chain® from/to [°C]	Approvals and standards	Oil-resistant	Torsion-resistant	v max. [m/s] unsupported	v max. [m/s] gliding	a max.	Page
Motor cables											
CF885	PVC		15	+5/+70				3		20	318
CF886	PVC	✓	15	+5/+70				3		20	320
CF210.UL	PVC	✓	10	+5/+70		✓		10	2	50	322
CF30	PVC		7.5	+5/+70		✓	✓	10	5	80	324
CF31	PVC	✓	7.5	+5/+70		✓		10	5	80	328
CF895	iguPUR		15	-20/+80		✓		3		20	332
CF896	iguPUR	✓	15	-20/+80		✓		3		20	334
CF270.UL.D	PUR	✓	10	-25/+80		✓		10	2	50	336
CF27.D	PUR	✓	7.5	-25/+80		✓		10	5	80	340
CF34.UL.D	TPE		7.5	-35/+90		✓	✓	10	6	80	344
CF35.UL	TPE	✓	7.5	-35/+90		✓		10	6	80	348
CF37.D	TPE		7.5	-35/+90		✓	✓	10	6	80	352
CF38	TPE	✓	7.5	-35/+90		✓		10	6	80	354
Spindle cables/Single cores											
CF885	PVC		15	+5/+70				3		20	356
CF885.PE	PVC		15	+5/+70				3		20	358
CF886	PVC	✓	15	+5/+70				3		20	360
CF270.UL.D	PUR	✓	10	-25/+80		✓		10	2	50	362
CF300.UL.D	TPE		7.5	-35/+90		✓	✓	10	6	100	364
CFPE	TPE		7.5	-35/+90		✓	✓	10	6	100	366
CF310.UL	TPE	✓	7.5	-35/+90		✓		10	6	100	368
CF330.D	TPE		7.5	-35/+90		✓	✓	10	6	100	370
CF340	TPE	✓	7.5	-35/+90		✓		10	6	100	372
Medium voltage cables											
CFCRANE.PUR	PUR	✓	10	-20/+80		✓		10	6	50	374
CFCRANE	igupren	✓	10	-20/+80		✓		10	6	50	376
Twistable motor cables (twistable cables chapter ▶ Page 378)											
CFROBOT6	PUR		10	-25/+80		✓	✓				398
CFROBOT7	PUR	✓	10	-25/+80		✓	✓				400

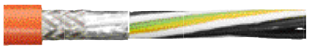
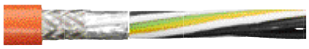
36-month chainflex® guarantee

Guaranteed service life for predictable reliability

▶ Selection table from page 314

www.igus-asean.com/chainflexlife

chainflex® guarantee

	chainflex® cable	Temperature, from/to [°C]	v max. [m/s] unsupported	v max. [m/s] gliding	a max. [m/s²]	Travel distance [m]
Motor cables						
	CF885	+5 / +15 +15 / +60 +60 / +70	3	-	20	≤ 10
	CF886	+5 / +15 +15 / +60 +60 / +70	3	-	20	≤ 10
	CF210.UL	+5 / +15 +15 / +60 +60 / +70	10	2	50	≤ 10
	CF30	+5 / +15 +15 / +60 +60 / +70	10	5	80	≤ 100
	CF31	+5 / +15 +15 / +60 +60 / +70	10	5	80	≤ 100
	CF895	-20 / -10 -10 / +70 +70 / +80	3	-	20	≤ 10
	CF896	-20 / -10 -10 / +70 +70 / +80	3	-	20	≤ 10
	CF270.UL.D	-25 / -15 -15 / +70 +70 / +80	10	2	50	≤ 10
	CF27.D	-25 / -15 -15 / +70 +70 / +80	10	5	80	≤ 100
	CF34.UL.D	-35 / -25 -25 / +80 +80 / +90	10	6	80	≤ 400
	CF35.UL	-35 / -25 -25 / +80 +80 / +90	10	6	80	≤ 400
	CF37.D	-35 / -25 -25 / +80 +80 / +90	10	6	80	≤ 400
	CF38	-35 / -25 -25 / +80 +80 / +90	10	6	80	≤ 400

(1) Guaranteed service life for these series (details ▶ see page 28-29)

Guaranteed service life (1)

Minimum bend radius [factor x d]	Minimum bend radius [factor x d]	Minimum bend radius [factor x d]	Page
5 million (1 million) double strokes *	7.5 million (3 million) double strokes *	10 million (5 million) double strokes *	
17.5	18.5	19.5	
15	16	17	318
17.5	18.5	19.5	
17.5	18.5	19.5	
15	16	17	320
17.5	18.5	19.5	
12.5	13.5	14.5	
10	11	12	322
12.5	13.5	14.5	
10	11	12	
7.5	8.5	9.5	324
10	11	12	
10	11	12	
7.5	8.5	9.5	328
10	11	12	
17.5	18.5	19.5	
15	16	17	332
17.5	18.5	19.5	
17.5	18.5	19.5	
15	16	17	334
17.5	18.5	19.5	
12.5	13.5	14.5	
10	11	12	336
12.5	13.5	14.5	
10	11	12	
7.5	8.5	8.5	340
10	11	12	
10	11	12	
7.5	8.5	9.5	344
10	11	12	
10	11	12	
7.5	8.5	9.5	348
10	11	12	
5 million	7.5 million	12.5 million	
10	11	12	
7.5	8.5	9.5	352
10	11	12	
10	11	12	
7.5	8.5	9.5	354
10	11	12	

* Higher number of double strokes? Calculate service life online: ▶ www.igus-asean.com/chainflexlife
Values in brackets apply to the CF885/CF886 and CF895/CF896 series

chainflex® guarantee

	chainflex® cable	Temperature, from/to [°C]	v max. [m/s] unsupported	v max. [m/s] gliding	a max. [m/s²]	Travel distance [m]
Spindle cables/Single cores						
	CF885	+5 / +15 +15 / +60 +60 / +70	3	-	20	≤ 10
	CF885.PE	+5 / +15 +15 / +60 +60 / +70	3	-	20	≤ 10
	CF886	+5 / +15 +15 / +60 +60 / +70	3	-	20	≤ 10
	CF270.UL.D	-25 / -15 -15 / +70 +70 / +80	10	2	50	≤ 10
	CF300.UL.D	-35 / -25 -25 / +80 +80 / +90	10	6	100	≤ 400
	CFPE	-35 / -25 -25 / +80 +80 / +90	10	6	100	≤ 400
	CF310.UL	-35 / -25 -25 / +80 +80 / +90	10	6	100	≤ 400
	CF330.D	-35 / -25 -25 / +80 +80 / +90	10	6	100	≤ 400
	CF340	-35 / -25 -25 / +80 +80 / +90	10	6	100	≤ 400
Medium voltage cables						
	CFCRANE.PUR	-20 / -10 -10 / +70 +70 / +80	10	6	50	≤ 400
	CFCRANE	-20 / -10 -10 / +70 +70 / +80	10	6	50	≤ 400

(1) Guaranteed service life for these series (details ▶ see page 28-29)

Guaranteed service life (1)

Minimum bend radius [factor x d]	Minimum bend radius [factor x d]	Minimum bend radius [factor x d]	Page
5 million (1 million) double strokes *	**7.5 million (3 million) double strokes ***	**10 million (5 million) double strokes ***	
17.5	18.5	19.5	
15	16	17	356
17.5	18.5	19.5	
17.5	18.5	19.5	
15	16	17	358
17.5	18.5	19.5	
17.5	18.5	19.5	
15	16	17	360
17.5	18.5	19.5	
12.5	13.5	14.5	
10	11	12	362
12.5	13.5	14.5	
10	11	12	
7.5	8.5	9.5	364
10	11	12	
10	11	12	
7.5	8.5	9.5	366
10	11	12	
10	11	12	
7.5	8.5	9.5	368
10	11	12	
5 million	**7.5 million**	**12.5 million**	
10	11	12	
7.5	8.5	9.5	370
10	11	12	
10	11	12	
7.5	8.5	9.5	372
10	11	12	
12.5	13.5	14.5	
10	11	12	374
12.5	13.5	14.5	
12.5	13.5	14.5	
10	11	12	376
12.5	13.5	14.5	

* Higher number of double strokes? Calculate service life online: ▶ www.igus-asean.com/chainflexlife
Figures in brackets refer to series CF885 and CF886



igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year

Motor cable | PVC | chainflex® CF885

5,000,000
Double strokes guaranteed

15 x d
Bend radius, e-chain®

10m
Travel distance, e-chain®

- For flexing applications
- PVC outer jacket
- Flame-retardant



Example image

Dynamic information

Bend radius	**e-chain® linear**	minimum 15 x d
	flexible	minimum 12 x d
	fixed	minimum 8 x d
Temperature	**e-chain® linear**	+5°C up to +70°C
	flexible	-5°C up to +70°C (following DIN EN 60811-504)
	fixed	-15°C up to +70°C (following DIN EN 50305)
v max.	**unsupported**	3m/s
a max.		20m/s²
Travel distance		Unsupported travels up to 10m, Class 1

Cable structure

Conductor	Conductor consisting of bare copper wires (according to DIN EN 60228).
Core insulation	Mechanically high-quality, especially low-capacitance TPE mixture.
Core structure	Cores wound with an optimised pitch length.
Core identification	Black cores with white numbers, one green-yellow core. 1. Core: U / L1 / C / L+ 2. Core: V / L2 3. Core: W / L3 / D / L-
Outer jacket	Low-adhesion PVC mixture, adapted to suit the requirements in e-chains®. Colour: Pastel orange (similar to RAL 2003)

Electrical information

Nominal voltage	600/1,000V (following DIN VDE 0298-3) 1,000V (following UL)
Testing voltage	4,000V (following DIN EN 50395)

Properties and approvals

Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
UL verified	Certificate No. B129699: "igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL/CSA AWM	See data sheet for details ▶www.igus-asean.com/CF885

EPLAN download, configurators ▶ www.igus-asean.com/CF885

Class 3.1.1.1

Basic requirements	low 1 2 **3** 4 5 6 7 highest
Travel distance	unsupported **1** 2 3 4 5 6 ≥ 400m
Oil resistance	none **1** 2 3 4 highest
Torsion	none **1** 2 3 4 ±360°

NFPA	Following NFPA 79-2018, chapter 12.9
EAC	Certificate No. RU C-DE.ME77.B.00302/19
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
CE	Following 2014/35/EU
UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Guaranteed service life (details see page 28-29)

Double strokes*	1 million	3 million	5 million
Temperature, from/to [°C]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
+5/+15	17.5	18.5	19.5
+15/+60	15	16	17
+60/+70	17.5	18.5	19.5

* Higher number of double strokes? Service life calculation online ▶ www.igus-asean.com/chainflexlife

Typical application areas

- For flexing applications, Class 3
- Especially for unsupported travels, Class 1
- Without influence of oil, Class 1
- No torsion, Class 1
- Preferably indoor applications
- Wood/stone processing, packaging industry, feeding, handling, adjusting devices

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF885.15.04	4G1.5	8.0	67	105
CF885.25.04	4G2.5	10.0	110	163
CF885.40.04	4G4.0	11.5	175	244
CF885.60.04	4G6.0	13.5	237	360
CF885.100.04	4G10	17.0	412	514
CF885.160.04	4G16	20.0	690	857

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core



Cables available in the chainflex® CASE

Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.

More on this on page 24/25 and online: www.igus-asean.com/cf-case

Motor cable | PVC | chainflex® CF886

5,000,000
Double strokes guaranteed

15 x d
Bend radius, e-chain®

10m
Travel distance, e-chain®

- For flexing applications
- PVC outer jacket
- Shielded
- Flame-retardant



Example image

Dynamic information

Bend radius	**e-chain® linear**	minimum 15 x d
	flexible	minimum 12 x d
	fixed	minimum 8 x d
Temperature	**e-chain® linear**	+5°C up to +70°C
	flexible	-5°C up to +70°C (following DIN EN 60811-504)
	fixed	-15°C up to +70°C (following DIN EN 50305)
v max.	**unsupported**	3m/s
a max.		20m/s²
Travel distance		Unsupported travels up to 10m, Class 1

Cable structure

Conductor	Conductor consisting of bare copper wires (according to DIN EN 60228).
Core insulation	Mechanically high-quality, especially low-capacitance TPE mixture.
Core structure	Cores wound with an optimised pitch length.
Core identification	Black cores with white numbers, one green-yellow core. 1. Core: U / L1 / C / L+ 2. Core: V / L2 3. Core: W / L3 / D / L-
Overall shield	Braiding made of tinned copper wires. Coverage approx. 60% optical
Outer jacket	Low-adhesion PVC mixture, adapted to suit the requirements in e-chains®. Colour: Pastel orange (similar to RAL 2003)

Electrical information

Nominal voltage	600/1,000V (following DIN VDE 0298-3) 1,000V (following UL)
Testing voltage	4,000V (following DIN EN 50395)

Properties and approvals

Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)

EPLAN download, configurators ▶ www.igus-asean.com/CF886

Class 3.1.1.1

Basic requirements	low	1 2 **3** 4 5 6 7 highest
Travel distance	unsupported	**1** 2 3 4 5 6 ≥ 400m
Oil resistance	none	**1** 2 3 4 highest
Torsion	none	**1** 2 3 4 ±360°

UL verified	Certificate No. B129699: "igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL/CSA AWM	See data sheet for details ▶www.igus-asean.com/CF886
NFPA	Following NFPA 79-2018, chapter 12.9
EAC	Certificate No. RU C-DE.ME77.B.00302/19
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
CE	Following 2014/35/EU
UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Guaranteed service life (details see page 28-29)

Double strokes*	1 million	3 million	5 million
Temperature, from/to [°C]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
+5/+15	17.5	18.5	19.5
+15/+60	15	16	17
+60/+70	17.5	18.5	19.5

* Higher number of double strokes? Service life calculation online ▶ www.igus-asean.com/chainflexlife

Typical application areas

- For flexing applications, Class 3
- Especially for unsupported travels, Class 1
- Without influence of oil, Class 1
- No torsion, Class 1
- Preferably indoor applications
- Wood/stone processing, packaging industry, feeding, handling, adjusting devices

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF886.15.04	(4G1.5)C	9.0	82	119
CF886.25.04	(4G2.5)C	10.5	132	181
CF886.40.04	(4G4.0)C	12.0	204	263
CF886.60.04	(4G6.0)C	14.5	269	377
CF886.100.04	(4G10)C	18.5	458	577
CF886.160.04	(4G16)C	21.0	760	829

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

Motor cable | PVC | chainflex® CF210.UL

10 million
Double strokes guaranteed

10 x d
Bend radius, e-chain®

10m
Travel distance, e-chain®

- For medium duty applications
- PVC outer jacket
- Shielded
- Oil-resistant
- Flame-retardant



Example image

Dynamic information

Bend radius	**e-chain® linear**	minimum 10 x d
	flexible	minimum 8 x d
	fixed	minimum 5 x d
Temperature	**e-chain® linear**	+5°C up to +70°C
	flexible	-5°C up to +70°C (following DIN EN 60811-504)
	fixed	-15°C up to +70°C (following DIN EN 50305)
v max.	**unsupported**	10m/s
	gliding	2m/s
a max.		50m/s²
Travel distance		Unsupported travels and up to 10m for gliding applications, Class 2

Cable structure

Conductor	Stranded conductor in bending-resistant version consisting of bare copper wires (following DIN EN 60228).
Core insulation	Mechanically high-quality, especially low-capacitance XLPE mixture.
Core structure	Cores wound with high tensile strength centre elements.
Core identification	Black cores with white numbers, one green-yellow core. 1. Core: U / L1 / C / L+ 2. Core: V / L2 3. Core: W / L3 / D / L-
Intermediate layer	Foil taping over the outer layer.
Overall shield	Bending-resistant braiding made of tinned copper wires. Coverage linear approx. 55%, optical approx. 80%
Outer jacket	Low-adhesion, oil-resistant PVC mixture, adapted to suit the requirements in e-chains® (following DIN EN 50363-4-1). Colour: Pastel orange (similar to RAL 2003)

Electrical information

Nominal voltage	600/1,000V (following DIN VDE 0298-3) 1,000V (following UL)
Testing voltage	4,000V (following DIN EN 50395)

Properties and approvals

UV resistance	Medium
Oil resistance	Oil-resistant (following DIN EN 50363-4-1), Class 2

Class 4.2.2.1

Basic requirements	low 1 2 3 **4** 5 6 7 highest
Travel distance	unsupported 1 **2** 3 4 5 6 ≥ 400m
Oil resistance	none 1 **2** 3 4 highest
Torsion	none **1** 2 3 4 ±360°

Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
UL verified	Certificate No. B129699: "igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL/CSA AWM	See data sheet for details ▶ www.igus-asean.com/CF210UL
NFPA	Following NFPA 79-2018, chapter 12.9
EAC	Certificate No. RU C-DE.ME77.B.00863/20
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 2. The outer jacket material of this series complies with CF5.10.07 - tested by IPA according to standard DIN EN ISO 14644-1
CE	Following 2014/35/EU
UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Guaranteed service life (details see page 28-29)

Double strokes*	5 million	7.5 million	10 million
Temperature, from/to [°C]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
+5/+15	12.5	13.5	14.5
+15/+60	10	11	12
+60/+70	12.5	13.5	14.5

* Higher number of double strokes? Service life calculation online ▶ www.igus-asean.com/chainflexlife

Typical application areas

- For medium duty applications, Class 4
- Unsupported travels and up to 10m for gliding applications, Class 2
- Light oil influence, Class 2
- No torsion, Class 1
- Preferably indoor applications, but also outdoor ones at temperatures > 5 °C
- Wood/stone processing, packaging industry, feeding, handling, adjusting devices

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF210.UL.05.04	(4G0.5)C	7.0	34	63
CF210.UL.15.04	(4G1.5)C	10.0	86	140
CF210.UL.25.04	(4G2.5)C	11.5	146	209
CF210.UL.40.04	(4G4.0)C	13.0	195	288

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

Motor cable | PVC | chainflex® CF30

10 million
Double strokes guaranteed

7.5 x d
Bend radius, e-chain®

100m
Travel distance, e-chain®

- For heavy duty applications
- PVC outer jacket
- Oil-resistant
- Flame-retardant



Example image

Dynamic information

Bend radius	**e-chain® linear**	minimum 7.5 x d
	flexible	minimum 6 x d
	fixed	minimum 4 x d
Temperature	**e-chain® linear**	+5°C up to +70°C
	flexible	-5°C up to +70°C (following DIN EN 60811-504)
	fixed	-15°C up to +70°C (following DIN EN 50305)
v max.	**unsupported**	10m/s
	gliding	5m/s
a max.		80m/s²
Travel distance		Unsupported travels and up to 100m for gliding applications, Class 5
Torsion		Torsion ±90°, with 1m cable length, Class 2

Cable structure

Conductor	**Cores <10mm²:** Stranded conductor in especially bending-resistant version consisting of bare copper wires (following DIN EN 60228). **Cores ≥ 10mm²:** Conductor cable consisting of pre-leads (following DIN EN 60228).
Core insulation	Mechanically high-quality, especially low-capacitance XLPE mixture.
Core structure	Cores wound with a short pitch length around a high tensile strength centre element.
Core identification	Black cores with white numbers, one green-yellow core. 1. Core: U / L1 / C / L+ 2. Core: V / L2 3. Core: W / L3 / D / L- 4. Core: 4 / N
Outer jacket	Low-adhesion, oil-resistant PVC mixture, adapted to suit the requirements in e-chains® (following DIN EN 50363-4-1). Colour: jet black (similar to RAL 9005)
CFRIP®	Strip cables faster: a tear strip is moulded into the outer jacket Video ▶ www.igus-asean.com/CFRIP

Electrical information

Nominal voltage	600/1,000V (following DIN VDE 0298-3) 1,000V (following UL)
Testing voltage	4,000V (following DIN EN 50395)

EPLAN download, configurators ▶ www.igus-asean.com/CF30

Class 5.5.2.2

Basic requirements	low	1	2	3	4	**5**	6	7	highest
Travel distance	unsupported	1	2	3	4	**5**	6		≥ 400m
Oil resistance	none	1	**2**	3	4				highest
Torsion	none	1	**2**	3	4				±360°

Properties and approvals

UV resistance	Medium
Oil resistance	Oil-resistant (following DIN EN 50363-4-1), Class 2
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
UL verified	Certificate No. B129699: "igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL/CSA AWM	See data sheet for details ▶www.igus-asean.com/CF30
NFPA	Following NFPA 79-2018, chapter 12.9
EAC	Certificate No. RU C-DE.ME77.B.00863/20
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 2. The outer jacket material of this series complies with CF5.10.07 - tested by IPA according to standard DIN EN ISO 14644-1
CE	Following 2014/35/EU
UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Guaranteed service life (details see page 28-29)

Double strokes*	5 million	7.5 million	10 million
Temperature, from/to [°C]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
+5/+15	10	11	12
+15/+60	7.5	8.5	9.5
+60/+70	10	11	12

* Higher number of double strokes? Service life calculation online ▶ www.igus-asean.com/chainflexlife

Typical application areas

- For heavy-duty applications, Class 5
- Unsupported travels and up to 100m for gliding applications, Class 5
- Light oil influence, Class 2
- Torsion ±90°, with 1m cable length, Class 2
- Preferably indoor applications, but also outdoor ones at temperatures > 5 °C
- Storage and retrieval units, machining units/packaging machines, quick handling, indoor cranes

Motor cable | PVC | chainflex® CF30

Strip cables 50% faster with CFRIP® tear strip



Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF30.15.04	4G1.5	8.0	61	104
CF30.25.04	4G2.5	10.0	100	166
CF30.25.05	5G2.5	11.0	124	203
CF30.40.04	4G4.0	11.5	163	249
CF30.40.05	5G4.0	12.5	204	302
CF30.60.04	4G6.0	13.5	237	343
CF30.60.05	5G6.0	15.0	297	410
CF30.100.04	4G10	16.5	407	548
CF30.100.05	5G10	19.5	515	684
CF30.160.04	4G16	20.0	646	826
CF30.160.05	5G16	23.5	815	1067
CF30.250.04	4G25	25.0	1014	1320
CF30.350.04	4G35	28.5	1439	1795
CF30.500.04 [11)]	4G50	34.0	2061	2528

[11)] Phase-out model

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core



Cables available in the chainflex® CASE

Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.

More on this on page 24/25 and online: www.igus-asean.com/cf-case

EPLAN download, configurators ▶ www.igus-asean.com/CF30

Class 5.5.2.2

Basic requirements	low	1	2	3	4	**5**	6	7	highest
Travel distance	unsupported	1	2	3	4	**5**	6		≥ 400m
Oil resistance	none	1	**2**	3	4				highest
Torsion	none	1	**2**	3	4				±360°



Order example: CF30.15.04 – to your desired length (0.5m steps)
CF30 chainflex® series .15 Code nominal cross section .04 Number of cores

Order online ▶ www.igus-asean.com/CF30

Delivery time 24hrs or today.
Delivery time means time until goods are shipped.



Reduce cost, improve technology, now!
Do the chainflex® price check ...
www.igus-asean.com/cf-price-check

… for example: reduce cost with CF885 ...

Guarantee igus chainflex 36

igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year

Motor cable | PVC | chainflex® CF31

10 million
Double strokes guaranteed

7.5 x d
Bend radius, e-chain®

100m
Travel distance, e-chain®

- For heavy duty applications
- PVC outer jacket
- Shielded
- Oil-resistant
- Flame-retardant



Example image

Dynamic information

Bend radius	**e-chain® linear**	minimum 7.5 x d
	flexible	minimum 6 x d
	fixed	minimum 4 x d
Temperature	**e-chain® linear**	+5°C up to +70°C
	flexible	-5°C up to +70°C (following DIN EN 60811-504)
	fixed	-15°C up to +70°C (following DIN EN 50305)
v max.	**unsupported**	10m/s
	gliding	5m/s
a max.		80m/s²
Travel distance		Unsupported travels and up to 100m for gliding applications, Class 5

Cable structure

Conductor	**Cores <10mm²:** Stranded conductor in especially bending-resistant version consisting of bare copper wires (following DIN EN 60228). **Cores ≥ 10mm²:** Conductor cable consisting of pre-leads (following DIN EN 60228).
Core insulation	Mechanically high-quality, especially low-capacitance XLPE mixture.
Core structure	Cores wound with a short pitch length around a high tensile strength centre element.
Core identification	Black cores with white numbers, one green-yellow core. 1. Core: U / L1 / C / L+ 2. Core: V / L2 3. Core: W / L3 / D / L- 4. Core: 4 / N
Inner jacket	PVC mixture adapted to suit the requirements in e-chains®.
Overall shield	Extremely bending-resistant braiding made of tinned copper wires. Coverage linear approx. 70%, optical approx. 90%
Outer jacket	Low-adhesion, oil-resistant PVC mixture, adapted to suit the requirements in e-chains® (following DIN EN 50363-4-1). Colour: jet black (similar to RAL 9005)
CFRIP®	Strip cables faster: a tear strip is moulded into the inner jacket Video ▶ www.igus-asean.com/CFRIP

Electrical information

Nominal voltage	600/1,000V (following DIN VDE 0298-3) 1,000V (following UL)
Testing voltage	4,000V (following DIN EN 50395)

EPLAN download, configurators ▶ www.igus-asean.com/CF31

36-month guarantee ... more than 1,350 cable types from stock ... no cutting charges

Class 5.5.2.1

Basic requirements	low	1	2	3	4	**5**	6	7	highest
Travel distance	unsupported	1	2	3	4	**5**	6		≥ 400m
Oil resistance	none	1	**2**	3	4	highest			
Torsion	none	**1**	2	3	4	±360°			

Properties and approvals

UV resistance	Medium
Oil resistance	Oil-resistant (following DIN EN 50363-4-1), Class 2
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
UL verified	Certificate No. B129699: "igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL/CSA AWM	See data sheet for details ▶ www.igus-asean.com/CF31
NFPA	Following NFPA 79-2018, chapter 12.9
EAC	Certificate No. RU C-DE.ME77.B.00863/20
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 2. The outer jacket material of this series complies with CF5.10.07 - tested by IPA according to standard DIN EN ISO 14644-1
CE	Following 2014/35/EU
UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Guaranteed service life (details see page 28-29)

Double strokes*	5 million	7.5 million	10 million
Temperature, from/to [°C]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
+5/+15	10	11	12
+15/+60	7.5	8.5	9.5
+60/+70	10	11	12

* Higher number of double strokes? Service life calculation online ▶ www.igus-asean.com/chainflexlife

Typical application areas

- For heavy-duty applications, Class 5
- Unsupported travels and up to 100m for gliding applications, Class 5
- Light oil influence, Class 2
- No torsion, Class 1
- Preferably indoor applications, but also outdoor ones at temperatures > 5 °C
- Storage and retrieval units, machining units/packaging machines, quick handling, indoor cranes

Motor cable | PVC | chainflex® CF31

Strip cables 50% faster with CFRIP® tear strip



Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF31.15.04	(4G1.5)C	10.0	89	157
CF31.25.04	(4G2.5)C	11.5	133	221
CF31.25.05	(5G2.5)C	13.0	163	271
CF31.40.04	(4G4.0)C	13.0	203	300
CF31.40.05	(5G4.0)C	14.5	258	354
CF31.60.04	(4G6.0)C	16.0	288	455
CF31.60.05	(5G6.0)C	17.0	356	532
CF31.100.04	(4G10)C	18.5	468	670
CF31.100.05	(5G10)C	21.5	609	857
CF31.160.04	(4G16)C	23.0	738	1035
CF31.250.04	(4G25)C	27.5	1153	1586
CF31.350.04	(4G35)C	31.0	1592	2104
CF31.500.04	(4G50)C	36.5	2224	2902
CF31.700.04	(4G70)C	43.0	3203	4173

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

Order example: CF31.15.04 – to your desired length (0.5m steps)
CF31 chainflex® series .15 Code nominal cross section .04 Number of cores

Order online ▶ www.igus-asean.com/CF31

Delivery time 24hrs or today.
Delivery time means time until goods are shipped.



Cables available in the chainflex® CASE

Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.

More on this on page 24/25 and online: www.igus-asean.com/cf-case

EPLAN download, configurators ▶ www.igus-asean.com/CF31

Class 5.5.2.1

Basic requirements	low	1	2	3	4	**5**	6	7	highest
Travel distance	unsupported	1	2	3	4	**5**	6		≥ 400m
Oil resistance	none	1	**2**	3	4	highest			
Torsion	none	**1**	2	3	4	±360°			





chainflex® CF31 motor cable in a fast picker

Guarantee igus chainflex 36

igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year

Motor cable | iguPUR | chainflex® CF895

5 million
Double strokes guaranteed

15 x d
Bend radius, e-chain®

10m
Travel distance, e-chain®

- For flexing applications
- iguPUR outer jacket
- Oil-resistant
- Flame-retardant



Example image

Dynamic information

Bend radius	**e-chain® linear**	minimum 15 x d
	flexible	minimum 12 x d
	fixed	minimum 8 x d
Temperature	**e-chain® linear**	-20°C up to +80°C
	flexible	-40°C up to +80°C (following DIN EN 60811-504)
	fixed	-50°C up to +80°C (following DIN EN 50305)
v max.	**unsupported**	3m/s
a max.		20m/s²
Travel distance		Unsupported travels up to 10m, Class 1

Cable structure

Conductor	Conductor consisting of bare copper wires (according to DIN EN 60228).
Core insulation	Mechanically high-quality, especially low-capacitance TPE mixture.
Core structure	Cores wound with an optimised pitch length.
Core identification	Black cores with white numbers, one green-yellow core. 1. Core: U / L1 / C / L+ 2. Core: V / L2 3. Core: W / L3 / D / L-
Outer jacket	Low-adhesion iguPUR mixture, adapted to suit the requirements in e-chains®. Colour: Pastel orange (similar to RAL 2003)

Electrical information

Nominal voltage	600/1,000V (following DIN VDE 0298-3) 1,000V (following UL)
Testing voltage	4,000V (following DIN EN 50395)

Properties and approvals

UV resistance	Medium
Oil resistance	Oil-resistant (following DIN EN 50363-10-2), Class 3

EPLAN download, configurators ▶ www.igus-asean.com/CF895

36-month guarantee ... more than 1,350 cable types from stock ... no cutting charges

Class 3.1.3.1

Basic requirements	low	1 2 **3** 4 5 6 7 highest
Travel distance	unsupported	**1** 2 3 4 5 6 ≥ 400m
Oil resistance	none	1 2 **3** 4 highest
Torsion	none	**1** 2 3 4 ±360°

Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
UL verified	Certificate No. B129699: "igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL/CSA AWM	See data sheet for details ▶ www.igus-asean.com/CF895
NFPA	Following NFPA 79-2018, chapter 12.9
EAC	Certificate No. RU C-DE.ME77.B.00302/19
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
CE	Following 2014/35/EU
UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Guaranteed service life (details see page 28-29)

Double strokes*	1 million	3 million	5 million
Temperature, from/to [°C]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-20/-10	17.5	18.5	19.5
-10/+70	15	16	17
+70/+80	17.5	18.5	19.5

* Higher number of double strokes? Service life calculation online ▶www.igus-asean.com/chainflexlife

Typical application areas

- For flexing applications, Class 3
- Especially for unsupported travels, Class 1
- With influence of oil, Class 3
- No torsion, Class 1
- Indoor and outdoor applications without direct sun radiation
- Machining units/machine tools, low temperature applications

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF895.15.04	4G1.5	8.0	67	101
CF895.25.04	4G2.5	10.0	110	153
CF895.40.04	4G4.0	11.5	175	239
CF895.60.04	4G6.0	13.5	262	353
CF895.100.04	4G10	17.0	436	543
CF895.160.04	4G16	20.0	653	824

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

Motor cable | iguPUR | chainflex® CF896

5,000,000
Double strokes guaranteed

15 x d
Bend radius, e-chain®

10m
Travel distance, e-chain®

- For flexing applications
- iguPUR outer jacket
- Oil-resistant
- Shielded
- Flame-retardant



Example image

Dynamic information

Bend radius	**e-chain® linear**	minimum 15 x d
	flexible	minimum 12 x d
	fixed	minimum 8 x d
Temperature	**e-chain® linear**	-20°C up to +80°C
	flexible	-40°C up to +80°C (following DIN EN 60811-504)
	fixed	-50°C up to +80°C (following DIN EN 50305)
v max.	**unsupported**	3m/s
a max.		20m/s²
Travel distance		Unsupported travels up to 10m, Class 1

Cable structure

Conductor	Conductor consisting of bare copper wires (according to DIN EN 60228).
Core insulation	Mechanically high-quality, especially low-capacitance TPE mixture.
Core structure	Cores wound with an optimised pitch length.
Core identification	Black cores with white numbers, one green-yellow core. 1. Core: U / L1 / C / L+ 2. Core: V / L2 3. Core: W / L3 / D / L-
Overall shield	Braiding made of tinned copper wires. Coverage approx. 60% optical
Outer jacket	Low-adhesion iguPUR mixture, adapted to suit the requirements in e-chains®. Colour: Pastel orange (similar to RAL 2003)

Electrical information

Nominal voltage	600/1,000V (following DIN VDE 0298-3) 1,000V (following UL)
Testing voltage	4,000V (following DIN EN 50395)

Properties and approvals

UV resistance	Medium
Oil resistance	Oil-resistant (following DIN EN 50363-10-2), Class 3

EPLAN download, configurators ▶ www.igus-asean.com/CF896

36-month guarantee ... more than 1,350 cable types from stock ... no cutting charges

Class 3.1.3.1

Basic requirements	low 1 2 **3** 4 5 6 7 highest
Travel distance	unsupported **1** 2 3 4 5 6 ≥ 400m
Oil resistance	none 1 2 **3** 4 highest
Torsion	none **1** 2 3 4 ±360°

Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
UL verified	Certificate No. B129699: "igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL/CSA AWM	See data sheet for details ▶ www.igus-asean.com/CF896
NFPA	Following NFPA 79-2018, chapter 12.9
EAC	Certificate No. RU C-DE.ME77.B.00302/19
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
CE	Following 2014/35/EU
UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Guaranteed service life (details see page 28-29)

Double strokes*	1 million	3 million	5 million
Temperature, from/to [°C]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-20/-10	17.5	18.5	19.5
-10/+70	15	16	17
+70/+80	17.5	18.5	19.5

* Higher number of double strokes? Service life calculation online ▶ www.igus-asean.com/chainflexlife

Typical application areas

- For flexing applications, Class 3
- Especially for unsupported travels, Class 1
- With influence of oil, Class 3
- No torsion, Class 1
- Indoor and outdoor applications without direct sun radiation
- Machining units/machine tools, low temperature applications

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF896.07.04	(4G0.75)C	7.5	52	79
CF896.15.04	(4G1.5)C	9.0	82	122
CF896.25.04	(4G2.5)C	10.5	132	173
CF896.40.04	(4G4.0)C	12.0	204	257
CF896.60.04	(4G6.0)C	14.5	306	378
CF896.100.04	(4G10)C	18.5	458	653
CF896.160.04	(4G16)C	21.0	709	835

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

Motor cable | PUR | chainflex® CF270.UL.D

10 million
Double strokes guaranteed

10 x d
Bend radius, e-chain®

10m
Travel distance, e-chain®

- For medium duty applications
- PUR outer jacket
- Shielded
- Oil-resistant and coolant-resistant
- Notch-resistant
- Flame-retardant
- Hydrolysis and microbe-resistant
- PVC and halogen-free



Example image

Dynamic information

Bend radius	**e-chain® linear**	minimum 10 x d
	flexible	minimum 8 x d
	fixed	minimum 5 x d
Temperature	**e-chain® linear**	-25°C up to +80°C
	flexible	-40°C up to +80°C (following DIN EN 60811-504)
	fixed	-50°C up to +80°C (following DIN EN 50305)
v max.	**unsupported**	10m/s
	gliding	2m/s
a max.		50m/s²
Travel distance		Unsupported travels and up to 10m for gliding applications, Class 2

Cable structure

Conductor	Stranded conductor in bending-resistant version consisting of bare copper wires (following DIN EN 60228).
Core insulation	Mechanically high-quality, especially low-capacitance XLPE mixture.
Core structure	Cores wound with high tensile strength centre elements.
Core identification	Black cores with white numbers, one green-yellow core. 1. Core: U / L1 / C / L+ 2. Core: V / L2 3. Core: W / L3 / D / L-
Intermediate layer	Foil taping over the outer layer.
Overall shield	Bending-resistant braiding made of tinned copper wires. Coverage linear approx. 55%, optical approx. 80%
Outer jacket	Low-adhesion, halogen-free, highly abrasion resistant PUR mixture, adapted to suit the requirements in e-chains® (following DIN EN 50363-10-2) Colour: Pastel orange (similar to RAL 2003)

Electrical information

Nominal voltage	600/1,000V (following DIN VDE 0298-3) 1,000V (following UL)
Testing voltage	4,000V (following DIN EN 50395)

EPLAN download, configurators ▶ www.igus-asean.com/CF270ULD

36-month guarantee ... more than 1,350 cable types from stock ... no cutting charges

Class 4.2.3.1

Basic requirements	low	1	2	3	**4**	5	6	7	highest
Travel distance	unsupported	1	**2**	3	4	5	6		≥ 400m
Oil resistance	none	1	2	**3**	4				highest
Torsion	none	**1**	2	3	4				±360°

Properties and approvals

UV resistance	Medium
Oil resistance	Oil-resistant (following DIN EN 50363-10-2), Class 3
Offshore	MUD-resistant following NEK 606 - status 2016
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
Halogen-free	Following DIN EN 60754
UL verified	Certificate No. B129699: "igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL/CSA AWM	See data sheet for details ▶ www.igus-asean.com/CF270ULD
NFPA	Following NFPA 79-2018, chapter 12.9
EAC	Certificate No. RU C-DE.ME77.B.00863/20
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 1. The outer jacket material of this series complies with CF77.UL.05.12.D - tested by IPA according to standard DIN EN ISO 14644-1
DESINA	According to VDW, DESINA standardisation
CE	Following 2014/35/EU
UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Guaranteed service life (details see page 28-29)

Double strokes*	5 million	7.5 million	10 million
Temperature, from/to [°C]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-25/-15	12.5	13.5	14.5
-15/+70	10	11	12
+70/+80	12.5	13.5	14.5

* Higher number of double strokes? Service life calculation online ▶ www.igus-asean.com/chainflexlife

Typical application areas

- For medium duty applications, Class 4
- Unsupported travels and up to 10m for gliding applications, Class 2
- Almost unlimited resistance to oil, Class 3
- No torsion, Class 1
- Indoor and outdoor applications without direct sun radiation
- Machining units/machine tools, low temperature applications

Motor cable | PUR | chainflex® CF270.UL.D



Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF270.UL.07.04.D	(4G0.75)C	8.0	47	81
CF270.UL.10.06.D	(6G1.0)C	9.5	87	133
CF270.UL.15.04.D	(4G1.5)C	9.0	78	116
CF270.UL.25.04.D	(4G2.5)C	10.5	129	173
CF270.UL.40.04.D	(4G4.0)C	12.5	193	255
CF270.UL.60.04.D	(4G6.0)C	14.5	297	356
CF270.UL.100.04.D	(4G10)C	17.0	495	551
CF270.UL.160.04.D	(4G16)C	20.5	755	819
CF270.UL.250.04.D	(4G25)C	25.0	1117	1256
CF270.UL.350.04.D	(4G35)C	28.0	1597	1696

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

Order example: CF270.UL.07.04.D – to your desired length (0.5m steps)
CF270.UL.D chainflex® series .07 Code nominal cross section .04 Number of cores

Order online ▶ www.igus-asean.com/CF270ULD

Delivery time 24hrs or today.
Delivery time means time until goods are shipped.



ables available in the chainflex® CASE

imple savings on delivery, storage space and re-ordering with he chainflex® CASE - ship'n store by igus®.

ore on this page 24/25 and online: www.igus-asean.com/cf-case



Reduce cost, improve technology, now!
Do the chainflex® price check ...
www.igus-asean.com/cf-price-check

… for example: reduce cost with CF31 ...

EPLAN download, configurators ▶ www.igus-asean.com/CF270ULD

Class 4.2.3.1

Basic requirements	low	1	2	3	**4**	5	6	7	highest
Travel distance	unsupported	1	**2**	3	4	5	6		≥ 400m
Oil resistance	none	1	2	**3**	4				highest
Torsion	none	**1**	2	3	4				±360°





chainflex® CF270.UL.D motor cable in a system for sharpening knives

Guarantee igus chainflex 36

igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year

Motor cable | PUR | chainflex® CF27.D

10 million
Double strokes guaranteed

7.5 x d
Bend radius, e-chain®

100m
Travel distance, e-chain®

- For extremely heavy duty applications
- PUR outer jacket
- Shielded
- Oil-resistant and coolant-resistant
- Notch-resistant
- Flame-retardant
- Hydrolysis and microbe-resistant
- PVC and halogen-free



Example image

Dynamic information

Bend radius	**e-chain® linear**	minimum 7.5 x d
	flexible	minimum 6 x d
	fixed	minimum 4 x d
Temperature	**e-chain® linear**	-25°C up to +80°C
	flexible	-40°C up to +80°C (following DIN EN 60811-504)
	fixed	-50°C up to +80°C (following DIN EN 50305)
v max.	**unsupported**	10m/s
	gliding	5m/s
a max.		80m/s²
Travel distance		Unsupported travels and up to 100m for gliding applications, Class 5

Cable structure

Conductor	Stranded conductor in especially bending-resistant version consisting of bare copper wires (following DIN EN 60228).
Core insulation	Mechanically high-quality, especially low-capacitance XLPE mixture.
Core structure	Cores wound around a high tensile strength centre element.
Core identification	Black cores with white numbers, one green-yellow core. 1. Core: U / L1 / C / L+ 2. Core: V / L2 3. Core: W / L3 / D / L-
Inner jacket	TPE mixture adapted to suit the requirements in e-chains®.
Overall shield	Extremely bending-resistant braiding made of tinned copper wires. Coverage linear approx. 70%, optical approx. 90%
Outer jacket	Low-adhesion, halogen-free, highly abrasion resistant PUR mixture, adapted to suit the requirements in e-chains® (following DIN EN 50363-10-2) Colour: Pastel orange (similar to RAL 2003)
CFRIP®	Strip cables faster: a tear strip is moulded into the inner jacket Video ▶ www.igus-asean.com/CFRIP

Electrical information

Nominal voltage	600/1,000V (following DIN VDE 0298-3) 1,000V (following UL)
Testing voltage	4,000V (following DIN EN 50395)

Properties and approvals

UV resistance	Medium
Oil resistance	Oil-resistant (following DIN EN 50363-10-2), Class 3

36-month guarantee ... more than 1,350 cable types from stock ... no cutting charges

Class 6.5.3.1

Basic requirements	low 1 2 3 4 5 **6** 7 highest
Travel distance	unsupported 1 2 3 4 **5** 6 ≥ 400m
Oil resistance	none 1 2 **3** 4 highest
Torsion	none **1** 2 3 4 ±360°

Offshore	MUD-resistant following NEK 606 - status 2016
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
Halogen-free	Following DIN EN 60754
UL verified	Certificate No. B129699: "igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL/CSA AWM	See data sheet for details ▶ www.igus-asean.com/CF27D
NFPA	Following NFPA 79-2018, chapter 12.9
DNV	Type Approval Certificate TAE00003XA
EAC	Certificate No. RU C-DE.ME77.B.00863/20
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 1. The outer jacket material of this series complies with CF77.UL.05.12.D - tested by IPA according to standard DIN EN ISO 14644-1
DESINA	According to VDW, DESINA standardisation
CE	Following 2014/35/EU
UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Guaranteed service life (details see page 28-29)

Double strokes*	5 million	7.5 million	10 million
Temperature, from/to [°C]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-25/-15	10	11	12
-15/+70	7.5	8.5	9.5
+70/+80	10	11	12

* Higher number of double strokes? Service life calculation online ▶ www.igus-asean.com/chainflexlife

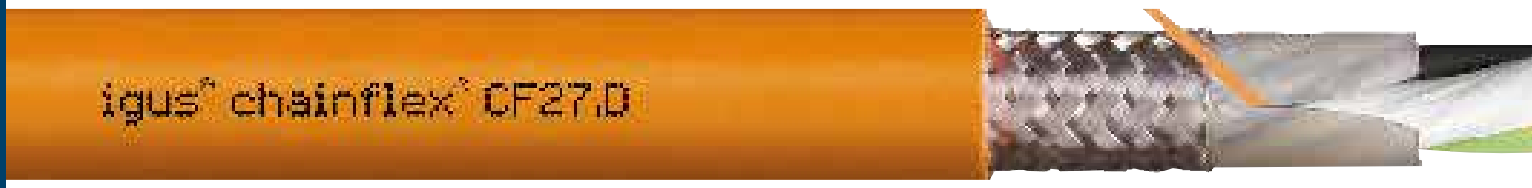
Typical application areas

- For heavy-duty applications, Class 6
- Unsupported travels and up to 100m for gliding applications, Class 5
- Almost unlimited resistance to oil, Class 3
- No torsion, Class 1
- Indoor and outdoor applications, UV-resistant
- Storage and retrieval units for high-bay warehouses, machining units/machine tools, quick handling, cleanroom, semiconductor insertion, outdoor cranes, low-temperature applications



Motor cable | PUR | chainflex® CF27.D

Strip cables 50% faster with CFRIP® tear strip



Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF27.07.04.D	(4G0.75)C	9.5	55	115
CF27.15.04.D	(4G1.5)C	11.0	90	165
CF27.25.04.D	(4G2.5)C	12.5	135	231
CF27.500.04.D	(4G50)C	37.0	2244	2817

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core



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ore on this on page 24/25 and online: www.igus-asean.com/cf-case



Modular design, easy to retrofit: igus® E4 e-chain® and chainflex® cables.

EPLAN download, configurators ▶ www.igus-asean.com/CF27D

Class 6.5.3.1

Basic requirements	low	1	2	3	4	5	**6**	7	highest
Travel distance	unsupported	1	2	3	4	**5**	6		≥ 400m
Oil resistance	none	1	2	**3**	4				highest
Torsion	none	**1**	2	3	4				±360°



Order example: CF27.07.04.D – to your desired length (0.5m steps)
CF27.D chainflex® series .07 Code nominal cross section .04 Number of cores

Order online ▶ www.igus-asean.com/CF27D

Delivery time 24hrs or today.
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...life up

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... here's an idea for you: highest abrasion resistance with CF38 ...

Guarantee igus chainflex 36

igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year

Motor cable | TPE | chainflex® CF34.UL.D

10 million
Double strokes guaranteed

7.5 x d
Bend radius, e-chain®

400m
Travel distance, e-chain®

- For extremely heavy duty applications
- TPE outer jacket
- Oil and bio-oil-resistant
- Flame-retardant
- UV-resistant
- Hydrolysis and microbe-resistant



Example image

Dynamic information

Bend radius	**e-chain® linear**	minimum 7.5 x d
	flexible	minimum 6 x d
	fixed	minimum 4 x d
Temperature	**e-chain® linear**	-35°C up to +90°C
	flexible	-45°C up to +90°C (following DIN EN 60811-504)
	fixed	-50°C up to +90°C (following DIN EN 50305)
v max.	**unsupported**	10m/s
	gliding	6m/s
a max.		80m/s²
Travel distance		Unsupported travels and up to 400m and more for gliding applications, Class 6
Torsion		Torsion ±90°, with 1m cable length, Class 2

Cable structure

Conductor	**Cores <10mm²:** Stranded conductor in especially bending-resistant version consisting of bare copper wires (following DIN EN 60228). **Cores ≥ 10mm²:** Conductor cable consisting of pre-leads (following DIN EN 60228).
Core insulation	Mechanically high-quality, especially low-capacitance XLPE mixture.
Core structure	Cores wound with a short pitch length around a high tensile strength centre element.
Core identification	Black cores with white numbers, one green-yellow core. 1. Core: U / L1 / C / L+ 2. Core: V / L2 3. Core: W / L3 / D / L- 4. Core: 4 / N
Outer jacket	Low-adhesion, extremely abrasion-resistant and highly flexible TPE mixture, adapted to suit the requirements in e-chains®. Colour: Signal black (similar to RAL 9004)
CFRIP®	Strip cables faster: a tear strip is moulded into the outer jacket Video ▶www.igus-asean.com/CFRIP

Electrical information

Nominal voltage	600/1,000V (following DIN VDE 0298-3) 1,000V (following UL)
Testing voltage	4,000V (following DIN EN 50395)

EPLAN download, configurators ▶ www.igus-asean.com/CF34ULD

36-month guarantee ... more than 1,350 cable types from stock ... no cutting charges

Class 6.6.4.2

Basic requirements	low	1 2 3 4 5 **6** 7 highest
Travel distance	unsupported	1 2 3 4 5 **6** ≥ 400m
Oil resistance	none	1 2 3 **4** highest
Torsion	none	1 **2** 3 4 ±360°

Properties and approvals

UV resistance	High
Oil resistance	Oil-resistant (following DIN EN 60811-404), bio-oil-resistant (following VDMA 24568 with Plantocut 8 S-MB tested by DEA), Class 4
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
UL verified	Certificate No. B129699: "igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL/CSA AWM	See data sheet for details ▶ www.igus-asean.com/CF34ULD
NFPA	Following NFPA 79-2018, chapter 12.9
DNV	Type Approval Certificate TAE00003X9
EAC	Certificate No. RU C-DE.ME77.B.00863/20
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 1, material/cable tested by IPA according to DIN EN ISO standard 14644-1
DESINA	According to VDW, DESINA standardisation
CE	Following 2014/35/EU
UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Guaranteed service life (details see page 28-29)

Double strokes*	5 million	7.5 million	10 million
Temperature, from/to [°C]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-35/-25	10	11	12
-25/+80	7.5	8.5	9.5
+80/+90	10	11	12

* Higher number of double strokes? Service life calculation online ▶ www.igus-asean.com/chainflexlife

Typical application areas

- For heavy-duty applications, Class 6
- Unsupported travels and up to 400m and more for gliding applications, Class 6
- Almost unlimited resistance to oil, also with bio-oils, Class 4
- Torsion ±90°, with 1m cable length, Class 2
- Indoor and outdoor applications, UV-resistant
- Storage and retrieval units for high-bay warehouses, machining units/machine tools, quick handling, cleanroom, semiconductor insertion, outdoor cranes, low-temperature applications

Motor cable | TPE | chainflex® CF34.UL.D

Strip cables 50% faster with CFRIP® tear strip



Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF34.UL.15.04.D	4G1.5	8.0	61	102
CF34.UL.25.04.D	4G2.5	10.0	100	159
CF34.UL.40.04.D	4G4.0	11.5	163	236
CF34.UL.60.04.D	4G6.0	13.5	237	332
CF34.UL.60.05.D	5G6.0	15.0	297	406
CF34.UL.100.04.D	4G10	16.5	407	537
CF34.UL.100.05.D	5G10	19.5	515	670
CF34.UL.160.04.D	4G16	20.0	646	819
CF34.UL.160.05.D	5G16	22.5	815	1009
CF34.UL.250.04.D	4G25	24.5	1014	1271

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core



Cables available in the chainflex® CASE

Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.

More on this on page 24/25 and online: www.igus-asean.com/cf-case

EPLAN download, configurators ▶ www.igus-asean.com/CF34ULD

Class 6.6.4.2

Basic requirements	low	1	2	3	4	5	**6**	7	highest
Travel distance	unsupported	1	2	3	4	5	**6**		≥ 400m
Oil resistance	none	1	2	3	**4**				highest
Torsion	none	1	**2**	3	4				±360°



Order example: CF34.UL.15.04.D - to your desired length (0.5m steps)
CF34.UL.D chainflex® series .15 Code nominal cross section .04 Number of cores

Order online ▶ www.igus-asean.com/CF34ULD

Delivery time 24hrs or today.
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Do the chainflex® price check ...
www.igus-asean.com/cf-price-check

… for example: reduce cost with CF300.UL.D ...

Motor cable | TPE | chainflex® CF35.UL

10 million
Double strokes guaranteed

7.5 x d
Bend radius, e-chain®

400m
Travel distance, e-chain®

- For extremely heavy duty applications
- TPE outer jacket
- Shielded
- Oil and bio-oil-resistant
- Flame-retardant
- UV-resistant
- Hydrolysis and microbe-resistant



Example image

Dynamic information

Bend radius	**e-chain® linear**	minimum 7.5 x d
	flexible	minimum 6 x d
	fixed	minimum 4 x d
Temperature	**e-chain® linear**	-35°C up to +90°C
	flexible	-45°C up to +90°C (following DIN EN 60811-504)
	fixed	-50°C up to +90°C (following DIN EN 50305)
v max.	**unsupported**	10m/s
	gliding	6m/s
a max.		80m/s²
Travel distance		Unsupported travels and up to 400m and more for gliding applications, Class 6

Cable structure

Conductor	**Cores <10mm²:** Stranded conductor in especially bending-resistant version consisting of bare copper wires (following DIN EN 60228). **Cores ≥ 10mm²:** Conductor cable consisting of pre-leads (following DIN EN 60228).
Core insulation	Mechanically high-quality, especially low-capacitance XLPE mixture.
Core structure	Cores wound with a short pitch length around a high tensile strength centre element.
Core identification	Black cores with white numbers, one green-yellow core. 1. Core: U / L1 / C / L+ 2. Core: V / L2 3. Core: W / L3 / D / L- 4. Core: 4 / N
Inner jacket	TPE mixture adapted to suit the requirements in e-chains®.
Overall shield	Extremely bending-resistant braiding made of tinned copper wires. Coverage linear approx. 70%, optical approx. 90%
Outer jacket	Low-adhesion, extremely abrasion-resistant and highly flexible TPE mixture, adapted to suit the requirements in e-chains®. Colour: Signal black (similar to RAL 9004)
CFRIP®	Strip cables faster: a tear strip is moulded into the inner jacket Video ▶ www.igus-asean.com/CFRIP

Electrical information

Nominal voltage	600/1,000V (following DIN VDE 0298-3) 1,000V (following UL)
Testing voltage	4,000V (following DIN EN 50395)

EPLAN download, configurators ▶ www.igus-asean.com/CF35UL

Class 6.6.4.1

Basic requirements	low	1	2	3	4	5	**6**	7	highest
Travel distance	unsupported	1	2	3	4	5	**6**	≥ 400m	
Oil resistance	none	1	2	3	**4**	highest			
Torsion	none	**1**	2	3	4	±360°			

Properties and approvals

UV resistance	High
Oil resistance	Oil-resistant (following DIN EN 60811-404), bio-oil-resistant (following VDMA 24568 with Plantocut 8 S-MB tested by DEA), Class 4
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
UL verified	Certificate No. B129699: "igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL/CSA AWM	See data sheet for details ▶ www.igus-asean.com/CF35UL
NFPA	Following NFPA 79-2018, chapter 12.9
DNV	Type Approval Certificate TAE00003X9
EAC	Certificate No. RU C-DE.ME77.B.00863/20
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 1. The outer jacket material of this series complies with CF34.UL.25.04.D - tested by IPA according to standard DIN EN ISO 14644-1
CE	Following 2014/35/EU
UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Guaranteed service life (details see page 28-29)

Double strokes*	5 million	7.5 million	10 million
Temperature, from/to [°C]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-35/-25	10	11	12
-25/+80	7.5	8.5	9.5
+80/+90	10	11	12

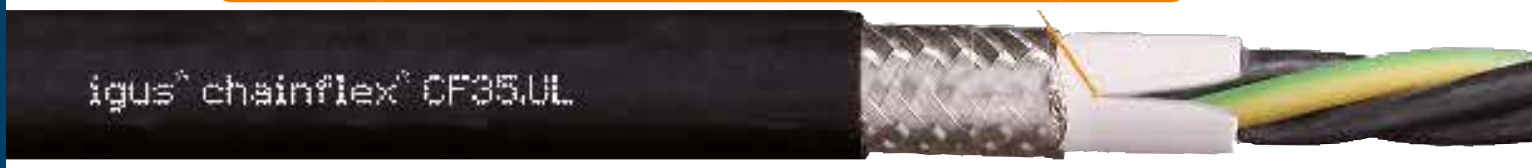
* Higher number of double strokes? Service life calculation online ▶ www.igus-asean.com/chainflexlife

Typical application areas

- For heavy-duty applications, Class 6
- Unsupported travels and up to 400m and more for gliding applications, Class 6
- Almost unlimited resistance to oil, also with bio-oils, Class 4
- No torsion, Class 1
- Indoor and outdoor applications, UV-resistant
- Storage and retrieval units for high-bay warehouses, machining units/machine tools, quick handling, cleanroom, semiconductor insertion, outdoor cranes, low-temperature applications

Motor cable | TPE | chainflex® CF35.UL

Strip cables 50% faster with CFRIP® tear strip



Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF35.UL.05.04	(4G0.5)C	7.5	42	79
CF35.UL.07.04	(4G0.75)C	8.0	58	90
CF35.UL.15.04	(4G1.5)C	10.0	89	146
CF35.UL.25.04	(4G2.5)C	11.5	133	207
CF35.UL.40.04	(4G4.0)C	13.0	203	290
CF35.UL.60.04	(4G6.0)C	16.0	288	423
CF35.UL.100.04	(4G10)C	18.5	468	632
CF35.UL.160.04	(4G16)C	23.0	738	974
CF35.UL.250.04	(4G25)C	27.5	1153	1481
CF35.UL.60.03.O.PE [11)]	(3x6.0)C	14.5	229	344
CF35.UL.250.03.O.PE [11)]	(3x25)C	24.5	880	1163

[11)] Phase-out model

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core



Cables available in the chainflex® CASE

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More on this on page 24/25 and online: www.igus-asean.com/cf-case

EPLAN download, configurators ▶ www.igus-asean.com/CF35UL

Class 6.6.4.1

Basic requirements	low	1	2	3	4	5	**6**	7	highest
Travel distance	unsupported	1	2	3	4	5	**6**		≥ 400m
Oil resistance	none	1	2	3	**4**				highest
Torsion	none	**1**	2	3	4				±360°



Order example: CF35.UL.05.04 - to your desired length (0.5m steps)
CF35.UL chainflex® series .05 Code nominal cross section .04 Number of cores

Order online ▶ www.igus-asean.com/CF35UL

Delivery time 24hrs or today.
Delivery time means time until goods are shipped.



Reduce cost, improve technology, now!
Do the chainflex® price check ...
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… for example: reduce cost with CF310.UL ...

Motor cable | TPE | chainflex® CF37.D

Now available with UL approval & 25% longer service life

12.5 million
Double strokes guaranteed

7.5 x d
Bend radius, e-chain®

400m
Travel distance, e-chain®

- For heaviest duty applications
- TPE outer jacket
- Oil and bio-oil-resistant
- PVC and halogen-free
- UV-resistant
- Hydrolysis and microbe-resistant



Example image

Dynamic information

Bend radius	**e-chain® linear**	minimum 7.5 x d
	flexible	minimum 6 x d
	fixed	minimum 4 x d
Temperature	**e-chain® linear**	-35°C up to +90°C
	flexible	-50°C up to +90°C (following DIN EN 60811-504)
	fixed	-55°C up to +90°C (following DIN EN 50305)
v max.	**unsupported**	10m/s
	gliding	6m/s
a max.		80m/s²
Travel distance		Unsupported travels and up to 400m and more for gliding applications, Class 6
Torsion		Torsion ±90°, with 1m cable length, Class 2

Cable structure

Conductor	**Cores <10mm²:** Stranded conductor in especially bending-resistant version consisting of bare copper wires (following DIN EN 60228). **Cores ≥ 10mm²:** Conductor cable consisting of pre-leads (following DIN EN 60228).
Core insulation	Mechanically high-quality, especially low-capacitance XLPE mixture.
Core structure	Cores wound with a short pitch length around a high tensile strength centre element.
Core identification	Black cores with white numbers, one green-yellow core. 1. Core: U / L1 / C / L+ 2. Core: V / L2 3. Core: W / L3 / D / L- 4. Core: 4 / N
Outer jacket	Low-adhesion, extremely abrasion-resistant and highly flexible TPE mixture, adapted to suit the requirements in e-chains®. Colour: jet black (similar to RAL 9005)
CFRIP®	Strip cables faster: a tear strip is moulded into the outer jacket Video ▶ www.igus-asean.com/CFRIP

Electrical information

Nominal voltage	600/1,000V (following DIN VDE 0298-3) 1,000V (following UL)
Testing voltage	4,000V (following DIN EN 50395)

Properties and approvals

UV resistance	High
Oil resistance	Oil-resistant (following DIN EN 60811-404), bio-oil-resistant (following VDMA 24568 with Plantocut 8 S-MB tested by DEA), Class 4
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)

Class 7.6.4.2

Basic requirements	low 1 2 3 4 5 6 **7** highest
Travel distance	unsupported 1 2 3 4 5 **6** ≥ 400m
Oil resistance	none 1 2 3 **4** highest
Torsion	none 1 **2** 3 4 ±360°

Halogen-free	Following DIN EN 60754
UL verified	Certificate No. B129699: "igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL AWM	See data sheet for details ▶ www.igus-asean.com/CF37D
EAC	Certificate No. RU C-DE.ME77.B.00863/20
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 1. The outer jacket material of this series complies with CF9.15.07 - tested by IPA according to standard DIN EN ISO 14644-1
DESINA	According to VDW, DESINA standardisation
CE	Following 2014/35/EU
UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Guaranteed service life (details see page 28-29)

Double strokes*	5 million	7.5 million	12.5 million
Temperature, from/to [°C]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-35/-25	10	11	12
-25/+80	7.5	8.5	9.5
+80/+90	10	11	12

* Higher number of double strokes? Service life calculation online ▶ www.igus-asean.com/chainflexlife

Typical application areas

- For heavy-duty applications, Class 7
- Unsupported travels and up to 400m and more for gliding applications, Class 6
- Almost unlimited resistance to oil, also with bio-oils, Class 4
- Torsion ±90°, with 1m cable length, Class 2
- Indoor and outdoor applications, UV-resistant
- Storage and retrieval units for high-bay warehouses, machining units/machine tools, quick handling, cleanroom, semiconductor insertion, outdoor cranes, low-temperature applications

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF37.15.04.D	4G1.5	8.0	61	95
CF37.25.04.D	4G2.5	10.0	100	149
CF37.40.04.D	4G4.0	11.5	163	221
CF37.60.04.D	4G6.0	13.5	237	317
CF37.60.05.D	5G6.0	15.0	297	387
CF37.100.04.D	4G10	16.5	407	503
CF37.100.05.D	5G10	19.0	515	634
CF37.160.04.D	4G16	20.0	646	773
CF37.160.05.D	5G16	22.5	815	963
CF37.250.04.D	4G25	24.0	1014	1203
CF37.500.03.O.PE.D [11)]	3x50	30.0	1530	1826

[11)] Phase-out model **Note:** The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

Motor cable | TPE | chainflex® CF38

Now available with UL approval & 25% longer service life



Example image

12.5 million
Double strokes guaranteed

7.5 x d
Bend radius, e-chain®

400m
Travel distance, e-chain®

- For heaviest duty applications
- TPE outer jacket
- Shielded
- Oil and bio-oil-resistant
- PVC and halogen-free
- UV-resistant
- Hydrolysis and microbe-resistant

Dynamic information

Bend radius	**e-chain® linear**	minimum 7.5 x d
	flexible	minimum 6 x d
	fixed	minimum 4 x d
Temperature	**e-chain® linear**	-35°C up to +90°C
	flexible	-50°C up to +90°C (following DIN EN 60811-504)
	fixed	-55°C up to +90°C (following DIN EN 50305)
v max.	**unsupported**	10m/s
	gliding	6m/s
a max.		80m/s²
Travel distance		Unsupported travels and up to 400m and more for gliding applications, Class 6

Cable structure

Conductor	**Cores <10mm²:** Stranded conductor in especially bending-resistant version consisting of bare copper wires (following DIN EN 60228). **Cores ≥ 10mm²:** Conductor cable consisting of pre-leads (following DIN EN 60228).
Core insulation	Mechanically high-quality, especially low-capacitance XLPE mixture.
Core structure	Cores wound with a short pitch length around a high tensile strength centre element.
Core identification	Black cores with white numbers, one green-yellow core. 1. Core: U / L1 / C / L+ 2. Core: V / L2 3. Core: W / L3 / D / L- 4. Core: 4 / N
Inner jacket	TPE mixture adapted to suit the requirements in e-chains®.
Overall shield	Extremely bending-resistant braiding made of tinned copper wires. Coverage linear approx. 70%, optical approx. 90%
Outer jacket	Low-adhesion, extremely abrasion-resistant and highly flexible TPE mixture, adapted to suit the requirements in e-chains®. Colour: jet black (similar to RAL 9005)
CFRIP®	Strip cables faster: a tear strip is moulded into the inner jacket Video ▶ www.igus-asean.com/CFRIP

Electrical information

Nominal voltage	600/1,000V (following DIN VDE 0298-3) 1,000V (following UL)
Testing voltage	4,000V (following DIN EN 50395)

Properties and approvals

UV resistance	High
Oil resistance	Oil-resistant (following DIN EN 60811-404), bio-oil-resistant (following VDMA 24568 with Plantocut 8 S-MB tested by DEA), Class 4

Class 7.6.4.1

Basic requirements	low	1 2 3 4 5 6 **7** highest
Travel distance	unsupported	1 2 3 4 5 **6** ≥ 400m
Oil resistance	none	1 2 3 **4** highest
Torsion	none	**1** 2 3 4 ±360°

Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
Halogen-free	Following DIN EN 60754
UL verified	Certificate No. B129699: "igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL AWM	See data sheet for details ▶www.igus-asean.com/CF38
EAC	Certificate No. RU C-DE.ME77.B.00863/20
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 1. The outer jacket material of this series complies with CF9.15.07 - tested by IPA according to standard DIN EN ISO 14644-1
CE	Following 2014/35/EU
UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Guaranteed service life (details see page 28-29)

Double strokes*	5 million	7.5 million	12.5 million
Temperature, from/to [°C]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-35/-25	10	11	12
-25/+80	7.5	8.5	9.5
+80/+90	10	11	12

* Higher number of double strokes? Service life calculation online ▶ www.igus-asean.com/chainflexlife

Typical application areas

- For heavy-duty applications, Class 7
- Unsupported travels and up to 400m and more for gliding applications, Class 6
- Almost unlimited resistance to oil, also with bio-oils, Class 4
- No torsion, Class 1
- Indoor and outdoor applications, UV-resistant
- Storage and retrieval units for high-bay warehouses, machining units/machine tools, quick handling, cleanroom, semiconductor insertion, outdoor cranes, low-temperature applications

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF38.15.04	(4G1.5)C	10.0	89	140
CF38.25.04	(4G2.5)C	11.5	133	198
CF38.40.04	(4G4.0)C	13.0	203	280
CF38.60.04	(4G6.0)C	16.0	288	409
CF38.100.04	(4G10)C	18.5	468	613
CF38.160.04	(4G16)C	23.0	738	943
CF38.250.04	(4G25)C	27.0	1153	1432
CF38.100.03.O.PE	(3x10)C	17.0	358	494
CF38.160.03.O.PE	(3x16)C	20.5	565	762
CF38.500.03.O.PE	(3x50)C	33.0	1714	2129

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

Spindle cable/Single core | PVC | chainflex® CF885

5,000,000
Double strokes guaranteed

15 x d
Bend radius, e-chain®

10m
Travel distance, e-chain®

- For flexing applications
- PVC outer jacket
- Flame-retardant



Example image

Dynamic information

Bend radius	**e-chain® linear**	minimum 15 x d
	flexible	minimum 12 x d
	fixed	minimum 8 x d
Temperature	**e-chain® linear**	+5°C up to +70°C
	flexible	-5°C up to +70°C (following DIN EN 60811-504)
	fixed	-15°C up to +70°C (following DIN EN 50305)
v max.	**unsupported**	3m/s
a max.		20m/s²
Travel distance		Unsupported travels up to 10m, Class 1

Cable structure

Conductor	Conductor consisting of bare copper wires (according to DIN EN 60228).
Core insulation	Mechanically high-quality PVC mixture.
Outer jacket	Low-adhesion PVC mixture, adapted to suit the requirements in e-chains®. Colour: Pastel orange (similar to RAL 2003)

Electrical information

Nominal voltage	600/1,000V (following DIN VDE 0298-3) 600V (following UL)
Testing voltage	4,000V (following DIN EN 50395)

Properties and approvals

Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
UL verified	Certificate No. B129699: "igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year" See data sheet for details ▶ www.igus-asean.com/CF885
UL/CSA AWM	
NFPA	Following NFPA 79-2018, chapter 12.9
EAC	Certificate No. RU C-DE.ME77.B.00302/19
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)

EPLAN download, configurators ▶ www.igus-asean.com/CF885

Class 3.1.1.1

Basic requirements	low 1 2 **3** 4 5 6 7 highest
Travel distance	unsupported **1** 2 3 4 5 6 ≥ 400m
Oil resistance	none **1** 2 3 4 highest
Torsion	none **1** 2 3 4 ±360°

Lead-free Following 2011/65/EC (RoHS-II/RoHS-III)

CE Following 2014/35/EU

UKCA In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Guaranteed service life (details see page 28-29)

Double strokes*	1 million	3 million	5 million
Temperature, from/to [°C]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
+5/+15	17.5	18.5	19.5
+15/+60	15	16	17
+60/+70	17.5	18.5	19.5

* Higher number of double strokes? Service life calculation online ▶ www.igus-asean.com/chainflexlife

Typical application areas

- For flexing applications, Class 3
- Especially for unsupported travels, Class 1
- Without influence of oil, Class 1
- No torsion, Class 1
- Preferably indoor applications
- Wood/stone processing, packaging industry, feeding, handling, adjusting devices

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF885.40.01	1x4.0	7.5	41	78
CF885.60.01	1x6.0	8.0	61	100
CF885.100.01	1x10	9.5	100	157
CF885.160.01	1x16	11.5	159	237
CF885.250.01	1x25	12.5	248	325
CF885.350.01	1x35	15.0	347	474
CF885.500.01	1x50	16.5	495	644
CF885.700.01	1x70	18.5	686	844
CF885.950.01	1x95	20.5	931	1024

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core



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e chainflex® CASE - ship'n store by igus®.

ore on this on page 24/25 and online: www.igus-asean.com/cf-case

Spindle cable/Single core | PVC | chainflex® CF885.PE

5,000,000
Double strokes guaranteed

15 x d
Bend radius, e-chain®

10m
Travel distance, e-chain®

- For flexing applications
- PVC outer jacket
- Flame-retardant



Example image

Dynamic information

Bend radius	**e-chain® linear**	minimum 15 x d
	flexible	minimum 12 x d
	fixed	minimum 8 x d
Temperature	**e-chain® linear**	+5°C up to +70°C
	flexible	-5°C up to +70°C (following DIN EN 60811-504)
	fixed	-15°C up to +70°C (following DIN EN 50305)
v max.	**unsupported**	3m/s
a max.		20m/s²
Travel distance		Unsupported travels up to 10m, Class 1

Cable structure

Conductor	Conductor consisting of bare copper wires (according to DIN EN 60228).
Core insulation	Mechanically high-quality PVC mixture.
Core identification	Green-yellow
Outer jacket	Low-adhesion PVC mixture, adapted to suit the requirements in e-chains®. Colour: Pastel orange (similar to RAL 2003)

Electrical information

Nominal voltage	600/1,000V (following DIN VDE 0298-3) 600V (following UL)
Testing voltage	4,000V (following DIN EN 50395)

Properties and approvals

Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
UL verified	Certificate No. B129699: "igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL/CSA AWM	See data sheet for details ▶ www.igus-asean.com/CF885PE
NFPA	Following NFPA 79-2018, chapter 12.9

EPLAN download, configurators ▶ www.igus-asean.com/CF885PE

Class 3.1.1.1

Basic requirements	low	1 2 **3** 4 5 6 7 highest
Travel distance	unsupported	**1** 2 3 4 5 6 ≥ 400m
Oil resistance	none	**1** 2 3 4 highest
Torsion	none	**1** 2 3 4 ±360°

EAC	Certificate No. RU C-DE.ME77.B.00302/19
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
CE	Following 2014/35/EU
UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Guaranteed service life (details see page 28-29)

Double strokes*	1 million	3 million	5 million
Temperature, from/to [°C]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
+5/+15	17.5	18.5	19.5
+15/+60	15	16	17
+60/+70	17.5	18.5	19.5

* Higher number of double strokes? Service life calculation online ▶ www.igus-asean.com/chainflexlife

Typical application areas

- For flexing applications, Class 3
- Especially for unsupported travels, Class 1
- Without influence of oil, Class 1
- No torsion, Class 1
- Preferably indoor applications
- Wood/stone processing, packaging industry, feeding, handling, adjusting devices

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF885.PE.25.01	1G2.5	6.5	25	59
CF885.PE.40.01	1G4.0	7.5	61	83
CF885.PE.60.01	1G6.0	8.0	61	100
CF885.PE.100.01	1G10	9.5	100	155
CF885.PE.160.01	1G16	11.0	159	226
CF885.PE.250.01	1G25	12.5	248	342

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core



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ore on this on page 24/25 and online: www.igus-asean.com/cf-case

igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year

Spindle cable/Single core | PVC | chainflex® CF886

5,000,000
Double strokes guaranteed

15 x d
Bend radius, e-chain®

10m
Travel distance, e-chain®

- For flexing applications
- PVC outer jacket
- Shielded
- Flame-retardant



Example image

Dynamic information

Bend radius	**e-chain® linear**	minimum 15 x d
	flexible	minimum 12 x d
	fixed	minimum 8 x d
Temperature	**e-chain® linear**	+5°C up to +70°C
	flexible	-5°C up to +70°C (following DIN EN 60811-504)
	fixed	-15°C up to +70°C (following DIN EN 50305)
v max.	**unsupported**	3m/s
a max.		20m/s²
Travel distance		Unsupported travels up to 10m, Class 1

Cable structure

Conductor	Conductor consisting of bare copper wires (according to DIN EN 60228).
Core insulation	Mechanically high-quality PVC mixture.
Overall shield	Braiding made of tinned copper wires. Coverage approx. 60% optical
Outer jacket	Low-adhesion PVC mixture, adapted to suit the requirements in e-chains®. Colour: Pastel orange (similar to RAL 2003)

Electrical information

Nominal voltage	600/1,000V (following DIN VDE 0298-3) 600V (following UL)
Testing voltage	4,000V (following DIN EN 50395)

Properties and approvals

Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
UL verified	Certificate No. B129699: "igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL/CSA AWM	See data sheet for details ▶ www.igus-asean.com/CF886

EPLAN download, configurators ▶ www.igus-asean.com/CF886

36-month guarantee ... more than 1,350 cable types from stock ... no cutting charges

Class 3.1.1.1

Basic requirements	low	1 2 **3** 4 5 6 7 highest
Travel distance	unsupported	**1** 2 3 4 5 6 ≥ 400m
Oil resistance	none	**1** 2 3 4 highest
Torsion	none	**1** 2 3 4 ±360°

NFPA	Following NFPA 79-2018, chapter 12.9
EAC	Certificate No. RU C-DE.ME77.B.00302/19
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
CE	Following 2014/35/EU
UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Guaranteed service life (details see page 28-29)

Double strokes*	1 million	3 million	5 million
Temperature, from/to [°C]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
+5/+15	17.5	18.5	19.5
+15/+60	15	16	17
+60/+70	17.5	18.5	19.5

* Higher number of double strokes? Service life calculation online ▶ www.igus-asean.com/chainflexlife

Typical application areas

- For flexing applications, Class 3
- Especially for unsupported travels, Class 1
- Without influence of oil, Class 1
- No torsion, Class 1
- Preferably indoor applications
- Wood/stone processing, packaging industry, feeding, handling, adjusting devices

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF886.160.01	(1x16)C	11.5	186	262
CF886.250.01	(1x25)C	13.0	280	363
CF886.350.01	(1x35)C	15.5	394	535

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core



Cables available in the chainflex® CASE

Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.

More on this on page 24/25 and online: www.igus-asean.com/cf-case

Spindle cable/Single core | PUR | chainflex® CF270.UL.D

10 million
Double strokes guaranteed

10 x d
Bend radius, e-chain®

10m
Travel distance, e-chain®

- For medium duty applications
- PUR outer jacket
- Shielded
- Oil-resistant and coolant-resistant
- Notch-resistant
- Flame-retardant
- Hydrolysis and microbe-resistant
- PVC and halogen-free



Example image

Dynamic information

Bend radius	**e-chain® linear**	minimum 10 x d
	flexible	minimum 8 x d
	fixed	minimum 5 x d
Temperature	**e-chain® linear**	-25°C up to +80°C
	flexible	-40°C up to +80°C (following DIN EN 60811-504)
	fixed	-50°C up to +80°C (following DIN EN 50305)
v max.	**unsupported**	10m/s
	gliding	2m/s
a max.		50m/s²
Travel distance		Unsupported travels and up to 10m for gliding applications, Class 2

Cable structure

Conductor	Conductor cable consisting of pre-leads (following DIN EN 60228).
Core insulation	Mechanically high-quality TPE mixture.
Overall shield	Bending-resistant braiding made of tinned copper wires. Coverage linear approx. 55%, optical approx. 80%
Outer jacket	Low-adhesion, halogen-free, highly abrasion resistant PUR mixture, adapted to suit the requirements in e-chains® (following DIN EN 50363-10-2) Colour: Pastel orange (similar to RAL 2003)

Electrical information

Nominal voltage	600/1,000V (following DIN VDE 0298-3) 1,000V (following UL)
Testing voltage	4,000V (following DIN EN 50395)

Properties and approvals

UV resistance	Medium
Oil resistance	Oil-resistant (following DIN EN 50363-10-2), Class 3
Offshore	MUD-resistant following NEK 606 - status 2016
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
Halogen-free	Following DIN EN 60754

EPLAN download, configurators ▶ www.igus-asean.com/CF270ULD

Class 4.2.3.1

Basic requirements	low 1 2 3 **4** 5 6 7 highest
Travel distance	unsupported 1 **2** 3 4 5 6 ≥ 400m
Oil resistance	none 1 2 **3** 4 highest
Torsion	none **1** 2 3 4 ±360°

UL verified	Certificate No. B129699: "igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL/CSA AWM	See data sheet for details ▶ www.igus-asean.com/CF270ULD
NFPA	Following NFPA 79-2018, chapter 12.9
EAC	Certificate No. RU C-DE.ME77.B.00863/20
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 1. The outer jacket material of this series complies with CF77.UL.05.12.D - tested by IPA according to standard DIN EN ISO 14644-1
DESINA	According to VDW, DESINA standardisation
CE	Following 2014/35/EU
UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Guaranteed service life (details see page 28-29)

Double strokes*	5 million	7.5 million	10 million
Temperature, from/to [°C]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-25/-15	12.5	13.5	14.5
-15/+70	10	11	12
+70/+80	12.5	13.5	14.5

* Higher number of double strokes? Service life calculation online ▶ www.igus-asean.com/chainflexlife

Typical application areas

- For medium duty applications, Class 4
- Unsupported travels and up to 10m for gliding applications, Class 2
- Almost unlimited resistance to oil, Class 3
- No torsion, Class 1
- Indoor and outdoor applications without direct sun radiation
- Machining units/machine tools, low temperature applications

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF270.UL.60.01.D	(1x6.0)C	7.5	72	95
CF270.UL.100.01.D	(1x10)C	8.5	114	145
CF270.UL.160.01.D	(1x16)C	9.5	178	209
CF270.UL.250.01.D	(1x25)C	11.0	269	304
CF270.UL.350.01.D	(1x35)C	13.0	374	419
CF270.UL.500.01.D	(1x50)C	15.0	525	579
CF270.UL.700.01.D	(1x70)C	17.0	751	804

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

Spindle cable/Single core | TPE | chainflex® CF300.UL.D

10 million
Double strokes guaranteed

7.5 x d
Bend radius, e-chain®

400m
Travel distance, e-chain®

- For extremely heavy duty applications
- TPE outer jacket
- Oil and bio-oil-resistant
- Flame-retardant
- UV-resistant
- Hydrolysis and microbe-resistant



Example image

Dynamic information

Bend radius	**e-chain® linear**	minimum 7.5 x d
	flexible	minimum 6 x d
	fixed	minimum 4 x d
Temperature	**e-chain® linear**	-35°C up to +90°C
	flexible	-45°C up to +90°C (following DIN EN 60811-504)
	fixed	-50°C up to +90°C (following DIN EN 50305)
v max.	**unsupported**	10m/s
	gliding	6m/s
a max.		100m/s²
Travel distance		Unsupported travels and up to 400m and more for gliding applications, Class 6
Torsion		Torsion ±90°, with 1m cable length, Class 2

Cable structure

Conductor	Conductor cable consisting of pre-leads (following DIN EN 60228).
Core insulation	Mechanically high-quality TPE mixture.
Outer jacket	Low-adhesion, extremely abrasion-resistant and highly flexible TPE mixture, adapted to suit the requirements in e-chains®. Colour: Signal black (similar to RAL 9004)

Electrical information

Nominal voltage	600/1,000V (following DIN VDE 0298-3) 1,000V (following UL)
Testing voltage	4,000V (following DIN EN 50395)

Properties and approvals

UV resistance	High
Oil resistance	Oil-resistant (following DIN EN 60811-404), bio-oil-resistant (following VDMA 24568 with Plantocut 8 S-MB tested by DEA), Class 4
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
UL verified	Certificate No. B129699: "igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL/CSA AWM	See data sheet for details ▶ www.igus-asean.com/CF300ULD

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Class 6.6.4.2

Basic requirements	low	1 2 3 4 5 **6** 7 highest
Travel distance	unsupported	1 2 3 4 5 **6** ≥ 400m
Oil resistance	none	1 2 3 **4** highest
Torsion	none	1 **2** 3 4 ±360°

NFPA	Following NFPA 79-2018, chapter 12.9
DNV	Type Approval Certificate TAE00003XC
EAC	Certificate No. RU C-DE.ME77.B.00863/20
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 1. The outer jacket material of this series complies with CF34.UL.25.04.D - tested by IPA according to standard DIN EN ISO 14644-1
DESINA	According to VDW, DESINA standardisation
CE	Following 2014/35/EU
UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Guaranteed service life (details see page 28-29)

Double strokes*	5 million	7.5 million	10 million
Temperature, from/to [°C]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-35/-25	10	11	12
-25/+80	7.5	8.5	9.5
+80/+90	10	11	12

* Higher number of double strokes? Service life calculation online ▶ www.igus-asean.com/chainflexlife

Typical application areas

- For heavy-duty applications, Class 6
- Unsupported travels and up to 400m and more for gliding applications, Class 6
- Almost unlimited resistance to oil, also with bio-oils, Class 4
- Torsion ±90°, with 1m cable length, Class 2
- Indoor and outdoor applications, UV-resistant
- Storage and retrieval units for high-bay warehouses, machining units/machine tools, quick handling, cleanroom, semiconductor insertion, outdoor cranes, low-temperature applications

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF300.UL.40.01.D	1x4.0	6.0	41	59
CF300.UL.60.01.D	1x6.0	7.0	61	83
CF300.UL.100.01.D	1x10	7.5	100	124
CF300.UL.160.01.D	1x16	9.5	159	195
CF300.UL.250.01.D	1x25	11.5	248	294
CF300.UL.350.01.D	1x35	12.5	347	395
CF300.UL.500.01.D	1x50	14.5	495	551
CF300.UL.700.01.D	1x70	16.5	710	769
CF300.UL.950.01.D	1x95	20.0	936	1042
CF300.UL.1200.01.D	1x120	21.5	1184	1295
CF300.UL.1500.01.D	1x150	23.5	1469	1579
CF300.UL.1850.01.D	1x185	26.5	1928	2052

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

Spindle cable/Single core | TPE | chainflex® CFPE

10 million
Double strokes guaranteed

7.5 x d
Bend radius, e-chain®

400m
Travel distance, e-chain®

- For extremely heavy duty applications
- TPE outer jacket
- Oil and bio-oil-resistant
- Flame-retardant
- UV-resistant
- Hydrolysis and microbe-resistant



Example image

Dynamic information

Bend radius	**e-chain® linear**	minimum 7.5 x d
	flexible	minimum 6 x d
	fixed	minimum 4 x d
Temperature	**e-chain® linear**	-35°C up to +90°C
	flexible	-45°C up to +90°C (following DIN EN 60811-504)
	fixed	-50°C up to +90°C (following DIN EN 50305)
v max.	**unsupported**	10m/s
	gliding	6m/s
a max.	100m/s²	
Travel distance	Unsupported travels and up to 400m and more for gliding applications, Class 6	
Torsion	Torsion ±90°, with 1m cable length, Class 2	

Cable structure

Conductor	Conductor cable consisting of pre-leads (following DIN EN 60228).
Core insulation	Mechanically high-quality TPE mixture.
Core identification	Green-yellow
Outer jacket	Low-adhesion, extremely abrasion-resistant and highly flexible TPE mixture, adapted to suit the requirements in e-chains®. Colour: Signal black (similar to RAL 9004)

Electrical information

Nominal voltage	600/1,000V (following DIN VDE 0298-3) 1,000V (following UL)
Testing voltage	4,000V (following DIN EN 50395)

Properties and approvals

UV resistance	High
Oil resistance	Oil-resistant (following DIN EN 60811-404), bio-oil-resistant (following VDMA 24568 with Plantocut 8 S-MB tested by DEA), Class 4
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
UL verified	Certificate No. B129699: "igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"

EPLAN download, configurators ▶ www.igus-asean.com/CFPE

Class 6.6.4.2

Basic requirements	low	1 2 3 4 5 **6** 7 highest
Travel distance	unsupported	1 2 3 4 5 **6** ≥ 400m
Oil resistance	none	1 2 3 **4** highest
Torsion	none	1 **2** 3 4 ±360°

UL/CSA AWM	See data sheet for details ▶www.igus-asean.com/CFPEE
NFPA	Following NFPA 79-2018, chapter 12.9
DNV	Type Approval Certificate TAE00003XC
EAC	Certificate No. RU C-DE.ME77.B.00863/20
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 1. The outer jacket material of this series complies with CF34.UL.25.04.D - tested by IPA according to standard DIN EN ISO 14644-1
CE	Following 2014/35/EU
UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Guaranteed service life (details see page 28-29)

Double strokes*	5 million	7.5 million	10 million
Temperature, from/to [°C]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-35/-25	10	11	12
-25/+80	7.5	8.5	9.5
+80/+90	10	11	12

* Higher number of double strokes? Service life calculation online ▶ www.igus-asean.com/chainflexlife

Typical application areas

- For heavy-duty applications, Class 6
- Unsupported travels and up to 400m and more for gliding applications, Class 6
- Almost unlimited resistance to oil, also with bio-oils, Class 4
- Torsion ±90°, with 1m cable length, Class 2
- Indoor and outdoor applications, UV-resistant
- Storage and retrieval units for high-bay warehouses, machining units/machine tools, quick handling, cleanroom, semiconductor insertion, outdoor cranes, low-temperature applications

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CFPE.15.01	1G1.5	4.5	16	31
CFPE.25.01	1G2.5	5.5	25	42
CFPE.40.01	1G4.0	6.0	41	59
CFPE.60.01	1G6.0	7.0	61	83
CFPE.100.01	1G10	7.5	100	124
CFPE.160.01	1G16	9.5	159	195
CFPE.250.01	1G25	11.5	248	294
CFPE.350.01	1G35	12.5	347	395
CFPE.500.01	1G50	14.5	495	551
CFPE.700.01	1G70	16.5	725	813
CFPE.950.01	1G95	20.0	936	1080

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

Spindle cable/Single core | TPE | chainflex® CF310.UL

10 million
Double strokes guaranteed

7.5 x d
Bend radius, e-chain®

400m
Travel distance, e-chain®

- For extremely heavy duty applications
- TPE outer jacket
- Shielded
- Oil and bio-oil-resistant
- Flame-retardant
- UV-resistant
- Hydrolysis and microbe-resistant



Example image

Dynamic information

Bend radius	**e-chain® linear**	minimum 7.5 x d
	flexible	minimum 6 x d
	fixed	minimum 4 x d
Temperature	**e-chain® linear**	-35°C up to +90°C
	flexible	-45°C up to +90°C (following DIN EN 60811-504)
	fixed	-50°C up to +90°C (following DIN EN 50305)
v max.	**unsupported**	10m/s
	gliding	6m/s
a max.		100m/s²
Travel distance		Unsupported travels and up to 400m and more for gliding applications, Class 6

Cable structure

Conductor	Conductor cable consisting of pre-leads (following DIN EN 60228).
Core insulation	Mechanically high-quality TPE mixture.
Overall shield	Extremely bending-resistant braiding made of tinned copper wires. Coverage linear approx. 70%, optical approx. 90%
Outer jacket	Low-adhesion, extremely abrasion-resistant and highly flexible TPE mixture, adapted to suit the requirements in e-chains®. Colour: Signal black (similar to RAL 9004)

Electrical information

Nominal voltage	600/1,000V (following DIN VDE 0298-3) 1,000V (following UL)
Testing voltage	4,000V (following DIN EN 50395)

Properties and approvals

UV resistance	High
Oil resistance	Oil-resistant (following DIN EN 60811-404), bio-oil-resistant (following VDMA 24568 with Plantocut 8 S-MB tested by DEA), Class 4
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
UL verified	Certificate No. B129699: "igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL/CSA AWM	See data sheet for details ▶ www.igus-asean.com/CF310UL

EPLAN download, configurators ▶ www.igus-asean.com/CF310UL

Class 6.6.4.1

Basic requirements	low	1 2 3 4 5 **6** 7 highest
Travel distance	unsupported	1 2 3 4 5 **6** ≥ 400m
Oil resistance	none	1 2 3 **4** highest
Torsion	none	**1** 2 3 4 ±360°

NFPA	Following NFPA 79-2018, chapter 12.9
DNV	Type Approval Certificate TAE00003XC
EAC	Certificate No. RU C-DE.ME77.B.00863/20
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 1. The outer jacket material of this series complies with CF34.UL.25.04.D - tested by IPA according to standard DIN EN ISO 14644-1
CE	Following 2014/35/EU
UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Guaranteed service life (details see page 28-29)

Double strokes*	5 million	7.5 million	10 million
Temperature, from/to [°C]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-35/-25	10	11	12
-25/+80	7.5	8.5	9.5
+80/+90	10	11	12

* Higher number of double strokes? Service life calculation online ▶ www.igus-asean.com/chainflexlife

Typical application areas

- For heavy-duty applications, Class 6
- Unsupported travels and up to 400m and more for gliding applications, Class 6
- Almost unlimited resistance to oil, also with bio-oils, Class 4
- No torsion, Class 1
- Indoor and outdoor applications, UV-resistant
- Storage and retrieval units for high-bay warehouses, machining units/machine tools, quick handling, cleanroom, semiconductor insertion, outdoor cranes, low-temperature applications

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF310.UL.25.01	(1x2.5)C	6.0	41	58
CF310.UL.40.01	(1x4.0)C	6.5	57	77
CF310.UL.60.01	(1x6.0)C	7.0	80	101
CF310.UL.100.01	(1x10)C	8.5	121	146
CF310.UL.160.01	(1x16)C	10.0	184	223
CF310.UL.250.01	(1x25)C	12.0	280	329
CF310.UL.350.01	(1x35)C	13.0	395	444
CF310.UL.500.01	(1x50)C	15.0	536	587
CF310.UL.700.01	(1x70)C	18.0	779	851
CF310.UL.950.01	(1x95)C	21.0	1015	1125
CF310.UL.1200.01	(1x120)C	22.0	1270	1378
CF310.UL.1500.01	(1x150)C	24.5	1592	1700
CF310.UL.1850.01	(1x185)C	27.5	2066	2189

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

Spindle cable/Single core | TPE | chainflex® CF330.D

12.5 million
Double strokes guaranteed

7.5 x d
Bend radius, e-chain®

400m
Travel distance, e-chain®

- For heaviest duty applications
- TPE outer jacket
- Oil and bio-oil-resistant
- PVC and halogen-free
- UV-resistant
- Hydrolysis and microbe-resistant

Now available with UL approval & 25% longer service life



Example image

Dynamic information

Bend radius	**e-chain® linear**	minimum 7.5 x d
	flexible	minimum 6 x d
	fixed	minimum 4 x d
Temperature	**e-chain® linear**	-35°C up to +90°C
	flexible	-50°C up to +90°C (following DIN EN 60811-504)
	fixed	-55°C up to +90°C (following DIN EN 50305)
v max.	**unsupported**	10m/s
	gliding	6m/s
a max.	100m/s²	
Travel distance	Unsupported travels and up to 400m and more for gliding applications, Class 6	
Torsion	Torsion ±90°, with 1m cable length, Class 2	

Cable structure

Conductor	Conductor cable consisting of pre-leads (following DIN EN 60228).
Core insulation	Mechanically high-quality TPE mixture.
Outer jacket	Low-adhesion, extremely abrasion-resistant and highly flexible TPE mixture, adapted to suit the requirements in e-chains®. Colour: jet black (similar to RAL 9005)

Electrical information

Nominal voltage	600/1,000V (following DIN VDE 0298-3) 1,000V (following UL)
Testing voltage	4,000V (following DIN EN 50395)

Properties and approvals

UV resistance	High
Oil resistance	Oil-resistant (following DIN EN 60811-404), bio-oil-resistant (following VDMA 24568 with Plantocut 8 S-MB tested by DEA), Class 4
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
Halogen-free	Following DIN EN 60754
UL verified	Certificate No. B129699: "igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"

Class 7.6.4.2

Basic requirements	low	1 2 3 4 5 6 **7** highest
Travel distance	unsupported	1 2 3 4 5 **6** ≥ 400m
Oil resistance	none	1 2 3 **4** highest
Torsion	none	1 **2** 3 4 ±360°

UL AWM	See data sheet for details ▶ www.igus-asean.com/CF330D
EAC	Certificate No. RU C-DE.ME77.B.00863/20
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 1. The outer jacket material of this series complies with CF9.15.07 - tested by IPA according to standard DIN EN ISO 14644-1
DESINA	According to VDW, DESINA standardisation
CE	Following 2014/35/EU
UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Guaranteed service life (details see page 28-29)

Double strokes*	5 million	7.5 million	12.5 million
Temperature, from/to [°C]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-35/-25	10	11	12
-25/+80	7.5	8.5	9.5
+80/+90	10	11	12

* Higher number of double strokes? Service life calculation online ▶ www.igus-asean.com/chainflexlife

Typical application areas

- For heavy-duty applications, Class 7
- Unsupported travels and up to 400m and more for gliding applications, Class 6
- Almost unlimited resistance to oil, also with bio-oils, Class 4
- Torsion ±90°, with 1m cable length, Class 2
- Indoor and outdoor applications, UV-resistant
- Storage and retrieval units for high-bay warehouses, machining units/machine tools, quick handling, cleanroom, semiconductor insertion, outdoor cranes, low-temperature applications

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF330.60.01.D	1x6.0	7.0	61	77
CF330.100.01.D	1x10	7.5	100	119
CF330.160.01.D	1x16	9.5	159	181
CF330.250.01.D	1x25	11.5	248	284
CF330.350.01.D	1x35	12.5	347	385
CF330.500.01.D	1x50	14.5	495	534
CF330.700.01.D	1x70	16.5	710	754
CF330.950.01.D	1x95	20.0	936	1015
CF330.1200.01.D	1x120	21.5	1184	1265
CF330.1500.01.D	1x150	23.5	1469	1548
CF330.1850.01.D	1x185	26.5	1928	2016

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

Spindle cable/Single core | TPE | chainflex® CF340

12.5 million
Double strokes guaranteed

7.5 x d
Bend radius, e-chain®

400m
Travel distance, e-chain®

- For heaviest duty applications
- TPE outer jacket
- Shielded
- Oil and bio-oil-resistant
- PVC and halogen-free
- UV-resistant
- Hydrolysis and microbe-resistant

Now available with UL approval & 25% longer service life



Example image

Dynamic information

Bend radius	**e-chain® linear**	minimum 7.5 x d
	flexible	minimum 6 x d
	fixed	minimum 4 x d
Temperature	**e-chain® linear**	-35°C up to +90°C
	flexible	-50°C up to +90°C (following DIN EN 60811-504)
	fixed	-55°C up to +90°C (following DIN EN 50305)
v max.	**unsupported**	10m/s
	gliding	6m/s
a max.	100m/s²	
Travel distance	Unsupported travels and up to 400m and more for gliding applications, Class 6	

Cable structure

Conductor	Conductor cable consisting of pre-leads (following DIN EN 60228).
Core insulation	Mechanically high-quality TPE mixture.
Overall shield	Extremely bending-resistant braiding made of tinned copper wires. Coverage linear approx. 70%, optical approx. 90%
Outer jacket	Low-adhesion, extremely abrasion-resistant and highly flexible TPE mixture, adapted to suit the requirements in e-chains®. Colour: jet black (similar to RAL 9005)

Electrical information

Nominal voltage	600/1,000V (following DIN VDE 0298-3) 1,000V (following UL)
Testing voltage	4,000V (following DIN EN 50395)

Properties and approvals

UV resistance	High
Oil resistance	Oil-resistant (following DIN EN 60811-404), bio-oil-resistant (following VDMA 24568 with Plantocut 8 S-MB tested by DEA), Class 4
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
Halogen-free	Following DIN EN 60754
UL verified	Certificate No. B129699: "igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"

Class 7.6.4.1

Basic requirements	low	1 2 3 4 5 6 **7** highest
Travel distance	unsupported	1 2 3 4 5 **6** ≥ 400m
Oil resistance	none	1 2 3 **4** highest
Torsion	none	**1** 2 3 4 ±360°

UL AWM	See data sheet for details ▶ www.igus-asean.com/CF340
EAC	Certificate No. RU C-DE.ME77.B.00863/20
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 1. The outer jacket material of this series complies with CF9.15.07 - tested by IPA according to standard DIN EN ISO 14644-1
CE	Following 2014/35/EU
UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Guaranteed service life (details see page 28-29)

Double strokes*	5 million	7.5 million	12.5 million
Temperature, from/to [°C]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-35/-25	10	11	12
-25/+80	7.5	8.5	9.5
+80/+90	10	11	12

* Higher number of double strokes? Service life calculation online ▶ www.igus-asean.com/chainflexlife

Typical application areas

- For heavy-duty applications, Class 7
- Unsupported travels and up to 400m and more for gliding applications, Class 6
- Almost unlimited resistance to oil, also with bio-oils, Class 4
- No torsion, Class 1
- Indoor and outdoor applications, UV-resistant
- Storage and retrieval units for high-bay warehouses, machining units/machine tools, quick handling, cleanroom, semiconductor insertion, outdoor cranes, low-temperature applications

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF340.40.01	(1x4.0)C	6.5	57	73
CF340.160.01	(1x16)C	10.0	184	215
CF340.250.01	(1x25)C	12.0	280	319
CF340.350.01	(1x35)C	13.0	395	433
CF340.500.01	(1x50)C	15.0	536	574
CF340.700.01	(1x70)C	17.5	779	832
CF340.950.01	(1x95)C	21.0	1015	1093
CF340.1200.01	(1x120)C	22.0	1270	1341
CF340.1500.01	(1x150)C	24.5	1592	1642
CF340.1850.01	(1x185)C	27.5	2066	2157
CF340.2400.01	(1x240)C	30.5	2566	2731

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

Medium voltage cable | PUR | chainflex® CFCRANE.PUR

10 million
Double strokes guaranteed

10 x d
Bend radius, e-chain®

400m
Travel distance, e-chain®

- For maximum voltages and outputs
- PUR outer jacket
- Shielded
- Oil-resistant and coolant-resistant
- Flame-retardant
- PVC and halogen-free
- Notch-resistant
- Hydrolysis and microbe-resistant



Example image

Dynamic information

Bend radius	**e-chain® linear**	minimum 10 x d
	flexible	minimum 8 x d
	fixed	minimum 5 x d
Temperature	**e-chain® linear**	-20°C up to +80°C
	flexible	-25°C up to +80°C (following DIN EN 60811-504)
	fixed	-30°C up to +80°C (following DIN EN 50305)
v max.	**unsupported**	10m/s
	gliding	6m/s
a max.		50m/s²
Travel distance		Unsupported travels and up to 400m and more for gliding applications, Class 6

Cable structure

Conductor	Highly-flexible cable consisting of bare copper wires (according to DIN EN 60228).
Core insulation	Inner and outer semiconducting layer made of conductive rubber. Insulating sheath made of highly-quality, heat-resistant and ozone-proof ethylene propylene rubber (EPR).
Overall shield	Extremely bending-resistant wrapping made of tinned copper wires Coverage approx. 85% optical
Outer jacket	Low-adhesion, halogen-free, highly abrasion resistant PUR mixture, adapted to suit the requirements in e-chains® (following DIN EN 50363-10-2) Colour: Red

Electrical information

Nominal voltage	6/10kV or 8.7/15kV (following DIN VDE 0250), further voltages upon request.
Testing voltage	24kV (following DIN VDE 0250, Part 813)

Properties and approvals

UV resistance	Medium
Oil resistance	Oil-resistant (following DIN EN 50363-10-2), Class 3
Flame-retardant	According to IEC 60332-1-2

EPLAN download, configurators ▶ www.igus-asean.com/CFCRANEPUR

Class 6.6.3.1

Basic requirements	low 1 2 3 4 5 **6** 7 highest
Travel distance	unsupported 1 2 3 4 5 **6** ≥ 400m
Oil resistance	none 1 2 **3** 4 highest
Torsion	none **1** 2 3 4 ±360°

Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
Halogen-free	Following DIN EN 60754
UL verified	Certificate No. B129699: "igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
CE	Following 2014/35/EU
UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Guaranteed service life (details see page 28-29)

Double strokes*	5 million	7.5 million	10 million
Temperature, from/to [°C]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-20/-10	12.5	13.5	14.5
-10/+70	10	11	12
+70/+80	12.5	13.5	14.5

* Higher number of double strokes? Service life calculation online ▶ www.igus-asean.com/chainflexlife

Typical application areas

- For maximum voltages and outputs, Class 6
- Unsupported travels and up to 400m and more for gliding applications, Class 6
- Almost unlimited resistance to oil, Class 3
- No torsion, Class 1
- Indoor and outdoor applications, UV-resistant
- Ship to shore, crane applications, conveyor technology

Part No.	Number of cores and conductor nominal cross section	Outer diameter (d) max.	Copper index	Weight
	[mm²]	[mm]	[kg/km]	[kg/km]
CFCRANE.PUR.350.01.6/10kV	(1x35/16)C	26.0	568	852
CFCRANE.PUR.500.01.6/10kV	(1x50/16)C	27.0	722	1025
CFCRANE.PUR.700.01.6/10kV	(1x70/16)C	29.0	941	1249
CFCRANE.PUR.950.01.6/10kV	(1x95/16)C	31.0	1166	1523

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

Medium voltage cable | igupren | chainflex® CFCRANE

10 million
Double strokes guaranteed

10 x d
Bend radius, e-chain®

400m
Travel distance, e-chain®

- For maximum voltages and outputs
- igupren outer jacket
- Shielded
- Oil-resistant
- Flame-retardant



Example image

Dynamic information

Bend radius	**e-chain® linear**	minimum 10 x d
	flexible	minimum 8 x d
	fixed	minimum 5 x d
Temperature	**e-chain® linear**	-20°C up to +80°C
	flexible	-25°C up to +80°C (following DIN EN 60811-504)
	fixed	-30°C up to +80°C (following DIN EN 50305)
v max.	**unsupported**	10m/s
	gliding	6m/s
a max.		50m/s²
Travel distance		Unsupported travels and up to 400m and more for gliding applications, Class 6

Cable structure

Conductor	Highly-flexible cable consisting of tinned copper wires (following DIN EN 60228).
Core insulation	Inner and outer semiconducting layer made of conductive rubber. Insulating sheath made of highly-quality, heat-resistant and ozone-proof ethylene propylene rubber (EPR).
Overall shield	Extremely bending-resistant, tinned copper shield. Coverage approx. 95% optical
Outer jacket	Low-adhesion iguprene mixture, especially abrasion resistant, adapted to suit the requirements in e-chains® (following VDE 0207, Part 21). Colour: Red

Electrical information

Nominal voltage	6/10kV (following DIN VDE 0250), other voltages upon request.
Testing voltage	17kV (following DIN VDE 0250, Part 813)

EPLAN download, configurators ▶ www.igus-asean.com/CFCRANE

Class 6.6.3.1

Basic requirements	low	1	2	3	4	5	**6**	7	highest
Travel distance	unsupported	1	2	3	4	5	**6**		≥ 400m
Oil resistance	none	1	2	**3**	4				highest
Torsion	none	**1**	2	3	4				±360°

Properties and approvals

UV resistance	High
Oil resistance	Oil-resistant (following DIN EN 60811-404)
Flame-retardant	According to IEC 60332-1-2
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
UL verified	Certificate No. B129699: "igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
CE	Following 2014/35/EU
UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Guaranteed service life (details see page 28-29)

Double strokes*	5 million	7.5 million	10 million
Temperature, from/to [°C]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-20/-10	12.5	13.5	14.5
-10/+70	10	11	12
+70/+80	12.5	13.5	14.5

* Higher number of double strokes? Service life calculation online ▶ www.igus-asean.com/chainflexlife

Typical application areas

- For maximum voltages and outputs, Class 6
- Unsupported travels and up to 400m and more for gliding applications, Class 6
- Almost unlimited resistance to oil, Class 3
- No torsion, Class 1
- Indoor and outdoor applications, UV-resistant
- Ship to shore, crane applications, conveyor technology

This cable series will be individually manufactured for your special project. Due to this we do not have this cable on stock, but can offer it exactly for your special demands.

Medium voltage cables available from stock (CFCRANE.PUR) ▶ Page 374

Twistable cables



chainflex® cable	Jacket	Shield	Bend radius e-chain® [factor x d]	Temperature e-chain® from/to [°C]	Approvals and standards	Oil-resistant	Torsion-resistant	v max. [°/s] twisted	a max. [°/s²] twisted	Page
Twistable cables										
Information about twistable cables										380
Control cables										
CF77.UL.D	PUR		6.8	-25/+80		✓	✓	180	60	384
CFROBOT2	PUR	✓	10	-25/+80		✓	✓	180	60	388
Data cable										
CFROBOT3	PUR	✓	10	-25/+80		✓	✓	180	60	390
Measuring system cable										
CFROBOT4	PUR	✓	10	-25/+80		✓	✓	180	60	392
Fibre Optic Cable										
CFROBOT5	TPE		10	-35/+80		✓	✓	180	60	396
Motor cables										
CFROBOT6	PUR		10	-25/+80		✓	✓	180	60	398
CFROBOT7	PUR	✓	10	-25/+80		✓	✓	180	60	400
Spindle cable/Single core										
CFROBOT	TPE	✓	10	-35/+90		✓	✓	180	60	404
Bus cables										
CFROBOT8	PUR	✓	10	-25/+70		✓	✓	180	60	406
CFROBOT8.PLUS	PUR	✓	10	-25/+70		✓	✓	360	60	410 New
Hybrid cable										
CFROBOT9	PUR	✓	10	-25/+80		✓	✓			414

36-month chainflex® guarantee

Guaranteed service life for predictable reliability

► Selection table page 382

With the help of the chainflex® service life calculator, you can quickly and easily calculate the expected service life of chainflex® cables specifically for your application:

www.igus-asean.com/chainflexlife



igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year

chainflex® cables for robots

Ever more complex sequences of movements in industrial applications demand twistable or multi-axis flexible cables with a long service life, similar to the classic chainflex® cables for use in linear e-chain systems®.
Stranding, structure, shields and jacket materials must compensate both for major changes in bending load and changes in diameter due to torsional movements. To achieve this, different “soft” structural elements e.g. rayon fibres, PTFE elements or filling elements that absorb torsion forces are used in chainflex® CFROBOT cables.

Special demands are made on the braided shielding in torsion cables. Torsion-optimised shield structures are chosen that allow compensatory movements thanks to special PTFE gliding films.

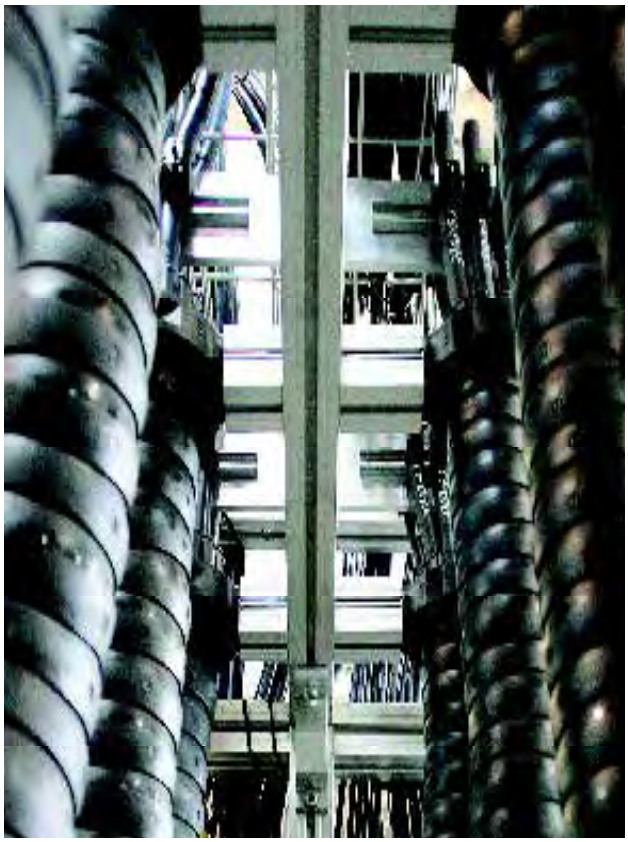
With twistable bus cables in particular, the transmission characteristics such as attenuation, cable capacitance and signal quality must remain within very tight tolerance ranges over the whole service life. This is achieved through the use of particularly torsion optimised insulating materials and mechanical attenuation elements with matching capacitance values.

The highly abrasion-resistant, halogen-free and flame-resistant PUR jacket material in motor, hybrid/control cables and bus cables protects the torsion-optimised stranded elements from possible damage.
The highly abrasion-resistant, halogen-free TPE jacket achieves the special requirements of the twistable FOC and individual as well as the single core cables.

Unlike cables for linear e-chain systems®, the mechanical stress on these cables is in the combination of bending, torsion and centrifugal forces that cannot usually be determined by design or during use by means of measurement. For this reason, and unlike the situation with linear e-chain® applications, a clear “yes/no” statement cannot be made about the use of a particular cable in torsion applications.
To enable evaluation to take place, based on sensible and comparable test results, the igus® “torsion test standard” was developed.

According to this standard, all chainflex® CFROBOT cables of a triflex® energy chain are twisted with a fixed point distance of one metre and a torsion of +/- 180° at least 3 million times.

In addition, a test is carried out on a test bench with a chain length of approx. 2,500mm with 270° torsion with an extreme load through centrifugal forces and heavy blows such as those that can occur on an industrial robot.







All the non-shielded, gusset-filled extruded standard chainflex® control cables of the series CF130.UL, CF5, CF9 and CF9.UL correspond to the above igus® standard and have been approved for use in torsion applications.

The following twistable CFROBOT cable types are currently available:

- Control cable (shielded and unshielded)
- Data and measuring system cables
- Fibre optic cables
- Motor and servo cables
- Bus cables
- Hybrid cables

We can also offer you chainflex® CFROBOT cables pre-harnessed with the connectors of your choice as a readycable®, or as a ready-to-install readychain® system.





Test data ▶ Page 51

chainflex® guarantee

	chainflex® cables	Temperature, from/to [°C]	v max. [°/s] twisted	a max. [°/s²] twisted
Twistable cables				
Control cables				
	CF77.UL.D	-25 / -15 -15 / +70 +70 / +80	180	60
	CFROBOT2	-25 / -15 -15 / +70 +70 / +80	180	60
Data cable				
	CFROBOT3	-25 / -15 -15 / +70 +70 / +80	180	60
Measuring system cable				
	CFROBOT4	-25 / -15 -15 / +70 +70 / +80	180	60
Fibre Optic Cable				
	CFROBOT5	-25 / -15 -15 / +70 +70 / +80	180	60
Motor cables				
	CFROBOT6	-25 / -15 -15 / +70 +70 / +80	180	60
	CFROBOT7	-25 / -15 -15 / +70 +70 / +80	180	60
Spindle cable/Single core				
	CFROBOT	-35 / -25 -15 / +80 +80 / +90	180	60
Bus cables				
	CFROBOT8	-25 / -15 -15 / +60 +60 / +70	180	60
	CFROBOT8.PLUS New!	-25 / -15 -15 / +60 +60 / +70	360	60
Hybrid cable				
	CFROBOT9	-25 / -15 -15 / +70 +70 / +80	180	60

[1] Guaranteed service life for these series (details ▶ see page 28-29)

Guaranteed service life (1)

Minimum bend radius [factor x d]	Minimum bend radius [factor x d]	Minimum bend radius [factor x d]	Page
5 million cycles *	7.5 million cycles *	10 million cycles *	
±150 ±180 ±150	±90 ±120 ±90	±30 ±60 ±30	384
±150 ±180 ±150	±90 ±120 ±90	±30 ±60 ±30	388
±150 ±180 ±150	±90 ±120 ±90	±30 ±60 ±30	390
±150 ±180 ±150	±90 ±120 ±90	±30 ±60 ±30	392
±150 ±180 ±150	±90 ±120 ±90	±30 ±60 ±30	396
±150 ±180 ±150	±90 ±120 ±90	±30 ±60 ±30	398
±150 ±180 ±150	±90 ±120 ±90	±30 ±60 ±30	400
±150 ±180 ±150	±90 ±120 ±90	±30 ±60 ±30	404
±150 ±180 ±150	±90 ±120 ±90	±30 ±60 ±30	406
±330 ±360 ±330	±240 ±270 ±240	±150 ±180 ±150	410
±150 ±180 ±150	±90 ±120 ±90	±30 ±60 ±30	414

* Higher number of double strokes? Calculate service life online: ▶ www.igus-asean.com/chainflexlife

Control cable | PUR | chainflex® CF77.UL.D

10 million Cycles guaranteed

6.8 x d Bend radius, e-chain®

±180°/m Torsion angle

- For torsion applications
- PUR outer jacket
- Oil-resistant and coolant-resistant
- Flame-retardant
- PVC and halogen-free
- Notch-resistant
- Hydrolysis and microbe-resistant



Example image

Dynamic information

Bend radius	**flexible twisted**	minimum 6.8 x d
	fixed	minimum 4 x d
Temperature	**flexible twisted**	-25°C up to +80°C
	fixed	-50°C up to +80°C (following DIN EN 50305)
v max.	**twisted**	180°/s
a max.	**twisted**	60°/s²
Travel distance		Robots and 3D movements, Class 1
Torsion		Torsion ±180°, with 1m cable length, Class 3 (except for 5-core types ≥ 4.0mm² ▶ Product range table)

Cable structure

Conductor Finely stranded conductor consisting of bare copper wires (following DIN EN 60228).

Core insulation Mechanically high-quality TPE mixture.

Core structure **Number of cores < 12:** Cores wound in a layer with short pitch length. **Number of cores ≥ 12:** Cores wound in bundles which are then wound around a high tensile strength centre element, all with optimised short pitch lengths and directions. Especially low-torsion structure.

Core identification **Cores < 0.5mm²:** Colour code in accordance with DIN 47100. **Cores ≥ 0.5mm²:** Black cores with white numbers, one green-yellow core. **CF77.UL.02.03.INI:** brown, blue, black **CF77.UL.03.04.INI:** brown, blue, black, white **CF77.UL.03.05.INI:** brown, blue, black, white, green-yellow

Outer jacket Low-adhesion, halogen-free, highly abrasion resistant PUR mixture, adapted to suit the requirements in e-chains® (following DIN EN 50363-10-2) Colour: Window-grey (similar to RAL 7040) Variants ▶ Product range table

Electrical information

Nominal voltage 300/500V (following DIN VDE 0298-3) **Number of cores < 12:** **Cores < 0.5mm²:** 300V (following UL) **Cores ≥ 0.5mm²:** 1000V (following UL) **Number of cores ≥ 12:** 1000V (following UL)

Testing voltage 2,000V (following DIN EN 50395)

Properties and approvals

UV resistance Medium

Class 5.1.3.3

Basic requirements	low	1 2 3 4 **5** 6 7 highest
Travel distance	unsupported	**1** 2 3 4 5 6 ≥ 400m
Oil resistance	none	1 2 **3** 4 highest
Torsion	none	1 2 **3** 4 ±360°

Oil resistance	Oil-resistant (following DIN EN 50363-10-2), Class 3
Offshore	MUD-resistant following NEK 606 - status 2016
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
Halogen-free	Following DIN EN 60754
UL verified	Certificate No. B129699: "igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL/CSA AWM	See data sheet for details ▶ www.igus-asean.com/CF77ULD
NFPA	Following NFPA 79-2018, chapter 12.9
DNV	Type Approval Certificate TAE00003X1
EAC	Certificate No. RU C-DE.ME77.B.00300/19
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 1, material/cable tested by IPA according to DIN EN ISO standard 14644-1
DESINA	According to VDW, DESINA standardisation
CE	Following 2014/35/EU
UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Guaranteed service life (details see page 28-29)

Cycles*	5 million	7.5 million	10 million
Temperature, from/to [°C]	Torsion max. [°/m]	Torsion max. [°/m]	Torsion max. [°/m]
-25/-15	±150	±90	±30
-15/+70	±180	±120	±60
+70/+80	±150	±90	±30

* Higher number of double strokes? Service life calculation online ▶ www.igus-asean.com/chainflexlife

Typical application areas

- For heavy-duty applications, Class 5
- Especially for robots and 3D movements, Class 1
- Almost unlimited resistance to oil, Class 3
- Torsion ±180°, with 1m cable length, Class 3
- Indoor and outdoor applications with average sun radiation
- Robots, handling, spindle drives

Control cable | PUR | chainflex® CF77.UL.D



Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF77.UL.02.03.INI [12)]	3x0.25	5.0	9	29
CF77.UL.02.04.D	4x0.25	5.5	11	35
CF77.UL.02.05.D	5x0.25	6.0	13	39
CF77.UL.02.07.D	7x0.25	6.5	18	51
CF77.UL.02.12.D	12x0.25	9.0	32	78
CF77.UL.02.18.D	18x0.25	10.5	47	127
CF77.UL.02.25.D	25x0.25	11.5	63	155
CF77.UL.03.04.INI [12)]	4x0.34	6.0	14	37
CF77.UL.03.05.INI [12)]	5x0.34	6.0	18	36
CF77.UL.03.05.INI.D	5x0.34	6.0	18	36
CF77.UL.05.04.D	4G0.5	6.0	21	46
CF77.UL.05.05.D	5G0.5	6.5	26	53
CF77.UL.05.07.D	7G0.5	7.5	39	78
CF77.UL.05.12.D	12G0.5	10.0	63	130
CF77.UL.05.18.D	18G0.5	12.0	94	184
CF77.UL.05.25.D	25G0.5	14.0	129	243
CF77.UL.05.30.D	30G0.5	15.0	155	315
CF77.UL.07.03.D	3G0.75	6.5	23	52
CF77.UL.07.04.D	4G0.75	7.0	31	59
CF77.UL.07.05.D	5G0.75	7.5	38	71
CF77.UL.07.07.D	7G0.75	8.5	54	100
CF77.UL.07.12.D	12G0.75	12.0	91	180
CF77.UL.07.18.D	18G0.75	13.5	134	239
CF77.UL.07.20.D	20G0.75	14.5	149	269
CF77.UL.07.25.D	25G0.75	16.0	186	336
CF77.UL.07.36.D	36G0.75	19.0	279	506
CF77.UL.07.42.D	42G0.75	21.0	341	580
CF77.UL.10.02.D	2x1.0	6.5	21	51
CF77.UL.10.03.D	3G1.0	6.5	31	58
CF77.UL.10.04.D	4G1.0	7.0	41	73
CF77.UL.10.05.D	5G1.0	8.0	50	90
CF77.UL.10.07.D	7G1.0	9.0	71	120
CF77.UL.10.12.D	12G1.0	12.5	120	220
CF77.UL.10.18.D	18G1.0	15.0	179	314
CF77.UL.10.25.D	25G1.0	17.5	248	431
CF77.UL.10.42.D	42G1.0	22.5	433	699

[12)] Colour outer jacket: Colza yellow (similar to RAL 1021)

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

EPLAN download, configurators ▶ www.igus-asean.com/CF77ULD

Class 5.1.3.3

Basic requirements	low	1	2	3	4	**5**	6	7	highest
Travel distance	unsupported	**1**	2	3	4	5	6		≥ 400m
Oil resistance	none	1	2	**3**	4				highest
Torsion	none	1	2	**3**	4				±360°



Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF77.UL.15.03.D	3G1.5	7.0	46	71
CF77.UL.15.04.D	4G1.5	7.5	61	88
CF77.UL.15.05.D	5G1.5	8.0	75	105
CF77.UL.15.07.D [17)]	7G1.5	9.5	105	152
CF77.UL.15.12.D	12G1.5	13.0	179	297
CF77.UL.15.18.D	18G1.5	17.0	268	405
CF77.UL.15.25.D	25G1.5	19.5	297	564
CF77.UL.15.36.D	36G1.5	23.5	551	848
CF77.UL.25.03.D	3G2.5	8.5	75	132
CF77.UL.25.04.D	4G2.5	9.5	95	167
CF77.UL.25.05.D	5G2.5	10.0	124	196
CF77.UL.25.07.D [17)]	7G2.5	12.0	174	270
CF77.UL.25.12.D	12G2.5	17.0	297	479

[17)] When using the cables with "7G1.5mm²" and "7G2.5mm²" minimum bend radius must be 17.5xd with gliding travel distance ≥ 5m.

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core



ables available in the chainflex® CASE

imple savings on delivery, storage space and re-ordering with
e chainflex® CASE - ship'n store by igus®.

ore on this on page 24/25 and online: www.igus-asean.com/cf-case

Order example: CF77.UL.02.04.D - to your desired length (0.5m steps)
CF77.UL.D **chainflex® series** .02 **Code nominal cross section** .04 **Number of cores**

Order online ▶ www.igus-asean.com/CF77ULD

Delivery time 24hrs or today.
Delivery time means time until goods are shipped.

Guarantee igus chainflex 36

igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year

Control cable | PUR | chainflex® CFROBOT2



Example image

10 million Cycles guaranteed

10 x d Bend radius, e-chain®

±180°/m Torsion angle

- For torsion applications
- PUR outer jacket
- Shielded
- Oil-resistant and coolant-resistant
- Flame-retardant
- PVC and halogen-free
- Notch-resistant
- Hydrolysis and microbe-resistant

Dynamic information

Bend radius	**flexible twisted**	minimum 10 x d
	fixed	minimum 5 x d
Temperature	**flexible twisted**	-25°C up to +80°C
	fixed	-50°C up to +80°C (following DIN EN 50305)
v max.	**twisted**	180°/s
a max.	**twisted**	60°/s²
Travel distance	Robots and 3D movements, Class 1	
Torsion	Torsion ±180°, with 1m cable length, Class 3	

Cable structure

Conductor	Stranded conductor in especially bending-resistant version consisting of bare copper wires (following DIN EN 60228).
Core insulation	Mechanically high-quality TPE mixture.
Core identification	Black cores with white numbers, one green-yellow core.
Overall shield	Extremely torsion-resistant tinned wound copper shield. Coverage approx. 85% optical
Outer jacket	Low-adhesion, halogen-free, highly abrasion resistant PUR mixture, adapted to suit the requirements in e-chains® (following DIN EN 50363-10-2) Colour: Steel blue (similar to RAL 5011)

Electrical information

Nominal voltage	300/500V (following DIN VDE 0298-3) 300V (following UL)
Testing voltage	2,000V (following DIN EN 50395)

Properties and approvals

UV resistance	High
Oil resistance	Oil-resistant (following DIN EN 50363-10-2), Class 3
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
Halogen-free	Following DIN EN 60754

EPLAN download, configurators ▶ www.igus-asean.com/CFROBOT2

Class 6.1.3.3

Basic requirements	low	1	2	3	4	5	**6**	7	highest
Travel distance	unsupported	**1**	2	3	4	5	6		≥ 400m
Oil resistance	none	1	2	**3**	4				highest
Torsion	none	1	2	**3**	4				±360°

UL verified	Certificate No. B129699: "igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL/CSA AWM	See data sheet for details ▶ www.igus-asean.com/CFROBOT2
NFPA	Following NFPA 79-2018, chapter 12.9
EAC	Certificate No. RU C-DE.ME77.B.00300/19
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 1. The outer jacket material of this series complies with CF77.UL.05.12.D - tested by IPA according to standard DIN EN ISO 14644-1
CE	Following 2014/35/EU
UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Guaranteed service life (details see page 28-29)

Cycles*	5 million	7.5 million	10 million
Temperature, from/to [°C]	Torsion max. [°/m]	Torsion max. [°/m]	Torsion max. [°/m]
-25/-15	±150	±90	±30
-15/+70	±180	±120	±60
+70/+80	±150	±90	±30

* Higher number of double strokes? Service life calculation online ▶ www.igus-asean.com/chainflexlife

Typical application areas

- For heaviest duty applications with torsion movements, Class 6
- Especially for robots and 3D movements, Class 1
- Almost unlimited resistance to oil, Class 3
- Torsion ±180°, with 1m cable length, Class 3
- Indoor and outdoor applications, UV-resistant
- Robots, handling, spindle drives

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CFROBOT2.07.04.C	(4G0.75)C	8.0	43	78
CFROBOT2.07.05.C	(5G0.75)C	8.5	51	90
CFROBOT2.07.07.C	(7G0.75)C	10.0	71	120
CFROBOT2.07.12.C	(12G0.75)C	14.0	122	214
CFROBOT2.07.18.C	(18G0.75)C	16.5	185	301

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core



Cables available in the chainflex® CASE

Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.

More on this on page 24/25 and online: www.igus-asean.com/cf-case

Data cable | PUR | chainflex® CFROBOT3

10 million Cycles guaranteed

10 x d Bend radius, e-chain®

±180°/m Torsion angle

- For torsion applications
- PUR outer jacket
- Shielded
- Oil-resistant and coolant-resistant
- Flame-retardant
- Notch-resistant
- Hydrolysis and microbe-resistant



Example image

Dynamic information

Bend radius	**flexible twisted**	minimum 10 x d
	fixed	minimum 5 x d
Temperature	**flexible twisted**	-25°C up to +80°C
	fixed	-50°C up to +80°C (following DIN EN 50305)
v max.	**twisted**	180°/s
a max.	**twisted**	60°/s²
Travel distance	Robots and 3D movements, Class 1	
Torsion	Torsion ±180°, with 1m cable length, Class 3	

Cable structure

Conductor	Stranded conductor in especially bending-resistant version consisting of bare copper wires (following DIN EN 60228).
Core insulation	Mechanically high-quality TPE mixture.
Core structure	Cores twisted in pairs with a short pitch length, core pairs then wound with short pitch lengths.
Core identification	Colour code in accordance with DIN 47100.
Overall shield	Extremely torsion-resistant tinned wound copper shield. Coverage approx. 85% optical
Outer jacket	Low-adhesion, halogen-free, highly abrasion resistant PUR mixture, adapted to suit the requirements in e-chains® (following DIN EN 50363-10-2) Colour: Steel blue (similar to RAL 5011)

Electrical information

Nominal voltage	300/500V (following DIN VDE 0298-3) 300V (following UL)
Testing voltage	2,000V (following DIN EN 50395)

Properties and approvals

UV resistance	High
Oil resistance	Oil-resistant (following DIN EN 50363-10-2), Class 3
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)

EPLAN download, configurators ▶ www.igus-asean.com/CFROBOT3

Class 6.1.3.3

Basic requirements	low	1 2 3 4 5 **6** 7 highest
Travel distance	unsupported	**1** 2 3 4 5 6 ≥ 400m
Oil resistance	none	1 2 **3** 4 highest
Torsion	none	1 2 **3** 4 ±360°

UL verified	Certificate No. B129699: "igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL/CSA AWM	See data sheet for details ▶ www.igus-asean.com/CFROBOT3
NFPA	Following NFPA 79-2018, chapter 12.9
EAC	Certificate No. RU C-DE.ME77.B.00300/19
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 1. The outer jacket material of this series complies with CF77.UL.05.12.D - tested by IPA according to standard DIN EN ISO 14644-1
CE	Following 2014/35/EU
UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Guaranteed service life (details see page 28-29)

Cycles*	5 million	7.5 million	10 million
Temperature, from/to [°C]	Torsion max. [°/m]	Torsion max. [°/m]	Torsion max. [°/m]
-25/-15	±150	±90	±30
-15/+70	±180	±120	±60
+70/+80	±150	±90	±30

* Higher number of double strokes? Service life calculation online ▶ www.igus-asean.com/chainflexlife

Typical application areas

- For heaviest duty applications with torsion movements, Class 6
- Especially for robots and 3D movements, Class 1
- Almost unlimited resistance to oil, Class 3
- Torsion ±180°, with 1m cable length, Class 3
- Indoor and outdoor applications, UV-resistant
- Robots, handling, spindle drives

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CFROBOT3.02.03.02	(3x(2x0.25))C	9.0	33	84
CFROBOT3.02.04.02	(4x(2x0.25))C	10.5	38	103
CFROBOT3.02.06.02	(6x(2x0.25))C	11.5	52	127
CFROBOT3.02.08.02 [11)]	(8x(2x0.25))C	13.5	66	170
CFROBOT3.05.05.02	(5x(2x0.5))C	12.5	80	170

[11)] Phase-out model
Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core



Cables available in the chainflex® CASE

Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.

More on this on page 24/25 and online: www.igus-asean.com/cf-case

Measuring system cable | PUR | chainflex® CFROBOT4

10 million Cycles guaranteed

10 x d Bend radius, e-chain®

±180°/m Torsion angle

- For torsion applications
- PUR outer jacket
- Shielded
- Oil-resistant and coolant-resistant
- Flame-retardant
- PVC and halogen-free
- Notch-resistant
- Hydrolysis and microbe-resistant



Example image

Dynamic information

Bend radius	**flexible twisted**	minimum 10 x d
	fixed	minimum 5 x d
Temperature	**flexible twisted**	-25°C up to +80°C
	fixed	-50°C up to +80°C (following DIN EN 50305)
v max.	**twisted**	180°/s
a max.	**twisted**	60°/s²
Travel distance	Robots and 3D movements, Class 1	
Torsion	Torsion ±180°, with 1m cable length, Class 3	

Cable structure

Conductor	Stranded conductor in especially bending-resistant version consisting of tinned copper wires (following DIN EN 60228).
Core insulation	Mechanically high-quality TPE mixture.
Core identification	According to measuring system specification. ▶ Product range table
Element shield	Extremely torsion-resistant tinned wound copper shield.
Overall shield	Extremely torsion-resistant tinned wound copper shield. Coverage approx. 80% optical
Outer jacket	Low-adhesion, halogen-free, highly abrasion resistant PUR mixture, adapted to suit the requirements in e-chains® (following DIN EN 50363-10-2) Colour: Steel blue (similar to RAL 5011) Variants ▶ Product range table

Electrical information

Nominal voltage	50V 30V (following UL)
Testing voltage	500V

EPLAN download, configurators ▶ www.igus-asean.com/CFROBOT4

Class 6.1.3.3

Basic requirements	low	1	2	3	4	5	**6**	7 highest
Travel distance	unsupported	**1**	2	3	4	5	6	≥ 400m
Oil resistance	none	1	2	**3**	4	highest		
Torsion	none	1	2	**3**	4	±360°		

Properties and approvals

UV resistance	High
Oil resistance	Oil-resistant (following DIN EN 50363-10-2), Class 3
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
Halogen-free	Following DIN EN 60754
UL verified	Certificate No. B129699: "igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL/CSA AWM	See data sheet for details ▶ www.igus-asean.com/CFROBOT4
NFPA	Following NFPA 79-2018, chapter 12.9
EAC	Certificate No. RU C-DE.ME77.B.00295/19
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 1. The outer jacket material of this series complies with CF77.UL.05.12.D - tested by IPA according to standard DIN EN ISO 14644-1
CE	Following 2014/35/EU
UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Guaranteed service life (details see page 28-29)

Cycles*	5 million	7.5 million	10 million
Temperature, from/to [°C]	Torsion max. [°/m]	Torsion max. [°/m]	Torsion max. [°/m]
-25/-15	±150	±90	±30
-15/+70	±180	±120	±60
+70/+80	±150	±90	±30

* Higher number of double strokes? Service life calculation online ▶ www.igus-asean.com/chainflexlife

Typical application areas

- For heaviest duty applications with torsion movements, Class 6
- Especially for robots and 3D movements, Class 1
- Almost unlimited resistance to oil, Class 3
- Torsion ±180°, with 1m cable length, Class 3
- Indoor and outdoor applications, UV-resistant
- Robots, handling, spindle drives

Measuring system cable | PUR | chainflex® CFROBOT4



Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CFROBOT4.001	(3x(2x0.14)C +(4x0.14)+(2x0.5))C	10.5	62	115
CFROBOT4.006	(3x(2x0.14C+(4x0.14) +(4x0.22)+(2x0.5))C	11.5	74	135
CFROBOT4.009	(4x(2x0.25)+(2x0.5))C	9.0	48	90
CFROBOT4.015	(4x(2x0.14)+4x0.5)C	9.0	49	91
CFROBOT4.028 [13)]	(2x(2x0.20)+(2x0.38))C	7.5	44	72

[13)] Colour outer jacket: Yellow-green (RAL 6018)

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core



Cables available in the chainflex® CASE

Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.

More on this on page 24/25 and online: www.igus-asean.com/cf-case

EPLAN download, configurators ▶ www.igus-asean.com/CFROBOT4

Class 6.1.3.3

Basic requirements	low	1	2	3	4	5	**6**	7	highest
Travel distance	unsupported	**1**	2	3	4	5	6		≥ 400m
Oil resistance	none	1	2	**3**	4				highest
Torsion	none	1	2	**3**	4				±360°



Part No.	Core group	Colour code
CFROBOT4.001	3x(2x0.14)C	green/yellow, black/brown, red/orange
	4x0.14	grey/blue/white-yellow/white-black
	2x0.5	brown-red/brown-blue
CFROBOT4.006	3x(2x0.14)C	green/yellow, black/brown, red/orange
	(4x0.14)	grey/blue/white-yellow/white-black
	(4x0.22)	yellow-brown/grey-brown/green-black/green-red
	(2x0.5)	brown-red/brown-blue
CFROBOT4.009	4x(2x0.25)	brown/green, blue/violet, grey/pink, red/black
	2x0.5	white, brown
CFROBOT4.015	4x(2x0.14)	brown/green, yellow/violet, grey/pink, red/black
	4x0.5	blue, white, brown-green, white-green
CFROBOT4.028 [13)]	2x(2x0.20)	green/yellow, pink/blue
	(2x0.38)	red/black

Order example: CFROBOT4.009 – to your desired length (0.5m steps)
CFROBOT4 **chainflex® series .009 Code measuring system type**

Order online ▶ www.igus-asean.com/CFROBOT4

Delivery time 24hrs or today.
Delivery time means time until goods are shipped.

igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year

Fibre Optic Cable | TPE | chainflex® CFROBOT5



Example image

10 million Cycles guaranteed

10 x d Bend radius, e-chain®

±180°/m Torsion angle

- For torsion applications
- TPE outer jacket
- Oil and bio-oil-resistant
- UV-resistant
- Low-temperature-flexible
- Hydrolysis and microbe-resistant
- PVC and halogen-free

Dynamic information

Bend radius	**flexible twisted**	minimum 10 x d
	fixed	minimum 5 x d
Temperature	**flexible twisted**	-25°C up to +80°C
	fixed	-55°C up to +80°C (following DIN EN 50305)
v max.	**twisted**	180°/s
a max.	**twisted**	60°/s²
Travel distance	Robots and 3D movements, Class 1	
Torsion	Torsion ±180°, with 1m cable length, Class 3	

Cable structure

Conductor	50/125µm, 62.5/125µm bending-resistant solid glass fibre optic cores, with aramid strain relief elements.
Core structure	FOC cores wound with high-tensile aramid dampers around a glass-fibre reinforced plastic central element.
Core identification	▶ Product range table
Outer jacket	Low-adhesion, extremely abrasion-resistant and highly flexible TPE mixture, adapted to suit the requirements in e-chains®. Colour: jet black (similar to RAL 9005)

Properties and approvals

UV resistance	High
Oil resistance	Oil-resistant (following DIN EN 60811-404), bio-oil-resistant (following VDMA 24568 with Plantocut 8 S-MB tested by DEA), Class 4
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
Halogen-free	Following DIN EN 60754
UL verified	Certificate No. B129699: "igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)

EPLAN download, configurators ▶ www.igus-asean.com/CFROBOT5

Class 6.1.4.3

Basic requirements	low	1	2	3	4	5	**6**	7	highest
Travel distance	unsupported	**1**	2	3	4	5	6		≥ 400m
Oil resistance	none	1	2	3	**4**				highest
Torsion	none	1	2	**3**	4				±360°

Cleanroom — According to ISO Class 1. The outer jacket material of this series complies with CF9.15.07 - tested by IPA according to standard DIN EN ISO 14644-1

CE — Following 2014/35/EU

UKCA — In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Guaranteed service life (details see page 28-29)

Cycles*	5 million	7.5 million	10 million
Temperature, from/to [°C]	Torsion max. [°/m]	Torsion max. [°/m]	Torsion max. [°/m]
-35/-25	±150	±90	±30
-25/+70	±180	±120	±60
+70/+80	±150	±90	±30

* Higher number of double strokes? Service life calculation online ▶ www.igus-asean.com/chainflexlife

Typical application areas

- For heaviest duty applications with torsion movements, Class 6
- Especially for robots and 3D movements, Class 1
- Almost unlimited resistance to oil, also with bio-oils, Class 4
- Torsion ±180°, with 1m cable length, Class 3
- Indoor and outdoor applications, UV-resistant
- Robots, handling

Part No.	Number of fibres/ Fibre diameter/ Conductor nominal cross section	Outer diameter (d) max. [mm]	Weight [kg/km]
CFROBOT5.500 [11]	2x62.5/125	8.5	53
CFROBOT5.501	2x50/125	8.5	53

[11] Phase-out model

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

Part No.	Bandwidth [MHz x km] @ 650nm	Attenuation [dB/km] @ 650nm	Bandwidth [MHz x km] @ 850nm	Attenuation [dB/km] @ 850nm	Fibre identification
CFROBOT5.500 [11]	≥ 200	≤ 3.0	≥ 500	≤ 0.7	orange with white numbers
CFROBOT5.501	≥ 500	≤ 2.5	≥ 500	≤ 0.7	blue with white numbers



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ore on this on page 24/25 and online: www.igus-asean.com/cf-case

Guarantee igus chainflex 36

igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year

Motor cable | PUR | chainflex® CFROBOT6



Example image

10 million Cycles guaranteed

10 x d Bend radius, e-chain®

±180°/m Torsion angle

- For torsion applications
- PUR outer jacket
- Oil-resistant and coolant-resistant
- Flame-retardant
- PVC and halogen-free
- Notch-resistant
- Hydrolysis and microbe-resistant

Dynamic information

Bend radius	**flexible twisted**	minimum 10 x d
	fixed	minimum 5 x d
Temperature	**flexible twisted**	-25°C up to +80°C
	fixed	-55°C up to +80°C (following DIN EN 50305)
v max.	**twisted**	180°/s
a max.	**twisted**	60°/s²
Travel distance	Robots and 3D movements, Class 1	
Torsion	Torsion ±180°, with 1m cable length, Class 3	

Cable structure

Conductor	Stranded conductor in especially bending-resistant version consisting of bare copper wires (following DIN EN 60228).
Core insulation	Mechanically high-quality TPE mixture.
Core identification	Black cores with white numbers 1-2, one green-yellow core.
Outer jacket	Low-adhesion, halogen-free, highly abrasion resistant PUR mixture, adapted to suit the requirements in e-chains® (following DIN EN 50363-10-2) Colour: Steel blue (similar to RAL 5011)

Electrical information

Nominal voltage	600/1,000V (following DIN VDE 0298-3) 1,000V (following UL)
Testing voltage	4,000V (following DIN EN 50395)

Properties and approvals

UV resistance	High
Oil resistance	Oil-resistant (following DIN EN 50363-10-2), Class 3
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
Halogen-free	Following DIN EN 60754

EPLAN download, configurators ▶ www.igus-asean.com/CFROBOT6

Class 6.1.3.3

Basic requirements	low	1	2	3	4	5	**6**	7	highest
Travel distance	unsupported	**1**	2	3	4	5	6		≥ 400m
Oil resistance	none	1	2	**3**	4				highest
Torsion	none	1	2	**3**	4				±360°

UL verified	Certificate No. B129699: "igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL/CSA AWM	See data sheet for details ▶ www.igus-asean.com/CFROBOT6
NFPA	Following NFPA 79-2018, chapter 12.9
EAC	Certificate No. RU C-DE.ME77.B.00863/20
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 1. The outer jacket material of this series complies with CF77.UL.05.12.D - tested by IPA according to standard DIN EN ISO 14644-1
CE	Following 2014/35/EU
UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Guaranteed service life (details see page 28-29)

Cycles*	5 million	7.5 million	10 million
Temperature, from/to [°C]	Torsion max. [°/m]	Torsion max. [°/m]	Torsion max. [°/m]
-25/-15	±150	±90	±30
-15/+70	±180	±120	±60
+70/+80	±150	±90	±30

* Higher number of double strokes? Service life calculation online ▶ www.igus-asean.com/chainflexlife

Typical application areas

- For heaviest duty applications with torsion movements, Class 6
- Especially for robots and 3D movements, Class 1
- Almost unlimited resistance to oil, Class 3
- Torsion ±180°, with 1m cable length, Class 3
- Indoor and outdoor applications, UV-resistant
- Robots, handling, spindle drives

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CFROBOT6.160.03 [11)]	3G16	18.0	475	578
CFROBOT6.250.03 [11)]	3G25	22.0	737	896

[11)] Phase-out model

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

Motor cable | PUR | chainflex® CFROBOT7

10 million Cycles guaranteed

10 x d Bend radius, e-chain®

±180°/m Torsion angle

- For torsion applications
- PUR outer jacket
- Shielded
- Oil-resistant and coolant-resistant
- Flame-retardant
- PVC and halogen-free
- Notch-resistant
- Hydrolysis and microbe-resistant



Example image

Dynamic information

Bend radius	**flexible twisted**	minimum 10 x d
	fixed	minimum 5 x d
Temperature	**flexible twisted**	-25°C up to +80°C
	fixed	-55°C up to +80°C (following DIN EN 50305)
v max.	**twisted**	180°/s
a max.	**twisted**	60°/s²
Travel distance	Robots and 3D movements, Class 1	
Torsion	Torsion ±180°, with 1m cable length, Class 3	

Cable structure

Conductor	Stranded conductor in especially bending-resistant version consisting of bare copper wires (following DIN EN 60228).
Core insulation	Mechanically high-quality TPE mixture.
Core identification	**Power cores:** Black cores with white numbers, one green-yellow core. **2 control pairs:** Black cores with white numbers. 1. Control core: 5 2. Control core: 6 3. Control core: 74. Control core: 8 **4 Control pairs:** Colour code in accordance with DIN 47100
Overall shield	Extremely torsion-resistant tinned wound copper shield. Coverage approx. 85% optical
Outer jacket	Low-adhesion, halogen-free, highly abrasion resistant PUR mixture, adapted to suit the requirements in e-chains® (following DIN EN 50363-10-2) Colour: Steel blue (similar to RAL 5011)

Electrical information

Nominal voltage	600/1,000V (following DIN VDE 0298-3) 1,000V (following UL)
Testing voltage	4,000V (following DIN EN 50395)

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36-month guarantee ... more than 1,350 cable types from stock ... no cutting charges

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Class 6.1.3.3

Basic requirements	low	1	2	3	4	5	**6**	7	highest
Travel distance	unsupported	**1**	2	3	4	5	6		≥ 400m
Oil resistance	none	1	2	**3**	4				highest
Torsion	none	1	2	**3**	4				±360°

Properties and approvals

UV resistance	High
Oil resistance	Oil-resistant (following DIN EN 50363-10-2), Class 3
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
Halogen-free	Following DIN EN 60754
UL verified	Certificate No. B129699: "igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL/CSA AWM	See data sheet for details ▶ www.igus-asean.com/CFROBOT7
NFPA	Following NFPA 79-2018, chapter 12.9
EAC	Certificate No. RU C-DE.ME77.B.00863/20
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 1. The outer jacket material of this series complies with CF77.UL.05.12.D - tested by IPA according to standard DIN EN ISO 14644-1
CE	Following 2014/35/EU
UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Guaranteed service life (details see page 28-29)

Cycles*	5 million	7.5 million	10 million
Temperature, from/to [°C]	Torsion max. [°/m]	Torsion max. [°/m]	Torsion max. [°/m]
-25/-15	±150	±90	±30
-15/+70	±180	±120	±60
+70/+80	±150	±90	±30

* Higher number of double strokes? Service life calculation online ▶ www.igus-asean.com/chainflexlife

Typical application areas

- For heaviest duty applications with torsion movements, Class 6
- Especially for robots and 3D movements, Class 1
- Almost unlimited resistance to oil, Class 3
- Torsion ±180°, with 1m cable length, Class 3
- Indoor and outdoor applications, UV-resistant
- Robots, handling, spindle drives

Motor cable | PUR | chainflex® CFROBOT7



Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
2 control pairs				
CFROBOT7.07.03.02.02.C [11)]	(4G0.75+2x(2x0.34)C)C	11.5	88	155
CFROBOT7.15.15.02.02.C	(4G1.5+2x(2x1.5)C)C	16.5	197	304
CFROBOT7.25.15.02.02.C	(4G2.5+2x(2x1.5)C)C	16.5	243	349
4 control pairs				
CFROBOT7.40.02.02.04.C	(4G4.0+4x(2x0.25)C)C	17.0	253	366
without control pair				
CFROBOT7.15.03.C	(3G1.5)C	8.5	61	98
CFROBOT7.15.04.C	(4G1.5)C	9.5	77	120
CFROBOT7.25.03.C	(3G2.5)C	10.0	93	142
CFROBOT7.25.04.C	(4G2.5)C	11.0	119	173
CFROBOT7.60.04.C	(4G6.0)C	15.0	278	374

[11)] Phase-out model

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core



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EPLAN download, configurators ▶ www.igus-asean.com/CFROBOT7

Class 6.1.3.3

Basic requirements	low	1	2	3	4	5	**6**	7	highest
Travel distance	unsupported	**1**	2	3	4	5	6		≥ 400m
Oil resistance	none	1	2	**3**	4				highest
Torsion	none	1	2	**3**	4				±360°



Order example: CFROBOT7.15.03.C – to your desired length (0.5m steps)
CFROBOT7 chainflex® series .15 Code nominal cross section .03 Number of cores

Order online ▶ www.igus-asean.com/CFROBOT7

Delivery time 24hrs or today.
Delivery time means time until goods are shipped.

Spindle cable/Single core | TPE | chainflex® CFROBOT

10 million
Cycles guaranteed

10 x d
Bend radius, e-chain®

±180°/m
Torsion angle

- For torsion applications
- TPE outer jacket
- Shielded
- Oil and bio-oil-resistant
- PVC-free
- UV-resistant
- Flame-retardant
- Hydrolysis and microbe-resistant



Example image

Dynamic information

Bend radius	**flexible twisted**	minimum 10 x d
	fixed	minimum 5 x d
Temperature	**flexible twisted**	-35°C up to +90°C
	fixed	-50°C up to +100°C (following DIN EN 50305)
v max.	**twisted**	180°/s
a max.	**twisted**	60°/s²
Travel distance	Robots and 3D movements, Class 1	
Torsion	Torsion ±180°, with 1m cable length, Class 3	

Cable structure

Conductor	Extremely bend-resistant cable.
Core insulation	Mechanically high-quality TPE mixture.
Overall shield	Extremely torsion-resistant tinned wound copper shield. Coverage approx. 90% optical
Outer jacket	Low-adhesion, extremely abrasion-resistant and highly flexible TPE mixture, adapted to suit the requirements in e-chains®. Colour: jet black (similar to RAL 9005)

Electrical information

Nominal voltage	600/1,000V (following DIN VDE 0298-3) 1,000V (following UL)
Testing voltage	4,000V (following DIN EN 50395)

Properties and approvals

UV resistance	High
Oil resistance	Oil-resistant (following DIN EN 60811-404), bio-oil-resistant (following VDMA 24568 with Plantocut 8 S-MB tested by DEA), Class 4
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
UL verified	Certificate No. B129699: "igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"

EPLAN download, configurators ▶ www.igus-asean.com/CFROBOT

Class 6.1.4.3

Basic requirements	low 1 2 3 4 5 **6** 7 highest
Travel distance	unsupported **1** 2 3 4 5 6 ≥ 400m
Oil resistance	none 1 2 3 **4** highest
Torsion	none 1 2 **3** 4 ±360°

UL/CSA AWM	See data sheet for details ▶ www.igus-asean.com/CFROBOT
NFPA	Following NFPA 79-2018, chapter 12.9
EAC	Certificate No. RU C-DE.ME77.B.00863/20
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 1. The outer jacket material of this series complies with CF34.UL.25.04.D - tested by IPA according to standard DIN EN ISO 14644-1
CE	Following 2014/35/EU
UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Guaranteed service life (details see page 28-29)

Cycles*	5 million	7.5 million	10 million
Temperature, from/to [°C]	Torsion max. [°/m]	Torsion max. [°/m]	Torsion max. [°/m]
-35/-25	±150	±90	±30
-25/+70	±180	±120	±60
+70/+80	±150	±90	±30

* Higher number of double strokes? Service life calculation online ▶ www.igus-asean.com/chainflexlife

Typical application areas

- For heaviest duty applications with torsion movements, Class 6
- Especially for robots and 3D movements, Class 1
- Almost unlimited resistance to oil, also with bio-oils, Class 4
- Torsion ±180°, with 1m cable length, Class 3
- Indoor and outdoor applications, UV-resistant
- Robots, handling, spindle drives

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CFROBOT.035	(1x10)C	10.5	125	194
CFROBOT.036	(1x16)C	12.0	189	269
CFROBOT.037	(1x25)C	14.5	298	392
CFROBOT.038	(1x35)C	15.5	403	528

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core



Cables available in the chainflex® CASE

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Bus cable | PUR | chainflex® CFROBOT8



Example image

10 million
Cycles guaranteed

10 x d
Bend radius, e-chain®

±180°/m
Torsion angle

- For torsion applications
- PUR outer jacket
- Shielded
- Oil-resistant and coolant-resistant
- Flame-retardant
- Notch-resistant
- Hydrolysis and microbe-resistant

Dynamic information

Bend radius	**flexible twisted**	minimum 10 x d
	fixed	minimum 5 x d
Temperature	**flexible twisted**	-25°C up to +70°C
	fixed	-50°C up to +70°C (following DIN EN 50305)
v max.	**twisted**	180°/s
a max.	**twisted**	60°/s²
Travel distance	Robots and 3D movements, Class 1	
Torsion	Torsion ±180°, with 1m cable length, Class 3	

Cable structure

Conductor	Stranded conductor in especially bending-resistant version consisting of tinned or bare copper wires (following DIN EN 60228).
Core insulation	According to bus specification.
Core structure	According to bus specification.
Core identification	According to bus specification. ▶ Product range table
Intermediate layer	Foil taping over the outer layer.
Overall shield	Torsion resistant tinned braided copper shield. Coverage approx. 80% optical
Outer jacket	Low-adhesion, halogen-free, highly abrasion resistant PUR mixture, adapted to suit the requirements in e-chains® (following DIN EN 50363-10-2) Colour: Steel blue (similar to RAL 5011)

Electrical information

Nominal voltage	50V 300V (following UL)
Testing voltage	500V

EPLAN download, configurators ▶ www.igus-asean.com/CFROBOT

Class 6.1.3.3

Basic requirements	low	1	2	3	4	5	**6**	7	highest
Travel distance	unsupported	**1**	2	3	4	5	6		≥ 400m
Oil resistance	none	1	2	**3**	4	highest			
Torsion	none	1	2	**3**	4	±360°			

Properties and approvals

UV resistance	High
Oil resistance	Oil-resistant (following DIN EN 50363-10-2), Class 3
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
UL verified	Certificate No. B129699: "igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL/CSA AWM	See data sheet for details ▶ www.igus-asean.com/CFROBOT8
EAC	Certificate No. RU C-DE.ME77.B.00295/19
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 1. The outer jacket material of this series complies with CF77.UL.05.12.D - tested by IPA according to standard DIN EN ISO 14644-1
CE	Following 2014/35/EU
UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Guaranteed service life (details see page 28-29)

Cycles*	5 million	7.5 million	10 million
Temperature, from/to [°C]	Torsion max. [°/m]	Torsion max. [°/m]	Torsion max. [°/m]
-25/-15	±150	±90	±30
-15/+60	±180	±120	±60
+60/+70	±150	±90	±30

* Higher number of double strokes? Service life calculation online ▶ www.igus-asean.com/chainflexlife

Typical application areas

- For heaviest duty applications with torsion movements, Class 6
- Especially for robots and 3D movements, Class 1
- Almost unlimited resistance to oil, Class 3
- Torsion ±180°, with 1m cable length, Class 3
- Indoor and outdoor applications, UV-resistant
- Robots, handling, spindle drives

Bus cable | PUR | chainflex® CFROBOT8



Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
Profibus (1x2x0.64mm)				
CFROBOT8.001	(2x0.35)C	8.0	28	63
CAN-Bus				
CFROBOT8.022	(4x0.5)C	7.5	41	78
DeviceNet				
CFROBOT8.030	(2xAWG24)C +(2xAWG22)C	9.5	31	77
Ethernet/CAT5e/PoE				
CFROBOT8.045	4x(2x0.15)C	9.5	48	96
Ethernet/CAT6/PoE				
CFROBOT8.049	4x(2x0.15)C	9.5	48	96
Ethernet/CAT6A				
CFROBOT8.050	4x(2x0.15)C	10.5	51	134
Ethernet/CAT7				
CFROBOT8.052	4x(2x0.15)C	10.5	51	134
Profinet				
CFROBOT8.060	(2x(2x0.34))C	8.5	34	74

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core



Cables available in the chainflex® CASE

Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.

More on this on page 24/25 and online: www.igus-asean.com/cf-case

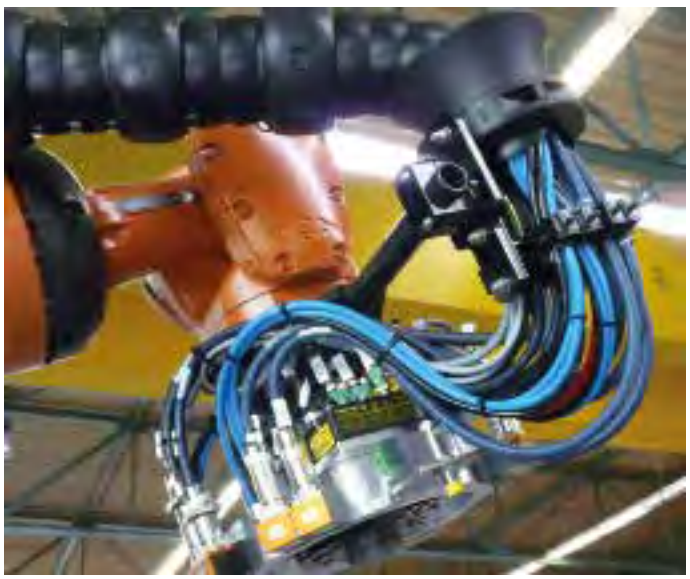
Technical note on bus cables
chainflex® bus cables have been specially developed and tested for continuously moving use in e-chains®. Depending on the material used for the outer jacket and on the underlying construction principle, the bus cables are designed for different mechanical requirements and resistance to diverse media.
The cables have been electrically designed in such a way that, on the one hand, the electrical requirements of the respective bus specification are reliably met and, on the other, that greater value is placed on a high degree of EMC reliability.
It is also ensured that the electrical values remain stable over the long term in spite of permanent movement.
The overall quality of transmission in a complete bus communication system, however, is not solely dependent on the cable used. What is also essential is that all components (electronic parts, connecting system and cable) are precisely matched to each other and that the maximum transmission lengths, which are dependent on the respective system, are adhered to with regard to the data transmission rates needed. A cable is thus not solely responsible for the reliable transmission of signals.
igus® advises you when you are designing your bus system to take all these factors into account and, with extensive tests, helps you to ensure the process reliability of your system from the very beginning.

Class 6.1.3.3

Basic requirements	low	1	2	3	4	5	**6**	7	highest
Travel distance	unsupported	**1**	2	3	4	5	6		≥ 400m
Oil resistance	none	1	2	**3**	4		highest		
Torsion	none	1	2	**3**	4		±360°		



Part No.	Characteristic wave impedance approx. [Ω]	Core group	Colour code
Profibus (1x2x0.64mm)			
CFROBOT8.001	150	(2x0.35)C	red, green
CAN-Bus			
CFROBOT8.022	120	(4x0.5)C	white, green, brown, yellow (star-quad)
DeviceNet			
CFROBOT8.030	120	(2xAWG24)C	white/blue
		(2xAWG22)C	red/black
Ethernet/CAT5e/PoE			
CFROBOT8.045	100	4x(2x0.15)C	white-green/green, white-orange/orange, white-blue/blue, white-brown/brown
Ethernet/CAT6/PoE			
CFROBOT8.049	100	4x(2x0.15)C	white-green/green, white-orange/orange, white-blue/blue, white-brown/brown
Ethernet/CAT6A			
CFROBOT8.050	100	4x(2x0.15)C	white-green/green, white-orange/orange, white-blue/blue, white-brown/brown
Ethernet/CAT7			
CFROBOT8.052	100	4x(2x0.15)C	white-green/green, white-orange/orange, white-blue/blue, white-brown/brown
Profinet			
CFROBOT8.060	100	(2x(2x0.34))C	white/blue, yellow/orange



CFROBOT® cables used in robots for the automated systems in fuel tank production. These are supplied as fully harnessed readychain® systems.

New

Bus cable | PUR | chainflex® CFROBOT8.PLUS

10 million
Cycles guaranteed

10 x d
Bend radius, e-chain®

±360°/m
Torsion angle

- For torsion applications
- PUR outer jacket
- Shielded
- Oil-resistant and coolant-resistant
- Flame-retardant
- PVC and halogen-free
- Notch-resistant
- Hydrolysis and microbe-resistant



Example image

Dynamic information

Bend radius	**flexible twisted**	minimum 10 x d
	fixed	minimum 5 x d
Temperature	**flexible twisted**	-25°C up to +70°C
	fixed	-50°C up to +70°C (following DIN EN 50305)
v max.	**twisted**	360°/s
a max.	**twisted**	60°/s²
Travel distance	Robots and 3D movements, Class 1	
Torsion	Torsion ±360°, with 1m cable length, Class 4	

Cable structure

Conductor	Stranded conductor in especially bending-resistant version consisting of bare copper wires (following DIN EN 60228).
Core insulation	According to bus specification.
Core structure	According to bus specification.
Core identification	According to bus specification. ▶ Product range table
Intermediate layer	Foil taping over the outer layer.
Overall shield	Torsion resistant tinned braided copper shield. Coverage approx. 80% optical
Outer jacket	Low-adhesion, halogen-free, highly abrasion resistant PUR mixture, adapted to suit the requirements in e-chains® (following DIN EN 50363-10-2) Colour: Steel blue (similar to RAL 5011)

Electrical information

Nominal voltage	50V 30V (following UL)
Testing voltage	500V

EPLAN download, configurators ▶ www.igus-asean.com/CFROBOT8PLUS

36-month guarantee ... more than 1,350 cable types from stock ... no cutting charges

igus

Class 6.1.3.4

Basic requirements	low	1	2	3	4	5	**6**	7	highest
Travel distance	unsupported	**1**	2	3	4	5	6		≥ 400m
Oil resistance	none	1	2	**3**	4		highest		
Torsion	none	1	2	3	**4**		±360°		

Properties and approvals

UV resistance	High
Oil resistance	Oil-resistant (following DIN EN 50363-10-2), Class 3
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
Halogen-free	Following DIN EN 60754
UL verified	Certificate No. B129699: "igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL/CSA AWM	See data sheet for details ▶ www.igus-asean.com/CFROBOT8PLUS
EAC	Certificate No. RU C-DE.ME77.B.00295/19
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 1. The outer jacket material of this series complies with CF77.UL.05.12.D - tested by IPA according to standard DIN EN ISO 14644-1
CE	Following 2014/35/EU
UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Guaranteed service life (details see page 28-29)

Cycles*	5 million	7.5 million	10 million
Temperature, from/to [°C]	Torsion max. [°/m]	Torsion max. [°/m]	Torsion max. [°/m]
-25/-15	±330	±240	±150
-15/+60	±360	±270	±180
+60/+70	±330	±240	±150

* Higher number of double strokes? Service life calculation online ▶ www.igus-asean.com/chainflexlife

Typical application areas

- For heaviest duty applications with torsion movements, Class 6
- Especially for robots and 3D movements, Class 1
- Almost unlimited resistance to oil, Class 3
- Torsion ±360°, with 1m cable length, Class 4
- Indoor and outdoor applications, UV-resistant
- Robots, handling, spindle drives

Bus cable | PUR | chainflex® CFROBOT8.PLUS



Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
Profibus (1x2x0.64mm)				
CFROBOT8.PLUS.001	(2x0.25)C	9.0	30	80
CAN-Bus				
New **CFROBOT8.PLUS.022**	(4x0.5)C	9.5	47	103
Ethernet/CAT5e/PoE				
CFROBOT8.PLUS.045	(4x(2x0.15))C	7.5	32	67
Ethernet/CAT6/PoE				
New **CFROBOT8.PLUS.049**	(4x(2x0.15))C	7.5	32	67
Ethernet/CAT6A				
New **CFROBOT8.PLUS.050**	(4x(2x0.15)C)C	10.5	49	115
Profinet				
CFROBOT8.PLUS.060 [2)]	(4x0.34)C	7.0	32	64

The chainflex® types marked with [2)] are cables designed as a star-quad.

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core



ables available in the chainflex® CASE

imple savings on delivery, storage space and re-ordering with
e chainflex® CASE - ship'n store by igus®.

ore on this on page 24/25 and online: www.igus-asean.com/cf-case

Technical note on bus cables
chainflex® bus cables have been specially developed and tested for continuously moving use in e-chains®. Depending on the material used for the outer jacket and on the underlying construction principle, the bus cables are designed for different mechanical requirements and resistance to diverse media.
The cables have been electrically designed in such a way that, on the one hand, the electrical requirements of the respective bus specification are reliably met and, on the other, that greater value is placed on a high degree of EMC reliability.
It is also ensured that the electrical values remain stable over the long term in spite of permanent movement.
The overall quality of transmission in a complete bus communication system, however, is not solely dependent on the cable used. What is also essential is that all components (electronic parts, connecting system and cable) are precisely matched to each other and that the maximum transmission lengths, which are dependent on the respective system, are adhered to with regard to the data transmission rates needed. A cable is thus not solely responsible for the reliable transmission of signals.
igus® advises you when you are designing your bus system to take all these factors into account and, with extensive tests, helps you to ensure the process reliability of your system from the very beginning.

EPLAN download, configurators ▶ www.igus-asean.com/CFROBOT8PLUS

Class 6.1.3.4

Basic requirements	low	1	2	3	4	5	**6**	7 highest
Travel distance	unsupported	**1**	2	3	4	5	6	≥ 400m
Oil resistance	none	1	2	**3**	4	highest		
Torsion	none	1	2	3	**4**	±360°		



Part No.	Characteristic wave impedance approx. [Ω]	Core group	Colour code
Profibus (1x2x0.64mm)			
CFROBOT8.PLUS.001	150	(2x0.25)C	red, green
CAN-Bus			
CFROBOT8.PLUS.022	120	(4x0.5)C	white, green, brown, yellow (star-quad)
Ethernet/CAT5e/PoE			
CFROBOT8.PLUS.045	100	(4x(2x0.15))C	white-blue/blue, white-orange/orange, white-green/green, white-brown/brown
Ethernet/CAT6/PoE			
CFROBOT8.PLUS.049	100	4x(2x0.15)C	white-green/green, white-orange/orange, white-blue/blue, white-brown/brown
Ethernet/CAT6A			
CFROBOT8.PLUS.050	100	4x(2x0.15)C	white-green/green, white-orange/orange, white-blue/blue, white-brown/brown
Profinet			
CFROBOT8.PLUS.060 [2)]	100	(4x0.38)C	white, orange, blue, yellow (star-quad)

Order example: CFROBOT8.PLUS.060 – to your desired length (0.5m steps)
CFROBOT8.PLUS **chainflex® series** .060 **Code bus type**

Order online ▶ www.igus-asean.com/CFROBOT8PLUS

Delivery time 24hrs or today.
Delivery time means time until goods are shipped.

Guarantee igus chainflex 36
igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year

Hybrid cable | PUR | chainflex® CFROBOT9

10 million Cycles guaranteed

10 x d Bend radius, e-chain®

±180°/m Torsion angle

- For torsion applications
- PUR outer jacket
- Unshielded/shielded
- Oil-resistant and coolant-resistant
- Flame-retardant
- PVC and halogen-free
- Notch-resistant
- Hydrolysis and microbe-resistant



Example image

Dynamic information

Bend radius	**e-chain® twisted**	minimum 10 x d
	flexible	minimum 8 x d
	fixed	minimum 5 x d
Temperature	**e-chain® twisted**	-25°C up to +80°C
	flexible	-40°C up to +80°C (following DIN EN 60811-504)
	fixed	-50°C up to +80°C (following DIN EN 50305)
v max.	**twisted**	180°/s
a max.	**twisted**	60°/s²
Travel distance	Robots and 3D movements, Class 1	
Torsion	Torsion ±180°, with 1m cable length, Class 3	

Cable structure

Conductor	Stranded conductor in especially bending-resistant version consisting of bare copper wires (following DIN EN 60228).
Core insulation	Mechanically high-quality TPE mixture.
Core identification	▶ Product range table
Element shield	Extremely torsion-resistant tinned wound copper shield. Coverage approx. 85% optical
Outer jacket	Low-adhesion, halogen-free, highly abrasion resistant PUR mixture, adapted to suit the requirements in e-chains® (following DIN EN 50363-10-2) Colour: Steel blue (similar to RAL 5011)

Electrical information

Nominal voltage	300/500V (following DIN VDE 0298-3) 300V (following UL)
Testing voltage	2,000V (following DIN EN 50395)

EPLAN download, configurators ▶ www.igus-asean.com/CFROBOT9

36-month guarantee ... more than 1,350 cable types from stock ... no cutting charges

Class 6.1.3.3

Basic requirements	low	1	2	3	4	5	**6**	7	highest
Travel distance	unsupported	**1**	2	3	4	5	6		≥ 400m
Oil resistance	none	1	2	**3**	4		highest		
Torsion	none	1	2	**3**	4		±360°		

Properties and approvals

UV resistance	High
Oil resistance	Oil-resistant (following DIN EN 50363-10-2), Class 3
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
Halogen-free	Following DIN EN 60754
UL verified	Certificate No. B129699: "igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL/CSA AWM	See data sheet for details ▶ www.igus-asean.com/CFROBOT9
NFPA	Following NFPA 79-2018, chapter 12.9
EAC	Certificate No. RU C-DE.ME77.B.00300/19
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 1. The outer jacket material of this series complies with CF77.UL.05.12.D - tested by IPA according to standard DIN EN ISO 14644-1
CE	Following 2014/35/EU
UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Guaranteed service life (details see page 28-29)

Cycles*	5 million	7.5 million	10 million
Temperature, from/to [°C]	Torsion max. [°/m]	Torsion max. [°/m]	Torsion max. [°/m]
-25/-15	±150	±90	±30
-15/+70	±180	±120	±60
+70/+80	±150	±90	±30

* Higher number of double strokes? Service life calculation online ▶ www.igus-asean.com/chainflexlife

Typical application areas

- For heaviest duty applications with torsion movements, Class 6
- Especially for robots and 3D movements, Class 1
- Almost unlimited resistance to oil, Class 3
- Torsion ±180°, with 1m cable length, Class 3
- Indoor and outdoor applications, UV-resistant
- Robots, handling, spindle drives

Hybrid cable | PUR | chainflex® CFROBOT9



Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CFROBOT9.007 [11)]	(15x(2x0.25)C+(4x0.25)C)C	18.5	229	369
CFROBOT9.010 [11)]	(4x(2x0.25)C)C	10.5	63	116

[11)] Phase-out model

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core



Cables available in the chainflex® CASE

Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.

More on this on page 24/25 and online: www.igus-asean.com/cf-case

EPLAN download, configurators ▶ www.igus-asean.com/CFROBOT9

Class 6.1.3.3

Basic requirements	low	1	2	3	4	5	**6**	7	highest
Travel distance	unsupported	**1**	2	3	4	5	6		≥ 400m
Oil resistance	none	1	2	**3**	4				highest
Torsion	none	1	2	**3**	4				±360°



Part No.	Core group	Colour code
CFROBOT9.007 [11]	15x(2x0.25)C	colour code in accordance with DIN 47100
	(4x0.25)C	white/green/brown/yellow (CAN-Bus)
CFROBOT9.010 [11]	4x(2x0.25)C	white/brown, green/yellow, grey/pink, blue/red



igus® chainflex® cables in a triflex® R multi-dimensionally moving energy supply system for 6-axis robots

Guarantee igus chainflex 36

igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year

Special cables



chainflex® cable		Approvals and standards	Page
Special cables			
CFTHERMO	Thermocouple cable		420
CFFLAT	Single core flat cable		422
CFSPECIAL.182	Bus cable for hanging applications		424
CFSPECIAL.192	Hybrid cable for hanging applications		426 New
CFSPECIAL.414	Control cable for rail vehicles		428
CFSPECIAL.484	Bus cable for rail vehicles		430
CFSPECIAL.532	Data cable for top drive applications		432 New
CFSPECIAL.562.PE	Motor cable for top drive applications		434 New
CFSPECIAL.572	Motor cable for top drive applications		436 New
CFSPECIAL.592	Hybrid cable for top drive applications		438 New
CFSPECIAL.792	Cable for axis 7 on robots		440

The following chapter of special cables offers solutions for moving applications going beyond standard energy supply.

The constantly growing program of special cables is in response to our customer requirements.

At the same time this can be an inspiration for users. igus® can make cables for special applications using many different materials and production processes. Depending to the construction this is already possible from a length of 500m.

Use our comprehensive knowledge about cables plus the experience of 2 billion test cycles that are annually achieved in the company's chainflex® laboratory.

The technical and material details of the CFSPECIAL families are documented in data sheets and are available on the internet. The respective web links can be recalled on the summary pages of the CFSPECIAL cables.

We look forward to hearing about your requirements!

chainflex® guarantee

As these are special cables for special applications, we ask you to contact us for information on the guaranteed lifetime:

Phone +49-2203 9649-0, info@igus.de



igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year

Thermocouple cable | PUR | chainflex® CFTHERMO



Example image

- For heavy duty applications
- PUR outer jacket
- Oil-resistant and coolant-resistant
- PVC and halogen-free
- Notch-resistant
- Hydrolysis and microbe-resistant

Dynamic information

Bend radius	**e-chain® linear**	minimum 12.5 x d
	flexible	minimum 10 x d
	fixed	minimum 5 x d
Temperature	**e-chain® linear**	-25°C up to +80°C
	flexible	-40°C up to +80°C (following DIN EN 60811-504)
	fixed	-50°C up to +80°C (following DIN EN 50305)
v max.	**unsupported**	2m/s
	gliding	1m/s
a max.		20m/s²
Travel distance		Unsupported travels and up to 50m for gliding applications, Class 4

Cable structure

Conductor	Conductor consisting of a flexible special alloy. ▶ Product range table
Core insulation	Mechanically high-quality TPE mixture.
Core structure	The individual cores are wound in layers with a short pitch length.
Core identification	According to thermo specification. ▶ Product range table
Intermediate layer	Fleece taping over the external layer.
Overall shield	Extremely bending-resistant braiding made of tinned copper wires. Coverage linear approx. 70%, optical approx. 90%
Outer jacket	Low-adhesion, halogen-free, highly abrasion resistant PUR mixture, adapted to suit the requirements in e-chains® (following DIN EN 50363-10-2) Colour: According to thermo specification ▶ Product range table

Electrical information

Nominal voltage	300/300V (following DIN VDE 0298-3)
Testing voltage	1,500V

EPLAN download, configurators ▶ www.igus-asean.com/CFTHERMO

Class 5.4.3.1

Basic requirements	low	1	2	3	4	**5**	6	7	highest
Travel distance	unsupported	1	2	3	**4**	5	6		≥ 400m
Oil resistance	none	1	2	**3**	4	highest			
Torsion	none	**1**	2	3	4	±360°			

Properties and approvals

UV resistance	Medium
Oil resistance	Oil-resistant (following DIN EN 50363-10-2), Class 3
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
Halogen-free	Following DIN EN 60754
UL verified	Certificate No. B129699: "igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
EAC	Certificate No. RU C-DE.ME77.B.00300/19
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 1. The outer jacket material of this series complies with CF77.UL.05.12.D - tested by IPA according to standard DIN EN ISO 14644-1
CE	Following 2014/35/EU
UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Typical application areas

- For heavy-duty applications, Class 5
- Unsupported travels and up to 50m for gliding applications, Class 4
- Almost unlimited resistance to oil, Class 3
- No torsion, Class 1
- Indoor and outdoor applications with average sun radiation
- Machining units/machine tools, storage and retrieval units for high-bay warehouses, packaging industry, quick handling, refrigerating sector

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CFTHERMO.J.001	(2x0.23)C	5.5	9	36
CFTHERMO.K.001	(2x0.23)C	5.5	9	37
CFTHERMO.K.002 *	(2x0.23)C+3G0.5	7.5	24	67

* The cross-section of the copper conductor is equivalent to the electrically effective cross-section.

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

Part No.	Jacket colour	Thermo materials	Core group	Colour code
CFTHERMO.J.001 *	black	Fe-CuNi	(2x0.23)C	+ black, - white
CFTHERMO.K.001	green	NiCr-Ni	(2x0.23)C	+ green, - white
CFTHERMO.K.002	green	NiCr-Ni	(2x0.23)C	+ green, - white
		Cu	3G0.5	brown, blue, yellow-green

Single core flat cable | TPE | chainflex® CFFLAT

- For heaviest duty applications
- TPE outer jacket
- Oil and bio-oil-resistant
- PVC and halogen-free
- UV-resistant
- Hydrolysis and microbe-resistant



Example image

Dynamic information

Bend radius	**e-chain® linear**	minimum 5 x d
	flexible	minimum 4 x d
	fixed	minimum 3 x d
Temperature	**e-chain® linear**	-35°C up to +90°C
	flexible	-50°C up to +90°C (following DIN EN 60811-504)
	fixed	-55°C up to +90°C (following DIN EN 50305)
v max.	**unsupported**	10m/s
	gliding	6m/s
a max.	100m/s^2	
Travel distance	Unsupported travels and up to 100m for gliding applications, Class 5	

Cable structure

Conductor	Highly flexible braided special conductor.
Core insulation	Mechanically high-quality TPE mixture.
Outer jacket	Low-adhesion, extremely abrasion-resistant and highly flexible TPE mixture, adapted to suit the requirements in e-chains®. Colour: Steel blue (similar to RAL 5011)

Electrical information

Nominal voltage	600/1,000V (following DIN VDE 0298-3)
Testing voltage	4,000V (following DIN EN 50395)

EPLAN download, configurators ▶ www.igus-asean.com/CFFLAT

Class 7.5.4.1

Basic requirements	low	1	2	3	4	5	6	**7**	highest
Travel distance	unsupported	1	2	3	4	**5**	6	≥ 400m	
Oil resistance	none	1	2	3	**4**	highest			
Torsion	none	**1**	2	3	4	±360°			

Properties and approvals

UV resistance	High
Oil resistance	Oil-resistant (following DIN EN 60811-404), bio-oil-resistant (following VDMA 24568 with Plantocut 8 S-MB tested by DEA), Class 4
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
Halogen-free	Following DIN EN 60754
UL verified	Certificate No. B129699: "igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
EAC	Certificate No. RU C-DE.ME77.B.00863/20
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 1. The outer jacket material of this series complies with CF9.15.07 - tested by IPA according to standard DIN EN ISO 14644-1
CE	Following 2014/35/EU
UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Typical application areas

- For heavy-duty applications, Class 7
- Unsupported travels and up to 100m for gliding applications, Class 5
- Almost unlimited resistance to oil, also with bio-oils, Class 4
- No torsion, Class 1
- Indoor and outdoor applications, UV-resistant
- Storage and retrieval units for high-bay warehouses, for small installation spaces and bend radii, machining units/machine tools, quick handling, cleanroom, semiconductor insertion, low-temperature applications

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer dimensions [mm]	Copper index [kg/km]	Weight [kg/km]
CFFLAT.40.01	1x4.0	14.0x5.5	48	117

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

Bus cable for hanging applications | PUR

chainflex® CFSPECIAL.182

- For high tensile loads
- PUR outer jacket
- Shielded
- Oil-resistant and coolant-resistant
- Flame-retardant
- PVC and halogen-free
- Notch-resistant
- Hydrolysis and microbe-resistant



Example image

Dynamic information

Bend radius	**e-chain® linear**	minimum 10 x d
	flexible	minimum 8 x d
	fixed	minimum 5 x d
Temperature	**e-chain® linear**	-25°C up to +80°C
	flexible	-40°C up to +80°C (following DIN EN 60811-504)
	fixed	-50°C up to +80°C (following DIN EN 50305)
v max.	**unsupported**	10m/s
	gliding	6m/s
a max.	100m/s^2	
Travel distance	For hanging applications up to 50 m	

Cable structure

Conductor	Stranded conductor in especially bending-resistant version consisting of bare copper wires (following DIN EN 60228).
Core insulation	According to bus specification.
Core structure	According to bus specification.
Core identification	According to bus specification.
Inner jacket	TPE mixture adapted to suit the requirements in e-chains®.
Overall shield	Bending-resistant braiding made of tinned copper wires. Coverage linear approx. 70%, optical approx. 90%
Outer jacket	**1. Outer jacket:** PUR mixture adapted to suit the requirements in e-chains®. **Reinforcement:** High tensile strength aramid braid embedded in the outer jacket. **2. Outer jacket:** Low-adhesion, halogen-free PUR mixture, highly abrasion and bending-resistant, adapted to suit the requirements in hanging applications (following DIN EN 50363-10-2). Colour: jet black (similar to RAL 9005)

Electrical information

Nominal voltage	50V 300V (following UL)
Testing voltage	500V

Properties and approvals

UV resistance	High
Oil resistance	Oil-resistant (in accordance with DIN EN 50363-10-2)
Offshore	MUD-resistant following NEK 606 - status 2016
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
Halogen-free	Following DIN EN 60754
UL verified	Certificate No. B129699: "igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL/CSA AWM	See data sheet for details ▶ www.igus-asean.com/CFSPECIAK182
NFPA	Following NFPA 79-2018, chapter 12.9
EAC	Certificate No. RU C-DE.ME77.B.00295/19
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
CE	Following 2014/35/EU
UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Typical application areas

- For high tensile loads
- For hanging applications up to 50 m
- Almost unlimited resistance to oil
- Storage and retrieval units, hanging control units, lifts

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CFSPECIAL.182.045	(4x(2x0.15))C	9.5	42	136
CFSPECIAL.182.060 [11) 13)]	(4x0.38)C	8.5	37	125

[11)] Phase-out model
[13)] Colour outer jacket: Yellow-green (RAL 6018)

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

Part No.	Characteristic wave impedance approx. [Ω]	Core group	Colour code
Ethernet/CAT5e/PoE			
CFSPECIAL.182.045	100	(4x(2x0.15))C	white-blue/blue, white-orange/orange, white-green/green, white-brown/brown
Profinet			
CFSPECIAL.182.060	100	(4x0.38)C	white, orange, blue, yellow (star-quad)

New

Hybrid cable for hanging applications | PUR

chainflex® CFSPECIAL.192

- For high tensile loads
- PUR outer jacket
- Shielded
- Oil-resistant and coolant-resistant
- Flame-retardant
- PVC and halogen-free
- Notch-resistant
- Hydrolysis and microbe-resistant

Especially for MOVILINK® DDI technology from SEW-EURODRIVE



Example image

Dynamic information

Bend radius	**e-chain® linear**	minimum 10 x d
	flexible	minimum 8 x d
	fixed	minimum 5 x d
Temperature	**e-chain® linear**	-25°C up to +80°C
	flexible	-40°C up to +80°C (following DIN EN 60811-504)
	fixed	-50°C up to +80°C (following DIN EN 50305)
v max.	**unsupported**	10m/s
	gliding	2m/s
a max.		50m/s²
Travel distance		For hanging applications up to 50 m

Cable structure

Conductor	Stranded conductor in especially bending-resistant version consisting of bare copper wires (following DIN EN 60228).
Core insulation	Mechanically high-quality, especially low-capacitance XLPE mixture. **HF50-0.9/2.95:** Special PE mixture.
Core structure	Power cores and control pair elements wound with a short pitch length around a high tensile strength centre element.
Core identification	According to Servo-Hybrid specification. Current data sheet ▶ www.igus-asean.com/CFSPECIAL192
Element shield	Bending-resistant braiding made of tinned copper wires.
Inner jacket	TPE mixture adapted to suit the requirements in e-chains®.
Overall shield	Bending-resistant braiding made of tinned copper wires. Coverage linear approx. 70%, optical approx. 90%
Outer jacket	**1. Outer jacket:** PUR mixture adapted to suit the requirements in e-chains®. **Reinforcement:** High tensile strength aramid braid embedded in the outer jacket. **2. Outer jacket:** Low-adhesion, halogen-free PUR mixture, highly abrasion and bending-resistant, adapted to suit the requirements in hanging applications (following DIN EN 50363-10-2). Colour: Pastel orange (similar to RAL 2003)

Electrical information

Nominal voltage	600/1,000V (following DIN VDE 0298-3) 1,000V (following UL)
Testing voltage	4,000V (following DIN EN 50395)

EPLAN download, configurators ▶ www.igus-asean.com/CFSPECIAL192

Properties and approvals

Oil resistance	Oil-resistant (following DIN EN 50363-10-2), Class 3
Offshore	MUD-resistant following NEK 606 - status 2016
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
Halogen-free	Following DIN EN 60754
UL verified	Certificate No. B129699: "igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL/CSA AWM	See data sheet for details ▶ www.igus-asean.com/CFSPECIAL192
NFPA	Following NFPA 79-2018, chapter 12.9
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
DESINA	According to VDW, DESINA standardisation
CE	Following 2014/35/EU
UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Typical application areas

- For high tensile loads
- For hanging applications up to 50 m
- Almost unlimited resistance to oil
- Storage and retrieval units, hanging control units, lifts

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CFSPECIAL.192.H207.15.04	(4G1.5+2x(2x1.0)C +HF50-0.9/2.95)C	17.0	199	377

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

CFSP.414
7.5 x d

Control cable for rail vehicles

chainflex® CFSPECIAL.414

- For heaviest duty applications in rail vehicles
- Special outer jacket
- PVC and halogen-free
- Oil-resistant
- Flame-retardant
- Self-extinguishing
- Low toxicity
- Low gas density

Especially for rail vehicles



Example image

Dynamic information

Bend radius	**e-chain® linear**	minimum 7.5 x d
	flexible	minimum 6 x d
	fixed	minimum 4 x d
Temperature	**e-chain® linear**	-20°C up to +80°C
	flexible	-25°C up to +80°C (following DIN EN 60811-504)
	fixed	-30°C up to +80°C (following DIN EN 50305)
v max.	**unsupported**	10m/s
a max.		20m/s²
Travel distance		For unsupported travel lengths up to 100m

Cable structure

Conductor	Fine-wire stranded conductor in especially bending-resistant version consisting of bare copper wires (following DIN EN 60228).
Core insulation	Mechanically high-quality special mixture.
Core identification	Black cores with white numbers.
Outer jacket	Special mixture adapted to suit the requirements in e-chains® (following DIN EN 50264-1 EM 104). Colour: jet black (similar to RAL 9005)

Electrical information

Nominal voltage	300/500V
Testing voltage	2,000V

Properties and approvals

UV resistance	High
Oil resistance	Oil-resistant (following DIN EN 60811-2-1)

EPLAN download, configurators ▶ www.igus-asean.com/CFSPECIAL414

igus

Flame-retardant	Following DIN EN 45545-2 Fire safety class 3 (HL3)
Halogen-free	Following DIN EN 60754
UL verified	Certificate No. B129699: "igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
EAC	Certificate No. RU C-DE.ME77.B.00300/19
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
CE	Following 2014/35/EU
UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)
Toxicity	Low toxicity according to EN 50305-9.2
Smoke gas density	Low smoke gas density according to EN 61034-2

Typical application areas

- Rail vehicles, automatic doors, buses, adjusting equipment

This cable series will be individually manufactured for your special project. Due to this we do not have this cable on stock, but can offer it exactly for your special demands.





chainflex® CFSPECIAL.414 in automatic door systems for underground railway vehicles of VAG Verkehrs-Aktiengesellschaft Nürnberg, each approx. 70,000 opening and closing cycles per year. e-chain®: E2 micro series.

Bus cable for rail vehicles

chainflex® CFSPECIAL.484

- For heaviest duty applications in rail vehicles
- Special outer jacket
- PVC and halogen-free
- Oil-resistant
- Flame-retardant
- Self-extinguishing
- Low toxicity
- Low gas density

Especially for rail vehicles



Example image

Dynamic information

Bend radius	**e-chain® linear**	minimum 12.5 x d
	flexible	minimum 10 x d
	fixed	minimum 7 x d
Temperature	**e-chain® linear**	-20°C up to +80°C
	flexible	-25°C up to +80°C (following DIN EN 60811-504)
	fixed	-30°C up to +80°C (following DIN EN 50305)
v max.	**unsupported**	10m/s
a max.		20m/s²
Travel distance		For unsupported travel lengths up to 100m

Cable structure

Conductor	Fine-wire stranded conductor in especially bending-resistant version consisting of bare copper wires (following DIN EN 60228).
Core insulation	According to bus specification.
Core structure	According to bus specification.
Core identification	According to bus specification.
Inner jacket	TPE mixture adapted to suit the requirements in e-chains®.
Overall shield	Extremely bending-resistant braiding made of tinned copper wires. Coverage linear approx. 70%, optical approx. 90%
Outer jacket	Special mixture adapted to suit the requirements in e-chains® (following DIN EN 50264-1 EM 104). Colour: jet black (similar to RAL 9005)

Electrical information

Nominal voltage	50V
Testing voltage	500V

EPLAN download, configurators ▶ www.igus-asean.com/CFSPECIAL.484

Properties and approvals

UV resistance	High
Oil resistance	Oil-resistant (following DIN EN 60811-2-1)
Flame-retardant	Following DIN EN 45545-2 Fire safety class 3 (HL3)
Halogen-free	Following DIN EN 60754
UL verified	Certificate No. B129699: "igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
EAC	Certificate No. RU C-DE.ME77.B.00295/19
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
CE	Following 2014/35/EU
UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)
Toxicity	Low toxicity according to EN 50305-9.2
Smoke gas density	Low smoke gas density according to EN 61034-2

Typical application areas

- Rail vehicles, automatic doors, buses, adjusting equipment

This cable series will be individually manufactured for your special project. Due to this we do not have this cable on stock, but can offer it exactly for your special demands.

CFSP.532
PUR
10 x d

PVC | iguPUR | **PUR** | TPE

New

Data cable for top drive applications| PUR

chainflex® CFSPECIAL.532



Example image

- For top drive applications
- For heavy duty applications
- PUR outer jacket
- Shielded
- Oil-resistant and coolant-resistant
- Flame-retardant
- PVC and halogen-free
- UV-resistant
- Hydrolysis and microbe-resistant

Now with DNV approval for top drive hanging applications up to 50m

Dynamic information

Bend radius	**e-chain® linear**	minimum 10 x d
	flexible	minimum 8 x d
	fixed	minimum 5 x d
Temperature	**e-chain® linear**	-25°C up to +80°C
	flexible	-40°C up to +80°C (following DIN EN 60811-504)
	fixed	-50°C up to +80°C (following DIN EN 50305)
v max.	**unsupported**	10m/s
	sliding	2m/s
a max.	50m/s²	
Travel distance	For top drive hanging applications up to 50m	

Cable structure

Conductor	Stranded conductor in especially bending-resistant version consisting of bare copper wires (following DIN EN 60228).
Core insulation	Mechanically high-quality, especially low-capacitance XLPE mixture.
Core structure	Cores twisted in pairs with a short pitch length, core pairs then wound with short pitch lengths.
Core identification	Black cores with white numbers.
Inner jacket	Mechanically high-quality TPE mixture.
Overall shield	Extremely bending-resistant braiding made of tinned copper wires. Coverage linear approx. 70%, optical approx. 90%
Outer jacket	**1. Outer jacket:** PUR mixture adapted to suit the requirements in e-chains®. **Reinforcement:** High tensile strength aramid braid embedded in the outer jacket. **2. Outer jacket:** Low-adhesion, halogen-free PUR mixture, highly abrasion and bending-resistant, adapted to suit the requirements in top drive hanging applications (following DIN EN 50363-10-2). Colour: jet black (similar to RAL 9005)

Electrical information

Nominal voltage	600/1,000V (following DIN VDE 0298-3)
Testing voltage	4,000V (following DIN EN 50395)

EPLAN download, configurators ▶ www.igus-asean.com/CFSPECIAL532

igus

Properties and approvals

UV resistance	High
Oil resistance	Oil-resistant (in accordance with DIN EN 50363-10-2)
Offshore	MUD-resistant following NEK 606 - status 2016
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
Halogen-free	Following DIN EN 60754
UL verified	Certificate No. B129699: „igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year“
UL/CSA AWM	See data sheet for details ▶ www.igus-asean.com/CFSPECIAL532
NFPA	Following NFPA 79-2018, chapter 12.9
DNV	Type Approval Certificate TAE00004G4
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II)
CE	Following 2014/35/EU
UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Typical application areas

- For high tensile loads
- Almost unlimited resistance to oil
- For top drive hanging applications up to 50m

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CFSPECIAL.532.15.08.02	(8x(2x1.5)C)C	30.0	513	1014
CFSPECIAL.532.15.16.02	(16x(2x1.5)C)C	36.5	972	1669

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

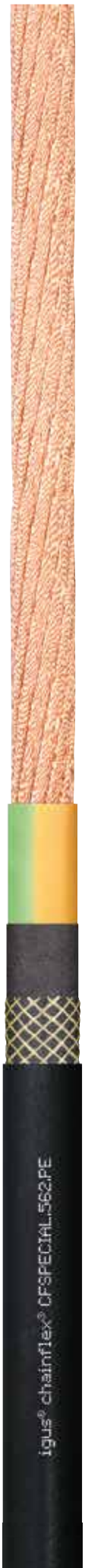
New

Motor cable for top drive applications | PUR

chainflex® CFSPECIAL.562.PE

- For top drive applications
- For heavy duty applications
- PUR outer jacket
- Oil-resistant and coolant-resistant
- Flame-retardant
- PVC and halogen-free
- UV-resistant
- Hydrolysis and microbe-resistant

Now with DNV approval for top drive hanging applications up to 50m



Example image

Dynamic information

Bend radius	**e-chain® linear**	minimum 10 x d
	flexible	minimum 8 x d
	fixed	minimum 5 x d
Temperature	**e-chain® linear**	-25°C up to +80°C
	flexible	-40°C up to +80°C (following DIN EN 60811-504)
	fixed	-50°C up to +80°C (following DIN EN 50305)
v max.	**unsupported**	10m/s
	sliding	2m/s
a max.		50m/s²
Travel distance		For top drive hanging applications up to 50m

Cable structure

Conductor	Conductor cable consisting of pre-leads (following DIN EN 60228).
Core insulation	Mechanically high-quality TPE mixture.
Core identification	Green-yellow
Outer jacket	**1. Outer jacket:** PUR mixture adapted to suit the requirements in e-chains®. **Reinforcement:** High tensile strength aramid braid embedded in the outer jacket. **2. Outer jacket:** Low-adhesion, halogen-free PUR mixture, highly abrasion and bending-resistant, adapted to suit the requirements in top drive hanging applications (following DIN EN 50363-10-2). Colour: jet black (similar to RAL 9005)

Electrical information

Nominal voltage	600/1,000V (following DIN VDE 0298-3)
Testing voltage	4,000V (following DIN EN 50395)

Properties and approvals

UV resistance	High
Oil resistance	Oil-resistant (in accordance with DIN EN 50363-10-2)
Offshore	MUD-resistant following NEK 606 - status 2016
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
Halogen-free	Following DIN EN 60754
UL verified	Certificate No. B129699: „igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year“
UL/CSA AWM	See data sheet for details ▶ www.igus-asean.com/CFSPECIAL562PE
NFPA	Following NFPA 79-2018, chapter 12.9
DNV	Type Approval Certificate TAE00004G3
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II)
CE	Following 2014/35/EU
UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Typical application areas

- For high tensile loads
- Almost unlimited resistance to oil
- For top drive hanging applications up to 50m

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CFSPECIAL.562.PE.700.01	1G70	19.5	713	867

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

New

Motor cable for top drive applications | PUR

chainflex® CFSPECIAL.572

- For top drive applications
- For heavy duty applications
- PUR outer jacket
- Shielded
- Oil-resistant and coolant-resistant
- Flame-retardant
- PVC and halogen-free
- UV-resistant
- Hydrolysis and microbe-resistant

Now with DNV approval for top drive hanging applications up to 50m



Example image

Dynamic information

Bend radius	**e-chain® linear**	minimum 10 x d
	flexible	minimum 8 x d
	fixed	minimum 5 x d
Temperature	**e-chain® linear**	-25°C up to +80°C
	flexible	-40°C up to +80°C (following DIN EN 60811-504)
	fixed	-50°C up to +80°C (following DIN EN 50305)
v max.	**unsupported**	10m/s
	sliding	2m/s
a max.		50m/s²
Travel distance		For top drive hanging applications up to 50m

Cable structure

Conductor	Conductor cable consisting of pre-leads (following DIN EN 60228).
Core insulation	Mechanically high-quality TPE mixture.
Overall shield	Extremely bending-resistant braiding made of tinned copper wires. Coverage linear approx. 70%, optical approx. 90%
Outer jacket	**1. Outer jacket:** PUR mixture adapted to suit the requirements in e-chains®. **Reinforcement:** High tensile strength aramid braid embedded in the outer jacket. **2. Outer jacket:** Low-adhesion, halogen-free PUR mixture, highly abrasion and bending-resistant, adapted to suit the requirements in top drive hanging applications (following DIN EN 50363-10-2). Colour: jet black (similar to RAL 9005)

Electrical information

Nominal voltage	600/1,000V (following DIN VDE 0298-3)
Testing voltage	4,000V (following DIN EN 50395)

Properties and approvals

UV resistance	High
Oil resistance	Oil-resistant (in accordance with DIN EN 50363-10-2)
Offshore	MUD-resistant following NEK 606 - status 2016
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
Halogen-free	Following DIN EN 60754
UL verified	Certificate No. B129699: „igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year“
UL/CSA AWM	See data sheet for details ▶ www.igus-asean.com/CFSPECIAL572
NFPA	Following NFPA 79-2018, chapter 12.9
DNV	Type Approval Certificate TAE00004G3
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II)
CE	Following 2014/35/EU
UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Typical application areas

- For high tensile loads
- Almost unlimited resistance to oil
- For top drive hanging applications up to 50m

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CFSPECIAL.572.2400.01	(1x240)C	34.5	2581	3081
CFSPECIAL.572.3000.01	(1x300)C	37.5	3189	3799
CFSPECIAL.572.4000.01	(1x400)C	42.0	4269	5007

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

New

Hybrid cable for top drive applications | PUR

chainflex® CFSPECIAL.592



Example image

- For top drive applications
- For heavy duty applications
- PUR outer jacket
- Shielded
- Oil-resistant and coolant-resistant
- Flame-retardant
- PVC and halogen-free
- UV-resistant
- Hydrolysis and microbe-resistant

Now with DNV approval for top drive hanging applications up to 50m

Dynamic information

Bend radius	**e-chain® linear**	minimum 10 x d
	flexible	minimum 8 x d
	fixed	minimum 5 x d
Temperature	**e-chain® linear**	-25°C up to +80°C
	flexible	-40°C up to +80°C (following DIN EN 60811-504)
	fixed	-50°C up to +80°C (following DIN EN 50305)
v max.	**unsupported**	10m/s
	sliding	2m/s
a max.		50m/s²
Travel distance		For top drive hanging applications up to 50m

Cable structure

Conductor	Stranded conductor in especially bending-resistant version consisting of bare copper wires (following DIN EN 60228).
Core insulation	Mechanically high-quality, especially low-capacitance XLPE mixture.
Inner jacket	Mechanically high-quality TPE mixture.
Overall shield	Extremely bending-resistant braiding made of tinned copper wires. Coverage linear approx. 70%, optical approx. 90%
Outer jacket	**1. Outer jacket:** PUR mixture adapted to suit the requirements in e-chains®. **Reinforcement:** High tensile strength aramid braid embedded in the outer jacket. **2. Outer jacket:** Low-adhesion, halogen-free PUR mixture, highly abrasion and bending-resistant, adapted to suit the requirements in top drive hanging applications (following DIN EN 50363-10-2). Colour: jet black (similar to RAL 9005)

Electrical information

Nominal voltage	600/1,000V (following DIN VDE 0298-3) 1,000V (following UL)
Testing voltage	4,000V (following DIN EN 50395)

EPLAN download, configurators ▶ www.igus-asean.com/CFSPECIAL592

Properties and approvals

UV resistance	High
Oil resistance	Oil-resistant (in accordance with DIN EN 50363-10-2)
Offshore	MUD-resistant following NEK 606 - status 2016
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
Halogen-free	Following DIN EN 60754
UL verified	Certificate No. B129699: „igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year“
UL/CSA AWM	See data sheet for details ▶ www.igus-asean.com/CFSPECIAL592
NFPA	Following NFPA 79-2018, chapter 12.9
DNV	Type Approval Certificate TAE00004KR
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II)
CE	Following 2014/35/EU
UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Typical application areas

- For high tensile loads
- Almost unlimited resistance to oil
- For top drive hanging applications up to 50m

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CFSPECIAL.592.001	(30G4.0+4x(2x2.5)C)C	44.0	1,750	2630

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

Cable for axis 7 on robots | PUR | CFSPECIAL.792



Example image

- PUR outer jacket
- Shielded
- Oil-resistant and coolant-resistant
- Flame-retardant
- PVC and halogen-free
- Notch-resistant
- Hydrolysis and microbe-resistant

Dynamic information

Bend radius	**e-chain® linear**	minimum 10 x d
	flexible	minimum 8 x d
	fixed	minimum 5 x d
Temperature	**e-chain® linear**	-25°C up to +80°C
	flexible	-40°C up to +80°C (following DIN EN 60811-504)
	fixed	-50°C up to +80°C (following DIN EN 50305)
v max.	**unsupported**	3m/s
	gliding	2m/s
a max.	$20m/s^2$	
Travel distance	Unsupported travels and up to 100m for gliding applications, Class 5	

Cable structure

Conductor	Finely stranded conductor consisting of bare copper wires (following DIN EN 60228).
Core insulation	Mechanically high-quality TPE mixture.
Core identification	▶ Product range table
Inner jacket	TPE mixture adapted to suit the requirements in e-chains®.
Overall shield	Bending-resistant braiding made of tinned copper wires. Coverage linear approx. 50%, optical approx. 80%
Outer jacket	Low-adhesion, halogen-free, highly abrasion resistant PUR mixture, adapted to suit the requirements in e-chains® (following DIN EN 50363-10-2) Colour: jet black (similar to RAL 9005)

Electrical information

Nominal voltage	600/1,000V (following DIN VDE 0298-3) 1,000V (following UL)
Testing voltage	4,000V (following DIN EN 50395)

EPLAN download, configurators ▶ www.igus-asean.com/CFSPECIAL792

Properties and approvals

UV resistance	High
Oil resistance	Oil-resistant (following DIN EN 50363-10-2), Class 3
Offshore	MUD-resistant following NEK 606 - status 2016
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
Halogen-free	Following DIN EN 60754
UL verified	Certificate No. B129699: "igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL/CSA AWM	See data sheet for details ▶ www.igus-asean.com/CFSPECIAL792
NFPA	Following NFPA 79-2018, chapter 12.9
EAC	Certificate No. RU C-DE.ME77.B.00302/19
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
CE	Following 2014/35/EU
UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Typical application areas

- Reliable e-chain® cable for the seventh robot axis
- Electrical properties in line with Kuka (.011/.013/.014), ABB (.012) and Fanuc (.015/.016)

Cable for axis 7 on robots | PUR | CFSPECIAL.792



Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
ABB				
CFSPECIAL.792.012	(18G2.5)C	25.5	545	882
Fanuc				
CFSPECIAL.792.015	(7x(6x2.0))C	36.5	999	1747
CFSPECIAL.792.016	(5x(4x0.25)+10x(3x0.75))C	26.5	422	877
KUKA				
CFSPECIAL.792.011	(5x(2x6.0+2x2.5)+2x(6x1.0)C)C	35.5	1250	2033
CFSPECIAL.792.013	((6x1.5)C+3x(3x4)+1G6)C	28.0	679	1220
CFSPECIAL.792.014	(2x(3x1.5)C+3x(3x10)+1G10)C	35.5	1340	2122

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core



Part No.	Core group	Colour code
ABB		
CFSPECIAL.792.012	(18G2.5)C	Black cores with white numbers 1-17, one green-yellow core
Fanuc		
CFSPECIAL.792.015	(7x(6x2.0))C	Black cores with white numbers 1-29 Blue cores with white numbers 1-4 Yellow cores with black numbers 1-9
CFSPECIAL.792.016	5x(4x0.25)	(blue/violet/brown/green), (grey/violet/yellow/brown), (grey/blue/brown/green), (grey/blue/green/yellow), (green/violet/brown/yellow)
	10x(3x0.75)	Brown cores with white numbers 1, 7, 24 & 30 Black cores with white numbers 16-21 Blue cores with white numbers 2, 8 & 25 Green cores with black numbers 3, 9 & 26 Yellow cores with black numbers 5, 22 & 28 Red cores with white numbers 11-15 Violet cores with white numbers 4, 10 & 27 Grey cores with black numbers 6, 23 & 29
KUKA		
CFSPECIAL.792.011	10x6.0	Black cores with white numbers 1-9, one green-yellow core
	10x2.5	Black cores with white numbers 10-18, one green-yellow core
	2x(6x1.0)C	Black cores with white numbers 19-30
CFSPECIAL.792.013	(6x1.5)C	Black cores with white numbers 10-15
	3x(3x4)	Black cores with white numbers 1-9
	1G6	Green-yellow core
CFSPECIAL.792.014	2x(3x1.5)C	Black cores with white numbers 10-15
	3x(3x10)	Black cores with white numbers 1-9
	1G10	Green-yellow core

CFCLEAN

Cables for cleanroom applications



chainflex® cable	Bend radius e-skin® flat [factor x d]	Temperature e-skin® flat from/to [°C]	Approvals and standards	v max. [m/s] unsupported	a max.	Page	
CFCLEAN elements for cleanroom applications							
Information about e-skin® flat with chainflex® CFCLEAN						446	
Control elements							
CFCLEAN1	70	-10/+80		2	40	450	New
Coax elements							
CFCLEAN2	70	-10/+80		2	40	452	
Data elements							
CFCLEAN3	70	-10/+80		2	40	454	New
Measuring system elements							
CFCLEAN4	70	-10/+80		2	40	456	New
Motor elements							
CFCLEAN7	70	-10/+80		2	40	458	New
Bus elements							
CFCLEAN8	70	-10/+80		2	40	460	

chainflex® guarantee

These series are solutions for special applications, please contact igus® for information about the service life guarantee:

Phone +49-2203 9649-0, info@igus.de

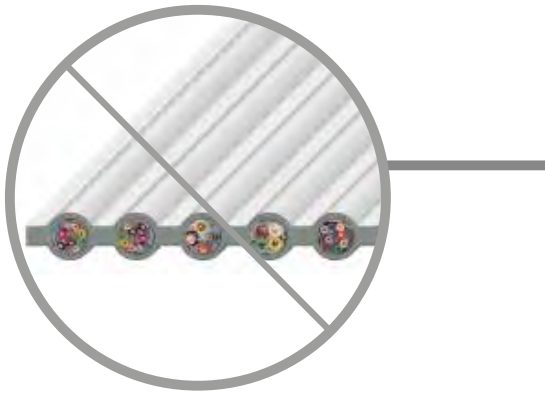


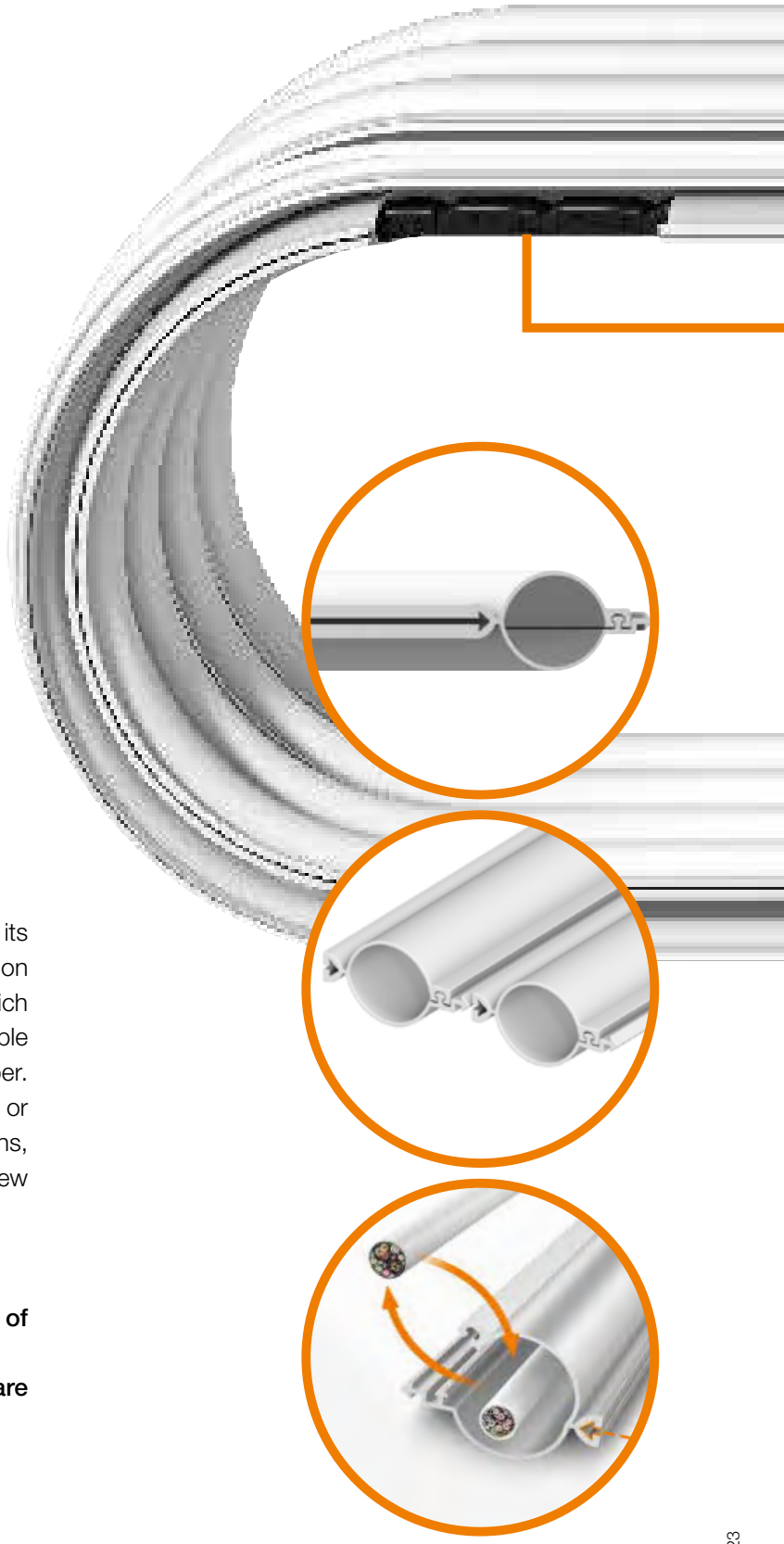
igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year

UL-verified chainflex® guarantee ... www.igus-asean.com/ul-verified

e-skin® flat ...

... increases your overall effectiveness
... generates higher production yields
... modular and compact
... resource- and maintenance-friendly
... www.igus-asean.com/e-skin-flat





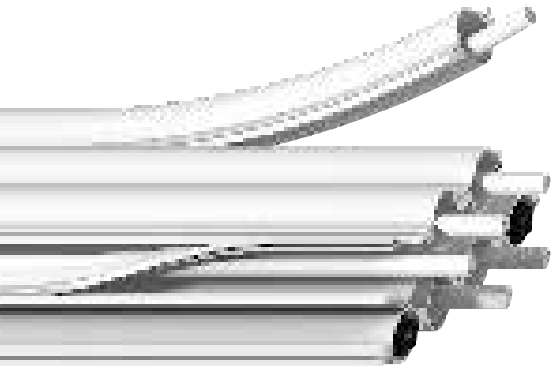
clean-room

The main advantages of the e-skin® flat are its modularity and ease of maintenance. Unlike common solutions that use defined flat ribbon cables, in which stranded elements are firmly fixed, the e-skin® flat cable guide system is designed with an openable chamber. Flexible chainflex® CFCLEAN cable elements (with or without connectors), e-skin® flat with support chains, hoses, etc. can now be replaced or added in a few minutes.

- **Highly efficient in prototype phases**
- **Maximum availability due to easy replacement of individual elements**
- **Saving resources, as only individual elements are replaced in case of damage**

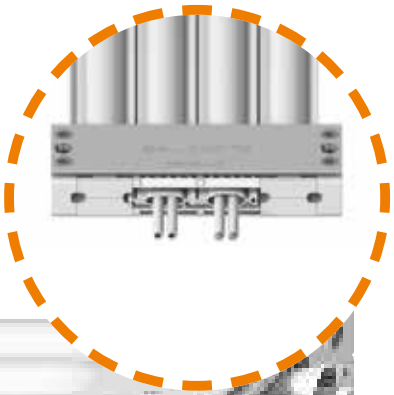
Commercially available ribbon cables with permanently integrated cable elements: the entire system must be replaced if damaged.

e-skin® flat system certified according to EN ISO Class 1
Report IG 2102-1212





... e-skin® flat with support chain SKF.S
... can be extended
... allows unsupported travel lengths of up to 3m





... combined with chainflex® CFCLEAN
... highest flexibility for machine development
... offers quick cable replacement
... replaces customer-specific flat ribbon cable
... cost-effective and sustainable
... available from stock
... minimum length 1m
... www.igus-asean.com/cfclean



chainflex® CFCLEAN ...

... made for the e-skin® flat
... great flexural strength thanks to special very finely stranded conductors
... protected by highly abrasion-resistant heat-sealed film
... no outer jacket, so it is small and lightweight
... for energy, bus and data
... available from stock ...
... www.igus-asean.com/cfclean

CFCLEAN3 DATA ELEMENTS

CFCLEAN8 BUS ELEMENTS



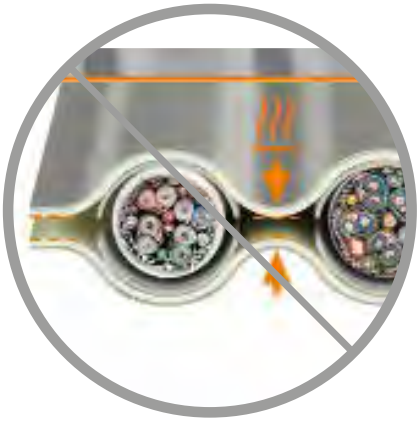
CFCLEAN1 CONTROL ELEMENTS



CFCLEAN7 MOTOR ELEMENTS



Commercially available ribbon cables with permanently welded cable elements











e-skin® flat cable guide systems combined with chainflex® CFCLEAN cables, constitute the further development of the conventional PTFE trackless cables for cables guides in the production environment of displays, semiconductors and OLEDs as well as in medical technology. The strengths of the PTFE ribbon cable have been enhanced and the intrinsic weaknesses eliminated. The new e-skin® flat cable guide system is the result of this refinement.

- Stiff cable jackets prevent system bending
- Low restoring forces:
  ... due to highly flexible stranded structures
  ... special conductors
  ... no outer jacket required
- CFCLEAN chainflex® adapted to the application with up to 21% less weight than conventional cables
- About 16% smaller diameter than standard cables with jacket
- Minimum order length 1m
- All standard core/cross section combinations: data, bus, control, motor – available from stock, with a guarantee of up to 36 months

clean-room

Guarantee igus chainflex 36

igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year

New

Control elements | chainflex® CFCLEAN1

20 million
Double strokes guaranteed

Min. 70mm
bend radius e-skin® flat

3m
travel distance e-skin® flat

- For heaviest duty applications in e-skin® flat
- PTFE foil wrap
- Shielded
- Highly abrasion-resistant
- PVC-free

Now with UL approval in combination with e-skin® flat



Example image

Dynamic information

Bend radius	**e-skin® flat linear**	min. 70mm (further radii in preparation, please see data sheet)
	fixed	minimum 3 x d
Temperature	**e-skin® linear**	-10°C up to +80°C
	fixed	-25°C up to +90°C (following DIN EN 50305)
v max.	**unsupported**	2m/s
a max.		40m/s²
Travel distance		Short, very fast applications with small radii and restricted installation space in an e-skin® flat

Cable structure

Conductor	Very finely stranded special conductors with especially soft and bending resistant design, made of bare copper wires.
Core insulation	Mechanically high-quality FEP mixture.
Core structure	Cores wound in a layer with especially short pitch length.
Core identification	**Cores < 0.5mm²:** Colour code in accordance with DIN 47100. **Cores ≥ 0.5mm²:** White cores with black numbers, one green-yellow core.
Overall shield	Extremely bending-resistant braiding made of tinned copper wires. Coverage linear approx. 70%, optical approx. 90%
Outer film	Low-adhesion, extremely abrasion-resistant and highly flexible PTFE wrap, adapted to suit the requirements in e-skin® flat. Colour: White

Electrical information

Nominal voltage	300/300V 300V (following UL)
Testing voltage	2,000V

Properties and approvals

Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
UL verified	Certificate No. B129699: „igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year“
UL AWM	See data sheet for details ▶ www.igus-asean.com/CFCLEAN1
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	Air Purity Class 1, material/stranded structure tested by IPA according to ISO 14644-14, test report IG 2107-1242
CE	Following 2014/35/EU
UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Typical application areas

- For heaviest duty applications and especially small radii in cleanroom with e-skin® flat
- Especially for short, very fast applications with small radii and restricted installation space
- Indoor applications with e-skin® flat
- Semi-conductor/OLED manufacturing, medical cleanroom

chainflex® CFCLEAN are not cables in the sense of the standards for wires and cables. Due to the absence of the outer jacket in CFCLEAN, which provides mechanical protection for cables, the use of chainflex® CFCLEAN is only permitted in e-skin® flat.

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CFCLEAN1.02.04	(4x0.25)C	3.5	21	27
CFCLEAN1.03.02	(2x0.34)C	3.5	17	22
CFCLEAN1.03.07	(7x0.34)C	5.0	40	50
CFCLEAN1.05.04	(4G0.5)C	5.0	36	49
CFCLEAN1.07.04	(4G0.75)C	5.0	50	63
CFCLEAN1.07.05	(5G0.75)C	5.5	58	74
CFCLEAN1.10.02	(2x1.0)C	5.0	37	49

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

Coax elements | chainflex® CFCLEAN2

20 million
Double strokes guaranteed

Min. 70mm
bend radius e-skin® flat

3m
travel distance e-skin® flat

- For heaviest duty applications in e-skin® flat
- PTFE foil wrap
- Shielded
- Highly abrasion-resistant
- PVC-free



Example image

Dynamic information

Bend radius	**e-skin® flat linear**	minimum 70mm (further radii in preparation, please see data sheet)
	fixed	minimum 3 x d
Temperature	**e-skin® linear**	-10°C up to +80°C
	fixed	-25°C up to +90°C (following DIN EN 50305)
v max.	**unsupported**	2m/s
a max.		40m/s²
Travel distance		Short, very fast applications with small radii and restricted installation space in an e-skin® flat

Cable structure

Conductor	Very finely stranded special conductors with especially soft and bending resistant design, made of bare copper wires.
Core insulation	Mechanically high-quality PTFE mixture.
Core structure	Cores wound in a layer with especially short pitch length.
Core identification	White core with black imprint ▶ **Product range table**
Element shield	Extremely bending-resistant braiding made of tinned copper wires. Coverage linear approx. 70%, optical approx. 90%
Outer film	Low-adhesion, extremely abrasion-resistant and highly flexible PTFE wrap, adapted to suit the requirements in e-skin® flat. Colour: White

Electrical information

Nominal voltage	300/300V
Testing voltage	2,000V

Properties and approvals

Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
UL verified	Certificate No. B129699: „igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year“
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	Air Purity Class 1, material/stranded structure tested by IPA according to ISO 14644-14, test report IG 2107-1242
CE	Following 2014/35/EU
UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Typical application areas

- For heaviest duty applications and especially small radii in cleanroom with e-skin® flat
- Especially for short, very fast applications with small radii and restricted installation space
- Indoor applications with e-skin® flat
- Semi-conductor/OLED manufacturing, medical cleanroom

chainflex® CFCLEAN are not cables in the sense of the normal standards for cables. Due to the absence of the outer jacket in CFCLEAN, which provides mechanical protection for cables, the use of chainflex® CFCLEAN is only permitted inside e-skin® flat.

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CFCLEAN2.KOAX1.03	3xHF75-0.3/1.6	6.5	23	57

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

Part No.	Characteristic wave impedance approx. [Ω]	Core identification
CFCLEAN2.KOAX1.03	75	Coax 75Ohm -1-, Coax 75Ohm -2-, Coax 75Ohm -3-

New

Data elements | chainflex® CFCLEAN3

20 million
Double strokes guaranteed

Min. 70mm
bend radius e-skin® flat

3m
travel distance e-skin® flat

- For heaviest duty applications in e-skin® flat
- PTFE foil wrap
- Shielded
- Highly abrasion-resistant
- PVC-free

Now with UL approval in combination with e-skin® flat



Example image

Dynamic information

Bend radius	**e-skin® flat linear**	minimum 70mm (further radii in preparation, please see data sheet)
	fixed	minimum 3 x d
Temperature	**e-skin® linear**	-10°C up to +80°C
	fixed	-25°C up to +90°C (following DIN EN 50305)
v max.	**unsupported**	2m/s
a max.		40m/s²
Travel distance		Short, very fast applications with small radii and restricted installation space in an e-skin® flat

Cable structure

Conductor	Very finely stranded special conductors with especially soft and bending resistant design, made of bare copper wires.
Core insulation	Mechanically high-quality FEP mixture.
Core structure	Cores twisted in pairs with a short pitch length, core pairs then wound with short pitch lengths.
Core identification	▶ Product range table
Overall shield	Extremely bending-resistant braiding made of tinned copper wires. Coverage linear approx. 70%, optical approx. 90%
Outer film	Low-adhesion, extremely abrasion-resistant and highly flexible PTFE wrap, adapted to suit the requirements in e-skin® flat. Colour: White

Electrical information

Nominal voltage	300/300V 300V (following UL)
Testing voltage	2,000V

Properties and approvals

Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
UL verified	Certificate No. B129699: „igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year“
UL AWM	See data sheet for details ▶ www.igus-asean.com/CFCLEAN3
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	Air Purity Class 1, material/stranded structure tested by IPA according to ISO 14644-14, test report IG 2107-1242
CE	Following 2014/35/EU
UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Typical application areas

- For heaviest duty applications and especially small radii in cleanroom with e-skin® flat
- Especially for short, very fast applications with small radii and restricted installation space
- Indoor applications with e-skin® flat
- Semi-conductor/OLED manufacturing, medical cleanroom



chainflex® CFCLEAN are not cables in the sense of the normal standards for cables. Due to the absence of the outer jacket in CFCLEAN, which provides mechanical protection for cables, the use of chainflex® CFCLEAN is only permitted inside e-skin® flat.

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CFCLEAN3.01.05.02	(5x(2x0.14))C	5.0	33	43
CFCLEAN3.01.06.02	(6x(2x0.14))C	5.5	36	50
CFCLEAN3.01.08.02	(8x(2x0.14))C	6.0	47	61
CFCLEAN3.02.03.02	(3x(2x0.25))C	5.0	34	44
CFCLEAN3.02.04.02	(4x(2x0.25))C	5.5	42	58
CFCLEAN3.02.05.02	(5x(2x0.25))C	5.5	50	63
CFCLEAN3.02.06.02	(6x(2x0.25))C	6.0	52	70

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

Part No.	Core identification
CFCLEAN3.01.05.02	brown/white, green/white, yellow/white, grey/white, pink/white
CFCLEAN3.01.06.02	brown/white, green/white, yellow/white, grey/white, pink/white, blue/white
CFCLEAN3.01.08.02	brown/white, green/white, yellow/white, grey/white, pink/white, blue/white, red/white black/white
CFCLEAN3.02.03.02	brown/white, green/white, yellow/white
CFCLEAN3.02.04.02	brown/white, green/white, yellow/white, grey/white
CFCLEAN3.02.05.02	brown/white, green/white, yellow/white, grey/white, pink/white
CFCLEAN3.02.06.02	brown/white, green/white, yellow/white, grey/white, pink/white, blue/white

New

Measuring system elements | chainflex® CFCLEAN4

20 million
Double strokes guaranteed

Min. 70mm
bend radius e-skin® flat

3m
travel distance e-skin® flat

- For heaviest duty applications in e-skin® flat
- PTFE foil wrap
- Shielded
- Highly abrasion-resistant
- PVC-free

Now with UL approval in combination with e-skin® flat



Example image

Dynamic information

Bend radius	**e-skin® flat linear**	minimum 70mm (further radii in preparation, please see data sheet)
	fixed	minimum 3 x d
Temperature	**e-skin® linear**	-10°C up to +80°C
	fixed	-25°C up to +90°C (following DIN EN 50305)
v max.	**unsupported**	2m/s
a max.		40m/s²
Travel distance		Short, very fast applications with small radii and restricted installation space in an e-skin® flat

Cable structure

Conductor	Very finely stranded special conductors with especially soft and bending resistant design, made of bare copper wires.
Core insulation	Mechanically high-quality FEP mixture.
Core structure	According to measuring system specification.
Core identification	According to measuring system specification.
Overall shield	Extremely bending-resistant braiding made of tinned copper wires. Coverage linear approx. 70%, optical approx. 90%
Outer film	Low-adhesion, extremely abrasion-resistant and highly flexible PTFE wrap, adapted to suit the requirements in e-skin® flat. Colour: White

Electrical information

Nominal voltage	300/300V 300V (following UL)
Testing voltage	2,000V

Properties and approvals

Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
UL verified	Certificate No. B129699: „igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year“
UL AWM	See data sheet for details ▶ www.igus-asean.com/CFCLEAN4
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	Air Purity Class 1, material/stranded structure tested by IPA according to ISO 14644-14, test report IG 2107-1242
CE	Following 2014/35/EU
UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Typical application areas

- For heaviest duty applications and especially small radii in cleanroom with e-skin® flat
- Especially for short, very fast applications with small radii and restricted installation space
- Indoor applications with e-skin® flat
- Semi-conductor/OLED manufacturing, medical cleanroom



chainflex® CFCLEAN are not cables in the sense of the normal standards for cables. Due to the absence of the outer jacket in CFCLEAN, which provides mechanical protection for cables, the use of chainflex® CFCLEAN is only permitted inside e-skin® flat.

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CFCLEAN4.015	(4x(2x0.14)+4x0.5)C	6.5	60	77

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

Part No.	Core group	Colour code
CFCLEAN4.015	4x(2x0.14)	brown/green, yellow/violet, grey/pink, red/black
	4x0.5	blue, white, brown-green, white-green

New

Motor elements | chainflex® CFCLEAN7

20 million
Double strokes guaranteed

Min. 70mm
bend radius e-skin® flat

3m
travel distance e-skin® flat

- For heaviest duty applications in e-skin® flat
- PTFE foil wrap
- Shielded
- Highly abrasion-resistant
- PVC-free

Now with UL approval in combination with e-skin® flat



Example image

Dynamic information

Bend radius	**e-skin® flat linear**	minimum 70mm (further radii in preparation, please see data sheet)
	fixed	minimum 3 x d
Temperature	**e-skin® linear**	-10°C up to +80°C
	fixed	-25°C up to +90°C (following DIN EN 50305)
v max.	**unsupported**	2m/s
a max.		40m/s²
Travel distance		Short, very fast applications with small radii and restricted installation space in an e-skin® flat

Cable structure

Conductor	Very finely stranded special conductors with especially soft and bending resistant design, made of bare copper wires.
Core insulation	Mechanically high-quality FEP mixture.
Core structure	Cores wound in a layer with especially short pitch length.
Core identification	**Power cores:** White cores with black numbers 1-3, one green-yellow core. **1 Control pair:** white, black
Overall shield	Extremely bending-resistant braiding made of tinned copper wires. Coverage linear approx. 70%, optical approx. 90%
Outer film	Low-adhesion, extremely abrasion-resistant and highly flexible PTFE wrap, adapted to suit the requirements in e-skin® flat. Colour: White

Electrical information

Nominal voltage	600/1,000V 600V (following UL)
Testing voltage	3,000V

Properties and approvals

Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
UL verified	Certificate No. B129699: „igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year“
UL AWM	See data sheet for details ▶ www.igus-asean.com/CFCLEAN7
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	Air Purity Class 1, material/stranded structure tested by IPA according to ISO 14644-14, test report IG 2107-1242
CE	Following 2014/35/EU
UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Typical application areas

- For heaviest duty applications and especially small radii in cleanroom with e-skin® flat
- Especially for short, very fast applications with small radii and restricted installation space
- Indoor applications with e-skin® flat
- Semi-conductor/OLED manufacturing, medical cleanroom



chainflex® CFCLEAN are not cables in the sense of the normal standards for cables. Due to the absence of the outer jacket in CFCLEAN, which provides mechanical protection for cables, the use of chainflex® CFCLEAN is only permitted inside e-skin® flat.

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CFCLEAN7.15.03.02.01	(4G1.5+(2x0.34)C)C	9.5	126	176
CFCLEAN7.15.04	(4G1.5)C	8.0	94	131
CFCLEAN7.PE.25.01	(1G2.5)C	4.5	41	73

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

Bus elements | chainflex® CFCLEAN8



Example image

20 million
Double strokes guaranteed

Min. 70mm
bend radius e-skin® flat

3m
travel distance e-skin® flat

- For heaviest duty applications in e-skin® flat
- PTFE foil wrap
- Shielded
- Highly abrasion-resistant
- PVC-free

Dynamic information

Bend radius	**e-skin® flat linear**	minimum 70mm (further radii in preparation, please see data sheet)
	fixed	minimum 3 x d
Temperature	**e-skin® linear**	-10°C up to +80°C
	fixed	-25°C up to +90°C (following DIN EN 50305)
v max.	**unsupported**	2m/s
a max.		40m/s²
Travel distance		Short, very fast applications with small radii and restricted installation space in an e-skin® flat

Cable structure

Conductor	Very finely stranded special conductors with especially soft and bending resistant design, made of bare copper wires.
Core insulation	Mechanically high-quality FEP mixture.
Core structure	According to bus specification.
Core identification	According to bus specification. ▶ Product range table
Overall shield	Extremely bending-resistant braiding made of tinned copper wires. Coverage linear approx. 70%, optical approx. 90%
Outer film	Low-adhesion, extremely abrasion-resistant and highly flexible PTFE wrap, adapted to suit the requirements in e-skin® flat. Colour: White

Electrical information

Nominal voltage	300/300V
Testing voltage	2,000V

Properties and approvals

Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
UL verified	Certificate No. B129699: „igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year“
UL AWM	See data sheet for details ▶ www.igus-asean.com/CFCLEAN8
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	Air Purity Class 1, material/stranded structure tested by IPA according to ISO 14644-14, test report IG 2107-1242
CE	Following 2014/35/EU
UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Typical application areas

- For heaviest duty applications and especially small radii in cleanroom with e-skin® flat
- Especially for short, very fast applications with small radii and restricted installation space
- Indoor applications with e-skin® flat
- Semi-conductor/OLED manufacturing, medical cleanroom



chainflex® CFCLEAN are not cables in the sense of the normal standards for cables. Due to the absence of the outer jacket in CFCLEAN, which provides mechanical protection for cables, the use of chainflex® CFCLEAN is only permitted inside e-skin® flat.

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
Ethernet/CAT5e				
CFCLEAN8.045	(4x(2x0.14))C	5.5	34	47

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

Part No.	Characteristic wave impedance approx. [Ω]	Core group	Colour code
Ethernet/CAT5e			
CFCLEAN8.045	100	4x(2x0.14)	white/blue, white/orange, white/green, white/brown

Pneumatic hose | PUR | chainflex® CFAIR



- For heaviest duty applications
- PUR hose
- Oil-resistant and coolant-resistant
- Abrasion-resistant
- Outside-toleranced
- PVC and halogen-free

Dynamic information

Bend radius	flexible	minimum 10 x d
	fixed	minimum 7.5 x d
Temperature	flexible	-25°C up to +80°C
	fixed	-40°C up to +85°C
v max.	unsupported	10m/s
	gliding	6m/s
a max.		50m/s²

Technical data

Material	Abrasion-resistant polyurethane adapted to suit the requirements in e-chains®. Colour: Blue
Dimensions	Outside-toleranced
Operating pressure	12 bar at 20°C
Vacuum	-1 bar at 20°C

Properties and approvals

Oil resistance	Oil-resistant
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
Halogen-free	Following DIN EN 60754
Lead-free	Following 2011/65/EC (RoHS-II)
UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Example image

Part No.	Max. package length [km]	Inner diameter [mm]	Wall thickness [mm]	Outer diameter (d) max. [mm]	Weight [g/m]
CAPU.A.04.0	1.0	2.7	0.65	4.0	8
CAPU.A.06.0	0.5	4.0	1.00	6.0	19
CAPU.A.08.0	0.5	5.7	1.15	8.0	30
CAPU.A.10.0	0.3	7.0	1.5	10.0	48
CAPU.A.12.0	0.2	8.0	2.00	12.0	76
CAPU.A.16.0	0.1	11.0	2.50	16.0	127



igus® chainflex® CFAir pneumatic hoses were tested over several million bending cycles in e-chains®. Their outstanding features include flexibility, high abrasion resistance and very good resistance to oil and coolants.



Cables available in the chainflex® CASE

Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.

More on this on page 24/25 and online: www.igus-asean.com/cf-case

Pneumatic hose | PE | chainflex® CFCleanAIR



Example image

- For heaviest duty applications
- PE hose
- Oil-resistant and coolant-resistant
- Highly abrasion-resistant
- Outside-toleranced
- PVC and halogen-free

Dynamic information

Bend radius		flexible	minimum 10 x d
		fixed	minimum 7.5 x d
Temperature		flexible	-25°C up to +60°C
		fixed	-30°C up to +65°C
v max.		unsupported	10m/s
		gliding	6m/s
a max.		50m/s²	

Technical data

Material	Highly abrasion-resistant polyurethane adapted to suit the requirements in e-chains®. Colour: White
Dimensions	Outside-toleranced
Operating pressure	10 bar at 20°C
Vacuum	-0.95 bar at 20°C

Properties and approvals

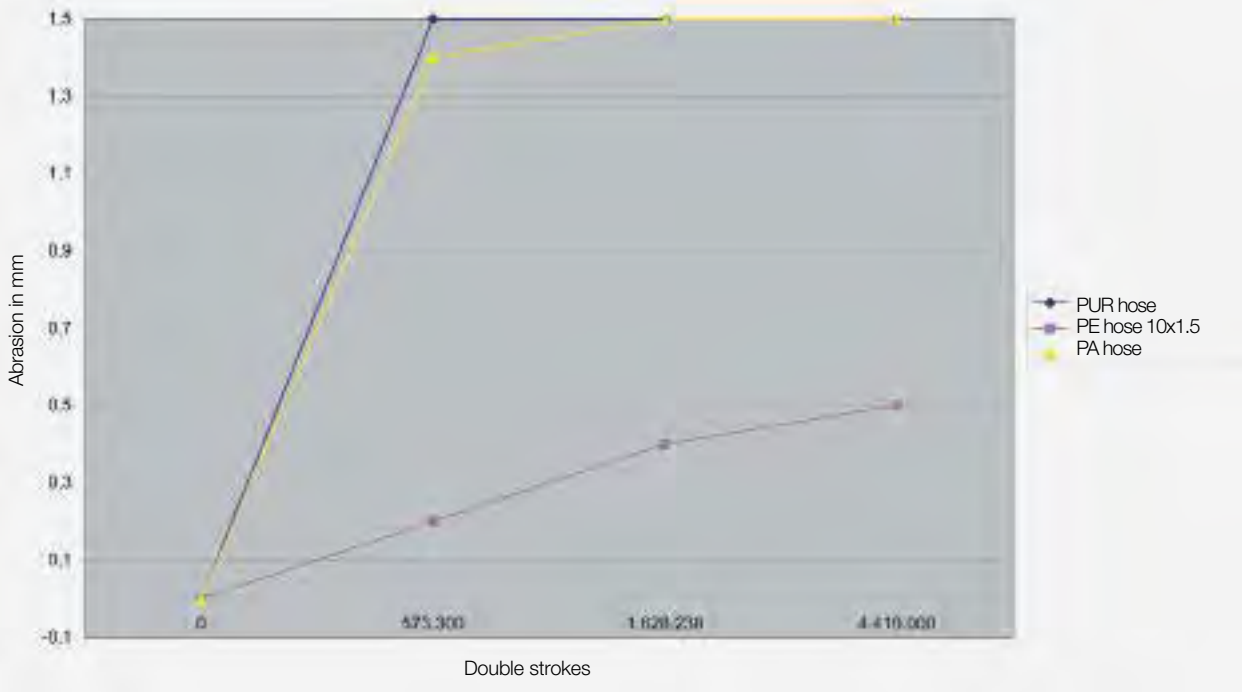
Oil resistance	Oil-resistant
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
Halogen-free	Following DIN EN 60754
Lead-free	Following 2011/65/EC (RoHS-II)
Cleanroom	According to ISO Class 1, material/hose tested by IPA according to DIN EN ISO standard 14644-1
UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Part No.	Max. package length [km]	Inner diameter [mm]	Wall thickness [mm]	Outer diameter (d) max. [mm]	Weight [g/m]
CAPE.A.04.0	1.0	2.7	0.65	4.0	8
CAPE.A.06.0	0.5	4.0	1.00	6.0	15
CAPE.A.08.0	0.5	5.7	1.15	8.0	21
CAPE.A.10.0	0.3	7.0	1.5	10.0	38
CAPE.A.12.0	0.2	8.0	2.00	12.0	54
CAPE.A.16.0	0.1	11.0	2.50	16.0	90



igus® material abrasion test

Comparison: Abrasion of pneumatic hoses PUR, PE und PA in combination with igus® e-chain® (with crossbar 450.30)



Camera

Video / vision / bus technology



chainflex® readycable®

	Cable type		Jacket	Page
Harnessed bus cables				
	FireWire	Pre-harnessed cable	TPE	468
	USB 2.0	Pre-harnessed cable	PVC/PUR/TPE	470
	USB 3.0	Pre-harnessed cable	PVC/PUR	471
	GigE	Pre-harnessed cable	PUR-ROBOT/TPE	472
	DVI-D/HDMI	Pre-harnessed cable	TPE	473
Harnessed coax cables				
	Coax	Pre-harnessed cable (BNC/SMA)	TPE	474
	VGA	Pre-harnessed cable	TPE	477



igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year

Harnessed bus cable | FireWire

* Technical information on the cable quality:
TPE
Page 204

Harnessed bus cables, FireWire, to your required length					
Cable quality	**Part No.**	**chainflex® cable**	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	Bend radius [x d]
Socket A/Socket A Pre-harnessed at both ends					
TPE	**MAT9048160**	**CFBUS.055**	2x(2x0.15)C+2x(0.34)C	8.0	12.5
Socket A/Pin A Pre-harnessed at both ends					
TPE	**MAT9048621**	**CFBUS.055**	2x(2x0.15)C+2x(0.34)C	8.0	12.5
Socket A/Socket B Pre-harnessed at both ends					
TPE	**MAT9048623**	**CFBUS.055**	2x(2x0.15)C+2x(0.34)C	8.0	12.5
Socket A/Pin B Pre-harnessed at both ends					
TPE	**MAT9048625**	**CFBUS.055**	2x(2x0.15)C+2x(0.34)C	8.0	12.5
Pin B/Pin B Pre-harnessed at both ends					
TPE	**MAT9048627**	**CFBUS.055**	2x(2x0.15)C+2x(0.34)C	8.0	12.5
Pin A/Pin A Pre-harnessed at both ends					
TPE	**MAT9048620**	**CFBUS.055**	2x(2x0.15)C+2x(0.34)C	8.0	12.5
Pin A/Socket B Pre-harnessed at both ends					
TPE	**MAT9048622**	**CFBUS.055**	2x(2x0.15)C+2x(0.34)C	8.0	12.5

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed bus cables, FireWire, to your required length

Cable quality	Part No.	chainflex® cable	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	Bend radius [x d]
Pin A/Pin B					
Pre-harnessed at both ends					
TPE	**MAT9048624**	**CFBUS.055**	2x(2x0.15)C+2x(0.34)C	8.0	12.5
Socket B/Socket B					
Pre-harnessed at both ends					
TPE	**MAT9048626**	**CFBUS.055**	2x(2x0.15)C+2x(0.34)C	8.0	12.5
Socket B/Pin B					
Pre-harnessed at both ends					
TPE	**MAT9048628**	**CFBUS.055**	2x(2x0.15)C+2x(0.34)C	8.0	12.5

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
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igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed with these connectors

Socket A (connector body), with clip

Pin A (pin body), with clip

Socket B (moulded connector), without clip

Pin B (Moulded connector), without clip



Maximum transmission length: 10m

Harnessed bus cables | USB 2.0

* Technical information on the cable quality:
TPE
Page 204

Harnessed bus cables, USB 2.0, to your required length					
Cable quality	**Part No.**	**chainflex® cable**	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	Bend radius [x d]
USB type A/open cable end Pre-harnessed at one end					
TPE	**USB9040001**	**CFBUS.065**	((2xAWG28)+2xAWG20)C	5.5	12.5
TPE	**USB9040201** [1)]	**CFBUS.065**	((2xAWG28)+2xAWG20)C	5.5	12.5
USB type A/A Pre-harnessed at both ends					
TPE	**USB9040010**	**CFBUS.065**	((2xAWG28)+2xAWG20)C	5.5	12.5
TPE	**USB9040210** [1)]	**CFBUS.066**	((2xAWG24)+2xAWG20)C	6.5	12.5
USB type B/open cable end Pre-harnessed at one end					
TPE	**USB9040020**	**CFBUS.065**	((2xAWG28)+2xAWG20)C	5.5	12.5
TPE	**USB9040220** [1)]	**CFBUS.066**	((2xAWG24)+2xAWG20)C	6.5	12.5
USB type B/B Pre-harnessed at both ends					
TPE	**USB9040030**	**CFBUS.065**	((2xAWG28)+2xAWG20)C	5.5	12.5
TPE	**USB9040230** [1)]	**CFBUS.066**	((2xAWG24)+2xAWG20)C	6.5	12.5
USB type A/B Pre-harnessed at both ends					
TPE	**USB9040040**	**CFBUS.065**	((2xAWG28)+2xAWG20)C	5.5	12.5
TPE	**USB9040240** [1)]	**CFBUS.066**	((2xAWG24)+2xAWG20)C	6.5	12.5
USB type A/A (socket) Pre-harnessed at both ends					
TPE	**USB9040060**	**CFBUS.065**	((2xAWG28)+2xAWG20)C	5.5	12.5
TPE	**USB9040260** [1)]	**CFBUS.066**	((2xAWG24)+2xAWG20)C	6.5	12.5

[1)] CFBUS.066 is delivered with heat shrink tubing over USB housing.

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed with these connectors

USB 2.0 type A





USB 2.0 type B





USB 2.0 type A (socket)





Maximum transmission length: 5m (CFBUS.065), 10m (CFBUS.066)

Harnessed bus cables | USB 3.0

* Technical information on the cable quality:

PVC OIL	PUR
Page 192	Page 200

Harnessed bus cables, USB 3.0, in fixed lengths

Cable quality	Part No.	chainflex® cable	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	Bend radius [x d]	Cable length [m]
USB 3.0 type A/open cable end						
Pre-harnessed at one end						
PVC, oil-res.	**USB9640200**	**CFBUS.PVC.068**	(2x(2xAWG28)+2x(2xAWG28)C)C	7.0	12.5	3
PVC, oil-res.	**USB9640201**	**CFBUS.PVC.068**	(2x(2xAWG28)+2x(2xAWG28)C)C	7.0	12.5	5
PVC, oil-res.	**USB9640202**	**CFBUS.PVC.068**	(2x(2xAWG28)+2x(2xAWG28)C)C	7.0	12.5	7
PUR	**USB9540200**	**CFBUS.PUR.068**	(2x(2xAWG28)+2x(2xAWG28)C)C	7.0	12.5	3
PUR	**USB9540201**	**CFBUS.PUR.068**	(2x(2xAWG28)+2x(2xAWG28)C)C	7.0	12.5	5
PUR	**USB9540202**	**CFBUS.PUR.068**	(2x(2xAWG28)+2x(2xAWG28)C)C	7.0	12.5	7
USB 3.0 type A/USB 3.0 micro-B						
Pre-harnessed at both ends						
PVC, oil-res.	**USB9640203**	**CFBUS.PVC.068**	(2x(2xAWG28)+2x(2xAWG28)C)C	7.0	12.5	2.5
PUR	**USB9540203**	**CFBUS.PUR.068**	(2x(2xAWG28)+2x(2xAWG28)C)C	7.0	12.5	2.5

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Maximum transmission length: 3m
*igus® GmbH was able to successfully implement customer applications with excess length. Try us out!

Harnessed with these connectors

USB 3.0 type A



USB 3.0 type micro-B



Harnessed bus cables | GigE

* Technical information on the cable quality:

PUR-ROBOT	TPE
Page 410	Page 204

Harnessed bus cables, GigE, to your required length					
Cable quality	**Part No.**	**chainflex® cable**	Number of cores and conductor nominal cross section	Ø	Bend radius
			[mm²]	[mm]	[x d]
RJ45 metal/RJ45 metal Pre-harnessed at both ends					
TPE	**GIG9040001**	**CFBUS.045**	(4x(2x0.15))C	8.5	10
PUR-ROBOT	**GIG9045001**	**CFROBOT8.045**	4x(2x0.15)C	9.5	10
RJ45 metal/RJ45 plastic Pre-harnessed at both ends					
TPE	**GIG9040002**	**CFBUS.045**	(4x(2x0.15))C	8.5	10
PUR-ROBOT	**GIG9045002**	**CFROBOT8.045**	4x(2x0.15)C	9.5	10

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed with these connectors	
RJ45 metal	
RJ45 plastic, knurled screws	

Maximum transmission length: 50m

Harnessed DVI-D/HDMI cables | DVI/HDMI

* Technical information on the cable quality:
TPE
Page 204

Harnessed DVI-D/HDMI cables, to your required length					
Cable quality	**Part No.**	**chainflex® cable**	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	Bend radius [x d]
DVI-D Pin/ DVI-D Pin					
Pre-harnessed at both ends					
TPE	**MAT90455657**	**CFBUS.070**	(4x(2xAWG28)C+(2xAWG28) +3xAWG28)C	9.0	12.5
DVI-D Pin/HDMI Pin					
Pre-harnessed at both ends					
TPE	**MAT90478691**	**CFBUS.070**	(4x(2xAWG28)C+(2xAWG28) +3xAWG28)C	9.0	12.5
HDMI Pin/HDMI Pin					
Pre-harnessed at both ends					
TPE	**MAT90478692**	**CFBUS.070**	(4x(2xAWG28)C+(2xAWG28) +3xAWG28)C	9.0	12.5

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed with these connectors

DVI-D Pin



HDMI Pin



Video transmission only (no audio signals)
Maximum transmission length: 7.5m

Harnessed coax cable | CFKoax

* Technical information on the cable quality:
TPE
Page 176

Harnessed coax cables, CFKoax 50Ω, to your required length						
Cable quality	**Part No.**	**chainflex® cable**	Coax type	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	Bend radius [x d]
BNC Connector/Connector Pre-harnessed at both ends						
TPE	**MAT90455662**	**CFKoax2.01**	RG58	1xHF50-0.9/2.95	5.5	10
BNC Connector/Socket Pre-harnessed at both ends						
TPE	**MAT90455663**	**CFKoax2.01**	RG58	1xHF50-0.9/2.95	5.5	10
BNC Socket/Socket Pre-harnessed at both ends						
TPE	**MAT90455664**	**CFKoax2.01**	RG58	1xHF50-0.9/2.95	5.5	10
BNC Connector/open cable end Pre-harnessed at one end						
TPE	**MAT90455665**	**CFKoax2.01**	RG58	1xHF50-0.9/2.95	5.5	10
BNC Socket/open cable end Pre-harnessed at one end						
TPE	**MAT90455666**	**CFKoax2.01**	RG58	1xHF50-0.9/2.95	5.5	10
SMA Connector/Connector Pre-harnessed at both ends						
TPE	**MAT90455667**	**CFKoax2.01**	RG58	1xHF50-0.9/2.95	5.5	10
SMA Connector/Socket Pre-harnessed at both ends						
TPE	**MAT90455668**	**CFKoax2.01**	RG58	1xHF50-0.9/2.95	5.5	10
SMA Socket/Socket Pre-harnessed at both ends						
TPE	**MAT90455669**	**CFKoax2.01**	RG58	1xHF50-0.9/2.95	5.5	10
SMA Connector/open cable end Pre-harnessed at one end						
TPE	**MAT90455670**	**CFKoax2.01**	RG58	1xHF50-0.9/2.95	5.5	10
SMA Socket/open cable end Pre-harnessed at one end						
TPE	**MAT90455671**	**CFKoax2.01**	RG58	1xHF50-0.9/2.95	5.5	10

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed coax cables, CFKoax 50Ω, to your required length						
Cable quality	**Part No.**	**chainflex® cable**	Coax type	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	Bend radius [x d]
BNC Connector/SMA Connector Pre-harnessed at both ends						
TPE	**MAT90478758**	**CFKoax2.01**	RG58	1xHF50-0.9/2.95	5.5	10
BNC Connector/SMA Socket Pre-harnessed at both ends						
TPE	**MAT90478759**	**CFKoax2.01**	RG58	1xHF50-0.9/2.95	5.5	10
BNC Socket/SMA Connector Pre-harnessed at both ends						
TPE	**MAT90478760**	**CFKoax2.01**	RG58	1xHF50-0.9/2.95	5.5	10
BNC Socket/SMA Socket Pre-harnessed at both ends						
TPE	**MAT90478761**	**CFKoax2.01**	RG58	1xHF50-0.9/2.95	5.5	10

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed with these connectors

BNC Connector



BNC Socket



SMA Connector



SMA Socket



Maximum transmission length: 50m

Harnessed coax cable | CFKoax

* Technical information on the cable quality:
TPE
Page 176

Harnessed Coax cables, CFKoax 75Ω, to your required length						
Cable quality	**Part No.**	**Base article**	Coax type	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	Bend radius [x d]
BNC Connector/Socket Pre-harnessed at both ends						
TPE	**MAT90423400**	**CFKoax1.01**	RG179	1xHF75-0.3/1.6	4.5	10
BNC Connector/Connector Pre-harnessed at both ends						
TPE	**MAT90423401**	**CFKoax1.01**	RG179	1xHF75-0.3/1.6	4.5	10
BNC Socket/Socket Pre-harnessed at both ends						
TPE	**MAT90423402**	**CFKoax1.01**	RG179	1xHF75-0.3/1.6	4.5	10
BNC Connector/open cable end Pre-harnessed at one end						
TPE	**MAT90423403**	**CFKoax1.01**	RG179	1xHF75-0.3/1.6	4.5	10
BNC Socket/open cable end Pre-harnessed at one end						
TPE	**MAT90423404**	**CFKoax1.01**	RG179	1xHF75-0.3/1.6	4.5	10
BNC Connector/Socket Pre-harnessed at both ends						
TPE	**MAT90423405**	**CFKoax1.05**	RG179	5xHF75-0.3/1.6	10.0	10
BNC Connector/Connector Pre-harnessed at both ends						
TPE	**MAT90423406**	**CFKoax1.05**	RG179	5xHF75-0.3/1.6	10.0	10
BNC Socket/Socket Pre-harnessed at both ends						
TPE	**MAT90423407**	**CFKoax1.05**	RG179	5xHF75-0.3/1.6	10.0	10
BNC Connector/open cable end Pre-harnessed at one end						
TPE	**MAT90423408**	**CFKoax1.05**	RG179	5xHF75-0.3/1.6	10.0	10
BNC Socket/open cable end Pre-harnessed at one end						
TPE	**MAT90423409**	**CFKoax1.05**	RG179	5xHF75-0.3/1.6	10.0	10

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed coax cables, CFKoax 75Ω, VGA/SUB-D, to your required length						
Cable quality	**Part No.**	**Base article**	Coax type	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	Bend radius [x d]
SUB-D Pin/SUB-D Pin Pre-harnessed at both ends						
TPE	**MAT90455658**	**CFKoax1.05**	RG179	5xHF75-0.3/1.6	10.0	10
SUB-D Pin/ SUB-D Socket Pre-harnessed at both ends						
TPE	**MAT90455659**	**CFKoax1.05**	RG179	5xHF75-0.3/1.6	10.0	10
SUB-D Pin/BNC Connector Pre-harnessed at both ends						
TPE	**MAT90455660**	**CFKoax1.05**	RG179	5xHF75-0.3/1.6	10.0	10
SUB-D Socket/BNC Connector Pre-harnessed at both ends						
TPE	**MAT90455661**	**CFKoax1.05**	RG179	5xHF75-0.3/1.6	10.0	10

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed with these connectors

BNC Connector



BNC Socket



SUB-D Pin



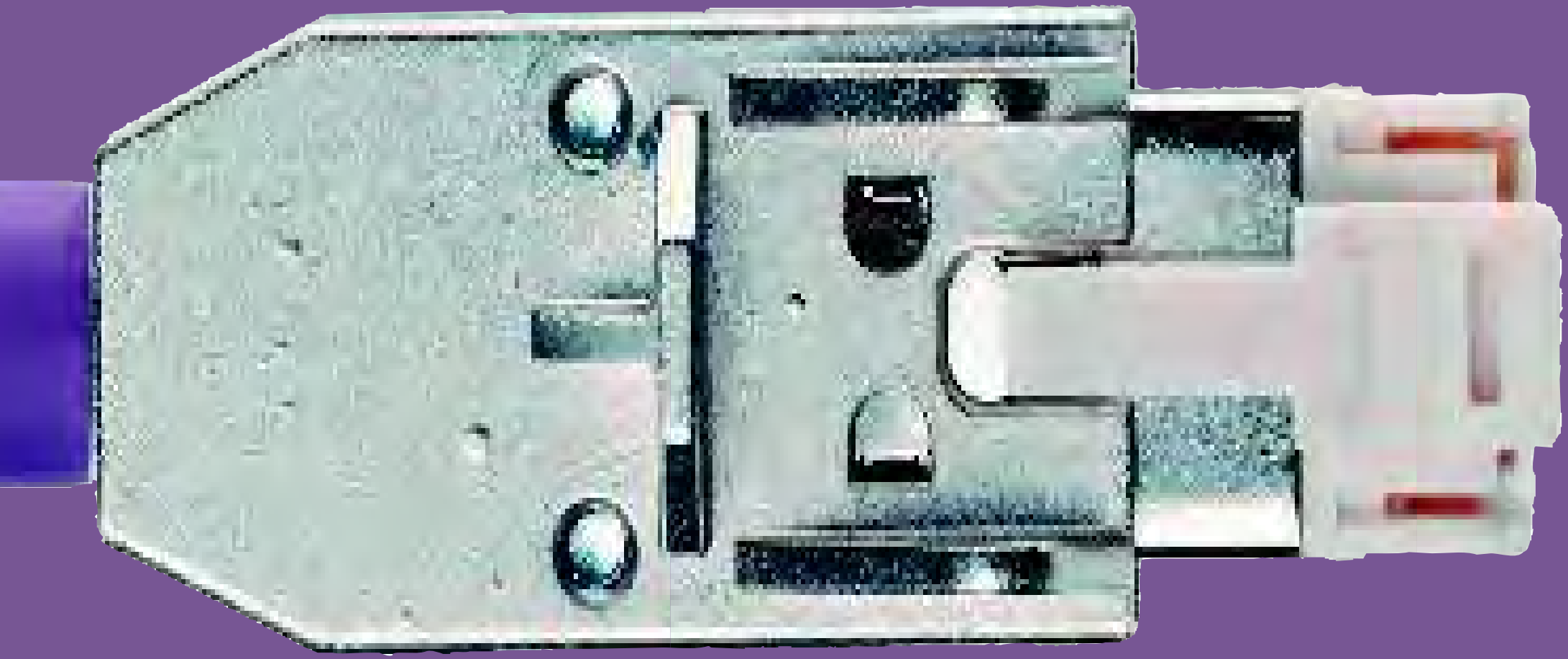
SUB-D Socket



Maximum transmission length: 50m

Network

Network / Ethernet / Fieldbus



chainflex® readycable®

	Series	Jacket	Page	
Harnessed Ethernet cables				
	**CAT5** Straight	PVC/PUR/TPE	481	
	**SPE** Single Pair Ethernet	PUR	481	
	**CAT5e** Straight	PVC/PUR/TPE	482	
	**CAT5e** Straight	PVC/PUR/TPE	485	
	**CAT5e** Crossover	PVC/PUR/TPE	486	
	**CAT5e** with 615 connectors	PVC/PUR/TPE	487	
	**CAT5e** with angled connectors (L/T angle)	PVC/PUR/TPE	488	
	**CAT6** Straight	PVC/PUR/TPE	492	
	CAT6 Straight/Crossover	TPE	494	
	**CAT6A** with M12 connectors	PVC/PUR/TPE	495	
	**CAT7** Straight	PUR/TPE	497	
	**Industrial Ethernet** moulded	PVC/PUR	498	
Harnessed Profibus cables				
	**Profibus**	PVC/PUR/TPE	500	
Harnessed Profinet cables				
	**Profinet**	PVC/PUR/TPE	506	
	**Industrial Profinet** moulded	PVC/PUR	510	
	**Profinet** with moulded connectors	PVC/PUR/TPE	512	
Harnessed DevicNet cable				
	**DeviceNet** with Binder M12 a-coded	TPE	513	New



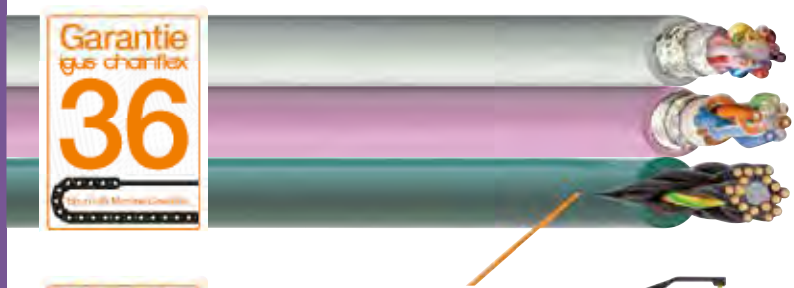
igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year

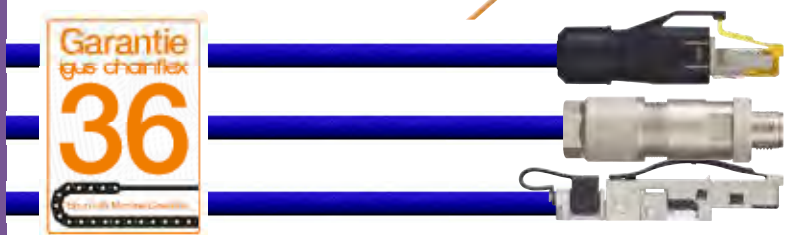
chainflex® Ethernet cables | Overview

Electrical performance

	CF888 PVC 15 x d	CFBUS.PVC PVC, oil-resistant 12.5 x d	CF898 iguPUR 15 x d	CFBUS.PUR PUR 12.5 x d	CFBUS TPE UL 10 x d	CFBUS.LB TPE Hal 7.5 x d	CFROBOT8 PUR ± 180°/m	CFROBOT8.PLUS PUR ± 360°/m	Special cables
CAT7 10GBit 600MHz		chainflex® CFBUS.PVC.052 Page 194		chainflex® CFBUS.PUR.052 Page 202	chainflex® CFBUS.052 Page 208		chainflex® CFROBOT8.052 Page 408		
CAT6A 10GBit 500MHz		chainflex® CFBUS.PVC.050 Page 194		chainflex® CFBUS.PUR.050 Page 202	chainflex® CFBUS.050 Page 208		chainflex® CFROBOT8.050 Page 408	NEW chainflex® CFROBOT8.PLUS.050 Page 412	
CAT6 1GBit 250MHz		chainflex® CFBUS.PVC.049 Page 194		chainflex® CFBUS.PUR.049 Page 202	chainflex® CFBUS.049 Page 208	chainflex® CFBUS.LB.049 Page 212	chainflex® CFROBOT8.049 Page 408	NEW chainflex® CFROBOT8.PLUS.049 Page 412	chainflex® CFSPECIAL.484.049 Page 430
CAT5e 1GBit 100MHz	chainflex® CF888.045 Page 190	chainflex® CFBUS.PVC.045 Page 194	chainflex® CF898.045 Page 198	chainflex® CFBUS.PUR.045 Page 202	chainflex® CFBUS.045 Page 208	chainflex® CFBUS.LB.045 Page 212	chainflex® CFROBOT8.045 Page 408	chainflex® CFROBOT8.PLUS.045 Page 412	CFSPECIAL.182.045 p. 424 CFCLEAN8.045 Page 460
SPE 1GBit 600MHz				chainflex® CFBUS.PUR.042 Page 202					
Profinet 100MBit 100MHz	chainflex® CF888.060 Page 190	chainflex® CFBUS.PVC.060 Page 194	CF898.060 Page 198 CF898.061.FC Page 198	chainflex® CFBUS.PUR.060 Page 202	chainflex® CFBUS.060 Page 208	chainflex® CFBUS.LB.060 Page 212	chainflex® CFROBOT8.060 Page 408	chainflex® CFROBOT8.PLUS.060 Page 412	
CAT5 100MBit 100MHz		chainflex® CFBUS.PVC.040 Page 194		chainflex® CFBUS.PUR.040 Page 202	chainflex® CFBUS.040 Page 208	chainflex® CFBUS.LB.040 Page 212			

Mechanical performance







Highly flexible chainflex® cables

- More than 1,350 cables from stock
- Tested, and in seven jacket materials
- No cutting charges, from 1m
- 36-month or 10 million double stroke guarantee*
- Approvals and certificates

Harnessed cables readycable®

- More than 400 harnessed Ethernet cables
- In seven jacket materials
- 36-month or 10 million double stroke guarantee*
- Shipped in 24hrs**
- To your desired length, with centimetre accuracy

harnessed e-chain® systems readychain®

- Customised and ready-to-connect to your specifications
- From the basic solution to complex systems
- Optional assembly rack
- From batch size 1 to series production
- Installation service

* Whichever is first. Up to 5 million double strokes for the highly affordable chainflex® M cables. The number of double strokes depends on installation and cable quality. This is described in the current catalogue, in the data sheets and in the service life calculator at www.igus-asean.com/chainflexlife.

** Means time until shipping of goods.

Harnessed Ethernet cables | CAT5

* Technical information on the cable quality:

PVC, oil-res.	PUR	TPE
Page 192	Page 200	Page 204

Harnessed Ethernet cables, CAT5, to your required length				
Cable quality	**Part No.**	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	Bend radius [x d]
Harting RJ45 (CAT5)/ Harting RJ45 (CAT5)				
PVC, oil-res.	**CAT9311001**	(4x0.25)C	6.5	12.5
PUR	**CAT9411001**	(4x0.25)C	6.5	12.5
TPE	**CAT9511001**	(4x0.25)C	7.0	10
Harting Han3A RJ45 (CAT6)/ Harting Han3A RJ45 (CAT6)				
PVC, oil-res.	**CAT9311002**	(4x0.25)C	6.5	12.5
PUR	**CAT9411002**	(4x0.25)C	6.5	12.5
TPE	**CAT9511002**	(4x0.25)C	7.0	10

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core
Harnessing **RJ45 at both ends▶TIA56A**
Harnessing **one end RJ45/one end M12 x-coded▶TIA56B**
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed Single Pair Ethernet cable | SPE

* Technical information on the cable quality:

PUR
Page 196

Harnessed Single Pair Ethernet (SPE) cable, to your required length				
Cable quality	**Part No.**	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	Bend radius [x d]
Harting T1 Single Pair Ethernet Connector/ Harting T1 Single Pair Ethernet Connector				
PUR	**CAT9471001**	(2x0.15)C	5.5	12.5

Single Pair Ethernet is the infrastructure foundation that makes IIoT and Industry 4.0 possible. In order to promote Single Pair Ethernet technology for the rapidly growing IIoT market, igus is participating in the SPE Industrial Partner Networks with other established partners such as HARTING and TE Connectivity.

More information: www.igus-asean.com/info/n20-single-pair-ethernet-spe

Harnessed Ethernet cables | CAT5e

* Technical information on the cable quality:

PVC	PVC, oil-res.	iguPUR	PUR	PUR-ROBOT	PUR-SPECIAL	TPE
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Harnessed Ethernet cables, CAT5e, to your required length

Cable quality	Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	Bend radius [x d]
Telegärtner RJ45 (CAT6A)/ Telegärtner RJ45 (CAT6A)				
PVC	**CAT9121002**	(4x(2x0.14))C	7.0	15
PVC, oil-res.	**CAT9321002**	(4x(2x0.15))C	7.5	12.5
iguPUR	**CAT9221002**	(4x(2x0.14))C	7.0	15
PUR	**CAT9421002**	(4x(2x0.15))C	7.5	12.5
PUR-ROBOT	**CAT9621002**	4x(2x0.15)C	9.5	10
PUR-SPECIAL	**CAT9721001**	(4x(2x0.15))C	9.5	10
TPE	**CAT9521002**	(4x(2x0.15))C	8.5	10
Harting RJ45 (CAT6A)/ Harting RJ45 (CAT6A)				
PVC	**CAT9121003**	(4x(2x0.14))C	7.0	15
PVC, oil-res.	**CAT9321003**	(4x(2x0.15))C	7.5	12.5
iguPUR	**CAT9221003**	(4x(2x0.14))C	7.0	15
PUR	**CAT9421003**	(4x(2x0.15))C	7.5	12.5
PUR-ROBOT	**CAT9621003**	4x(2x0.15)C	9.5	10
PUR-SPECIAL	**CAT9721002**	(4x(2x0.15))C	9.5	10
TPE	**CAT9521003**	(4x(2x0.15))C	8.5	10
Telegärtner RJ45 (CAT6)/ Telegärtner RJ45 (CAT6)				
PVC	**CAT9121004**	(4x(2x0.14))C	7.0	15
PVC, oil-res.	**CAT9321004**	(4x(2x0.15))C	7.5	12.5
iguPUR	**CAT9221004**	(4x(2x0.14))C	7.0	15
PUR	**CAT9421004**	(4x(2x0.15))C	7.5	12.5
PUR-ROBOT	**CAT9621004**	4x(2x0.15)C	9.5	10
PUR-SPECIAL	**CAT9721003**	(4x(2x0.15))C	9.5	10
TPE	**CAT9521004**	(4x(2x0.15))C	8.5	10

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
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Harnessing **RJ45 at both ends▶TIA56A**
Harnessing **one end RJ45/one end M12 x-coded▶TIA56B**
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed Ethernet cables | CAT5e

* Technical information on the cable quality:

PVC	PVC, oil-res.	iguPUR	PUR	PUR-ROBOT	PUR-SPECIAL	TPE
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Harnessed Ethernet cables, CAT5e, to your required length

Cable quality	Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	Bend radius [x d]
Telegärtner RJ45 (CAT6)/ Telegärtner RJ45 angled (CAT6A)				
PVC	**CAT9121005**	(4x(2x0.14))C	7.0	15
PVC, oil-res.	**CAT9321005**	(4x(2x0.15))C	7.5	12.5
iguPUR	**CAT9221005**	(4x(2x0.14))C	7.0	15
PUR	**CAT9421005**	(4x(2x0.15))C	7.5	12.5
PUR-ROBOT	**CAT9621005**	4x(2x0.15)C	9.5	10
PUR-SPECIAL	**CAT9721004**	(4x(2x0.15))C	9.5	10
TPE	**CAT9521005**	(4x(2x0.15))C	8.5	10
Telegärtner RJ45 (CAT6)/ Telegärtner M12 x-coded (CAT6)				
PVC	**CAT9121006**	(4x(2x0.14))C	7.0	15
PVC, oil-res.	**CAT9321006**	(4x(2x0.15))C	7.5	12.5
iguPUR	**CAT9221006**	(4x(2x0.14))C	7.0	15
PUR	**CAT9421006**	(4x(2x0.15))C	7.5	12.5
PUR-ROBOT	**CAT9621006**	4x(2x0.15)C	9.5	10
PUR-SPECIAL	**CAT9721005**	(4x(2x0.15))C	9.5	10
TPE	**CAT9521006**	(4x(2x0.15))C	8.5	10
Telegärtner M12 x-coded (CAT6A)/ Telegärtner M12 x-coded (CAT6A)				
PVC	**CAT9121007**	(4x(2x0.14))C	7.0	15
PVC, oil-res.	**CAT9321007**	(4x(2x0.15))C	7.5	12.5
iguPUR	**CAT9221007**	(4x(2x0.14))C	7.0	15
PUR	**CAT9421007**	(4x(2x0.15))C	7.5	12.5
PUR-ROBOT	**CAT9621007**	4x(2x0.15)C	9.5	10
PUR-SPECIAL	**CAT9721006**	(4x(2x0.15))C	9.5	10
TPE	**CAT9521007**	(4x(2x0.15))C	8.5	10

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core
Harnessing **RJ45 at both ends▶TIA56A**
Harnessing **one end RJ45/one end M12 x-coded▶TIA56B**
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed Ethernet cables | CAT5e

* Technical information on the cable quality:

PVC	PVC, oil-res.	iguPUR	PUR	PUR-ROBOT	PUR-SPECIAL	TPE
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Harnessed Ethernet cables, CAT5e, to your required length

Cable quality	Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	Bend radius [x d]
Phoenix Contact RJ45 (CAT6A)/ Phoenix Contact RJ45 (CAT6A)				
PVC	**CAT9121010**	(4x(2x0.14))C	7.0	15
PVC, oil-res.	**CAT9321010**	(4x(2x0.15))C	7.5	12.5
iguPUR	**CAT9221010**	(4x(2x0.14))C	7.0	15
PUR	**CAT9421010**	(4x(2x0.15))C	7.5	12.5
PUR-ROBOT	**CAT9621010**	4x(2x0.15)C	9.5	10
TPE	**CAT9521010**	(4x(2x0.15))C	8.5	10
Phoenix Contact M12 x-coded (CAT6A)/ Phoenix Contact M12 x-coded (CAT6A)				
PVC	**CAT9121013**	(4x(2x0.14))C	7.0	15
PVC, oil-res.	**CAT9321013**	(4x(2x0.15))C	7.5	12.5
iguPUR	**CAT9221013**	(4x(2x0.14))C	7.0	15
PUR	**CAT9421013**	(4x(2x0.15))C	7.5	12.5
PUR-ROBOT	**CAT9621013**	4x(2x0.15)C	9.5	10
PUR-SPECIAL	**CAT9721011**	(4x(2x0.15))C	9.5	10
TPE	**CAT9521013**	(4x(2x0.15))C	8.5	10
Harting M12 x-coded Socket (CAT6A)/ Harting M12 x-coded Pin (CAT6A)				
PVC	**CAT9121014**	(4x(2x0.14))C	7.0	15
PVC, oil-res.	**CAT9321014**	(4x(2x0.15))C	7.5	12.5
iguPUR	**CAT9221014**	(4x(2x0.14))C	7.0	15
PUR	**CAT9421014**	(4x(2x0.15))C	7.5	12.5
PUR-ROBOT	**CAT9621014**	4x(2x0.15)C	9.5	10
TPE	**CAT9521014**	(4x(2x0.15))C	8.5	10

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core
Harnessing **RJ45 at both ends▶TIA56A**
Harnessing **one end RJ45/one end M12 x-coded▶TIA56B**
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed Ethernet cables | CAT5e

* Technical information on the cable quality:

PVC, oil-res.	PUR	PUR-ROBOT	TPE
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Harnessed Ethernet cables, CAT5e Straight, 4 and 8-pole, to your required length

Cable quality	Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	Bend radius [x d]
Harting RJ45 (CAT5)/ Harting RJ45 (CAT5)				
TPE	**CAT9040001**	(4x0.25)C	7.0	10
Harting RJ45 (CAT5e)/ Harting RJ45 (CAT5e)				
PVC, oil-res.	**CAT9340020**	(4x(2x0.15))C	7.5	12.5
PUR	**CAT9240020**	(4x(2x0.15))C	7.5	12.5
PUR-ROBOT	**CAT9440020**	4x(2x0.15)C	9.5	10
TPE	**CAT9040020**	(4x(2x0.15))C	8.5	10
Yamaichi RJ45 (CAT5)/ Yamaichi RJ45 (CAT5)				
PVC, oil-res.	**CAT9340060**	(4x(2x0.15))C	7.5	12.5
PUR	**CAT9240060**	(4x(2x0.15))C	7.5	12.5
PUR-ROBOT	**CAT9440060**	4x(2x0.15)C	9.5	10
TPE	**CAT9040060**	(4x(2x0.15))C	8.5	10
Phoenix Contact RJ45 (CAT5e)/ Phoenix Contact RJ45 (CAT5e)				
PVC, oil-res.	**CAT9340100**	(4x(2x0.15))C	7.5	12.5
PUR	**CAT9240100**	(4x(2x0.15))C	7.5	12.5
PUR-ROBOT	**CAT9440100**	4x(2x0.15)C	9.5	10
TPE	**CAT9040100**	(4x(2x0.15))C	8.5	10
Yamaichi RJ45 (CAT5) in Hummel M23 housing/ Yamaichi RJ45 (CAT5) in Hummel M23 housing				
PVC, oil-res.	**CAT9340140**	(4x(2x0.15))C	7.5	12.5
PUR	**CAT9240140**	(4x(2x0.15))C	7.5	12.5
PUR-ROBOT	**CAT9440140**	4x(2x0.15)C	9.5	10
TPE	**CAT9040140**	(4x(2x0.15))C	8.5	10
Yamaichi RJ45 (CAT5) in Hummel M23 housing/ Yamaichi RJ45 (CAT5) in Hummel M23 coupling housing				
PVC, oil-res.	**CAT9340180**	(4x(2x0.15))C	7.5	12.5
PUR	**CAT9240180**	(4x(2x0.15))C	7.5	12.5
PUR-ROBOT	**CAT9440180**	4x(2x0.15)C	9.5	10
TPE	**CAT9040180**	(4x(2x0.15))C	8.5	10

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core
Harnessing **RJ45 at both ends▶TIA56A**
Harnessing **one end RJ45/one end M12 x-coded▶TIA56B**
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed Ethernet cables | CAT5e

* Technical information on the cable quality:

PVC, oil-res.	PUR	PUR-ROBOT	TPE
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Harnessed Ethernet cables, CAT5e Crossover, 8-pole, to your required length				
Cable quality	**Part No.**	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	Bend radius [x d]
Harting RJ45 (CAT5e)/ Harting RJ45 (CAT5e)				
PVC, oil-res.	**CAT9340040**	(4x(2x0.15))C	7.5	12.5
PUR	**CAT9240040**	(4x(2x0.15))C	7.5	12.5
PUR-ROBOT	**CAT9440040**	4x(2x0.15)C	9.5	10
TPE	**CAT9040040**	(4x(2x0.15))C	8.5	10
Yamaichi RJ45 (CAT5)/ Yamaichi RJ45 (CAT5)				
PVC, oil-res.	**CAT9340080**	(4x(2x0.15))C	7.5	12.5
PUR	**CAT9240080**	(4x(2x0.15))C	7.5	12.5
PUR-ROBOT	**CAT9440080**	4x(2x0.15)C	9.5	10
TPE	**CAT9040080**	(4x(2x0.15))C	8.5	10
Phoenix Contact RJ45 (CAT5e)/ Phoenix Contact RJ45 (CAT5e)				
PVC, oil-res.	**CAT9340120**	(4x(2x0.15))C	7.5	12.5
PUR	**CAT9240120**	(4x(2x0.15))C	7.5	12.5
PUR-ROBOT	**CAT9440120**	4x(2x0.15)C	9.5	10
TPE	**CAT9040120**	(4x(2x0.15))C	8.5	10
Yamaichi RJ45 (CAT5) in Hummel M23 housing/Yamaichi RJ45 (CAT5) in Hummel M23 housing				
PVC, oil-res.	**CAT9340160**	(4x(2x0.15))C	7.5	12.5
PUR	**CAT9240160**	(4x(2x0.15))C	7.5	12.5
PUR-ROBOT	**CAT9440160**	4x(2x0.15)C	9.5	10
TPE	**CAT9040160**	(4x(2x0.15))C	8.5	10
Yamaichi RJ45 (CAT5) in Hummel M23 housing/Yamaichi RJ45 (CAT5) in Hummel M23 coupling housing				
PVC, oil-res.	**CAT9340200**	(4x(2x0.15))C	7.5	12.5
PUR-ROBOT	**CAT9440200**	4x(2x0.15)C	9.5	10
TPE	**CAT9040200**	(4x(2x0.15))C	8.5	10
PUR	**CAT9240200**	(4x(2x0.15))C	7.5	12.5

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core
Harnessing **RJ45 at both ends▶TIA56A**
Harnessing **one end RJ45/one end M12 x-coded▶TIA56B**
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed Ethernet cables | CAT5e

* Technical information on the cable quality:

PVC, oil-res.	PUR	PUR-ROBOT	TPE
Page 192	Page 200	Page 410	Page 204

Harnessed Ethernet cables, CAT5e, to your required length				
Cable quality	**Part No.**	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	Bend radius [x d]
Hirose RJ45 (CAT5e)/ TE Intercontec 615 signal connector				
PVC, oil-res.	**CAT9340800**	(4x(2x0.15))C	7.5	12.5
PUR	**CAT9240800**	(4x(2x0.15))C	7.5	12.5
PUR-ROBOT	**CAT9440800**	4x(2x0.15)C	9.5	10
TPE	**CAT9040800**	(4x(2x0.15))C	8.5	10
TE Intercontec 615 signal coupling/ TE Intercontec 615 signal connector				
PVC, oil-res.	**CAT9340810**	(4x(2x0.15))C	7.5	12.5
PUR	**CAT9240810**	(4x(2x0.15))C	7.5	12.5
PUR-ROBOT	**CAT9440810**	4x(2x0.15)C	9.5	10
TPE	**CAT9040810**	(4x(2x0.15))C	8.5	10
TE Intercontec 615 signal coupling/ Hirose RJ45 (CAT5e)				
PVC, oil-res.	**CAT9340820**	(4x(2x0.15))C	7.5	12.5
PUR	**CAT9240820**	(4x(2x0.15))C	7.5	12.5
PUR-ROBOT	**CAT9440820**	4x(2x0.15)C	9.5	10
TPE	**CAT9040820**	(4x(2x0.15))C	8.5	10

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core
Harnessing **RJ45 at both ends▶TIA56A**
Harnessing **one end RJ45/one end M12 x-coded▶TIA56B**
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed Ethernet cables | CAT5e
PVC oil-res. with Hirose connectors

* Technical information on the cable quality:
PVC, oil-res.
Page 192

Harnessed Ethernet cables, CAT5e, PVC, with Hirose connectors, 8-pole, to your required length				
Harnessing with connector combination	**Part No.**	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	Bend radius [x d]
Straight				
1 | 2	**CAT9340380**	(4x(2x0.15))C	7.5	12.5
1 | 3	**CAT9340540**	(4x(2x0.15))C	7.5	12.5
1 | 4	**CAT9340560**	(4x(2x0.15))C	7.5	12.5
1 | 5	**CAT9340320**	(4x(2x0.15))C	7.5	12.5
2 | 1	**CAT9340360**	(4x(2x0.15))C	7.5	12.5
2 | 2	**CAT9340340**	(4x(2x0.15))C	7.5	12.5
2 | 3	**CAT9340500**	(4x(2x0.15))C	7.5	12.5
2 | 4	**CAT9340520**	(4x(2x0.15))C	7.5	12.5
2 | 5	**CAT9340300**	(4x(2x0.15))C	7.5	12.5
3 | 3	**CAT9340440**	(4x(2x0.15))C	7.5	12.5
3 | 4	**CAT9340480**	(4x(2x0.15))C	7.5	12.5
3 | 5	**CAT9340400**	(4x(2x0.15))C	7.5	12.5
4 | 4	**CAT9340460**	(4x(2x0.15))C	7.5	12.5
4 | 5	**CAT9340420**	(4x(2x0.15))C	7.5	12.5
Crossover				
1 | 2	**CAT9340390**	(4x(2x0.15))C	7.5	12.5
1 | 3	**CAT9340550**	(4x(2x0.15))C	7.5	12.5
1 | 4	**CAT9340570**	(4x(2x0.15))C	7.5	12.5
1 | 5	**CAT9340330**	(4x(2x0.15))C	7.5	12.5
2 | 1	**CAT9340370**	(4x(2x0.15))C	7.5	12.5
2 | 2	**CAT9340350**	(4x(2x0.15))C	7.5	12.5
2 | 3	**CAT9340510**	(4x(2x0.15))C	7.5	12.5
2 | 4	**CAT9340530**	(4x(2x0.15))C	7.5	12.5
2 | 5	**CAT9340310**	(4x(2x0.15))C	7.5	12.5
3 | 3	**CAT9340450**	(4x(2x0.15))C	7.5	12.5
3 | 4	**CAT9340490**	(4x(2x0.15))C	7.5	12.5
3 | 5	**CAT9340410**	(4x(2x0.15))C	7.5	12.5
4 | 4	**CAT9340470**	(4x(2x0.15))C	7.5	12.5
4 | 5	**CAT9340430**	(4x(2x0.15))C	7.5	12.5

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core
Harnessing **RJ45 at both ends▶TIA56A**
Harnessing **one end RJ45/one end M12 x-coded▶TIA56B**
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed with these connectors				
Connector 1	Connector 2	Connector 3	Connector 4	Connector 5
L angle curve lower	**L angle curve upper**	**T angle curve outer**	**T angle curve inner**	**straight**
				

Harnessed Ethernet cables | CAT5e

PUR with Hirose connector

* Technical information on the cable quality:
PUR
Page 200

Harnessed Ethernet cables, CAT5e, PUR, with Hirose connectors, 8-pole, to your required length				
Harnessing with connector combination	**Part No.**	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	Bend radius [x d]
Straight				
1 | 2	**CAT9240380**	(4x(2x0.15))C	7.5	12.5
1 | 3	**CAT9240540**	(4x(2x0.15))C	7.5	12.5
1 | 4	**CAT9240560**	(4x(2x0.15))C	7.5	12.5
1 | 5	**CAT9240320**	(4x(2x0.15))C	7.5	12.5
2 | 1	**CAT9240360**	(4x(2x0.15))C	7.5	12.5
2 | 2	**CAT9240340**	(4x(2x0.15))C	7.5	12.5
2 | 3	**CAT9240500**	(4x(2x0.15))C	7.5	12.5
2 | 4	**CAT9240520**	(4x(2x0.15))C	7.5	12.5
2 | 5	**CAT9240300**	(4x(2x0.15))C	7.5	12.5
3 | 3	**CAT9240440**	(4x(2x0.15))C	7.5	12.5
3 | 4	**CAT9240480**	(4x(2x0.15))C	7.5	12.5
3 | 5	**CAT9240400**	(4x(2x0.15))C	7.5	12.5
4 | 4	**CAT9240460**	(4x(2x0.15))C	7.5	12.5
4 | 5	**CAT9240420**	(4x(2x0.15))C	7.5	12.5
Crossover				
1 | 2	**CAT9240390**	(4x(2x0.15))C	7.5	12.5
1 | 3	**CAT9240550**	(4x(2x0.15))C	7.5	12.5
1 | 4	**CAT9240570**	(4x(2x0.15))C	7.5	12.5
1 | 5	**CAT9240330**	(4x(2x0.15))C	7.5	12.5
2 | 1	**CAT9240370**	(4x(2x0.15))C	7.5	12.5
2 | 2	**CAT9240350**	(4x(2x0.15))C	7.5	12.5
2 | 3	**CAT9240510**	(4x(2x0.15))C	7.5	12.5
2 | 4	**CAT9240530**	(4x(2x0.15))C	7.5	12.5
2 | 5	**CAT9240310**	(4x(2x0.15))C	7.5	12.5
3 | 3	**CAT9240450**	(4x(2x0.15))C	7.5	12.5
3 | 4	**CAT9240490**	(4x(2x0.15))C	7.5	12.5
3 | 5	**CAT9240410**	(4x(2x0.15))C	7.5	12.5
4 | 4	**CAT9240470**	(4x(2x0.15))C	7.5	12.5
4 | 5	**CAT9240430**	(4x(2x0.15))C	7.5	12.5

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core
Harnessing **RJ45 at both ends▶TIA56A**
Harnessing **one end RJ45/one end M12 x-coded▶TIA56B**
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed with these connectors				
Connector 1	Connector 2	Connector 3	Connector 4	Connector 5
L angle curve lower	**L angle curve upper**	**T angle curve outer**	**T angle curve inner**	**straight**



Harnessed Ethernet cables | CAT5e
PUR-ROBOT with Hirose connectors

* Technical information on the cable quality:
PUR-ROBOT
Page 410

Harnessed Ethernet cables, CAT5e, PUR-ROBOT, with Hirose connectors, 8-pole, to your required length				
Harnessing with connector combination	**Part No.**	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	Bend radius [x d]
Straight				
1 | 2	**CAT9440380**	4x(2x0.15)C	9.5	10
1 | 3	**CAT9440540**	4x(2x0.15)C	9.5	10
1 | 4	**CAT9440560**	4x(2x0.15)C	9.5	10
1 | 5	**CAT9440320**	4x(2x0.15)C	9.5	10
2 | 1	**CAT9440360**	4x(2x0.15)C	9.5	10
2 | 2	**CAT9440340**	4x(2x0.15)C	9.5	10
2 | 3	**CAT9440500**	4x(2x0.15)C	9.5	10
2 | 4	**CAT9440520**	4x(2x0.15)C	9.5	10
2 | 5	**CAT9440300**	4x(2x0.15)C	9.5	10
3 | 3	**CAT9440440**	4x(2x0.15)C	9.5	10
3 | 4	**CAT9440480**	4x(2x0.15)C	9.5	10
3 | 5	**CAT9440400**	4x(2x0.15)C	9.5	10
4 | 4	**CAT9440460**	4x(2x0.15)C	9.5	10
4 | 5	**CAT9440420**	4x(2x0.15)C	9.5	10
Crossover				
1 | 2	**CAT9440390**	4x(2x0.15)C	9.5	10
1 | 3	**CAT9440550**	4x(2x0.15)C	9.5	10
1 | 4	**CAT9440570**	4x(2x0.15)C	9.5	10
1 | 5	**CAT9440330**	4x(2x0.15)C	9.5	10
2 | 1	**CAT9440370**	4x(2x0.15)C	9.5	10
2 | 2	**CAT9440350**	4x(2x0.15)C	9.5	10
2 | 3	**CAT9440510**	4x(2x0.15)C	9.5	10
2 | 4	**CAT9440530**	4x(2x0.15)C	9.5	10
2 | 5	**CAT9440310**	4x(2x0.15)C	9.5	10
3 | 3	**CAT9440450**	4x(2x0.15)C	9.5	10
3 | 4	**CAT9440490**	4x(2x0.15)C	9.5	10
3 | 5	**CAT9440410**	4x(2x0.15)C	9.5	10
4 | 4	**CAT9440470**	4x(2x0.15)C	9.5	10
4 | 5	**CAT9440430**	4x(2x0.15)C	9.5	10

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core
Harnessing **RJ45 at both ends▶TIA56A**
Harnessing **one end RJ45/one end M12 x-coded▶TIA56B**
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed with these connectors				
Connector 1	Connector 2	Connector 3	Connector 4	Connector 5
L angle curve lower	**L angle curve upper**	**T angle curve outer**	**T angle curve inner**	**straight**
				

Harnessed Ethernet cables | CAT5e

TPE with Hirose connectors

* Technical information on the cable quality:
TPE
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Harnessed Ethernet cables, CAT5e, TPE, with Hirose connectors, 8-pole, to your required length				
Harnessing with connector combination	**Part No.**	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	Bend radius [x d]
Straight				
1 | 2	**CAT9040380**	(4x(2x0.15))C	8.5	10
1 | 3	**CAT9040540**	(4x(2x0.15))C	8.5	10
1 | 4	**CAT9040560**	(4x(2x0.15))C	8.5	10
1 | 5	**CAT9040320**	(4x(2x0.15))C	8.5	10
2 | 1	**CAT9040360**	(4x(2x0.15))C	8.5	10
2 | 2	**CAT9040340**	(4x(2x0.15))C	8.5	10
2 | 3	**CAT9040500**	(4x(2x0.15))C	8.5	10
2 | 4	**CAT9040520**	(4x(2x0.15))C	8.5	10
2 | 5	**CAT9040300**	(4x(2x0.15))C	8.5	10
3 | 3	**CAT9040440**	(4x(2x0.15))C	8.5	10
3 | 4	**CAT9040480**	(4x(2x0.15))C	8.5	10
3 | 5	**CAT9040400**	(4x(2x0.15))C	8.5	10
4 | 4	**CAT9040460**	(4x(2x0.15))C	8.5	10
4 | 5	**CAT9040420**	(4x(2x0.15))C	8.5	10
Crossover				
1 | 2	**CAT9040390**	(4x(2x0.15))C	8.5	10
1 | 3	**CAT9040550**	(4x(2x0.15))C	8.5	10
1 | 4	**CAT9040570**	(4x(2x0.15))C	8.5	10
1 | 5	**CAT9040330**	(4x(2x0.15))C	8.5	10
2 | 1	**CAT9040370**	(4x(2x0.15))C	8.5	10
2 | 2	**CAT9040350**	(4x(2x0.15))C	8.5	10
2 | 3	**CAT9040510**	(4x(2x0.15))C	8.5	10
2 | 4	**CAT9040530**	(4x(2x0.15))C	8.5	10
2 | 5	**CAT9040310**	(4x(2x0.15))C	8.5	10
3 | 3	**CAT9040450**	(4x(2x0.15))C	8.5	10
3 | 4	**CAT9040490**	(4x(2x0.15))C	8.5	10
3 | 5	**CAT9040410**	(4x(2x0.15))C	8.5	10
4 | 4	**CAT9040470**	(4x(2x0.15))C	8.5	10
4 | 5	**CAT9040430**	(4x(2x0.15))C	8.5	10

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core
Harnessing **RJ45 at both ends▶TIA56A**
Harnessing **one end RJ45/one end M12 x-coded▶TIA56B**
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed with these connectors				
Connector 1	Connector 2	Connector 3	Connector 4	Connector 5
L angle curve lower	**L angle curve upper**	**T angle curve outer**	**T angle curve inner**	**straight**



Harnessed Ethernet cables | CAT6

* Technical information on the cable quality:

PVC, oil-res.	PUR	TPE
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Harnessed Ethernet cables, CAT6, to your required length				
Cable quality	**Part No.**	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	Bend radius [x d]
Telegärtner RJ45 (CAT6A)/ Telegärtner RJ45 (CAT6A)				
PVC, oil-res.	**CAT9331002**	(4x(2x0.15))C	7.5	12.5
PUR	**CAT9431002**	(4x(2x0.15))C	7.5	12.5
TPE	**CAT9531002**	(4x(2x0.15))C	8.5	10
Harting RJ45 (CAT6A)/ Harting RJ45 (CAT6A)				
PVC, oil-res.	**CAT9331003**	(4x(2x0.15))C	7.5	12.5
PUR	**CAT9431003**	(4x(2x0.15))C	7.5	12.5
TPE	**CAT9531003**	(4x(2x0.15))C	8.5	10
Telegärtner RJ45 (CAT6)/ Telegärtner RJ45 (CAT6)				
PVC, oil-res.	**CAT9331004**	(4x(2x0.15))C	7.5	12.5
PUR	**CAT9431004**	(4x(2x0.15))C	7.5	12.5
TPE	**CAT9531004**	(4x(2x0.15))C	8.5	10
Telegärtner RJ45 (CAT6)/ Telegärtner M12 x-coded				
PVC, oil-res.	**CAT9331005**	(4x(2x0.15))C	7.5	12.5
PUR	**CAT9431005**	(4x(2x0.15))C	7.5	12.5
TPE	**CAT9531005**	(4x(2x0.15))C	8.5	10
Telegärtner RJ45 (CAT6)/ Telegärtner RJ45 angled (CAT6A)				
PVC, oil-res.	**CAT9331006**	(4x(2x0.15))C	7.5	12.5
PUR	**CAT9431006**	(4x(2x0.15))C	7.5	12.5
TPE	**CAT9531006**	(4x(2x0.15))C	8.5	10

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core
Harnessing **RJ45 at both ends▶TIA56A**
Harnessing **one end RJ45/one end M12 x-coded▶TIA56B**
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

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Harnessed Ethernet cables | CAT6

* Technical information on the cable quality:

PVC, oil-res.	PUR	TPE
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Harnessed Ethernet cables, CAT6, to your required length

Cable quality	Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	Bend radius [x d]
Phoenix Contact RJ45 (CAT6A)/ Phoenix Contact RJ45 (CAT6A)				
PVC, oil-res.	**CAT9331009**	(4x(2x0.15))C	7.5	12.5
PUR	**CAT9431009**	(4x(2x0.15))C	7.5	12.5
TPE	**CAT9531009**	(4x(2x0.15))C	8.5	10
Phoenix Contact M12 x-coded (CAT6A)/ Phoenix Contact M12 x-coded (CAT6A)				
PVC, oil-res.	**CAT9331012**	(4x(2x0.15))C	7.5	12.5
PUR	**CAT9431012**	(4x(2x0.15))C	7.5	12.5
TPE	**CAT9531012**	(4x(2x0.15))C	8.5	10

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core
Harnessing **RJ45 at both ends▶TIA56A**
Harnessing **one end RJ45/one end M12 x-coded▶TIA56B**
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed Ethernet cables | CAT6

* Technical information on the cable quality:
TPE
Page 204

Harnessed Ethernet cables, CAT6, 8-pole, to your required length				
Cable quality	**Part No.**	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	Bend radius [x d]
Straight				
Hirose RJ45 (CAT6A)/ Hirose RJ45 (CAT6A)				
TPE	**CAT9040600**	(4x(2x0.15)C)C	10.5	12.5
Metz RJ45 E-DAT IP67/ Metz RJ45 E-DAT IP67				
TPE	**CAT9040640**	(4x(2x0.15)C)C	10.5	12.5
Harting Han3A RJ45 (CAT6)/ Harting Han3A RJ45 (CAT6)				
TPE	**CAT9040680**	(4x(2x0.15)C)C	10.5	12.5
Crossover				
Hirose RJ45 (CAT6A)/ Hirose RJ45 (CAT6A)				
TPE	**CAT9040620**	(4x(2x0.15)C)C	10.5	12.5
Metz RJ45 E-DAT IP67/ Metz RJ45 E-DAT IP67				
TPE	**CAT9040660**	(4x(2x0.15)C)C	10.5	12.5
Harting Han3A RJ45 (CAT6)/ Harting Han3A RJ45 (CAT6)				
TPE	**CAT9040700**	(4x(2x0.15)C)C	10.5	12.5
M12 x-coded				
Telegärtner M12 x-coded (CAT6A)/ Telegärtner M12 x-coded (CAT6A)				
TPE	**CAT9040720**	(4x(2x0.15)C)C	10.5	12.5
Telegärtner M12 x-coded (CAT6A)/ open cable end				
TPE	**CAT9040760**	(4x(2x0.15)C)C	10.5	12.5

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core
Harnessing **RJ45 at both ends▶TIA56A**
Harnessing **one end RJ45/one end M12 x-coded▶TIA56B**
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed Ethernet cables | CAT6A

* Technical information on the cable quality:

PVC, oil-res.	PUR	PUR-ROBOT	TPE
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Harnessed Ethernet cables, CAT6A, to your required length

Cable quality	Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	Bend radius [x d]
Telegärtner RJ45 (CAT6A)/ Telegärtner RJ45 (CAT6A)				
PUR-ROBOT	**CAT9641001**	4x(2x0.15)C	10.5	10
TPE	**CAT9541001**	(4x(2x0.15)C)C	10.5	12.5
Harting RJ45 (CAT6A)/ Harting RJ45 (CAT6A)				
PUR-ROBOT	**CAT9641002**	4x(2x0.15)C	10.5	10
TPE	**CAT9541002**	(4x(2x0.15)C)C	10.5	12.5
Telegärtner RJ45 (CAT6A)/ Telegärtner RJ45 (CAT6A)				
PVC, oil-res.	**CAT9341016**	4x(2x0.20)C	10.0	12.5
PUR	**CAT9441016**	4x(2x0.20)C	10.0	12.5
PUR-ROBOT	**CAT9641015**	4x(2x0.15)C	10.5	10
TPE	**CAT9541015**	(4x(2x0.15)C)C	10.5	12.5
Telegärtner RJ45 (CAT6A)/ Telegärtner M12 x-coded				
PVC, oil-res.	**CAT9341017**	4x(2x0.20)C	10.0	12.5
PUR	**CAT9441017**	4x(2x0.20)C	10.0	12.5
PUR-ROBOT	**CAT9641016**	4x(2x0.15)C	10.5	10
TPE	**CAT9541016**	(4x(2x0.15)C)C	10.5	12.5
Telegärtner RJ45 (CAT6A)/ Telegärtner RJ45 angled (CAT6A)				
PVC, oil-res.	**CAT9341018**	4x(2x0.20)C	10.0	12.5
PUR	**CAT9441018**	4x(2x0.20)C	10.0	12.5
PUR-ROBOT	**CAT9641017**	4x(2x0.15)C	10.5	10
TPE	**CAT9541017**	(4x(2x0.15)C)C	10.5	12.5

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core
Harnessing **RJ45 at both ends▶TIA56A**
Harnessing **one end RJ45/one end M12 x-coded▶TIA56B**
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed Ethernet cables | CAT6A

* Technical information on the cable quality:

PVC, oil-res.	PUR	PUR-ROBOT	TPE
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Harnessed Ethernet cables, CAT6A, to your required length				
Cable quality	**Part No.**	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	Bend radius [x d]
Phoenix Contact M12 x-coded (CAT6A)/ Phoenix Contact M12 x-coded (CAT6A)				
PVC, oil-res.	**CAT9341010**	4x(2x0.20)C	10.0	12.5
PUR	**CAT9441010**	4x(2x0.20)C	10.0	12.5
PUR-ROBOT	**CAT9641009**	4x(2x0.15)C	10.5	10
TPE	**CAT9541009**	(4x(2x0.15)C)C	10.5	12.5
Harting M12 x-coded Socket (CAT6A)/ Harting M12 x-coded Pin (CAT6A)				
PVC, oil-res.	**CAT9341019**	4x(2x0.20)C	10.0	12.5
PUR	**CAT9441019**	4x(2x0.20)C	10.0	12.5

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core
Harnessing **RJ45 at both ends▶TIA56A**
Harnessing **one end RJ45/one end M12 x-coded▶TIA56B**
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed Ethernet cables | CAT7

* Technical information on the cable quality:

PUR-ROBOT	TPE
Page 410	Page 204

Harnessed Ethernet cables, CAT7, to your required length				
Cable quality	**Part No.**	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	Bend radius [x d]
Telegärtner RJ45 (CAT6A)/ Telegärtner RJ45 (CAT6A)				
PUR-ROBOT	**CAT9651002**	4x(2x0.15)C	10.5	10
TPE	**CAT9551002**	(4x(2x0.15)C)C	10.5	12.5
Harting RJ45 (CAT6A)/ Harting RJ45 (CAT6A)				
PUR-ROBOT	**CAT9651003**	4x(2x0.15)C	10.5	10
TPE	**CAT9551003** [1]	(4x(2x0.15)C)C	10.5	12.5
Telegärtner RJ45 (CAT6A)/ Telegärtner RJ45 (CAT6A)				
PUR-ROBOT	**CAT9651004**	4x(2x0.15)C	10.5	10
TPE	**CAT9551004**	(4x(2x0.15)C)C	10.5	12.5
Telegärtner RJ45 (CAT6A)/ Telegärtner RJ45 angled (CAT6A)				
PUR-ROBOT	**CAT9651005**	4x(2x0.15)C	10.5	10
TPE	**CAT9551005**	(4x(2x0.15)C)C	10.5	12.5
Phoenix Contact M12 x-coded (CAT6A)/ Phoenix Contact M12 x-coded (CAT6A)				
PUR-ROBOT	**CAT9651009**	4x(2x0.15)C	10.5	10
TPE	**CAT9551009**	(4x(2x0.15)C)C	10.5	12.5
Dätwyler Module PS-TERA (CAT7A)/ Dätwyler Connector PS-TERA (CAT7A)				
PUR-ROBOT	**CAT9651010**	4x(2x0.15)C	10.5	10
TPE	**CAT9551010**	(4x(2x0.15)C)C	10.5	12.5
Dätwyler Module PS-TERA (CAT7A)/ Dätwyler Connector PS-TERA (CAT7A)				
PUR-ROBOT	**CAT9651011**	4x(2x0.15)C	10.5	10
TPE	**CAT9551011**	(4x(2x0.15)C)C	10.5	12.5

[1] This cable must be stripped before the connector and covered with a shrink-on tube so that the patch plug can be fitted.

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core
Harnessing **RJ45 at both ends▶TIA56A**
Harnessing **one end RJ45/one end M12 x-coded▶TIA56B**
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Industrial Ethernet
moulded

* Technical information on the cable quality:

PVC, oil-res.	PUR
Page 192	Page 200

Industrial Ethernet moulded, to your required length

Cable quality	Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	Bend radius [x d]
M8 cable socket/ M8 cable connector				
PVC, oil-res.	**MAT904125450**	(4x0.25)C	6.5	12.5
PUR	**MAT904125410**	(4x0.25)C	6.5	12.5
M8 cable connector/ M8 cable connector				
PVC, oil-res.	**MAT904125451**	(4x0.25)C	6.5	12.5
PUR	**MAT904125411**	(4x0.25)C	6.5	12.5
M8 angled socket/ open cable end				
PVC, oil-res.	**MAT904125452**	(4x0.25)C	6.5	12.5
PUR	**MAT904125412**	(4x0.25)C	6.5	12.5
M8 cable socket/ RJ45 straight				
PVC, oil-res.	**MAT904125453**	(4x0.25)C	6.5	12.5
PUR	**MAT904125413**	(4x0.25)C	6.5	12.5
M12 cable connector d-coded/ M12 cable connector d-coded				
PVC, oil-res.	**MAT904125454**	(4x0.25)C	6.5	12.5
PUR	**MAT904125414**	(4x0.25)C	6.5	12.5
M12 angled connector d-coded Pin/ open cable end				
PVC, oil-res.	**MAT904125455**	(4x0.25)C	6.5	12.5
PUR	**MAT904125415**	(4x0.25)C	6.5	12.5
M12 cable connector d-coded/ open cable end				
PVC, oil-res.	**MAT904125456**	(4x0.25)C	6.5	12.5
PUR	**MAT904125416**	(4x0.25)C	6.5	12.5

Special production cables ▶ delivery time upon request
Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core
Harnessing **RJ45 at both ends ▶ TIA56A**
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Industrial Ethernet

moulded

* Technical information on the cable quality:

PVC, oil-res.	PUR
Page 192	Page 200

Industrial Ethernet moulded, to your required length

Cable quality	Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	Bend radius [x d]
M12 cable connector d-coded/ RJ45 straight				
PVC, oil-res.	**MAT904125457**	(4x0.25)C	6.5	12.5
PUR	**MAT904125417**	(4x0.25)C	6.5	12.5
M12 angled connector d-coded RJ45 straight				
PVC, oil-res.	**MAT904125458**	(4x0.25)C	6.5	12.5
PUR	**MAT904125418**	(4x0.25)C	6.5	12.5
M12 cable connector d-coded/ M8 cable connector				
PVC, oil-res.	**MAT904125459**	(4x0.25)C	6.5	12.5
PUR	**MAT904125419**	(4x0.25)C	6.5	12.5
RJ45 straight/ RJ45 straight				
PVC, oil-res.	**MAT904125460**	(4x0.25)C	6.5	12.5
PUR	**MAT904125420**	(4x0.25)C	6.5	12.5
RJ45 straight/ open cable end				
PVC, oil-res.	**MAT904125461**	(4x0.25)C	6.5	12.5
PUR	**MAT904125421**	(4x0.25)C	6.5	12.5
M12 cable socket d-coded/ M12 cable connector d-coded				
PVC, oil-res.	**MAT904125462**	(4x0.25)C	6.5	12.5
PUR	**MAT904125422**	(4x0.25)C	6.5	12.5
M12 cable socket d-coded/ M12 angled connector d-coded				
PVC, oil-res.	**MAT904125463**	(4x0.25)C	6.5	12.5
PUR	**MAT904125423**	(4x0.25)C	6.5	12.5

Special production cables ▶ delivery time upon request
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Harnessing **RJ45 at both ends ▶ TIA56A**
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed Profibus cables | PVC

* Technical information on the cable quality:
PVC, oil-res.
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Harnessed Profibus cables, PVC, to your required length				
Harnessing with connector combination	**Part No.**	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	Bend radius [x d]
1 | 1	**BUS9041004**	(2x0.25)C	8.5	12.5
1 | 2	**BUS9041001**	(2x0.25)C	8.5	12.5
1 | 5	**BUS9041011**	(2x0.25)C	8.5	12.5
1 | 6	**BUS9041006**	(2x0.25)C	8.5	12.5
1 | 13	**BUS9041005**	(2x0.25)C	8.5	12.5
2 | 2	**BUS9041002**	(2x0.25)C	8.5	12.5
2 | 5	**BUS9041013**	(2x0.25)C	8.5	12.5
2 | 6	**BUS9041007**	(2x0.25)C	8.5	12.5
2 | 7	**BUS9041054**	(2x0.25)C	8.5	12.5
2 | 8	**BUS9041059**	(2x0.25)C	8.5	12.5
2 | 9	**BUS9041062**	(2x0.25)C	8.5	12.5
2 | 10	**BUS9041055**	(2x0.25)C	8.5	12.5
2 | 13	**BUS9041003**	(2x0.25)C	8.5	12.5
3 | 4	**BUS9041066**	(2x0.25)C	8.5	12.5
3 | 13	**BUS9041064**	(2x0.25)C	8.5	12.5
4 | 13	**BUS9041065**	(2x0.25)C	8.5	12.5
5 | 5	**BUS9041014**	(2x0.25)C	8.5	12.5
5 | 6	**BUS9041010**	(2x0.25)C	8.5	12.5
5 | 13	**BUS9041012**	(2x0.25)C	8.5	12.5
6 | 6	**BUS9041009**	(2x0.25)C	8.5	12.5
6 | 13	**BUS9041008**	(2x0.25)C	8.5	12.5
7 | 2	**BUS9041053** [1)]	(2x0.25)C	8.5	12.5
7 | 13	**BUS9041056**	(2x0.25)C	8.5	12.5
8 | 2	**BUS9041061** [1)]	(2x0.25)C	8.5	12.5
9 | 2	**BUS9041060** [1)]	(2x0.25)C	8.5	12.5
9 | 13	**BUS9041063**	(2x0.25)C	8.5	12.5
10 | 2	**BUS9041052** [1)]	(2x0.25)C	8.5	12.5
10 | 13	**BUS9041057**	(2x0.25)C	8.5	12.5
11 | 13	**BUS9041058** [1)]	(2x0.25)C	8.5	12.5
12 | 2	**BUS9041051** [1)]	(2x0.25)C	8.5	12.5

[1)]For connectors with IN and OUT connection, the connection is always made on the IN side when the cable is connected. Other configurations upon request.

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Connector 1	Connector 2	Connector 3	Connector 4	Connector 5
M12, 5 poles, Socket, straight	M12, 5 poles, Pin, straight	M12, 5 poles, Pin, angled	M12, 5 poles, Socket, angled	M12, 5 poles, Socket, angled
				

Connector 6	Connector 7	Connector 8	Connector 9	Connector 10
M12, 5 poles, Pin, angled	SUB-D, 9 poles, Pin, straight	SUB-D, 9 poles, Pin, end plug, 90°	SUB-D, 9 poles, Pin, 45°, IP67	SUB-D, 9 poles, Pin, end plug, 45°
				

Connector 11	Connector 12	Connector 13
SUB-D, 9 poles, Socket/Pin, pass, angled 45°	SUB-D, 9 poles, Socket/Pin, pass, angled 90°	open cable end
		

* For connectors with IN and OUT connection, the connection is always made on the IN side when the cable is connected. Other configurations upon request.

Harnessed Profibus cables | PUR

* Technical information on the cable quality:
PUR
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Harnessed Profibus cables, PUR, to your required length				
Harnessing with connector combination	**Part No.**	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	Bend radius [x d]
1 | 1	**BUS9041104**	(2x0.25)C	8.5	12.5
1 | 2	**BUS9041101**	(2x0.25)C	8.5	12.5
1 | 5	**BUS9041111**	(2x0.25)C	8.5	12.5
1 | 6	**BUS9041106**	(2x0.25)C	8.5	12.5
1 | 13	**BUS9041105**	(2x0.25)C	8.5	12.5
2 | 2	**BUS9041102**	(2x0.25)C	8.5	12.5
2 | 5	**BUS9041113**	(2x0.25)C	8.5	12.5
2 | 6	**BUS9041107**	(2x0.25)C	8.5	12.5
2 | 7	**BUS9041154**	(2x0.25)C	8.5	12.5
2 | 8	**BUS9041159**	(2x0.25)C	8.5	12.5
2 | 9	**BUS9041162**	(2x0.25)C	8.5	12.5
2 | 10	**BUS9041155**	(2x0.25)C	8.5	12.5
2 | 13	**BUS9041103**	(2x0.25)C	8.5	12.5
3 | 4	**BUS9041166**	(2x0.25)C	8.5	12.5
3 | 13	**BUS9041164**	(2x0.25)C	8.5	12.5
4 | 13	**BUS9041165**	(2x0.25)C	8.5	12.5
5 | 5	**BUS9041114**	(2x0.25)C	8.5	12.5
5 | 6	**BUS9041110**	(2x0.25)C	8.5	12.5
5 | 13	**BUS9041112**	(2x0.25)C	8.5	12.5
6 | 6	**BUS9041109**	(2x0.25)C	8.5	12.5
6 | 13	**BUS9041108**	(2x0.25)C	8.5	12.5
7 | 2	**BUS9041153** [1)]	(2x0.25)C	8.5	12.5
7 | 13	**BUS9041156**	(2x0.25)C	8.5	12.5
8 | 2	**BUS9041161** [1)]	(2x0.25)C	8.5	12.5
9 | 2	**BUS9041160** [1)]	(2x0.25)C	8.5	12.5
9 | 13	**BUS9041163**	(2x0.25)C	8.5	12.5
10 | 2	**BUS9041152** [1)]	(2x0.25)C	8.5	12.5
10 | 13	**BUS9041157**	(2x0.25)C	8.5	12.5
11 | 13	**BUS9041158** [1)]	(2x0.25)C	8.5	12.5
12 | 2	**BUS9041151** [1)]	(2x0.25)C	8.5	12.5

[1)]For connectors with IN and OUT connection, the connection is always made on the IN side when the cable is connected. Other configurations upon request.

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igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Connector 1	Connector 2	Connector 3	Connector 4	Connector 5
M12, 5 poles, Socket, straight	M12, 5 poles, Pin, straight	M12, 5 poles, Pin, angled	M12, 5 poles, Socket, angled	M12, 5 poles, Socket, angled
				

Connector 6	Connector 7	Connector 8	Connector 9	Connector 10
M12, 5 poles, Pin, angled	SUB-D, 9 poles, Pin, straight	SUB-D, 9 poles, Pin, end plug, 90°	SUB-D, 9 poles, Pin, 45°, IP67	SUB-D, 9 poles, Pin, end plug, 45°
				

Connector 11	Connector 12	Connector 13
SUB-D, 9 poles, Socket/Pin, pass, angled 45°	SUB-D, 9 poles, Socket/Pin, pass, angled 90°	open cable end
		

* For connectors with IN and OUT connection, the connection is always made on the IN side when the cable is connected. Other configurations upon request.

Harnessed Profibus cables | TPE

* Technical information on the cable quality:
TPE
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Harnessed Profibus cables, TPE, to your required length				
Harnessing with connector combination	**Part No.**	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	Bend radius [x d]
1 | 1	**BUS9041204**	(2x0.25)C	9.0	10
1 | 2	**BUS9041201**	(2x0.25)C	9.0	10
1 | 5	**BUS9041211**	(2x0.25)C	9.0	10
1 | 6	**BUS9041206**	(2x0.25)C	9.0	10
1 | 13	**BUS9041205**	(2x0.25)C	9.0	10
2 | 2	**BUS9041202**	(2x0.25)C	9.0	10
2 | 5	**BUS9041213**	(2x0.25)C	9.0	10
2 | 6	**BUS9041207**	(2x0.25)C	9.0	10
2 | 7	**BUS9041254**	(2x0.25)C	9.0	10
2 | 8	**BUS9041259**	(2x0.25)C	9.0	10
2 | 9	**BUS9041262**	(2x0.25)C	9.0	10
2 | 10	**BUS9041255**	(2x0.25)C	9.0	10
2 | 13	**BUS9041203**	(2x0.25)C	9.0	10
3 | 4	**BUS9041266**	(2x0.25)C	9.0	10
3 | 13	**BUS9041264**	(2x0.25)C	9.0	10
4 | 13	**BUS9041265**	(2x0.25)C	9.0	10
5 | 5	**BUS9041214**	(2x0.25)C	9.0	10
5 | 6	**BUS9041210**	(2x0.25)C	9.0	10
5 | 13	**BUS9041212**	(2x0.25)C	9.0	10
6 | 6	**BUS9041209**	(2x0.25)C	9.0	10
6 | 13	**BUS9041208**	(2x0.25)C	9.0	10
7 | 2	**BUS9041253** [1)]	(2x0.25)C	9.0	10
7 | 13	**BUS9041256**	(2x0.25)C	9.0	10
8 | 2	**BUS9041261** [1)]	(2x0.25)C	9.0	10
9 | 2	**BUS9041260** [1)]	(2x0.25)C	9.0	10
9 | 13	**BUS9041263**	(2x0.25)C	9.0	10
10 | 2	**BUS9041252** [1)]	(2x0.25)C	9.0	10
10 | 13	**BUS9041257**	(2x0.25)C	9.0	10
11 | 13	**BUS9041258** [1)]	(2x0.25)C	9.0	10
12 | 2	**BUS9041251** [1)]	(2x0.25)C	9.0	10

[1)]For connectors with IN and OUT connection, the connection is always made on the IN side when the cable is connected. Other configurations upon request.

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
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igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Connector 1	Connector 2	Connector 3	Connector 4	Connector 5
M12, 5 poles, Socket, straight	M12, 5 poles, Pin, straight	M12, 5 poles, Pin, angled	M12, 5 poles, Socket, angled	M12, 5 poles, Socket, angled
				

Connector 6	Connector 7	Connector 8	Connector 9	Connector 10
M12, 5 poles, Pin, angled	SUB-D, 9 poles, Pin, straight	SUB-D, 9 poles, Pin, end plug, 90°	SUB-D, 9 poles, Pin, 45°, IP67	SUB-D, 9 poles, Pin, end plug, 45°
				

Connector 11	Connector 12	Connector 13
SUB-D, 9 poles, Socket/Pin, pass, angled 45°	SUB-D, 9 poles, Socket/Pin, pass, angled 90°	open cable end
		

* For connectors with IN and OUT connection, the connection is always made on the IN side when the cable is connected. Other configurations upon request.

Harnessed Profinet cables

* Technical information on the cable quality:

PVC	PVC, oil-res.	iguPUR	PUR	PUR-ROBOT	TPE
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Harnessed Profinet cables, to your required length				
Cable quality	**Part No.**	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	Bend radius [x d]
Yamaichi RJ45 (Profinet)/ Yamaichi RJ45 (Profinet)				
PVC	**CAT9161001**	(4x0.34)C	7.0	15
PVC, oil-res.	**CAT9361001**	(4x0.38)C	7.0	12.5
iguPUR	**CAT9261001**	(4x0.34)C	7.0	15
PUR	**CAT9461001**	(4x0.38)C	7.0	12.5
PUR-ROBOT	**CAT9661001**	(2x(2x0.34))C	8.5	10
TPE	**CAT9561001**	(4x0.38)C	7.5	10
Harting Han3A RJ45 (Profinet)/ Harting Han3A RJ45 (Profinet)				
PVC	**CAT9161002**	(4x0.34)C	7.0	15
PVC, oil-res.	**CAT9361002**	(4x0.38)C	7.0	12.5
iguPUR	**CAT9261002**	(4x0.34)C	7.0	15
PUR	**CAT9461002**	(4x0.38)C	7.0	12.5
PUR-ROBOT	**CAT9661002**	(2x(2x0.34))C	8.5	10
TPE	**CAT9561002**	(4x0.38)C	7.5	10
Harting RJ45 (Profinet)/ Harting RJ45 (Profinet)				
PVC	**CAT9161003**	(4x0.34)C	7.0	15
PVC, oil-res.	**CAT9361003**	(4x0.38)C	7.0	12.5
iguPUR	**CAT9261003**	(4x0.34)C	7.0	15
PUR	**CAT9461003**	(4x0.38)C	7.0	12.5
PUR-ROBOT	**CAT9661003**	(2x(2x0.34))C	8.5	10
TPE	**CAT9561003**	(4x0.38)C	7.5	10
Telegärtner RJ45 (Profinet)/ Telegärtner RJ45 (Profinet)				
PVC	**CAT9161004**	(4x0.34)C	7.0	15
PVC, oil-res.	**CAT9361004**	(4x0.38)C	7.0	12.5
iguPUR	**CAT9261004**	(4x0.34)C	7.0	15
PUR	**CAT9461004**	(4x0.38)C	7.0	12.5
PUR-ROBOT	**CAT9661004**	(2x(2x0.34))C	8.5	10
TPE	**CAT9561004**	(4x0.38)C	7.5	10

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core
Harnessing **RJ45 at both ends▶TIA56A**
Harnessing **one end RJ45/one end M12 x-coded▶TIA56B**
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed Profinet cables

* Technical information on the cable quality:

PVC	PVC, oil-res.	iguPUR	PUR	PUR-ROBOT	TPE
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Harnessed Profinet cables, to your required length

Cable quality	Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	Bend radius [x d]
Telegärtner RJ45 (Profinet)/ Telegärtner RJ45 (Profinet)				
PVC	**CAT9161005**	(4x0.34)C	7.0	15
PVC, oil-res.	**CAT9361005**	(4x0.38)C	7.0	12.5
iguPUR	**CAT9261005**	(4x0.34)C	7.0	15
PUR	**CAT9461005**	(4x0.38)C	7.0	12.5
PUR-ROBOT	**CAT9661005**	(2x(2x0.34))C	8.5	10
TPE	**CAT9561005**	(4x0.38)C	7.5	10
Telegärtner RJ45 (Profinet)/ Telegärtner M12 x-coded (Profinet)				
PVC	**CAT9161006**	(4x0.34)C	7.0	15
PVC, oil-res.	**CAT9361006**	(4x0.38)C	7.0	12.5
iguPUR	**CAT9261006**	(4x0.34)C	7.0	15
PUR	**CAT9461006**	(4x0.38)C	7.0	12.5
PUR-ROBOT	**CAT9661006**	(2x(2x0.34))C	8.5	10
TPE	**CAT9561006**	(4x0.38)C	7.5	10
Telegärtner M12 x-coded (Profinet)/ Telegärtner M12 x-coded (Profinet)				
PVC	**CAT9161007**	(4x0.34)C	7.0	15
PVC, oil-res.	**CAT9361007**	(4x0.38)C	7.0	12.5
iguPUR	**CAT9261007**	(4x0.34)C	7.0	15
PUR	**CAT9461007**	(4x0.38)C	7.0	12.5
PUR-ROBOT	**CAT9661007**	(2x(2x0.34))C	8.5	10
TPE	**CAT9561007**	(4x0.38)C	7.5	10
Telegärtner RJ45 (Profinet)/ Binder M12 d-coded (Profinet)				
PVC	**CAT9161008**	(4x0.34)C	7.0	15
PVC, oil-res.	**CAT9361008**	(4x0.38)C	7.0	12.5
iguPUR	**CAT9261008**	(4x0.34)C	7.0	15
PUR	**CAT9461008**	(4x0.38)C	7.0	12.5
PUR-ROBOT	**CAT9661008**	(2x(2x0.34))C	8.5	10
TPE	**CAT9561008**	(4x0.38)C	7.5	10

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core
Harnessing **RJ45 at both ends▶TIA56A**
Harnessing **one end RJ45/one end M12 x-coded▶TIA56B**
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed Profinet cables

* Technical information on the cable quality:

PVC	PVC, oil-res.	iguPUR	PUR	PUR-ROBOT	TPE
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Harnessed Profinet cables, to your required length				
Cable quality	**Part No.**	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	Bend radius [x d]
Telegärtner RJ45 (Profinet)/ Binder M12 d-coded angled (Profinet)				
PVC	**CAT9161009**	(4x0.34)C	7.0	15
PVC, oil-res.	**CAT9361009**	(4x0.38)C	7.0	12.5
iguPUR	**CAT9261009**	(4x0.34)C	7.0	15
PUR	**CAT9461009**	(4x0.38)C	7.0	12.5
PUR-ROBOT	**CAT9661009**	(2x(2x0.34))C	8.5	10
TPE	**CAT9561009**	(4x0.38)C	7.5	10
Phoenix Contact RJ45 (Profinet)/ Phoenix Contact RJ45 (Profinet)				
PVC	**CAT9161012**	(4x0.34)C	7.0	15
PVC, oil-res.	**CAT9361012**	(4x0.38)C	7.0	12.5
iguPUR	**CAT9261012**	(4x0.34)C	7.0	15
PUR	**CAT9461012**	(4x0.38)C	7.0	12.5
PUR-ROBOT	**CAT9661012**	(2x(2x0.34))C	8.5	10
TPE	**CAT9561012**	(4x0.38)C	7.5	10
Phoenix Contact M12 x-coded (Profinet)/Phoenix Contact M12 x-coded (Profinet)				
PVC	**CAT9161014**	(4x0.34)C	7.0	15
PVC, oil-res.	**CAT9361014**	(4x0.38)C	7.0	12.5
iguPUR	**CAT9261014**	(4x0.34)C	7.0	15
PUR	**CAT9461014**	(4x0.38)C	7.0	12.5
PUR-ROBOT	**CAT9661014**	(2x(2x0.34))C	8.5	10
TPE	**CAT9561014**	(4x0.38)C	7.5	10
Siemens RJ45 (Profinet)/ Siemens RJ45 (Profinet)				
PVC	**CAT9161015**	(4x0.34)C	7.0	15
PVC, oil-res.	**CAT9361015**	(4x0.38)C	7.0	12.5
iguPUR	**CAT9261015**	(4x0.34)C	7.0	15
PUR	**CAT9461015**	(4x0.38)C	7.0	12.5
PUR-ROBOT	**CAT9661015**	(2x(2x0.34))C	8.5	10
TPE	**CAT9561015**	(4x0.38)C	7.5	10

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core
Harnessing **RJ45 at both ends▶TIA56A**
Harnessing **one end RJ45/one end M12 x-coded▶TIA56B**
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

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Harnessed Profinet cables

* Technical information on the cable quality:

PVC	PVC, oil-res.	iguPUR	PUR	PUR-ROBOT	TPE
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Harnessed Profinet cables, to your required length

Cable quality	Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	Bend radius [x d]
Siemens RJ45 (Profinet)/ Siemens RJ45 angled (Profinet)				
PVC	**CAT9161016**	(4x0.34)C	7.0	15
PVC, oil-res.	**CAT9361016**	(4x0.38)C	7.0	12.5
iguPUR	**CAT9261016**	(4x0.34)C	7.0	15
PUR	**CAT9461016**	(4x0.38)C	7.0	12.5
PUR-ROBOT	**CAT9661016**	(2x(2x0.34))C	8.5	10
TPE	**CAT9561016**	(4x0.38)C	7.5	10
Binder M12 cable connector d-coded/ Binder M12 cable connector d-coded				
PVC	**CAT9161017**	(4x0.34)C	7.0	15
PVC, oil-res.	**CAT9361017**	(4x0.38)C	7.0	12.5
iguPUR	**CAT9261017**	(4x0.34)C	7.0	15
PUR	**CAT9461017**	(4x0.38)C	7.0	12.5
PUR-ROBOT	**CAT9661017**	(2x(2x0.34))C	8.5	10
TPE	**CAT9561017**	(4x0.38)C	7.5	10
Binder cable connector M12 d-coded/ Binder cable socket M12 d-coded				
PVC	**CAT9161018**	(4x0.34)C	7.0	15
PVC, oil-res.	**CAT9361018**	(4x0.38)C	7.0	12.5
iguPUR	**CAT9261018**	(4x0.34)C	7.0	15
PUR	**CAT9461018**	(4x0.38)C	7.0	12.5
PUR-ROBOT	**CAT9661018**	(2x(2x0.34))C	8.5	10
TPE	**CAT9561018**	(4x0.38)C	7.5	10

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
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Harnessing **RJ45 at both ends▶TIA56A**
Harnessing **one end RJ45/one end M12 x-coded▶TIA56B**
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Industrial Profinet cables
with moulded connectors

* Technical information on the cable quality:

PVC, oil-res.	PUR
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Industrial Profinet moulded, to your required length

Cable quality	Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	Bend radius [x d]
M8 cable socket/ M8 cable connector				
PVC, oil-res.	**MAT904125470**	(4x0.38)C	7.0	12.5
PUR	**MAT904125430**	(4x0.38)C	7.0	12.5
M8 cable connector/ M8 cable connector				
PVC, oil-res.	**MAT904125471**	(4x0.38)C	7.0	12.5
PUR	**MAT904125431**	(4x0.38)C	7.0	12.5
M8 angled socket/ open cable end				
PVC, oil-res.	**MAT904125472**	(4x0.38)C	7.0	12.5
PUR	**MAT904125432**	(4x0.38)C	7.0	12.5
M8 cable socket/ RJ45 straight				
PVC, oil-res.	**MAT904125473**	(4x0.38)C	7.0	12.5
PUR	**MAT904125433**	(4x0.38)C	7.0	12.5
M12 cable connector d-coded/ M12 cable connector d-coded				
PVC, oil-res.	**MAT904125474**	(4x0.38)C	7.0	12.5
PUR	**MAT904125434**	(4x0.38)C	7.0	12.5
M12 angled connector d-coded/ open cable end				
PVC, oil-res.	**MAT904125475**	(4x0.38)C	7.0	12.5
PUR	**MAT904125435**	(4x0.38)C	7.0	12.5
M12 cable connector d-coded/ open cable end				
PVC, oil-res.	**MAT904125476**	(4x0.38)C	7.0	12.5
PUR	**MAT904125436**	(4x0.38)C	7.0	12.5

Special production cables ▶ delivery time upon request
Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core
Harnessing **RJ45 at both ends▶TIA56A**
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Industrial Profinet cables

moulded

* Technical information on the cable quality:

PVC, oil-res.	PUR
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Industrial Profinet moulded, to your required length

Cable quality	Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	Bend radius [x d]
M12 cable connector d-coded/ RJ45 straight				
PVC, oil-res.	**MAT904125477**	(4x0.38)C	7.0	12.5
PUR	**MAT904125437**	(4x0.38)C	7.0	12.5
M12 angled connector d-coded RJ45 straight				
PVC, oil-res.	**MAT904125478**	(4x0.38)C	7.0	12.5
PUR	**MAT904125438**	(4x0.38)C	7.0	12.5
M12 cable connector d-coded/ M8 cable connector				
PVC, oil-res.	**MAT904125479**	(4x0.38)C	7.0	12.5
PUR	**MAT904125439**	(4x0.38)C	7.0	12.5
RJ45 straight/ RJ45 straight				
PVC, oil-res.	**MAT904125480**	(4x0.38)C	7.0	12.5
PUR	**MAT904125440**	(4x0.38)C	7.0	12.5
RJ45 straight/ open cable end				
PVC, oil-res.	**MAT904125481**	(4x0.38)C	7.0	12.5
PUR	**MAT904125441**	(4x0.38)C	7.0	12.5
M12 cable socket d-coded/ M12 cable connector d-coded				
PVC, oil-res.	**MAT904125482**	(4x0.38)C	7.0	12.5
PUR	**MAT904125442**	(4x0.38)C	7.0	12.5
M12 cable socket d-coded/ M12 cable connector d-coded				
PVC, oil-res.	**MAT904125483**	(4x0.38)C	7.0	12.5
PUR	**MAT904125443**	(4x0.38)C	7.0	12.5

Special production cables ▶ delivery time upon request
Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core
Harnessing **RJ45 at both ends▶TIA56A**
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed Profinet cables
with moulded connectors

* Technical information on the cable quality:

PVC	PVC, oil-res.	iguPUR	PUR	PUR-ROBOT	TPE
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Harnessed Profinet cables with moulded M12 connectors, in fixed lengths

Cable quality	Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	Bend radius [x d]	Cable length [m]
M12 cable connector d-coded/ M12 cable connector d-coded					
PVC, oil-res.	**BUS9041070**	(4x0.38)C	7.0	12.5	3
PVC, oil-res.	**BUS9041071**	(4x0.38)C	7.0	12.5	5
PUR	**BUS9041170**	(4x0.38)C	7.0	12.5	3
PUR	**BUS9041171**	(4x0.38)C	7.0	12.5	5
TPE	**BUS9041270**	(4x0.38)C	7.5	10	3
TPE	**BUS9041271**	(4x0.38)C	7.5	10	5
M12 cable connector d-coded/ open cable end					
PVC, oil-res.	**BUS9041072**	(4x0.38)C	7.0	12.5	3
PVC, oil-res.	**BUS9041073**	(4x0.38)C	7.0	12.5	5
PUR	**BUS9041172**	(4x0.38)C	7.0	12.5	3
PUR	**BUS9041173**	(4x0.38)C	7.0	12.5	5
TPE	**BUS9041272**	(4x0.38)C	7.5	10	3
TPE	**BUS9041273**	(4x0.38)C	7.5	10	5

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core
Harnessing **RJ45 at both ends▶TIA56A**
Harnessing **one end RJ45/one end M12 x-coded▶TIA56B**
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

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Harnessed DeviceNet cable
with Binder M12 A-coded

* Technical information on the cable quality:
TPE
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Harnessed DeviceNet cable, to your required length				
Cable quality	**Part No.**	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	Bend radius [x d]
Binder cable connector M12 A-coded/ Binder cable socket M12 A-coded				
TPE	**CAT9581001** New	((2xAWG24)C+2xAWG22)C	7.0	10

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core
Harnessing **RJ45 at both ends▶TIA56A**
Harnessing **one end RJ45/one end M12 x-coded▶TIA56B**
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Connectors for network technology | Overview

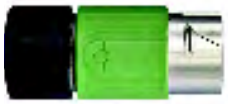
		igus® Part No.	Manufacturer	Cable diameter mm	Protection class	Number of contacts
		**MAT01717352**	HARTING	4.5-9.0	IP20	8
		**MAT01713662**	HARTING	6.0-6.9	IP20	8
		**MAT0176869**	Phoenix Contact	4.5-8.0	IP20	8
		**MAT01733149**	Telegärtner	5.5-7.3	IP20	8
		MAT01733150	Telegärtner	max. 7.0	IP20	-
		**MAT0176370**	Yamaichi	-	IP20	8
		MAT0176371	Yamaichi	max. 7.5	IP20	-
		MAT0176372	Yamaichi	-	-	-
		**MAT01717477**	WEIDMÜLLER	5.5-8.5	IP20	8
		**MAT01730294**	Telegärtner	5.5-10.0	IP20	8
		**MAT0173509**	HARTING	6.0-7.0	IP20	4
		**MAT01733547**	Dätwyler	max. 8.9	IP20	8
		**MAT01733548**	Dätwyler	max. 6.3	IP20	8
		**MAT0179875**	Binder	6.0-8.0	IP67	4

All connectors are downward compatible. Please note the outer diameter of the cable and the conductor cross section.

Connection method	Bus type	Conductor cross section [mm²]	Cable quality	matching chainflex® cables	Maximum cable diameter mm	Number of cores and conductor nominal cross section
Cutting clamps	CAT6	0.14-0.34	PVC	CFBUS.PVC.049	7.5	(4x(2x0.15))C
			PUR	CFBUS.PUR.049	7.5	(4x(2x0.15))C
			TPE	CFBUS.049	8.5	(4x(2x0.15))C
			PUR-Robot	CFROBOT8.049	8.5	4x(2x0.14)C
Hand tool needed	CAT6	0.09-0.25	PVC	CFBUS.PVC.049*	7.5	(4x(2x0.15))C
			PUR	CFBUS.PUR.049*	7.5	(4x(2x0.15))C
Cutting clamps	CAT5e	0.14-0.25	PVC	CF888.045	7.5	(4x(2x0.15))C
			PVC	CFBUS.PVC.045	7.5	(4x(2x0.15))C
			iguPUR	CF898.045	7.5	(4x(2x0.15))C
			PUR	CFBUS.PUR.045	7.5	(4x(2x0.15))C
			TPE	CFBUS.045*	8.5	(4x(2x0.15))C
			PUR-Robot	CFROBOT8.045*	8.5	4x(2x0.14)C
Hand tool needed	CAT6A CAT6	0.14-0.25	TPE	CFBUS.050*	10.5	4x(2x0.15)C)C
			PUR-Robot	CFROBOT8.050*	10.5	4x(2x0.15)C
-	-	-	PVC	CFBUS.PVC.049	7.5	(4x(2x0.15))C
			PUR	CFBUS.PUR.049	7.5	(4x(2x0.15))C
			TPE	CFBUS.049*	8.5	(4x(2x0.15))C
			PUR-Robot	CFROBOT8.049*	8.5	4x(2x0.14)C
Hand tool needed	CAT6	0.14-0.25	PVC	CFBUS.PVC.049	7.5	(4x(2x0.15))C
-	-	-	PUR	CFBUS.PUR.049	7.5	(4x(2x0.15))C
			TPE	CFBUS.049*	8.5	(4x(2x0.15))C
-	-	-	PUR-Robot	CFROBOT8.049*	8.5	4x(2x0.14)C
Cutting clamps	Cat.6 (CAT6A acc. to data sheet)	0.14-0.34	PVC	CFBUS.PVC.049	7.5	(4x(2x0.15))C
			PUR	CFBUS.PUR.049	7.5	(4x(2x0.15))C
			TPE	CFBUS.049	8.5	(4x(2x0.15))C
			PUR-Robot	CFROBOT8.049	8.5	4x(2x0.14)C
Cutting clamps	CAT6A	0.14-0.34	PVC	CFBUS.PVC.050	9.5	4x(2x0.20)C
			PUR	CFBUS.PUR.050	9.5	4x(2x0.20)C
			TPE	CFBUS.050*	10.5	(4x(2x0.15)C)C
			PUR-Robot	CFROBOT8.050*	10.5	4x(2x0.15)C
Cutting clamps	CAT5/ Profinet	0.14-0.34	PVC	CF888.060	7	(4x0.38)C
			PVC	CFBUS.PVC.040	6.5	(4x0.25)C
			PVC	CFBUS.PVC.060	7	(4x0.38)C
			iguPUR	CF898.060	7	(4x0.38)C
			PUR	CFBUS.PUR.040	6.5	(4x0.25)C
			PUR	CFBUS.PUR.060	7	(4x0.38)C
			TPE	CFBUS.040	7	(4x0.25)C
			TPE	CFBUS.060*	7.5	(4x0.38)C
			PUR-Robot	CFROBOT8.060*	8.5	(2x(2x0.34))C
Cutting clamps	CAT7A	0.15-0.34	PVC	CFBUS.PVC.052*	9.5	(4x(2x0.15)C)C
			PUR	CFBUS.PUR.052*	9.5	(4x(2x0.15)C)C
			TPE	CFBUS.052*	10.5	(4x(2x0.15)C)C
			PUR-Robot	CFROBOT8.052*	10.5	4x(2x0.15)C
Cutting clamps	CAT7A	0.15-0.34	PVC	CFBUS.PVC.052*	9.5	(4x(2x0.15)C)C
			PUR	CFBUS.PUR.052*	9.5	(4x(2x0.15)C)C
			TPE	CFBUS.052*	10.5	(4x(2x0.15)C)C
			PUR-Robot	CFROBOT8.052*	10.5	4x(2x0.15)C
Screw clamps	CAT5/ Profinet	max. 0.75	PVC	CF888.060	7	(4x0.38)C
			PVC	CFBUS.PVC.040	6.5	(4x0.25)C
			PVC	CFBUS.PVC.060	7	(4x0.38)C
			iguPUR	CF898.060	7	(4x0.38)C
			PUR	CFBUS.PUR.040	6.5	(4x0.25)C
			PUR	CFBUS.PUR.060	7	(4x0.38)C
			TPE	CFBUS.040	7	(4x0.25)C
			TPE	CFBUS.060	7.5	(4x0.38)C
			PUR-Robot	CFROBOT8.060*	8.5	(2x(2x0.34))C

* According to data sheet, the connectors do not match these cables but the cables can nevertheless be manually modified/tapered.

Connectors for network technology | Overview

		igus® Part No.	Manufacturer	Cable diameter mm	Protection class	Number of contacts
		**Series 615 connector, socket**	TE/Intercontec	4.5-10.5 (plastic clamp ring) 4.5-12mm (metal clamp ring)	IP67	12
		**615 Coupling**	TE/Intercontec	4.5-10.5 (plastic clamp ring) 4.5-12mm (metal clamp ring)	IP67	12
		**MAT01733199**	Phoenix Contact	5.0-9.7	IP67	8
		**MAT01733200**	Phoenix Contact	5.0-9.7	IP67	8
		**MAT01734849**	Phoenix Contact	5.0-9.7	IP67	8
		**MAT01735081**	Phoenix Contact	5.0-9.7	IP67	8
		**MAT01716619**	Siemens	6.5-6.5	IP20	4
		**MAT01721074**	Siemens	8.0-8.0	IP20	8

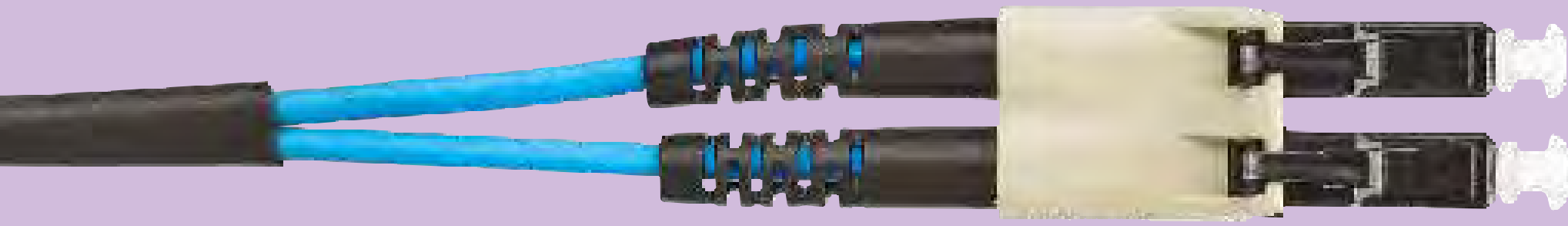
All connectors are downward compatible. Please note the outer diameter of the cable and the conductor cross section.

Connection method	Bus type	Conductor cross section [mm²]	Cable quality	matching chainflex® cables	Maximum cable diameter mm	Number of cores and conductor nominal cross section
Hand tool needed	CAT5e/ Profinet	0.05-0.75	PVC	CF888.060	7	(4x0.38)C
			PVC	CFBUS.PVC.040	6.5	(4x0.25)C
			PVC	CFBUS.PVC.060	7	(4x0.38)C
			iguPUR	CF898.060	7	(4x0.38)C
			PUR	CFBUS.PUR.040	6.5	(4x0.25)C
			PUR	CFBUS.PUR.060	7	(4x0.38)C
			TPE	CFBUS.040	7	(4x0.25)C
			TPE	CFBUS.060	7.5	(4x0.38)C
			PUR-Robot	CFROBOT8.060*	8.5	(2x(2x0.34))C
Hand tool needed	CAT5e/ Profinet	0.05-0.75	PVC	CF888.060	7	(4x0.38)C
			PVC	CFBUS.PVC.040	6.5	(4x0.25)C
			PVC	CFBUS.PVC.060	7	(4x0.38)C
			iguPUR	CF898.060	7	(4x0.38)C
			PUR	CFBUS.PUR.040	6.5	(4x0.25)C
			PUR	CFBUS.PUR.060	7	(4x0.38)C
			TPE	CFBUS.040	7	(4x0.25)C
			TPE	CFBUS.060	7.5	(4x0.38)C
			PUR-Robot	CFROBOT8.060*	8.5	(2x(2x0.34))C
Cutting clamps	CAT6A/ Ethernet	0.14-0.34	PVC	CFBUS.PVC.050	9.5	4x(2x0.20)C
			PUR	CFBUS.PUR.050	9.5	4x(2x0.20)C
			TPE	CFBUS.050*	10.5	(4x(2x0.15)C)C
			PUR-Robot	CFROBOT8.050*	10.5	4x(2x0.15)C
Cutting clamps	CAT6A/ Profinet	0.25-0.5	PVC	CF888.060	7	(4x0.38)C
			PVC	CFBUS.PVC.040	6.5	(4x0.25)C
			PVC	CFBUS.PVC.060	7	(4x0.38)C
			iguPUR	CF898.060	7	(4x0.38)C
			PUR	CFBUS.PUR.040	6.5	(4x0.25)C
			PUR	CFBUS.PUR.060	7	(4x0.38)C
			TPE	CFBUS.040	7	(4x0.25)C
			TPE	CFBUS.060	7.5	(4x0.38)C
			PUR-Robot	CFROBOT8.060	8.5	(2x(2x0.34))C
Cutting clamps	CAT6A/ Ethernet	0.14-0.34	PVC	CFBUS.PVC.050	9.5	4x(2x0.20)C
			PUR	CFBUS.PUR.050	9.5	4x(2x0.20)C
			TPE	CFBUS.050*	10.5	(4x(2x0.15)C)C
			PUR-Robot	CFROBOT8.050*	10.5	4x(2x0.15)C
Cutting clamps	CAT6A/ Profinet	0.25-0.5	PVC	CF888.060	7	(4x0.38)C
			PVC	CFBUS.PVC.040	6.5	(4x0.25)C
			PVC	CFBUS.PVC.060	7	(4x0.38)C
			iguPUR	CF898.060	7	(4x0.38)C
			PUR	CFBUS.PUR.040	6.5	(4x0.25)C
			PUR	CFBUS.PUR.060	7	(4x0.38)C
			TPE	CFBUS.040	7	(4x0.25)C
			TPE	CFBUS.060	7.5	(4x0.38)C
			PUR-Robot	CFROBOT8.060	8.5	(2x(2x0.34))C
Cutting clamps	CAT5/ Profinet	0.14-0.38	PVC	CF888.060	7	(4x0.38)C
			PVC	CFBUS.PVC.040	6.5	(4x0.25)C
			PVC	CFBUS.PVC.060	7	(4x0.38)C
			iguPUR	CF898.060	7	(4x0.38)C
			PUR	CFBUS.PUR.040	6.5	(4x0.25)C
			PUR	CFBUS.PUR.060	7	(4x0.38)C
			TPE	CFBUS.040	7	(4x0.25)C
			TPE	CFBUS.060*	7.5	(4x0.38)C
Cutting clamps	CAT6	0.14-0.25	PVC	CFBUS.PVC.049	7.5	(4x(2x0.15))C
			PUR	CFBUS.PUR.049	7.5	(4x(2x0.15))C
			TPE	CFBUS.049*	8.5	(4x(2x0.15))C
			PUR-Robot	CFROBOT8.049*	8.5	4x(2x0.14)C

* According to data sheet, the connectors do not match these cables but the cables can nevertheless be manually modified/tapered.

FOC

Harnessed Fibre Optic Cables



chainflex® readycable®

		Material	Page
Harnessed Fibre Optic Cables for video			
	**FOC** 2 fibres	**PVC/TPE**	520
	**FOC** 4 fibres	**TPE**	521
Harnessed Fibre Optic Cables for network			
	**FOC** 6 fibres	**TPE**	522
	**FOC** 12 fibres	**TPE**	522



igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year

Harnessed Fibre Optic Cables for video

* Technical information on the cable quality:

PVC	TPE	TPE-ROBOT
From page 222	From page 228	From page 410

Harnessed Fibre Optic Cables, glass-fibre, 2 fibres, to your required length

ST/ST Connector

Pre-harnessed at both ends



Cable quality	Part No.	chainflex® cable	No. of fibres	Fibre diameter	Ø [mm]	Bend radius [x d]
PVC	LWL99230001	CFLG88.2.50/125	2	50/125	7.0	7.5
PVC	LWL99230002	CFLG88.2.62.5/125	2	62.5/125	7.0	7.5
TPE H*	LWL90412394	CFLG.2LB.50/125	2	50/125	8.5	5
TPE H*	LWL90412397	CFLG.2LB.62.5/125	2	62.5/125	8.5	5
TPE H*	LWL9040086	CFLG.4LB.50/125	4	50/125	9.0	5
TPE H*	LWL9040085	CFLG.4LB.62.5/125	4	62.5/125	9.0	5
TPE Robot	LWL90422492	CFROBOT5.501	2	50/125	8.5	10
TPE Robot	LWL90422495	CFROBOT5.500	2	62.5/125	8.5	10

ST/LC Connector

Pre-harnessed at both ends



PVC	LWL99230007	CFLG88.2.50/125	2	50/125	7.0	7.5
PVC	LWL99230008	CFLG88.2.62.5/125	2	62.5/125	7.0	7.5
TPE H*	LWL90412393 [1)]	CFLG.2LB.50/125	2	50/125	8.5	5
TPE H*	LWL90412396 [1)]	CFLG.2LB.62.5/125	2	62.5/125	8.5	5
TPE H*	LWL9040093	CFLG.4LB.50/125	4	50/125	9.0	5
TPE H*	LWL9040094	CFLG.4LB.62.5/125	4	62.5/125	9.0	5
TPE Robot	LWL90422491 [1)]	CFROBOT5.501	2	50/125	8.5	10
TPE Robot	LWL90422494	CFROBOT5.500	2	62.5/125	8.5	10

LC/LC Connector

Pre-harnessed at both ends



PVC	LWL99230005	CFLG88.2.50/125	2	50/125	7.0	7.5
PVC	LWL99230006	CFLG88.2.62.5/125	2	62.5/125	7.0	7.5
TPE H*	LWL90412395	CFLG.2LB.50/125	2	50/125	8.5	5
TPE H*	LWL90412398	CFLG.2LB.62.5/125	2	62.5/125	8.5	5
TPE H*	LWL90425050	CFLG.4LB.50/125	4	50/125	9.0	5
TPE H*	LWL9040092	CFLG.4LB.62.5/125	4	62.5/125	9.0	5
TPE Robot	LWL90422493	CFROBOT5.501	2	50/125	8.5	10
TPE Robot	LWL90422496	CFROBOT5.500	2	62.5/125	8.5	10

[1)] When installing this cable as an extension, 2 ST connectors (MAT0176314) must also be ordered.

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed Fibre Optic Cables for video

* Technical information on the cable quality:

PVC	TPE	TPE-ROBOT
From page 222	From page 228	From page 410

Harnessed Fibre Optic Cables, glass-fibre, 2 fibres, to your required length						
Cable quality	**Part No.**	**chainflex® cable**	No. of fibres	Fibre diameter	Ø [mm]	Bend radius [x d]
SC/SC Connector						
Pre-harnessed at both ends						
PVC	**LWL99230003**	**CFLG88.2.50/125**	2	50/125	7.0	7.5
PVC	**LWL99230004**	**CFLG88.2.62.5/125**	2	62.5/125	7.0	7.5
ST/SC Connector						
Pre-harnessed at both ends						
PVC	**LWL99230009**	**CFLG88.2.50/125**	2	50/125	7.0	7.5
PVC	**LWL99230010**	**CFLG88.2.62.5/125**	2	62.5/125	7.0	7.5
LC/SC Connector						
Pre-harnessed at both ends						
PVC	**LWL99230011**	**CFLG88.2.50/125**	2	50/125	7.0	7.5
PVC	**LWL99230012**	**CFLG88.2.62.5/125**	2	62.5/125	7.0	7.5

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed with these connectors

Connector  SC  ST  LC

Tube sinking

Tube sinking 

	LWL90428935	Closed corrugated tube to feed in Fibre Optic Cables (shown cut open)

Harnessed Fibre Optic Cables for network | TPE

* Technical information on the cable quality:
TPE
From page 228

Harnessed Fibre Optic Cables, glass-fibre, 6/12 fibres, to your required length					
Cable quality	**Part No.**	No. of fibres	Fibre diameter	Ø [mm]	Bend radius [x d]
ST/ST Connector					
Pre-harnessed at both ends					
TPE H*	**LWL9040091**	6	50/125	11.0	5
TPE H*	**LWL9040090**	6	62.5/125	11.0	5
TPE H*	**LWL90428938**	12	50/125	14.0	5
TPE H*	**LWL90428937**	12	62.5/125	14.0	5
LC/LC Connector					
Pre-harnessed at both ends					
TPE H*	**LWL90428946**	6	50/125	11.0	5
TPE H*	**LWL90428945**	6	62.5/125	11.0	5
TPE H*	**LWL90428942**	12	50/125	14.0	5
TPE H*	**LWL90428941**	12	62.5/125	14.0	5
SC/SC Connector					
Pre-harnessed at both ends					
TPE H*	**LWL90428944**	6	50/125	11.0	5
TPE H*	**LWL90428943**	6	62.5/125	11.0	5
TPE H*	**LWL90428940**	12	50/125	14.0	5
TPE H*	**LWL90428939**	12	62.5/125	14.0	5

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits. Example images.
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed with these connectors

Connec-tor


SC


ST


LC

Tube sinking

Tube sinking



LWL90428935 Closed corrugated tube to feed in Fibre Optic Cables (shown cut open)

Harnessed Fibre Optic Cables for network | TPE

* Technical information on the cable quality:
TPE
From page 228

Harnessed Fibre Optic Cables, glass-fibre, 6/12 fibres, to your required length

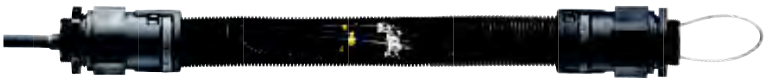
Cable quality	Part No.	No. of fibres	Fibre diameter	Ø [mm]	Bend radius [x d]
ST/ST Connector					
Pre-harnessed at both ends					
	LWL9040030	6	50/125	10.0	10
	LWL9040045	6	62.5/125	10.0	10
incl. conversion to SC	**LWL9040032**	6	50/125	10.0	10
incl. conversion to SC	**LWL9040047**	6	62.5/125	10.0	10
incl. conversion to LC	**LWL9040031**	6	50/125	10.0	10
incl. conversion to LC	**LWL9040046**	6	62.5/125	10.0	10
ST/ST Connector					
Pre-harnessed at both ends					
	LWL9040060	12	50/125	10.0	10
	LWL9040075	12	62.5/125	10.0	10
incl. conversion to SC	**LWL9040062**	12	50/125	10.0	10
incl. conversion to SC	**LWL9040077**	12	62.5/125	10.0	10
incl. conversion to LC	**LWL9040061**	12	50/125	10.0	10
incl. conversion to LC	**LWL9040076**	12	62.5/125	10.0	10

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core

Harnessed with these connectors

Connec-tor  ST

Tube sinking

Tube sinking 

LWL90428936 Closed corrugated tube to feed in Fibre Optic Cables (shown cut open)

Fibre identification

Part No.	Fibre identification	Hollow core identification
CFLG.6G.62,5/125.TC	ecru, yellow, green, red, violet, blue	orange
CFLG.6G.50/125.TC	ecru, yellow, green, red, violet, blue	blue
CFLG.12G.62,5/125.TC	ecru, yellow, green, red, violet, blue, light blue, grey, brown, black, orange, pink	orange
CFLG.12G.50/125.TC	ecru, yellow, green, red, violet, blue, light blue, grey, brown, black, orange, pink	blue

CF.INI

Sensor/actuator



chainflex® readycable®

	Cable type	Jacket	Page
Sensor/actuator CF9 - CF.INI (minimum bend radius 5 x d)			
	Connection cable M12 x 1, straight/angled	TPE	527
	Linking cable M12 x 1, straight/angled	TPE	527
	Connection cable M12 x 1, straight/angled, LED	TPE	529
	Connection cable M8 x 1, straight/angled	TPE	531
	Linking cable M8 x 1, straight/angled	TPE	531
	Connection cable M8 x 1, angled, LED	TPE	533
Sensor/actuator CF10 - CF.INI (minimum bend radius 5 x d) 360° shielded			
	Connection cable M12 x 1, straight/angled	TPE	535
	Linking cable M12 x 1, straight/angled	TPE	535
Sensor/actuator CF98 - CF.INI (minimum bend radius 4 x d)			
	Connection cable M12 x 1, straight/angled	TPE	537
	Linking cable M12 x 1, straight/angled	TPE	537
	Connection cable M8 x 1, straight/angled	TPE	539
	Linking cable M8 x 1, straight/angled	TPE	539
chainflex® cables for actuator/sensor distribution box			
	Connection cable M23, straight	TPE	540
	Linking cable M23, straight/angled	TPE	540
	Connection cable M12, straight	TPE	541



igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year

Harnessed sensor/actuator cables

Connection and Linking cables M12 x 1
Bend radius, e-chain®: minimum 5 x d

Electrical information

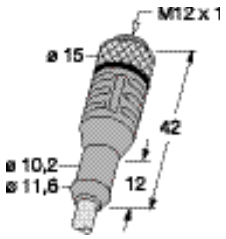
Number of poles	5-pole	4-pole
Ampacity	4A	4A
Rated voltage	60V	250V
Insulating resistance	≥ 10^9 Ω	≥ 10^9Ω
Contact resistance	≤ 5mΩ	≤ 5mΩ
Pollution degree	3/2	3/2
Ambient temperature	-35°C up to+105°C	-35°C up to +105°C
Protection class	IP69K, in screwed state	IP69K, in screwed state
Mechanical service life	max. 100 insertion cycles	max. 100 insertion cycles

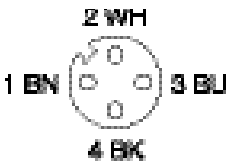
Technical data

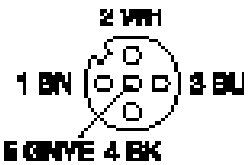
Design	Coupling	Connector
Connector	Coupling, M12 x 1	Connector, M12 x 1
Handle base	Plastic, PP, black	Plastic, PP, black
Union nut/screw	Metal, CuZn, nickel-plated	Metal, CuZn, nickel-plated
Contact base	Plastic, PP, black	Plastic, TPU, black
Contacts	Metal, CuZn, gold-plated	Metal, CuZn, gold-plated
Seal	Plastic, FPM (Viton)	

Harnessed with these connectors

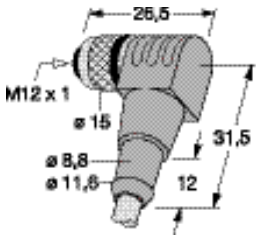
Cable socket M12-BG

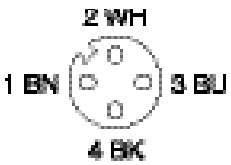


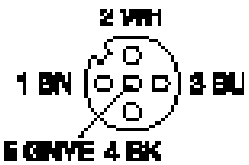




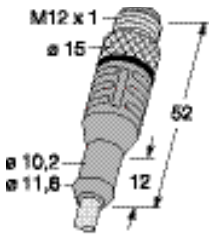
Angled socket M12-BW

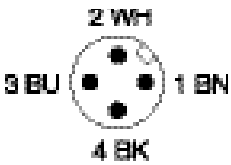


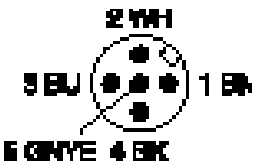




Cable connector M12-SG







Type	Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	Cable length [m]
Connection cable M12				
Cable socket M12/ open cable end				
CF.INI-P4-M12-BG-3	MAT9043700	4x0.34	5.0	3
CF.INI-P4-M12-BG-5	MAT9043701	4x0.34	5.0	5
CF.INI-P4-M12-BG-7	MAT9043702	4x0.34	5.0	7
CF.INI-P4-M12-BG-10	MAT9043703	4x0.34	5.0	10
CF.INI-P4-M12-BG-15	MAT9049426	4x0.34	5.0	15
CF.INI-P5-M12-BG-3	MAT9043737	5x0.34	5.5	3
CF.INI-P5-M12-BG-5	MAT9043738	5x0.34	5.5	5
CF.INI-P5-M12-BG-7	MAT9043739	5x0.34	5.5	7
CF.INI-P5-M12-BG-10	MAT9043740	5x0.34	5.5	10
CF.INI-P5-M12-BG-15	MAT90410077	5x0.34	5.5	15
Angled socket M21/ open cable end				
CF.INI-P4-M12-BW-3	MAT9043704	4x0.34	5.0	3
CF.INI-P4-M12-BW-5	MAT9043705	4x0.34	5.0	5
CF.INI-P4-M12-BW-7	MAT9043706	4x0.34	5.0	7
CF.INI-P4-M12-BW-10	MAT9043707	4x0.34	5.0	10
CF.INI-P4-M12-BW-15	MAT9049430	4x0.34	5.0	15
CF.INI-P5-M12-BW-3	MAT9043742	5x0.34	5.5	3
CF.INI-P5-M12-BW-5	MAT9043743	5x0.34	5.5	5
CF.INI-P5-M12-BW-7	MAT9043744	5x0.34	5.5	7
CF.INI-P5-M12-BW-10	MAT9043745	5x0.34	5.5	10
CF.INI-P5-M12-BW-15	MAT90410078	5x0.34	5.5	15
Linking cable M12				
Cable socket M12/ cable connector M12				
CF.INI-P4-M12-BG/M12-SG-2	MAT90410312 [1]	4x0.34	5.0	2
CF.INI-P4-M12-BG/M12-SG-5	MAT90410313 [1]	4x0.34	5.0	5
CF.INI-P4-M12-BG/M12-SG-10	MAT90410314 [1]	4x0.34	5.0	10
CF.INI-P5-M12-BG/M12-SG-2	MAT90410339 [1]	5x0.34	5.5	2
CF.INI-P5-M12-BG/M12-SG-5	MAT90410340 [1]	5x0.34	5.5	5
CF.INI-P5-M12-BG/M12-SG-10	MAT90410341 [1]	5x0.34	5.5	10
Cable socket M12/ cable connector M12				
CF.INI-P4-M12-BW/M12-SG-2	MAT90410315 [1]	4x0.34	5.0	2
CF.INI-P4-M12-BW/M12-SG-5	MAT90410316 [1]	4x0.34	5.0	5
CF.INI-P4-M12-BW/M12-SG-10	MAT90410317 [1]	4x0.34	5.0	10
CF.INI-P5-M12-BW/M12-SG-2	MAT90410342 [1]	5x0.34	5.5	2
CF.INI-P5-M12-BW/M12-SG-5	MAT90410343 [1]	5x0.34	5.5	5
CF.INI-P5-M12-BW/M12-SG-10	MAT90410344 [1]	5x0.34	5.5	10

[1] Delivery time upon request

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
Also sold by the meter to your required length, unassembled.
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed sensor/actuator cables

Connection cable with LED M12 x 1: Bend radius, e-chain®: minimum 5 x d

Electrical information

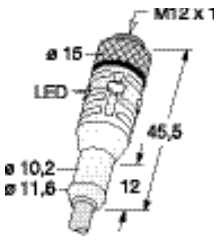
Number of poles	**4-pole**
Ampacity	4A
Rated voltage	30V
Insulating resistance	≥ 10^9 Ω
Contact resistance	≤ 5mΩ
Pollution degree	3/2
Operating voltage display	LED green
Switching state display	LED yellow/yellow
Switching function	pnp
Ambient temperature	-35°C up to+105°C
Protection class	IP66, in screwed state
Mechanical service life	max. 100 insertion cycles

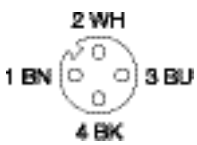
Technical data

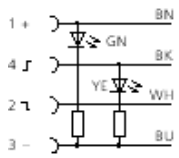
Design	**Coupling**
Connector	Coupling, M12 x 1
Handle base	Plastic, TPU, transparent
Union nut/screw	Metal, CuZn, nickel-plated
Contact base	Plastic, PA6GF, transparent
Contacts	Metal, CuZn, gold-plated
Seal	Plastic, FPM (Viton)

Harnessed with these connectors

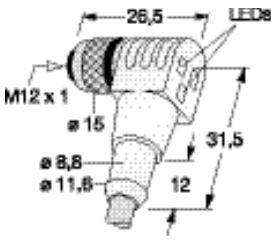
Cable socket with LED M12-BGL

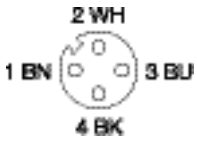


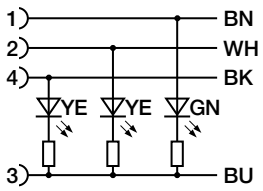




Angled socket with LED M12-BWL







Type	Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	Cable length [m]
Connection cable M12				
Cable socket M12 with LED/ open cable end				
CF.INI-P4-M12-BGL2-3	MAT9043708	4x0.34	5.0	3
CF.INI-P4-M12-BGL2-5	MAT9043709	4x0.34	5.0	5
CF.INI-P4-M12-BGL2-7	MAT9043710	4x0.34	5.0	7
CF.INI-P4-M12-BGL2-10	MAT9043711	4x0.34	5.0	10
CF.INI-P4-M12-BGL2-15	MAT90410087	4x0.34	5.0	15
Angled socket M12 with LED/ open cable end				
CF.INI-P4-M12-BWL3-3	MAT9043712	4x0.34	5.0	3
CF.INI-P4-M12-BWL3-5	MAT9043713	4x0.34	5.0	5
CF.INI-P4-M12-BWL3-7	MAT9043714	4x0.34	5.0	7
CF.INI-P4-M12-BWL3-10	MAT9043715	4x0.34	5.0	10
CF.INI-P4-M12-BWL3-15	MAT90410088	4x0.34	5.0	15

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
Also sold by the meter to your required length, unassembled.
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed sensor/actuator cables

Connection and linking cables M8 x 1: Bend radius, e-chain®: minimum 5 x d

Electrical information

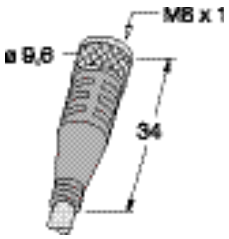
Number of poles	3-pole	4-pole
Ampacity	4A	4A
Rated voltage	60V	30V
Insulating resistance	≥ 10^9 Ω	≥ 10^9 Ω
Contact resistance	≤ 5mΩ	≤ 5mΩ
Pollution degree	3/2	3/2
Ambient temperature	-35°C up to+105°C	-35°C up to+105°C
Protection class	IP69K, in screwed state	IP69K, in screwed state
Mechanical service life	max. 100 insertion cycles	max. 100 insertion cycles

Technical data

Design	Coupling	Connector
Connector	Coupling, M8 x 1	Connector, M8 x 1
Handle base	Plastic, PP, black	Plastic, PP, black
Union nut/screw	Metal, CuZn, nickel-plated	Metal, CuZn, nickel-plated
Contact base	Plastic, PP, black	Plastic, PP, black
Contacts	Metal, CuZn, gold-plated	Metal, CuZn, gold-plated
Seal	Plastic, FPM (Viton)	

Harnessed with these connectors

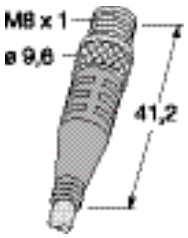
Cable socket M8-BG







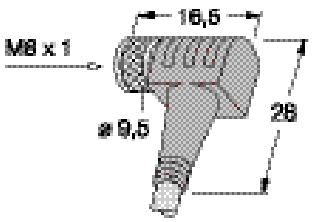
Cable connector M8-SG

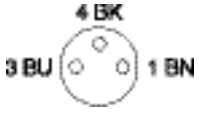






Angled socket M8-BW







Type	Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	Cable length [m]
Connection cable M8				
Cable socket M8/ open cable end				
CF.INI-P3-M8-BG-3	MAT9043716	3x0.25	4.5	3
CF.INI-P3-M8-BG-5	MAT9043717	3x0.25	4.5	5
CF.INI-P3-M8-BG-7	MAT9043718	3x0.25	4.5	7
CF.INI-P3-M8-BG-10	MAT9043719	3x0.25	4.5	10
CF.INI-P3-M8-BG-15	MAT9049416	3x0.25	4.5	15
CF.INI-P4-M8-BG-3	MAT9043728	4x0.34	5.0	3
CF.INI-P4-M8-BG-5	MAT9043729	4x0.34	5.0	5
CF.INI-P4-M8-BG-7	MAT9043730	4x0.34	5.0	7
CF.INI-P4-M8-BG-10	MAT9043731	4x0.34	5.0	10
CF.INI-P4-M8-BG-15	MAT9049466	4x0.34	5.0	15
Angled socket M8/ open cable end				
CF.INI-P3-M8-BW-3	MAT9043724	3x0.25	4.5	3
CF.INI-P3-M8-BW-5	MAT9043725	3x0.25	4.5	5
CF.INI-P3-M8-BW-7	MAT9043726	3x0.25	4.5	7
CF.INI-P3-M8-BW-10	MAT9043727	3x0.25	4.5	10
CF.INI-P3-M8-BW-15	MAT9049419	3x0.25	4.5	15
CF.INI-P4-M8-BW-3	MAT9043732	4x0.34	5.0	3
CF.INI-P4-M8-BW-5	MAT9043733	4x0.34	5.0	5
CF.INI-P4-M8-BW-7	MAT9043734	4x0.34	5.0	7
CF.INI-P4-M8-BW-10	MAT9043735	4x0.34	5.0	10
CF.INI-P4-M8-BW-15	MAT9049467	4x0.34	5.0	15
Linking cable M8				
M8 cable socket/ M8 cable connector				
CF.INI-P3-M8-BG/M8-SG-2	MAT90410324 [1]	3x0.25	4.5	2
CF.INI-P3-M8-BG/M8-SG-5	MAT90410325 [1]	3x0.25	4.5	5
CF.INI-P3-M8-BG/M8-SG-10	MAT90410326 [1]	3x0.25	4.5	10
CF.INI-P4-M8-BG/M8-SG-2	MAT90410333 [1]	4x0.34	5.0	2
CF.INI-P4-M8-BG/M8-SG-5	MAT90410334 [1]	4x0.34	5.0	5
CF.INI-P4-M8-BG/M8-SG-10	MAT90410335 [1]	4x0.34	5.0	10
Angled socket M8/ cable connector M8				
CF.INI-P3-M8-BW/M8-SG-2	MAT90410330 [1]	3x0.25	4.5	2
CF.INI-P3-M8-BW/M8-SG-5	MAT90410331 [1]	3x0.25	4.5	5
CF.INI-P3-M8-BW/M8-SG-10	MAT90410332 [1]	3x0.25	4.5	10
CF.INI-P4-M8-BW/M8-SG-2	MAT90410336 [1]	4x0.34	5.0	2
CF.INI-P4-M8-BW/M8-SG-5	MAT90410337 [1]	4x0.34	5.0	5
CF.INI-P4-M8-BW/M8-SG-10	MAT90410338 [1]	4x0.34	5.0	10

[1] Delivery time upon request

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
Also sold by the meter to your required length, unassembled.
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed sensor/actuator cables

Connection cables with LED M8 x 1: Bend radius, e-chain®: minimum 5 x d

Electrical information

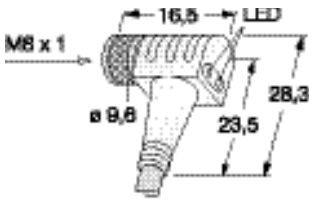
Number of poles	**3-pole**
Ampacity	4A
Rated voltage	30V
Insulating resistance	≥ 10^9 Ω
Contact resistance	≤ 5mΩ
Pollution degree	3/2
Operating voltage display	LED green
Switching state display	LED yellow/yellow
Switching function	pnp
Ambient temperature	-35°C up to+105°C
Protection class	IP66, in screwed state
Mechanical service life	max. 100 insertion cycles

Technical data

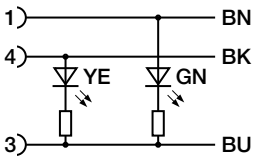
Design	**Coupling**
Connector	Coupling, M8 x 1
Handle base	Plastic, TPU, transparent
Union nut/screw	Metal, CuZn, nickel-plated
Contact base	Plastic, PA6GF, black
Contacts	Metal, CuZn, gold-plated
Seal	Plastic, FPM (Viton)

Harnessed with these connectors

Angled socket with LED M8-BWL







ASEAN2023

Type	Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	Cable length [m]
Connection cable M8				
Angled socket M8 with LED/ open cable end				
CF.INI-P3-M8-BWL2-3	MAT9043720	3x0.25	4.5	3
CF.INI-P3-M8-BWL2-5	MAT9043721	3x0.25	4.5	5
CF.INI-P3-M8-BWL2-7	MAT9043722	3x0.25	4.5	7
CF.INI-P3-M8-BWL2-10	MAT9043723	3x0.25	4.5	10
CF.INI-P3-M8-BWL2-15	MAT90410196	3x0.25	4.5	15

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
Also sold by the meter to your required length, unassembled.
igus® GmbH defines cable length as entire length including connectors or open harnessing. ► Page 961

Harnessed sensor/actuator cables

Connection and linking cables 360° shielded, M12 x 1: Bend radius, e-chain®: minimum 5 x d

Electrical information

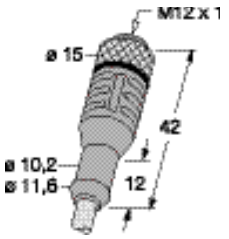
Number of poles	**5-pole (4-pole + PE)**
Ampacity	4A
Rated voltage	60V
Insulating resistance	≥ 10^9 Ω
Contact resistance	≤ 5mΩ
Pollution degree	3/2
Ambient temperature	-35°C up to+105°C
Protection class	IP69K, in screwed state
Mechanical service life	max. 100 insertion cycles

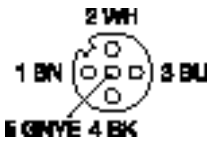
Technical data

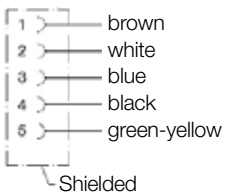
Design	**Coupling**
Connector	Coupling, M12 x 1
Handle base	Plastic, PP, black
Union nut/screw	Metal, CuZn, nickel-plated
Contact base	Plastic, PP, black
Contacts	Metal, CuZn, gold-plated
Seal	Plastic, FPM (Viton)

Harnessed with these connectors

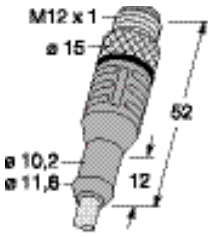
Cable socket M12-BG



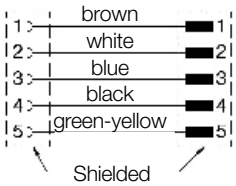




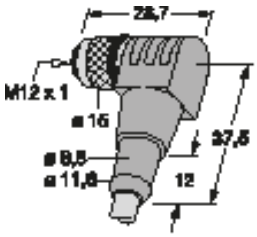
Cable connector M12-SG

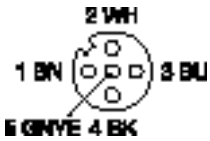


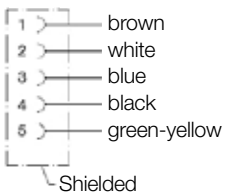




Angled socket M12-BW







ASEAN2023

Type	Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	Cable length [m]
Connection cable M12				
Cable socket M12/ open cable end				
CF10.INI-P5-C-M12-BG-3	MAT90424072	(5x0.34)C	7.0	3
CF10.INI-P5-C-M12-BG-5	MAT90424073	(5x0.34)C	7.0	5
CF10.INI-P5-C-M12-BG-7	MAT90424074	(5x0.34)C	7.0	7
CF10.INI-P5-C-M12-BG-10	MAT90424075	(5x0.34)C	7.0	10
CF10.INI-P5-C-M12-BG-15	MAT90424076	(5x0.34)C	7.0	15
Angled socket M21/ open cable end				
CF10.INI-P5-C-M12-BW-3	MAT90424077	(5x0.34)C	7.0	3
CF10.INI-P5-C-M12-BW-5	MAT90424078	(5x0.34)C	7.0	5
CF10.INI-P5-C-M12-BW-7	MAT90424079	(5x0.34)C	7.0	7
CF10.INI-P5-C-M12-BW-10	MAT90424080	(5x0.34)C	7.0	10
CF10.INI-P5-C-M12-BW-15	MAT90424081	(5x0.34)C	7.0	15
Linking cable M12				
Cable socket M12/ cable connector M12				
CF10.INI-P5-C-M12-BG/M12-SG-2	MAT90424082 [1]	(5x0.34)C	7.0	2
CF10.INI-P5-C-M12-BG/M12-SG-5	MAT90424083 [1]	(5x0.34)C	7.0	5
CF10.INI-P5-C-M12-BG/M12-SG-10	MAT90424084 [1]	(5x0.34)C	7.0	10
Cable socket M12/ cable connector M12				
CF10.INI-P5-C-M12-BW/M12-SG-2	MAT90424085 [1]	(5x0.34)C	7.0	2
CF10.INI-P5-C-M12-BW/M12-SG-5	MAT90424086 [1]	(5x0.34)C	7.0	5
CF10.INI-P5-C-M12-BW/M12-SG-10	MAT90424087 [1]	(5x0.34)C	7.0	10

[1] Delivery time upon request

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
Also sold by the meter to your required length, unassembled.
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed sensor/actuator cables

Connection and linking cables M12 x 1: Bend radius, e-chain®: minimum 4 x d

Electrical information

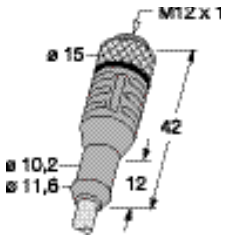
Number of poles	**4-pole**
Ampacity	4A
Rated voltage	250V
Insulating resistance	≥ 10^9 Ω
Contact resistance	≤ 5mΩ
Pollution degree	3/2
Ambient temperature	-35°C up to+105°C
Protection class	IP69K, in screwed state
Mechanical service life	max. 100 insertion cycles

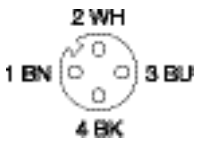
Technical data

Design	**Coupling**	**Connector**
Connector	Coupling, M12 x 1	Connector, M12x1
Handle base	Plastic, PP, black	Plastic, PP, black
Union nut/screw	Metal, CuZn, nickel-plated	Metal, CuZn, nickel-plated
Contact base	Plastic, TPU, black	Plastic, TPU, black
Contacts	Metal, CuZn, gold-plated	Metal, CuZn, gold-plated
Seal	Plastic, FPM (Viton)	

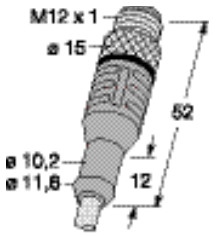
Harnessed with these connectors

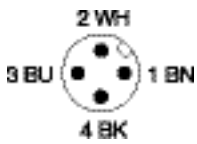
Cable socket M12-BG



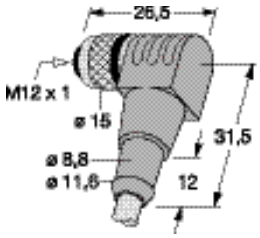


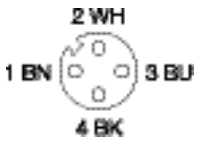
Cable connector M12-SG





Angled socket M12-BW





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Type	Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	Cable length [m]
Connection cable M12				
Cable socket M12/ open cable end				
CF98.INI-P4-M12-BG-3	MAT90410235 [1]	4x0.34	6.0	3
CF98.INI-P4-M12-BG-5	MAT90410236 [1]	4x0.34	6.0	5
CF98.INI-P4-M12-BG-7	MAT90410237 [1]	4x0.34	6.0	7
CF98.INI-P4-M12-BG-10	MAT90410238 [1]	4x0.34	6.0	10
CF98.INI-P4-M12-BG-15	MAT90410239 [1]	4x0.34	6.0	15
Angled socket M21/ open cable end				
CF98.INI-P4-M12-BW-3	MAT90410240 [1]	4x0.34	6.0	3
CF98.INI-P4-M12-BW-5	MAT90410241 [1]	4x0.34	6.0	5
CF98.INI-P4-M12-BW-7	MAT90410242 [1]	4x0.34	6.0	7
CF98.INI-P4-M12-BW-10	MAT90410243 [1]	4x0.34	6.0	10
CF98.INI-P4-M12-BW-15	MAT90410244 [1]	4x0.34	6.0	15
Linking cable M12				
Cable socket M12/ cable connector M12				
CF98.INI-P4-M12-BG/M12-SG-2	MAT90410300 [1]	4x0.34	6.0	2
CF98.INI-P4-M12-BG/M12-SG-5	MAT90410301 [1]	4x0.34	6.0	5
CF98.INI-P4-M12-BG/M12-SG-10	MAT90410302 [1]	4x0.34	6.0	10
Cable socket M12/ cable connector M12				
CF98.INI-P4-M12-BW/M12-SG-2	MAT90410303 [1]	4x0.34	6.0	2
CF98.INI-P4-M12-BW/M12-SG-5	MAT90410304 [1]	4x0.34	6.0	5
CF98.INI-P4-M12-BW/M12-SG-10	MAT90410305 [1]	4x0.34	6.0	10

[1] Delivery time upon request

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
Also sold by the meter to your required length, unassembled.
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed sensor/actuator cables

Connection and linking cables M8 x 1: Bend radius, e-chain®: minimum 4 x d

Electrical information

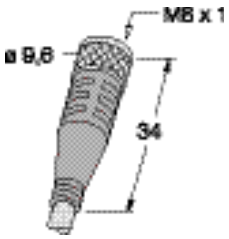
Number of poles	**3-pole**
Ampacity	4A
Rated voltage	60V
Insulating resistance	≥ 10^9 Ω
Contact resistance	≤ 5mΩ
Pollution degree	3/2
Ambient temperature	-35°C up to+105°C
Protection class	IP69K, in screwed state
Mechanical service life	max. 100 insertion cycles

Technical data

Design	**Coupling**	**Connector**
Connector	Coupling, M8 x 1	Connector, M8x1
Handle base	Plastic, PP, black	Plastic, PP, black
Union nut/screw	Metal, CuZn, nickel-plated	Metal, CuZn, nickel-plated
Contact base	Plastic, TPU, black	Plastic, TPU, black
Contacts	Metal, CuZn, gold-plated	Metal, CuZn, gold-plated
Seal	Plastic, FPM (Viton)	

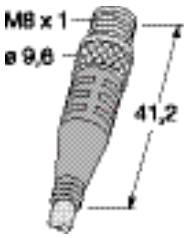
Harnessed with these connectors

Cable socket M8-BG



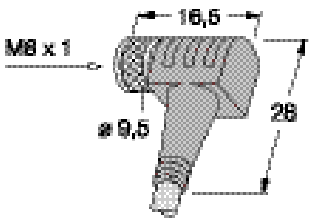


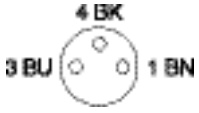
Cable connector M8-SG





Angled socket M8-BW





Type	Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	Cable length [m]
Connection cable M8				
Cable socket M8/ open cable end				
CF98.INI-P3-M8-BG-3	MAT90410245 [1]	3x0.25	5.0	3
CF98.INI-P3-M8-BG-5	MAT90410246 [1]	3x0.25	5.0	5
CF98.INI-P3-M8-BG-7	MAT90410247 [1]	3x0.25	5.0	7
CF98.INI-P3-M8-BG-10	MAT90410248 [1]	3x0.25	5.0	10
CF98.INI-P3-M8-BG-15	MAT90410249 [1]	3x0.25	5.0	15
Angled socket M8/ open cable end				
CF98.INI-P3-M8-BW-3	MAT90410250 [1]	3x0.25	5.0	3
CF98.INI-P3-M8-BW-5	MAT90410251 [1]	3x0.25	5.0	5
CF98.INI-P3-M8-BW-7	MAT90410252 [1]	3x0.25	5.0	7
CF98.INI-P3-M8-BW-10	MAT90410253 [1]	3x0.25	5.0	10
CF98.INI-P3-M8-BW-15	MAT90410254 [1]	3x0.25	5.0	15
Linking cable M8				
M8 cable socket/ M8 cable connector				
CF98.INI-P3-M8-BG/M8-SG-2	MAT90410306 [1]	3x0.25	5.0	2
CF98.INI-P3-M8-BG/M8-SG-5	MAT90410307 [1]	3x0.25	5.0	5
CF98.INI-P3-M8-BG/M8-SG-10	MAT90410308 [1]	3x0.25	5.0	10
Angled socket M8/ cable connector M8				
CF98.INI-P3-M8-BW/M8-SG-2	MAT90410309 [1]	3x0.25	5.0	2
CF98.INI-P3-M8-BW/M8-SG-5	MAT90410310 [1]	3x0.25	5.0	5
CF98.INI-P3-M8-BW/M8-SG-10	MAT90410311 [1]	3x0.25	5.0	10

[1] Delivery time upon request

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
Also sold by the meter to your required length, unassembled.
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Sensor/actuator distribution box

To connect sensor/actuator distribution boxes

Connection cable M23: Socket/Pin at the cable front, cable ends cut

Part No.		Number of cores and conductor nominal cross section [mm²]	Ø [mm]
Connection cable M23			
Socket M23/ open cable end			
MAT90436630 [1)]		16x0.34+3x0.75	11.0
Connector M23/ open cable end			
MAT90436631 [1)]		16x0.34+3x0.75	11.0
Connection cable M23			
Connector M23/ angled socket M23			
MAT90436629		16x0.34+3x0.75	11.0
Connector M23/ socket M23			
MAT90436628		16x0.34+3x0.75	11.0

[1)] igus® gladly pre-harnesses the cable according to your technical guidelines.

All cables available to your required length.

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits. Example images.
* igus® gladly pre-harnesses the cable according to your technical guidelines.
G = with green-yellow earth core **x** = without earth core
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Sensor/actuator distribution box

To connect sensor/actuator distribution boxes

Connection cable M12:
Socket at the cable front, Pin at the cable end

Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]
Connection cable M12		
Socket M12, A-coded/ Connector M12 , A-coded		
MAT90478773	8x0.25	6.5
MAT90478776	12x0.25	8.0
Socket M12, A-coded/ open cable end		
MAT90478774	8x0.25	6.5
MAT90478777	12x0.25	8.0
Connector M12, A-coded/ open cable end		
MAT90478775	8x0.25	6.5
MAT90478778	12x0.25	8.0

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits. Example images.
G = with green-yellow earth core **x** = without earth core
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Industry

chainflex® cables with industrial connectors



chainflex® readycable®

	Cable type	Page
chainflex® cables with industrial connectors		
	Han 6B	Harnessed cable, single locking lever at both ends, straight	544
	Han 6B	Harnessed cable, single locking lever at both ends, angled	544
	Han 10B	Harnessed cable, single locking lever at both ends, straight	546
	Han 10B	Harnessed cable, single locking lever at both ends, angled	546
	Han 10B	Harnessed cable, double locking lever at both ends, straight	546
	Han 10B	Harnessed cable, double locking lever at both ends, angled	546
	Han 16B	Harnessed cable, single locking lever at both ends, straight	548
	Han 16B	Harnessed cable, single locking lever at both ends, angled	548
	Han 16B	Harnessed cable, double locking lever at both ends, straight	548
	Han 16B	Harnessed cable, double locking lever at both ends, angled	548
	Han 24B	Harnessed cable, single locking lever at both ends, straight	550
	Han 24B	Harnessed cable, single locking lever at both ends, angled	550
	Han 24B	Harnessed cable, double locking lever at both ends, straight	550
	Han 24B	Harnessed cable, double locking lever at both ends, angled	550
HARTING Connector sets (Connectors chapter page 786)		
	Connector sets with pin inserts	836
	Connector sets Premium (pin + socket)	838



igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year

Harnessed control cables | HARTING Han 6B

Harnessed control cables, HARTING Han 6B, to your required length						
Cable quality	**Part No.**	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	Copper index	Weight	Bend radius [x d]
Han 6B connector housing (pin) to Han 6B connector housing (socket), single locking lever at both ends, straight						
PVC	**MAT90489360**	7G1.5	10.0	109	167	12.5
PVC	**MAT90489361**	7G1.5	10.5	105	166	7.5
PVC, oil-res.	**MAT90489362**	7G1.5	10.5	105	180	6.8
iguPUR	**MAT90489363**	7G1.5	10.0	109	163	12.5
PUR	**MAT90489364**	7G1.5	9.5	105	152	6.8
PUR-ROBOT	**MAT90489367**	5G1.0+(2x1.0)C	10.0	82	136	10
TPE H*	**MAT90489365**	7G1.5	9.5	107	157	5
TPE F	**MAT90489366**	7G1.5	10.0	104	167	5
Han 6B connector housing (pin) to Han 6B connector housing (socket), single locking lever at both ends, angled						
PVC	**MAT90489368**	7G1.5	10.0	109	167	12.5
PVC	**MAT90489369**	7G1.5	10.5	105	166	7.5
PVC, oil-res.	**MAT90489370**	7G1.5	10.5	105	180	6.8
iguPUR	**MAT90489371**	7G1.5	10.0	109	163	12.5
PUR	**MAT90489372**	7G1.5	10.0	109	163	6.8
PUR-ROBOT	**MAT90489375**	5G1.0+(2x1.0)C	10.0	82	136	10
TPE H*	**MAT90489373**	7G1.5	9.5	107	157	5
TPE F	**MAT90489374**	7G1.5	10.0	104	167	5

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

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chainflex® cable	Insert 1 HARTING Part No.	Housing 1 HARTING Part No.	Insert 2 HARTING Part No.	Housing 2 HARTING Part No.
				
CF880.15.07	09330062702	19300061440	09330062602	19300061440
CF130.15.07.UL	09330062702	19300061440	09330062602	19300061440
CF5.15.07	09330062702	19300061440	09330062602	19300061440
CF890.15.07	09330062702	19300061440	09330062602	19300061440
CF77.UL.15.07.D	09330062702	19300061440	09330062602	19300061440
CFROBOT9.001	09330062702	19300061440	09330062602	19300061440
CF9.15.07	09330062702	19300061440	09330062602	19300061440
CF9.UL.15.07	09330062702	19300061440	09330062602	19300061440
				
CF880.15.07	09330062702	19300061541	09330062602	19300061541
CF130.15.07.UL	09330062702	19300061540	09330062602	19300061540
CF5.15.07	09330062702	19300061540	09330062602	19300061540
CF890.15.07	09330062702	19300061541	09330062602	19300061541
CF77.UL.15.07.D	09330062702	19300061540	09330062602	19300061540
CFROBOT9.001	09330062702	19300061540	09330062602	19300061540
CF9.15.07	09330062702	19300061540	09330062602	19300061540
CF9.UL.15.07	09330062702	19300061540	09330062602	19300061540

Harnessed control cables | HARTING Han 10B

Harnessed control cables, Harting Han 10B, to your required length						
Cable quality	**Part No.**	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	Copper index	Weight	Bend radius [x d]
Han 10B connector housing (pin) to Han 10B connector housing (socket), single locking lever at both ends, straight						
PVC	**MAT90489376**	12G1.5	12.0	186	260	12.5
PVC	**MAT90489377**	12G1.5	13.0	179	288	7.5
PVC, oil-res.	**MAT90489378**	12G1.5	13.0	179	288	7.5
iguPUR	**MAT90489379**	12G1.5	12.0	186	256	12.5
PUR	**MAT90489380**	12G1.5	13.0	179	297	6.8
PUR-ROBOT	**MAT90489383**	16G1.0+(2x1.0)C	15.5	194	307	10
TPE H*	**MAT90489381**	12G1.5	13.0	179	284	5
TPE F	**MAT90489382**	12G1.5	13.5	178	307	5
Han 10B connector housing (pin) to Han 10B connector housing (socket), single locking lever at both ends, angled						
PVC	**MAT90489384**	12G1.5	12.0	186	260	12.5
PVC	**MAT90489385**	12G1.5	13.0	179	288	7.5
PVC, oil-res.	**MAT90489386**	12G0.5	11.0	61	131	6.8
iguPUR	**MAT90489387**	12G1.5	12.0	186	256	12.5
PUR	**MAT90489388**	12G1.5	13.0	179	297	6.8
PUR-ROBOT	**MAT90489391**	16G1.0+(2x1.0)C	15.5	194	307	10
TPE H*	**MAT90489389**	12G1.5	13.0	179	284	5
TPE F	**MAT90489390**	12G1.5	13.5	178	307	5
Han 10B connector housing (pin) to Han 10B connector housing (socket), double locking lever at both ends, straight						
PVC	**MAT90489392**	12G1.5	12.0	186	260	12.5
PVC	**MAT90489393**	12G1.5	13.0	179	288	7.5
PVC, oil-res.	**MAT90489394**	12G1.5	15.0	179	264	6.8
iguPUR	**MAT90489395**	12G1.5	12.0	186	256	12.5
PUR	**MAT90489396**	12G1.5	13.0	179	297	6.8
PUR-ROBOT	**MAT90489399**	16G1.0+(2x1.0)C	15.5	194	307	10
TPE H*	**MAT90489397**	12G1.5	13.0	179	284	5
TPE F	**MAT90489398**	12G1.5	13.5	178	307	5
Han 10B connector housing (pin) to Han 10B connector housing (socket), double locking lever at both ends, angled						
PVC	**MAT90489400**	12G1.5	12.0	186	260	12.5
PVC	**MAT90489401**	12G1.5	13.0	179	288	7.5
PVC, oil-res.	**MAT90489402**	12G1.5	15.0	179	264	6.8
iguPUR	**MAT90489403**	12G1.5	12.0	186	256	12.5
PUR	**MAT90489404**	12G1.5	13.0	179	297	6.8
PUR-ROBOT	**MAT90489407**	16G1.0+(2x1.0)C	15.5	194	307	10
TPE H*	**MAT90489405**	12G1.5	13.0	179	284	5
TPE F	**MAT90489406**	12G1.5	13.5	178	307	5

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

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chainflex® cable	Insert 1 HARTING Part No.	Housing 1 HARTING Part No.	Insert 2 HARTING Part No.	Housing 2 HARTING Part No.
				
CF880.15.12	09330102702	19300101441	09330102602	19300101441
CF130.15.12.UL	09330102702	19300101441	09330102602	19300101441
CF130.15.12.UL	09330102702	19300101441	09330102602	19300101441
CF890.15.12	09330102702	19300101441	09330102602	19300101441
CF77.UL.15.12.D	09330102702	19300101441	09330102602	19300101441
CFROBOT9.004	09330102702	19300101441	09330102602	19300101441
CF9.15.12	09330102702	19300101441	09330102602	19300101441
CF9.UL.15.12	09330102702	19300101441	09330102602	19300101441
				
CF880.15.12	09330102702	19300101541	09330102602	19300101541
CF130.15.12.UL	09330102702	19300101541	09330102602	19300101541
CF130.15.12.UL	09330102702	19300101541	09330102602	19300101541
CF890.15.12	09330102702	19300101541	09330102602	19300101541
CF77.UL.15.12.D	09330102702	19300101541	09330102602	19300101541
CFROBOT9.004	09330102702	19300101541	09330102602	19300101541
CF9.15.12	09330102702	19300101541	09330102602	19300101541
CF9.UL.15.12	09330102702	19300101541	09330102602	19300101541
				
CF880.15.12	09330102702	19300101421	09330102602	19300101421
CF130.15.12.UL	09330102702	19300101421	09330102602	19300101421
CF130.15.12.UL	09330102702	19300101421	09330102602	19300101421
CF890.15.12	09330102702	19300101421	09330102602	19300101421
CF77.UL.15.12.D	09330102702	19300101421	09330102602	19300101421
CFROBOT9.004	09330102702	19300101421	09330102602	19300101421
CF9.15.12	09330102702	19300101421	09330102602	19300101421
CF9.UL.15.12	09330102702	19300101421	09330102602	19300101421
				
CF880.15.12	09330102702	19300101521	09330102602	19300101521
CF130.15.12.UL	09330102702	19300101521	09330102602	19300101521
CF130.15.12.UL	09330102702	19300101521	09330102602	19300101521
CF890.15.12	09330102702	19300101521	09330102602	19300101521
CF77.UL.15.12.D	09330102702	19300101521	09330102602	19300101521
CFROBOT9.004	09330102702	19300101521	09330102602	19300101521
CF9.15.12	09330102702	19300101521	09330102602	19300101521
CF9.UL.15.12	09330102702	19300101521	09330102602	19300101521

Harnessed control cables | HARTING Han 16B

Harnessed control cables, Harting Han 16B, to your required length						
Cable quality	**Part No.**	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	Copper index	Weight	Bend radius [x d]
Han 16B connector housing (pin) to Han 16B connector housing (socket), single locking lever at both ends, straight						
PVC	**MAT90489408**	18G1.5	14.5	279	370	12.5
PVC	**MAT90489409**	18G1.5	17.0	268	438	7.5
PVC, oil-res.	**MAT90489410**	18G1.5	19.5	267	478	6.8
iguPUR	**MAT90489411**	18G1.5	14.5	279	362	12.5
PUR	**MAT90489412**	18G1.5	17.0	268	405	6.8
PUR-ROBOT	**MAT90489415**	16G1.0+(2x1.0)C	15.5	194	307	10
TPE H*	**MAT90489413**	18G1.5	16.0	268	422	5
TPE F	**MAT90489414**	18G1.5	16.0	267	448	5
Han 16B connector housing (pin) to Han 16B connector housing (socket), single locking lever at both ends, angled						
PVC	**MAT90489416**	18G1.5	14.5	279	370	12.5
PVC	**MAT90489417**	18G1.5	17.0	268	438	7.5
PVC, oil-res.	**MAT90489418**	18G1.5	19.5	267	478	6.8
iguPUR	**MAT90489419**	18G1.5	14.5	279	362	12.5
PUR	**MAT90489420**	18G1.5	17.0	268	405	6.8
PUR-ROBOT	**MAT90489423**	16G1.0+(2x1.0)C	15.5	194	307	10
TPE H*	**MAT90489421**	18G1.5	16.0	268	422	5
TPE F	**MAT90489422**	18G1.5	16.0	267	448	5
Han 16B connector housing (pin) to Han 16B connector housing (socket), double locking lever at both ends, straight						
PVC	**MAT90489424**	18G1.5	14.5	279	370	12.5
PVC	**MAT90489425**	18G1.5	17.0	268	438	7.5
PVC, oil-res.	**MAT90489426**	18G1.5	19.5	267	478	6.8
iguPUR	**MAT90489427**	18G1.5	14.5	279	362	12.5
PUR	**MAT90489428**	18G1.5	17.0	268	405	6.8
PUR-ROBOT	**MAT90489431**	16G1.0+(2x1.0)C	15.5	194	307	10
TPE H*	**MAT90489429**	18G1.5	16.0	268	422	5
TPE F	**MAT90489430**	18G1.5	16.0	267	448	5
Han 16B connector housing (pin) to Han 16B connector housing (socket), double locking lever at both ends, angled						
PVC	**MAT90489432**	18G1.5	14.5	279	370	12.5
PVC	**MAT90489433**	18G1.5	17.0	268	438	7.5
PVC, oil-res.	**MAT90489434**	18G1.5	19.5	267	478	6.8
iguPUR	**MAT90489435**	18G1.5	14.5	279	362	12.5
PUR	**MAT90489436**	18G1.5	17.0	268	405	6.8
PUR-ROBOT	**MAT90489439**	16G1.0+(2x1.0)C	15.5	194	307	10
TPE H*	**MAT90489437**	18G1.5	16.0	268	422	5
TPE F	**MAT90489438**	18G1.5	16.0	267	448	5

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x** = without earth core
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

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chainflex® cable	Insert 1 HARTING Part No.	Housing 1 HARTING Part No.	Insert 2 HARTING Part No.	Housing 2 HARTING Part No.
				
CF880.15.18	09330162702	19300161442	09330162602	19300161442
CF130.15.18.UL	09330162702	19300161442	09330162602	19300161442
CF5.15.18	09330162702	19300161442	09330162602	19300161442
CF890.15.18	09330162702	19300161442	09330162602	19300161442
CF77.UL.15.18.D	09330162702	19300161442	09330162602	19300161442
CFROBOT9.004	09330162702	19300161442	09330162602	19300161442
CF9.15.18	09330162702	19300161442	09330162602	19300161442
CF9.UL.15.18	09330162702	19300161442	09330162602	19300161442
				
CF880.15.18	09330162702	19300161542	09330162602	19300161542
CF130.15.18.UL	09330162702	19300161542	09330162602	19300161542
CF5.15.18	09330162702	19300161542	09330162602	19300161542
CF890.15.18	09330162702	19300161542	09330162602	19300161542
CF77.UL.15.18.D	09330162702	19300161542	09330162602	19300161542
CFROBOT9.004	09330162702	19300161542	09330162602	19300161542
CF9.15.18	09330162702	19300161542	09330162602	19300161542
CF9.UL.15.18	09330162702	19300161542	09330162602	19300161542
				
CF880.15.18	09330162702	19300161422	09330162602	19300161422
CF130.15.18.UL	09330162702	19300161422	09330162602	19300161422
CF5.15.18	09330162702	19300161422	09330162602	19300161422
CF890.15.18	09330162702	19300161422	09330162602	19300161422
CF77.UL.15.18.D	09330162702	19300161422	09330162602	19300161422
CFROBOT9.004	09330162702	19300161422	09330162602	19300161422
CF9.15.18	09330162702	19300161422	09330162602	19300161422
CF9.UL.15.18	09330162702	19300161422	09330162602	19300161422
				
CF880.15.18	09330162702	19300161522	09330162602	19300161522
CF130.15.18.UL	09330162702	19300161522	09330162602	19300161522
CF5.15.18	09330162702	19300161522	09330162602	19300161522
CF890.15.18	09330162702	19300161522	09330162602	19300161522
CF77.UL.15.18.D	09330162702	19300161522	09330162602	19300161522
CFROBOT9.004	09330162702	19300161522	09330162602	19300161522
CF9.15.18	09330162702	19300161522	09330162602	19300161522
CF9.UL.15.18	09330162702	19300161522	09330162602	19300161522

Harnessed control cables | HARTING Han 24B

Harnessed control cables, Harting Han 24B, to your required length						
Cable quality	**Part No.**	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	Copper index	Weight	Bend radius [x d]
Han 24B connector housing (pin) to Han 24B connector housing (socket), single locking lever at both ends, straight						
PVC	**MAT90489440**	25G1.5	17.5	387	514	12.5
PVC	**MAT90489441**	25G1.5	19.5	371	563	7.5
PVC, oil-res.	**MAT90489442**	25G1.5	21.5	371	645	6.8
iguPUR	**MAT90489443**	25G1.5	17.5	387	502	12.5
PUR	**MAT90489444**	25G1.5	19.5	297	564	6.8
PUR-ROBOT	**MAT90489447**	23G1.0+(2x1.0)C	19.5	268	444	10
TPE H*	**MAT90489445**	25G1.5	19.0	371	600	5
TPE F	**MAT90489446**	25G1.5	19.0	371	652	5
Han 24B connector housing (pin) to Han 24B connector housing (socket), single locking lever at both ends, angled						
PVC	**MAT90489448**	25G1.5	17.5	387	514	12.5
PVC	**MAT90489449**	25G1.5	19.5	371	563	7.5
PVC, oil-res.	**MAT90489450**	25G1.5	21.5	371	645	6.8
iguPUR	**MAT90489451**	25G1.5	17.5	387	502	12.5
PUR	**MAT90489452**	25G1.5	19.5	297	564	6.8
PUR-ROBOT	**MAT90489455**	23G1.0+(2x1.0)C	19.5	268	444	10
TPE H*	**MAT90489453**	25G1.5	19.0	371	600	5
TPE F	**MAT90489454**	25G1.5	19.0	371	652	5
Han 24B connector housing (pin) to Han 24B connector housing (socket), double locking lever at both ends, straight						
PVC	**MAT90489456**	25G1.5	17.5	387	514	12.5
PVC	**MAT90489457**	25G1.5	19.5	371	563	7.5
PVC, oil-res.	**MAT90489458**	25G1.5	21.5	371	645	6.8
iguPUR	**MAT90489459**	25G1.5	17.5	387	502	12.5
PUR	**MAT90489460**	25G1.5	19.5	297	564	6.8
PUR-ROBOT	**MAT90489463**	23G1.0+(2x1.0)C	19.5	268	444	10
TPE H*	**MAT90489461**	25G1.5	19.0	371	600	5
TPE F	**MAT90489462**	25G1.5	19.0	371	652	5
Han 24B connector housing (pin) to Han 24B connector housing (socket), double locking lever at both ends, angled						
PVC	**MAT90489464**	25G1.5	17.5	387	514	12.5
PVC	**MAT90489465**	25G1.5	19.5	371	563	7.5
PVC, oil-res.	**MAT90489466**	25G1.5	21.5	371	645	6.8
iguPUR	**MAT90489467**	25G1.5	17.5	387	502	12.5
PUR	**MAT90489468**	25G1.5	19.5	297	564	6.8
PUR-ROBOT	**MAT90489471**	23G1.0+(2x1.0)C	19.5	268	444	10
TPE H*	**MAT90489469**	25G1.5	19.0	371	600	5
TPE F	**MAT90489470**	25G1.5	19.0	371	652	5

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

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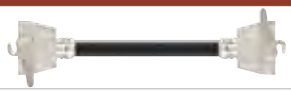
chainflex® cable	Insert 1 HARTING Part No.	Housing 1 HARTING Part No.	Insert 2 HARTING Part No.	Housing 2 HARTING Part No.
				
CF880.15.25	09330242702	19300241442	09330242602	19300241442
CF130.15.25.UL	09330242702	19300241442	09330242602	19300241442
CF5.15.25	09330242702	19300241442	09330242602	19300241442
CF890.15.25	09330242702	19300241442	09330242602	19300241442
CF77.UL.15.25.D	09330242702	19300241442	09330242602	19300241442
CFROBOT9.005	09330242702	19300241442	09330242602	19300241442
CF9.15.25	09330242702	19300241442	09330242602	19300241442
CF9.UL.15.25	09330242702	19300241442	09330242602	19300241442
				
CF880.15.25	09330242702	19300241542	09330242602	19300241542
CF130.15.25.UL	09330242702	19300241542	09330242602	19300241542
CF5.15.25	09330242702	19300241542	09330242602	19300241542
CF890.15.25	09330242702	19300241542	09330242602	19300241542
CF77.UL.15.25.D	09330242702	19300241542	09330242602	19300241542
CFROBOT9.005	09330242702	19300241542	09330242602	19300241542
CF9.15.25	09330242702	19300241542	09330242602	19300241542
CF9.UL.15.25	09330242702	19300241542	09330242602	19300241542
				
CF880.15.25	09330242702	19300241422	09330242602	19300241422
CF130.15.25.UL	09330242702	19300241422	09330242602	19300241422
CF5.15.25	09330242702	19300241422	09330242602	19300241422
CF890.15.25	09330242702	19300241422	09330242602	19300241422
CF77.UL.15.25.D	09330242702	19300241422	09330242602	19300241422
CFROBOT9.005	09330242702	19300241422	09330242602	19300241422
CF9.15.25	09330242702	19300241422	09330242602	19300241422
CF9.UL.15.25	09330242702	19300241422	09330242602	19300241422
				
CF880.15.25	09330242702	19300241522	09330242602	19300241522
CF130.15.25.UL	09330242702	19300241522	09330242602	19300241522
CF5.15.25	09330242702	19300241522	09330242602	19300241522
CF890.15.25	09330242702	19300241522	09330242602	19300241522
CF77.UL.15.25.D	09330242702	19300241522	09330242602	19300241522
CFROBOT9.005	09330242702	19300241522	09330242602	19300241522
CF9.15.25	09330242702	19300241522	09330242602	19300241522
CF9.UL.15.25	09330242702	19300241522	09330242602	19300241522

Robot

Harnessed dress packs and cables for robots



chainflex® readycable®

	Cable type		Page
Dress packs for robots			
	readychain® Robot	Harnessed dress packs for welding robots	554
Harnessed cables for robots			
	readycable® Kuka	Harnessed cables for KUKA robots	556
	readycable® Fanuc	Harnessed cables for Fanuc robots	562
	readycable® ABB	Harnessed cables for ABB robots	566
Direct connection cables for robots			
	readycable® Kuka	Direct connection cables for KUKA robots	557
	readycable® Fanuc	Direct connection cables for Fanuc robots	563
	readycable® ABB	Direct connection cables for ABB robots	567
Cables according to AIDA specifications			
	readycable® AIDA	Harnessed cables according to AIDA specifications	572

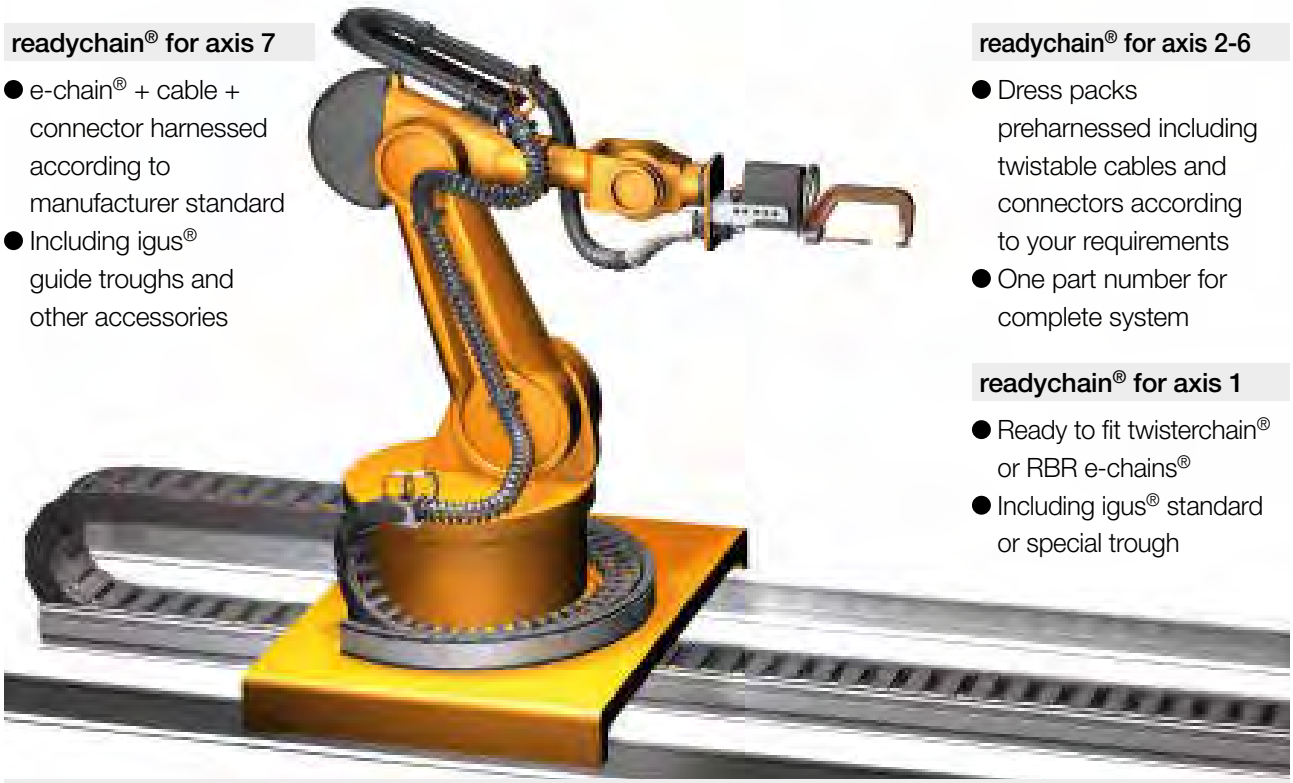


igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year

readychain® Robot

Ready-to-install harnessed e-chain systems® for robots

Assembled energy supply systems, connectors and cables from igus®. Everything from one source. Directly from the manufacturer. Quick delivery to your robot, delivered in 1-10 days



readychain® for axis 7

- e-chain® + cable + connector harnessed according to manufacturer standard
- Including igus® guide troughs and other accessories

readychain® for axis 2-6

- Dress packs preharnessed including twistable cables and connectors according to your requirements
- One part number for complete system

readychain® for axis 1

- Ready to fit twisterchain® or RBR e-chains®
- Including igus® standard or special trough

Additional services for you

- Survey of existing systems on your robot by our sales engineers
- Optional system guarantee
- Worldwide readychain® specialists and 11 production sites for fast maintenance and spare part support

Moving energy made easy – even for robot applications

The modular igus® robot construction kit comprises over 5,000 different items. We can offer you the optimum, customised solution for almost any robot application. Our "Quick Robot" online tool can be used to create the ideal configuration in seconds – try it for yourself:
www.igus-asean.com/quickrobot

All igus® robotic components are tested in our laboratory and have already been reliably used in real applications for many years. Our primary aim is to design a reliable energy supply system for your robot. We do not simply focus on mechanical protection but instead look at the entire application including the cables that have been specially developed for use on the robot. We will gladly find a solution for your application too – and look forward to receiving your enquiry.



Matthias Meyer
Head of Industry Management
Automotive & Robotics
Phone.: +49-2203 9649-161
mmeyer@igus.de

EU06.2020

triflex® readychain® dress packs

Product range dress packs for welding robots	
Product range **Part No.**	Dress pack

Welding axis 1-3

(1 m projection/side + 1 m e-chain® for each)



RRC.S.001

Consisting of:
- 1m TRLF.85.135.0, including mounting brackets
- Welding cable (2x35mm² + 1x25mm²) including multicontact TSB and TSS welding connector
- Control cable (18x0.75mm² + 5x0.75mm²) including rectangular connector on both ends
- Welding control cable (5x2x0.5mm²) including rectangular connector on both ends
- 3x hoses - DN12 red, green, blue - including fixture at both ends

Welding axis 3-6

(1 m projection/side + 1 m e-chain® for each)



RRC.S.002

Consisting of:
- 1m TRC.85.135.0 including protectors and mounting brackets
- Welding cable (2x35mm² + 1x25mm²) including multicontact TSB and TSS welding connector
- Control cable (18x0.75mm² + 5x0.75mm²) including round connector and rectangular connector
- Welding control cable (5x2x0.5mm²) including rectangular connector on both ends
- 3x hoses - DN12 red, green, blue - including fixture at both ends

igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed cables for robots
KUKA Quantec

Harnessed cables for KUKA Quantec, to your required length				
Part No.	**chainflex® cable**	Manufacturer description	Number of cores and conductor nominal cross section [mm²]	Ø [mm]
Motor cable (straight socket)				
				
MAT904105003	**CFSPECIAL.792.011**	X30/X30.1	(5x(2x6.0+2x2.5)+2x(6x1.0)C)C	35.5
Motor cable (angled socket)				
				
MAT904105004	**CFSPECIAL.792.011**	X30/X30.1	(5x(2x6.0+2x2.5)+2x(6x1.0)C)C	35.5
Data cable				
				
MAT904105005	**CFBUS.PUR.H01.060**	X31/X31.1	((4x0.38)C+4x1.5)C	11.5
Motor cable single axis (axis 7)				
				
MAT904105006	**CF270.UL.25.15.02.01.D**	XM.../X...	(4G2.5+(2x1.5)C)C	14.0
MAT904105007	**CF270.UL.40.15.02.01.D**	XM.../X...	(4G4.0+(2x1.5)C)C	15.0
Motor cable single axis (axis 7)				
				
MAT904105008	**CF270.UL.60.15.02.01.D**	XM.../X...	(4G6.0+(2x1.5)C)C	16.5
Control cable (axis 7)				
				
MAT904105009	**CF112.02.04.02**	Control cable single axis	(4x(2x0.25)C)C	11.0
Earth-core				
				
MAT904105010	**CFPE.160.01**	Connector plate/robot	1G16	9.5

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Direct connection cables for robots
KUKA Quantec

Direct connection cables for KUKA Quantec, to your required length			
Part No.	**chainflex® cable**	Number of cores and conductor nominal cross section [mm²]	Ø [mm]
Motor cable (direct connection cable)			
MAT904141225	**CFSPECIAL.792.011**	(5x(2x6.0+2x2.5)+2x(6x1.0)C)C	35.5
Motor cable (direct connection cable)			
MAT904141226	**CFSPECIAL.792.011**	(5x(2x6.0+2x2.5)+2x(6x1.0)C)C	35.5
Signal cable (direct connection cable)			
MAT904141227	**CFBUS.PUR.H01.060**	((4x0.38)C+4x1.5)C	11.5

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed cables for robots
KUKA Fortec

Harnessed cables for KUKA Fortec, to your required length				
Part No.	**chainflex® cable**	Manufacturer description	Number of cores and conductor nominal cross section [mm²]	Ø [mm]
Motor cable (angled socket)				
MAT904105011	**CFSPECIAL.792.014**	X30.1/X30.1.1	(2x(3x1.5)C+3x(3x10)+1G10)C	35.5
MAT904105012	**CFSPECIAL.792.013**	X30.4/X30.4.1	((6x1.5)C+3x(3x4)+1G6)C	28.0
Data cable				
MAT904105005	**CFBUS.PUR.H01.060**	X31/X31.1	((4x0.38)C+4x1.5)C	11.5
Motor cable single axis (axis 7)				
MAT904105006	**CF270.UL.25.15.02.01.D**	XM.../X...	(4G2.5+(2x1.5)C)C	14.0
MAT904105007	**CF270.UL.40.15.02.01.D**	XM.../X...	(4G4.0+(2x1.5)C)C	15.0
Motor cable single axis (axis 7)				
MAT904105008	**CF270.UL.60.15.02.01.D**	XM.../X...	(4G6.0+(2x1.5)C)C	16.5
Control cable (axis 7)				
MAT904105013	**CF112.02.04.02**	Control cable single axis	(4x(2x0.25)C)C	11.0
Earth-core				
MAT904105010	**CFPE.160.01**	Connector plate/robot	1G16	9.5

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Direct connection cables for robots
KUKA Fortec

Direct connection cables for KUKA Fortec, to your required length			
Part No.	**chainflex® cable**	Number of cores and conductor nominal cross section [mm²]	Ø [mm]
Motor cable (direct connection cable)			
MAT904141228	**CFSPECIAL.792.014**	(2x(3x1.5)C+3x(3x10)+1G10)C	35.5
MAT904141229	**CFSPECIAL.792.013**	((6x1.5)C+3x(3x4)+1G6)C	28.0
Signal cable (direct connection cable)			
MAT904141227	**CFBUS.PUR.H01.060**	((4x0.38)C+4x1.5)C	11.5

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed cables for robots
KUKA Titan

Harnessed cables for KUKA Titan, to your required length				
Part No.	**chainflex® cable**	Manufacturer description	Number of cores and conductor nominal cross section [mm²]	Ø [mm]
Motor cable (angled socket)				
MAT904105011	**CFSPECIAL.792.014**	X30.1/X30.1.1	(2x(3x1.5)C+3x(3x10)+1G10)C	35.5
MAT904105014	**CFSPECIAL.792.014**	X30.2/X30.2.1	(2x(3x1.5)C+3x(3x10)+1G10)C	35.5
MAT904105015	**CFSPECIAL.792.014**	X30.3/X30.3.1	(2x(3x1.5)C+3x(3x10)+1G10)C	35.5
Data cable				
MAT904105005	**CFBUS.PUR.H01.060**	X31/X31.1	((4x0.38)C+4x1.5)C	11.5
Motor cable single axis (axis 7)				
MAT904105006	**CF270.UL.25.15.02.01.D**	XM.../X...	(4G2.5+(2x1.5)C)C	14.0
MAT904105007	**CF270.UL.40.15.02.01.D**	XM.../X...	(4G4.0+(2x1.5)C)C	15.0
Motor cable single axis (axis 7)				
MAT904105008	**CF270.UL.60.15.02.01.D**	XM.../X...	(4G6.0+(2x1.5)C)C	16.5
Control cable (axis 7)				
MAT904105013	**CF112.02.04.02**	Control cable single axis	(4x(2x0.25)C)C	11.0
Earth-core				
MAT904105010	**CFPE.160.01**	Connector plate/robot	1G16	9.5

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

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Direct connection cables for robots
KUKA Titan

Direct connection cables for KUKA Titan, to your required length			
Part No.	**chainflex® cable**	Number of cores and conductor nominal cross section [mm²]	Ø [mm]
Motor cable (direct connection cable)			
MAT904141228	**CFSPECIAL.792.014**	(2x(3x1.5)C+3x(3x10)+1G10)C	35.5
MAT904141230	**CFSPECIAL.792.014**	(2x(3x1.5)C+3x(3x10)+1G10)C	35.5
MAT904141231	**CFSPECIAL.792.014**	(2x(3x1.5)C+3x(3x10)+1G10)C	35.5
Signal cable (direct connection cable)			
MAT904141227	**CFBUS.PUR.H01.060**	((4x0.38)C+4x1.5)C	11.5

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed cables for robots
Fanuc M-900iB

Harnessed cables for Fanuc M-900iB, to your required length				
Part No.	**chainflex® cable**	Manufacturer description	Number of cores and conductor nominal cross section [mm²]	Ø [mm]
Motor cable (Extension cable axis 7)				
MAT904117141	**CFSPECIAL.792.015**	RM1.2	(7x(6x2.0))C	36.5
Motor cable (Extension cable axis 7)				
MAT904117142	**CFSPECIAL.792.015**	RM2.2	(7x(6x2.0))C	36.5
Pulse encoder (Extension cable axis 7)				
MAT904117143	**CFSPECIAL.792.016**	RP1.2	(5x(4x0.25)+10x(3x0.75))C	26.5
Earth-core (Extension cable axis 7)				
MAT904117144	**CFPE.160.01**	Earth-core	1G16	9.5
Earth-core (Extension cable axis 7)				
MAT904117145	**CFPE.60.01**	Earth-core	1G6.0	7.0
Motor cable single axis (axis 7)				
MAT904117146	**CF270.UL.60.15.02.01.D**	RM7.2	(4G6.0+(2x1.5)C)C	16.5
Pulse encoder single axis (axis 7)				
MAT904117147	**CF240.PUR.03.03**	RP7.2	(3x0.34)C	5.0

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Direct connection cables for robots
Fanuc M-900iB

Direct connection cables for Fanuc M-900iB, to your required length			
Part No.	**chainflex® cable**	Number of cores and conductor nominal cross section [mm²]	Ø [mm]
Motor cable (direct connection cable)			
MAT904141222	**CFSPECIAL.792.015**	(7x(6x2.0))C	36.5
MAT904141223	**CFSPECIAL.792.015**	(7x(6x2.0))C	36.5
Pulse encoder (direct connection cable)			
MAT904141224	**CFSPECIAL.792.016**	(5x(4x0.25)+10x(3x0.75))C	26.5

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed cables for robots
Fanuc R-2000iC

Harnessed cables for Fanuc R-2000iC, to your required length				
Part No.	**chainflex® cable**	Manufacturer description	Number of cores and conductor nominal cross section [mm²]	Ø [mm]
Motor cable (Extension cable axis 7)				
				
MAT904117141	**CFSPECIAL.792.015**	RM1.2	(7x(6x2.0))C	36.5
Pulse encoder (Extension cable axis 7)				
				
MAT904117143	**CFSPECIAL.792.016**	RP1.2	(5x(4x0.25)+10x(3x0.75))C	26.5
Earth-core (Extension cable axis 7)				
				
MAT904117144	**CFPE.160.01**	Earth-core	1G16	9.5
Earth-core (Extension cable axis 7)				
				
MAT904117145	**CFPE.60.01**	Earth-core	1G6.0	7.0
Motor cable single axis (axis 7)				
				
MAT904117146	**CF270.UL.60.15.02.01.D**	RM7.2	(4G6.0+(2x1.5)C)C	16.5
Pulse encoder single axis (axis 7)				
				
MAT904117147	**CF240.PUR.03.03**	RP7.2	(3x0.34)C	5.0

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Direct connection cables for robots
Fanuc R-2000iC

Direct connection cables for Fanuc R-2000iC, to your required length			
Part No.	**chainflex® cable**	Number of cores and conductor nominal cross section [mm²]	Ø [mm]
Motor cable (direct connection cable)			
MAT904141222	**CFSPECIAL.792.015**	(7x(6x2.0))C	36.5
Pulse encoder (direct connection cable)			
MAT904141224	**CFSPECIAL.792.016**	(5x(4x0.25)+10x(3x0.75))C	26.5

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed cables for robots
ABB IRB 6620, IRB 6640, IRB 6650S, IRB 7600

Harnessed cables for ABB IRB 6620, IRB 6640, IRB 6650S, IRB 7600, to your desired length				
Part No.	**chainflex® cable**	Manufacturer description	Number of cores and conductor nominal cross section [mm²]	Ø [mm]
Power cable				
MAT904128539	**CFSPECIAL.792.012**	R1MP	(18G2.5)C	25.5
Signal cable				
MAT904128540	**CF211.PUR.02.06.02**	R1.SMB	(6x(2x0.25))C	9.0
Power cable				
MAT904128547	**CF270.UL.40.15.02.02.D**		(4G4.0+2x(2x1.5)C)C	17.0
Resolver cable				
MAT904128548	**CF211.PUR.02.03.02**		(3x(2x0.25))C	7.0
Earth-core (Extension cable axis 7)				
MAT904117144	**CFPE.160.01**	Earth-core	1G16	9.5

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Direct connection cables for robots
ABB IRB 6620, IRB 6640, IRB 6650S, IRB 7600

Direct connection cable for ABB IRB 6620, IRB 6640, IRB 6650S, IRB 7600, to your required length			
Part No.	**chainflex® cable**	Number of cores and conductor nominal cross section [mm²]	Ø [mm]
Motor cable (direct connection cable)			
MAT904141219	**CFSPECIAL.792.012**	(18G2.5)C	25.5
Signal cable (direct connection cable)			
MAT904141220	**CF211.PUR.02.06.02**	(6x(2x0.25))C	9.0

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
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igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed cables for robots
ABB IRB 6700

Harnessed cables for ABB IRB 6700, to your desired length				
Part No.	**chainflex® cable**	Manufacturer description	Number of cores and conductor nominal cross section [mm²]	Ø [mm]
Power cable				
MAT904128539	**CFSPECIAL.792.012**	R1MP	(18G2.5)C	25.5
Signal cable				
MAT904128541	**CF211.PUR.02.06.02**	R1.SMB	(6x(2x0.25))C	9.0
Power cable				
MAT904128547	**CF270.UL.40.15.02.02.D**		(4G4.0+2x(2x1.5)C)C	17.0
Resolver cable				
MAT904128548	**CF211.PUR.02.03.02**		(3x(2x0.25))C	7.0
Earth-core (Extension cable axis 7)				
MAT904117144	**CFPE.160.01**	Earth-core	1G16	9.5

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
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igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

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Direct connection cables for robots
ABB IRB 6700

Direct connection cable for ABB IRB 6700, to your required length			
Part No.	**chainflex® cable**	Number of cores and conductor nominal cross section [mm²]	Ø [mm]
Motor cable (direct connection cable)			
			
MAT904141219	**CFSPECIAL.792.012**	(18G2.5)C	25.5
Signal cable (direct connection cable)			
			
MAT904141221	**CF211.PUR.02.06.02**	(6x(2x0.25))C	9.0

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
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igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed cables for robots
ABB IRB 8700

Harnessed cables for ABB IRB 8700, to your desired length				
Part No.	**chainflex® cable**	Manufacturer description	Number of cores and conductor nominal cross section [mm²]	Ø [mm]
Power cable				
MAT904128542	**CFSPECIAL.792.012**	R1MP-A	(18G2.5)C	25.5
MAT904128543	**CFSPECIAL.792.012**	R1MP-B	(18G2.5)C	25.5
Signal cable				
MAT904128541	**CF211.PUR.02.06.02**	R1.SMB	(6x(2x0.25))C	9.0
Power cable				
MAT904128547	**CF270.UL.40.15.02.02.D**		(4G4.0+2x(2x1.5)C)C	17.0
Resolver cable				
MAT904128548	**CF211.PUR.02.03.02**		(3x(2x0.25))C	7.0
Earth-core (Extension cable axis 7)				
MAT904117144	**CFPE.160.01**	Earth-core	1G16	9.5

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
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igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Direct connection cables for robots
ABB IRB 8700

Direct connection cable for ABB IRB 8700, to your required length			
Part No.	**chainflex® cable**	Number of cores and conductor nominal cross section [mm²]	Ø [mm]
Motor cable (direct connection cable)			
MAT904145759	**CFSPECIAL.792.012**	(18G2.5)C	25.5
MAT904145760	**CFSPECIAL.792.012**	(18G2.5)C	25.5
Signal cable (direct connection cable)			
MAT904141221	**CF211.PUR.02.06.02**	(6x(2x0.25))C	9.0

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Cables according to AIDA specifications*

* AIDA = **A**utomatisierungs**I**nitiative **D**eutscher **A**utomobilhersteller (Automation Initiative of German Domestic Automobile manufacturers)

Technical information on cable quality:

CFBUS.PUR	CFLK	CF77.UL.D	CF211.PUR
From page 200	from page 220	From page 102	From page 158

Harnessed cables according to AIDA specifications, to your required length

Part No.	Robot axis	chainflex® cable	Number of cores and conductor nominal cross section [mm²]	Ø [mm]
AIDA Profinet – RJ45 Pin/ AIDA Profinet – RJ45 Pin				
MAT904117091	**Axis 7**	**CFBUS.PUR.060**	(4x0.38)C	7.0
MAT904117095	**Axis 1-6**	**CFROBOT8.060**	(2x(2x0.34))C	8.5
AIDA Profinet FOC/ AIDA Profinet FOC				
MAT904117092	**Axis 7**	**CFLK.L1.02**	1x980/1,000µm	7.0
upon request [1)]	**Axis 1-6**	**CFLK.L1.02**	1x980/1,000µm	7.0
AIDA Power Pin/ AIDA Power Pin				
MAT904117093	**Axis 7**	**CF77.UL.25.05.D**	5G2.5	10.5
MAT904117097	**Axis 1-6**	**CF77.UL.25.05.D**	5G2.5	10.5
AIDA Signal Pin/ AIDA Signal Pin				
MAT904117094	**Axis 7**	**CF211.PUR.05.05.02**	(5x(2x0.5))C	10.5
MAT904117098	**Axis 1-6**	**CFROBOT3.05.05.02**	(5x(2x0.5))C	12.5

[1)] **Offer made only after technical clarification of the application**
Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
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igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

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Cables according to AIDA specifications*

* AIDA = **A**utomatisierungs**I**nitiative **D**eutscher **A**utomobilhersteller (Automation Initiative of German Domestic Automobile manufacturers)

Technical information on cable quality:

CFBUS.PUR	CFLK	CF77.UL.D	CF211.PUR
From page 200	from page 220	From page 102	From page 158

Harnessed extension cables according to AIDA specifications, to your required length

Part No.	Robot axis	chainflex® cable	Number of cores and conductor nominal cross section [mm²]	Ø [mm]
AIDA Profinet – RJ45 Socket/ AIDA Profinet – RJ45 Pin				
MAT904152118	Axis 7	CFBUS.PUR.060	(4x0.38)C	7.0
MAT904152121	Axis 1-6	CFROBOT8.060	(2x(2x0.34))C	8.5
AIDA Profinet – RJ45 Socket/ AIDA Profinet – RJ45 Socket				
MAT904151684	Axis 7	CFBUS.PUR.060	(4x0.38)C	7.0
MAT904151687	Axis 1-6	CFROBOT8.060	(2x(2x0.34))C	8.5
AIDA Power Socket/ AIDA Power Pin				
MAT904152119	Axis 7	CF77.UL.25.05.D	5G2.5	10.0
MAT904152122	Axis 1-6	CF77.UL.25.05.D	5G2.5	10.0
AIDA Power Socket/ AIDA Power Socket				
MAT904151685	Axis 7	CF77.UL.25.05.D	5G2.5	10.0
MAT904151688	Axis 1-6	CF77.UL.25.05.D	5G2.5	10.0
AIDA Signal Socket/ AIDA Signal Pin				
MAT904152120	Axis 7	CF211.PUR.05.05.02	5x(2x0.5))C	11.0
MAT904152123	Axis 1-6	CFROBOT3.05.05.02	5x(2x0.5))C	11.0
AIDA Signal Socket/ AIDA Signal Socket				
MAT904151686	Axis 7	CF211.PUR.05.05.02	5x(2x0.5))C	11.0
MAT904151689	Axis 1-6	CFROBOT3.05.05.02	5x(2x0.5))C	11.0

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
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igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Drive technology



chainflex® readycable®

Selection according to manufacturer			Jacket	Page	
Harnessed cables for drive technology					
	**Allen Bradley/ Rockwell**	Motor cables Servo cables Hybrid servo cables Brake cables Feedback cables Adapter cables (transition cable)	PVC/PUR/TPE	584	EPLAN macros available online
	**B&R**	Motor cables Servo cables EnDat cables Encoder cables Resolver cables Bus cables	PVC/PUR/TPE	585	EPLAN macros available online
	**Baumüller**	Servo cables Resolver cables Pulse encoder cable	PVC/PUR/TPE	585	
	**Baumüller, SpeedTec** New!	Servo cables, SpeedTec Resolver cables, SpeedTec Pulse encoder cables, SpeedTec	PVC/PUR/TPE	588	
	**Beckhoff**	Motor cables Servo cables Hybrid servo cables Encoder cables Thermal protection cables Resolver cables Network cables EtherCAT	PVC/PUR/TPE	590	EPLAN macros available online
	**Berger Lahr**	Servo cables Resolver cables	PVC/PUR/TPE	590	
	**Bosch Rexroth**	Motor cables Servo cables Hybrid servo cables Encoder cables	PVC/PUR/TPE	590	EPLAN macros available online
	**ELAU/ Schneider Electric**	Servo cables Hybrid servo cables Encoder cables	PVC/PUR/TPE	593	
	**FAGOR**	Path measuring cables	PUR/TPE	593	
	**Fanuc**	Motor cables Servo cables Brake cables Signal cables	PVC/PUR/TPE	593	EPLAN macros available online
	**Festo**	Servo cables Control cables Encoder cables Data cables Bus cables	PVC/PUR/TPE	594	
	**Heidenhain**	Servo cables Adapter cables	PVC/PUR/TPE	594	

... harnessed cables for drive technology ...

chainflex® readycable®

Selection according to manufacturer		Jacket	Page
Harnessed cables for drive technology			
	**Jetter** Motor cables Servo cables Resolver cables	PVC/PUR/TPE	595
	**Kollmorgen/ Danaher Motion** Motor cables Servo cables Signal cables	PVC/PUR/TPE	595
	**Lenze** Servo cables Fan cables Decoder cables Encoder cables Feedback cables Resolver cables	PVC/PUR/TPE	598
	**LinMot** Motor cables Servo cables	PVC/PUR	599
	**LTi DRiVES** Servo cables Encoder cables	PVC/PUR/TPE	599
	**Mitsubishi Electric** Motor cables Encoder cables	PVC/PUR	599
	**Nidec/Control Techniques** Motor cables Servo cables Encoder cables	PVC/PUR/TPE	599
	**NUM** Power cables Servo cables Fan cables Encoder cables	PVC/PUR/TPE	601
	**Omron** Motor cables Control cables Encoder cables	PVC/PUR/TPE	601
	**Parker** Motor cables Resolver cables	PVC/PUR/TPE	601
EPLAN macros available online	**SEW** Motor cables Servo cables Hybrid servo cables Control cables Encoder cables	PVC/PUR/TPE	602
EPLAN macros available online	**Siemens** Power cables Servo cables Signal cables Signal cables DriveCliq	PVC/PUR/TPE	603
	**Siemens, SpeedTec** Power cables, SpeedTec Servo cables, SpeedTec Signal cables, SpeedTec	PVC/PUR/TPE	606
	**Stöber** Servo cables Encoder cables	PVC/PUR/TPE	607

Harnessed cables for drive technology

Example: chainflex® PVC cables for the woodworking industry



Typical application areas – PVC

- For heavy duty applications
- Light oil influence
- Preferably indoor applications, but also outdoor ones at temperatures > 5°C
- Unsupported travel distances and up to 100m for gliding applications
- Storage and retrieval units for high-bay warehouses, machining units/packaging machines, quick handling, indoor cranes, woodworking

Example: chainflex® PUR cables for the machine tools industry



Typical application areas – PUR

- For heaviest duty applications
- Almost unlimited resistance to oil
- Indoor and outdoor applications, UV-resistant
- Unsupported travel distances and up to 100m for gliding applications
- Storage and retrieval units for high-bay warehouses, machining units/machine tools, quick handling, cleanroom, semiconductor insertion, outdoor cranes, low-temperature applications

Example: chainflex® TPE cables for outdoor use



Typical application areas – TPE

- For heaviest duty applications
- Almost unlimited resistance to oil, also with bio-oils
- Indoor and outdoor applications, UV-resistant
- Unsupported travels and up to 400m and more for gliding applications
- Storage and retrieval units for high-bay warehouses, machining units/machine tools, quick handling, cleanroom, semiconductor insertion, ship to shore, outdoor cranes, low-temperature applications

Our product engineers will be happy to advise you in your choice of application-specific cables.

... harnessed cables for drive technology ...

chainflex® readycable®

Selection chart for igus® chainflex® cables (you can find the green number on

	1	2	3	4	5	6	7
chainflex® series	CF31	CF35.UL	CF38	CF210.UL	CF21.UL	CF270.UL.D	CF27.D
Class	5.5.2.1	6.6.4.1	7.6.4.1	4.2.2.1	5.5.2.1	4.2.3.1	6.5.3.1
Outer jacket	PVC	TPE	TPE	PVC	PVC	PUR	PUR
Shielded	✓	✓	✓	✓	✓	✓	✓
Minimum bend radius	7.5 x d	7.5 x d	7.5 x d	10 x d	7.5 x d	10 x d	7.5 x d
Travel distance [m]	≤ 100	≤ 400	≤ 400	≤ 10	≤ 100	≤ 10	≤ 100
Oil-resistant	✓	✓	✓	✓	✓	✓	✓
Oil-/coolant-resistant						✓	✓
Flame-retardant	✓	✓		✓	✓	✓	✓
Halogen-free			✓			✓	✓
Notch-resistant						✓	✓
Hydrolysis and microbe-resistant		✓	✓			✓	✓
Temperature, from/to [°C]	-5/+70	-35/+90	-35/+90	+5/+70	+5/+70	-25/+80	-25/+80
Nominal voltage [V]	600/1,000	600/1,000	600/1,000	600/1,000	600/1,000	600/1,000	600/1,000
Colour	Jet black	Signal black	Jet black	Pastel orange	Moss green	Pastel orange	Pastel orange
CE/UKCA	CE UKCA	CE UKCA	CE UKCA	CE UKCA	CE UKCA	CE UKCA	CE UKCA
REACH/RoHS	REACH RoHS	REACH RoHS	REACH RoHS	REACH RoHS	REACH RoHS	REACH RoHS	REACH RoHS
Cleanroom	cleanroom	cleanroom	cleanroom	cleanroom	cleanroom	cleanroom	cleanroom
EAC	EAC	EAC	EAC	EAC	EAC	EAC	EAC
UL/CSA + NFPA	UL NFPA	UL NFPA	UL	UL NFPA	UL NFPA	UL NFPA	UL NFPA
Desina						Desina	Desina
More information							
▶ Catalogue page	328	348	354	282	286	292	296
www.igus-asean.com/	CF31	CF35UL	CF38	CF210UL	CF21UL	CF270ULD	CF27D

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chainflex® readycable®

the product pages of the respective manufacturers)

readycable® contents

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CF211 Mess	CF111.D	CF113.D	CF11.D	CFBUS	CF240.PUR	CF211	CF211.PUR	CF11
4.2.2.1	4.2.3.1	6.5.3.1	6.6.4.1	6.6.4.1	4.4.3.1	5.5.2.1	5.5.3.1	6.6.4.1
PVC	PUR	PUR	TPE	TPE	PUR	PVC	PUR	TPE
✓	✓	✓	✓	✓	✓	✓	✓	✓
10 x d	10 x d	7.5 x d	7.5 x d	10 - 12.5 x d	10 x d	7.5 x d	7.5 x d	6.8 x d
≤ 10	≤ 10	≤ 100	≤ 400	≤ 400	≤ 50	≤ 100	≤ 100	≤ 400
✓	✓	✓	✓	✓	✓	✓	✓	✓
	✓	✓			✓		✓	
✓	✓	✓		✓	✓	✓	✓	
	✓	✓	✓		✓			✓
	✓	✓			✓		✓	
	✓	✓	✓	✓	✓		✓	✓
+5/+70	-25/+80	-25/+80	-35/+90	-35/+70	-25/+80	+5/+70	-25/+80	-35/+100
50	50	50	50	50	300/300	300/300	300/300	300/300
Yellow-green	Yellow-green	Yellow-green	Yellow-green	Red lilac	Silver grey	Silver grey	Silver grey	Steel blue
CE UKCA	CE UKCA	CE UKCA	CE UKCA	CE UKCA	CE UKCA	CE UKCA	CE UKCA	CE UKCA
REACH RoHS	REACH RoHS	REACH RoHS	REACH RoHS	REACH RoHS	REACH RoHS	REACH RoHS	REACH RoHS	REACH RoHS
cleanroom	cleanroom	cleanroom	cleanroom	cleanroom	cleanroom	cleanroom	cleanroom	cleanroom
EAC	EAC	EAC	EAC	EAC	EAC	EAC	EAC	EAC
cULus NFPA	cULus NFPA	cULus NFPA	cULus	cULus NFPA	cULus NFPA	cULus NFPA	cULus NFPA	cULus
246	256	262	268	204	150	154	158	162
CF211M	CF111D	CF113D	CF11D	CFBUS	CF240PUR	CF211	CF211PUR	CF11

... harnessed cables for drive technology ...

chainflex® readycable®

Selection chart for igus® chainflex® cables (you can find the green number on

	17	18	19	20	21	22	23
chainflex® series	CF130.UL	CF140.UL	CF5	CF6	CF77.UL.D	CF78.UL	CF9
Class	4.4.1.1	4.4.1.1	5.5.2.1	5.5.2.1	5.5.3.1	5.5.3.1	7.6.4.2
Outer jacket	PVC	PVC	PVC	PVC	PUR	PUR	TPE
Shielded		✓		✓		✓	
Minimum bend radius	7.5 x d	7.5 x d	6.8 x d	6.8 x d	6.8 x d	6.8 x d	5 x d
Travel distance [m]	≤ 50	≤ 50	≤ 50	≤ 50	≤ 100	≤ 100	> 400
Oil-resistant			✓	✓	✓	✓	✓
Oil-/coolant-resistant					✓	✓	
Flame-retardant	✓	✓	✓	✓	✓	✓	
Halogen-free					✓	✓	✓
Notch-resistant					✓	✓	
Hydrolysis and microbe-resistant					✓	✓	✓
Temperature, from/to [°C]	+5/+70	+5/+70	+5/+70	+5/+70	-25/+80	-25/+80	-35/+100
Nominal voltage [V]	300/500	300/500	300/500	300/500	300/500	300/500	300/500
Colour	Silver grey	Silver grey	Moss green	Moss green	Window grey	Window grey	Steel blue
CE/UKCA	CE UKCA	CE UKCA	CE UKCA	CE UKCA	CE UKCA	CE UKCA	CE UKCA
REACH/RoHS	REACH RoHS	REACH RoHS	REACH RoHS	REACH RoHS	REACH RoHS	REACH RoHS	REACH RoHS
Cleanroom	cleanroom	cleanroom	cleanroom	cleanroom	cleanroom	cleanroom	cleanroom
EAC	EAC	EAC	EAC	EAC	EAC	EAC	EAC
UL/CSA + NFPA	UL NFPA	UL NFPA	UL NFPA	UL NFPA	UL NFPA	UL NFPA	UL
Desina							
More information							
▶ Catalogue page	66	70	82	86	102	106	114
www.igus-asean.com/	CF130	CF140	CF5	CF6	CF77	CF78	CF9

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chainflex® readycable®

the product pages of the respective manufacturers)

24	25	26	27	28	29	30	31
CF10	CF9.UL	CF220.UL.H	CF280.UL.H	CFBUS.PVC	CFBUS.PUR	CF240	CF29.D
7.6.4.1	6.6.4.2	4.2.2.1	4.2.3.1	4.3.2.1	4.3.3.1	4.4.2.1	7.6.4.1
TPE	TPE	PVC	PUR	PVC	PUR	PVC	TPE
✓		✓	✓	✓	✓	✓	✓
5 x d	5 x d	10 x d	10 x d	12.5 x d	12.5 x d	10 x d	6.8 x d
> 400	> 400	≤ 10	≤ 10	≤ 20	≤ 20	≤ 50	≤ 400
✓	✓	✓	✓	✓	✓	✓	✓
			✓		✓		✓
	✓	✓	✓	✓	✓	✓	
✓			✓		✓		✓
			✓		✓		
✓	✓		✓		✓		✓
-35/+100	-35/+100	+5/+70	-25/+80	+5/+70	-20/+70	-15/+70	-55/+100
300/500	300/500	600/1,000	600/1,000	50	50	300/300	600/1,000
Steel blue	Slate grey	Pastel orange	Pastel orange	Red lilac	Red lilac	Silver grey	Pastel orange
CE UKCA	CE UKCA	CE UKCA	CE UKCA	CE UKCA	CE UKCA	CE UKCA	CE UKCA
REACH RoHS	REACH RoHS	REACH RoHS	REACH RoHS	REACH RoHS	REACH RoHS	REACH RoHS	REACH RoHS
cleanroom	cleanroom	cleanroom	cleanroom	cleanroom	cleanroom	cleanroom	cleanroom
EAC	EAC	EAC	EAC	EAC	EAC	EAC	EAC
UL	UL NFPA	UL NFPA	UL NFPA	UL NFPA	UL NFPA	UL NFPA	UL
118	122	302	306	192	200	146	300
CF10	CF9UL	CF220ULH	CF280ULH	CFBUSPVC	CFBUSPUR	CF240	CF29.D

for readycable® drive cables suitable for eight manufacturers

... plan quickly ... direc
... EPLAN macros



Load our readycable® quickly and easily via the EPLAN data portal into your electrical design using EPLAN macros. These macros already contain parts lists and assignment diagrams.
Siemens, SEW, Bosch Rexroth are now followed by five other well-known manufacturers. With **Allen Bradley, Beckhoff, B&R, Heidenhain and Fanuc, we are expanding our online range with 2,046 more datasets.**

This means that with the new macros, the customer can already bring **complete readycable® product data** into their EPLAN during the electrical design phase and complete their parts list.

While the electrical details are being worked out in the design department, the user can go **online to the EPLAN data portal** and filter for e.g. 0198 9308 and find all igus® cables in the known qualities, which can then be selected according to their application and use in their personal product range.

- Automatic generation of cable plan, parts list and further design documents in CAE system
- 7 qualities per cable directly available in EPLAN
- Select cables, calculate service life and order online: www.igus-asean.com/readycable
- Reduce design time by 50% with ready-to-use EPLAN macros
- Easily designed digitally & can be ordered online immediately
- No minimum quantity surcharges, no cutting charges
- 36-month guarantee on cables sold by the metre
- Prefabricated modules or macros directly usable in EPLAN as can be seen in the video tutorial: www.igus-asean.com/eplan-macro

ctly in CAE ...



EPLAN macros are available for **readycable® drive cables** suitable for eight manufacturers:

Allen Bradley ▶ Page 584

B&R ▶ Page 585

Beckhoff ▶ Page 590

Bosch Rexroth ▶ Page 590

Fanuc ▶ Page 593

Heidenhain ▶ Page 594

SEW ▶ Page 602

Siemens ▶ Page 604

Tutorial on new EPLAN macros for readycable® suitable to SEW



www.igus-asean.com/eplan-macro

Allen-Bradley/Rockwell ...

Selection by manufacturer part number

Basic cables	Jacket	Page	Extension cables	Jacket	Page
Allen-Bradley/Rockwell					
Motor cables					
2090-CPWM4DF-08AFxx	PVC/PUR/TPE	608			
2090-CPWM4DF-10AFxx	PVC/PUR/TPE	608			
2090-CPWM4DF-12AFxx	PVC/PUR/TPE	608			
2090-CPWM4DF-14AFxx	PVC/PUR/TPE	608			
2090-CPWM4DF-16AFxx	PVC/PUR/TPE	608			
2090-CPWM7DF-02AF	PVC/PUR	608			
2090-CPWM7DF-04AF	PVC/PUR/TPE	608			
2090-CPWM7DF-06AF	PVC/PUR/TPE	608			
2090-CPWM7DF-08AFxx	PVC/PUR/TPE	609	**2090-CPWM7E7-08AF**	PUR	610
2090-CPWM7DF-10AFxx	PVC/PUR/TPE	609	**2090-CPWM7E7-10AF**	PUR	610
2090-CPWM7DF-12AFxx	PVC/PUR/TPE	609	**2090-CPWM7E7-12AF**	PUR	610
2090-CPWM7DF-14AFxx	PVC/PUR/TPE	609	**2090-CPWM7E7-14AF**	PUR	610
2090-CPWM7DF-16AFxx	PVC/PUR/TPE	609	**2090-CPWM7E7-16AF**	PUR	610
2090-XX_PMP-10SXX	PVC/TPE/PUR	609			
2090-XX_PMP-14SXX	PVC/PUR/TPE	609			
2090-XX_PMP-16SXX	PVC/PUR/TPE	610			
Servo cables					
2090-CPBM4DF-08AFxx	PVC/PUR	610			
2090-CPBM4DF-10AFxx	PVC/PUR	610			
2090-CPBM4DF-12AFxx	PVC/PUR	611			
2090-CPBM4DF-14AFxx	PVC/PUR	611			
2090-CPBM4DF-16AFxx	PVC/PUR	611			
2090-CPBM7DF-02AF	PUR	611			
2090-CPBM7DF-04AF	PUR	611			
2090-CPBM7DF-06AF	PUR	611			
2090-CPBM7DF-08AFxx	PVC/PUR	611	**2090-CPBM7E7-08AFxx**	PVC/PUR	612
2090-CPBM7DF-10AFxx	PVC/PUR	612	**2090-CPBM7E7-10AFxx**	PVC/PUR	613
2090-CPBM7DF-12AFxx	PVC/PUR	612	**2090-CPBM7E7-12AFxx**	PVC/PUR	613
2090-CPBM7DF-14AFxx	PVC/PUR	612	**2090-CPBM7E7-14AFxx**	PVC/PUR	613
2090-CPBM7DF-16AFxx	PVC/PUR	612	**2090-CPBM7E7-16AFxx**	PVC/PUR	613
2090-XX_PMF-10SXX	PVC/PUR	612			
2090-XX_PMF-14SXX	PVC/PUR	612			
2090-XX_PMF-16SXX	PVC/PUR	612			
Hybrid servo cables					
2090-CSBM1DE-10AF	PUR	613			
2090-CSBM1DE-14AF	PVC/PUR	613			
2090-CSBM1DE-18AF	PVC/PUR	613			
2090-CSBM1DF-10AF	PUR	614			
2090-CSBM1DF-14AF	PVC/PUR	614			
2090-CSBM1DF-18AF	PVC/PUR	614			
2090-CSBM1DG-10AF	PUR	614			
2090-CSBM1DG-14AF	PVC/PUR	614			
2090-CSBM1DG-18AF	PVC/PUR	614			
2090-CSWM1DE-10AF	PUR	615			
2090-CSWM1DE-14AF	PVC/PUR	615			
2090-CSWM1DE-18AF	PVC/PUR	615			
2090-CSWM1DF-10AF	PUR	615			
2090-CSWM1DF-14AF	PVC/PUR	615			
2090-CSWM1DF-18AF	PVC/PUR	615			

... Allen-Bradley/Rockwell ... B&R ... Baumüller ...

Selection by manufacturer part number

Basic cables	Jacket	Page	Extension cables	Jacket	Page
2090-CSWM1DG-10AF	PUR	615			
2090-CSWM1DG-14AF	PVC/PUR	615			
2090-CSWM1DG-18AF	PVC/PUR	616			
Brake cables					
2090-UX_BMP-18SXX	PVC/PUR	616			
Feedback cables					
2090-CFBM4DF-CDAFxx	PUR/TPE	616			
2090-CFBM4DF-CEAFxx	PUR/TPE	617			
2090-CFBM7DD-CDAFxx	PUR	617			
2090-CFBM7DD-CEAFxx	PUR	617			
2090-CFBM7DF-CDAFxx	PUR/TPE	617	**2090-CFBM7E7-CDAFxx**	PUR/TPE	620
2090-CFBM7DF-CEAFxx	PUR/TPE	617	**2090-CFBM7E7-CEAFxx**	PUR/TPE	620
2090-XX_FMF-Sxx	PUR/TPE	617			
2090-XX_FMP-Sxx	PUR/TPE	617			
Adapter cables (transition cables)					
2090-CFBM4E2-CATR	PUR	618			
2090-CPWM4E2-14TR	PUR	618			
B&R					
Motor cables					
8BCMxxxx.1011A-0	PUR/PVC	618			
8BCMxxxx.1034C-0	PUR/PVC	618			
8BCMxxxx.1312A-0	PUR/PVC	618			
8BCMxxxx.1322A-0	PUR/PVC	619			
8CMxxx.12-0	PUR/PVC	619			
Servo cables					
8BCMxxxx.1111A-0	PUR/PVC	619			
8BCMxxxx.1311A-0	PUR/PVC	619			
8CMxxx.12-1	PUR/PVC	619			
8CMxxx.12-3	PUR/PVC	619			
8CMxxx.12-5	PUR/PVC	619			
Hybrid servo cables					
8BCHxxxx.1111A-0	PUR	620			
8BCHxxxx.1312A-0	PUR	620			
8CHxxxx.1111A-0	PUR	620			
8ECHxxxx.1111A-0	PUR	620	**8ECH00xx.11140-0**	PUR	620
EnDat cables					
8BCExxxx.1111A-0	TPE/PVC/PUR	620			
8CExxx.12-1	TPE/PVC/PUR	620			
Encoder cables					
8BCFxxxx.1221B-0	PVC/PUR	620			
8BCRxxxx.1121A-0	TPE/PVC/PUR	621			
8BCSxxxx.1111A-0	TPE/PVC/PUR	621			
Resolver cables					
8BCRxxx.1111A-0	TPE/PVC/PUR	621			
8CRxxx.12-1	TPE/PVC/PUR	621			
Bus cables					
X20CA3E61.xxxx	PVC/PUR/TPE	621			
X67CA0E41.xxxx	PVC/PUR/TPE	621			
Baumüller					
Servo cables					
324781 (5m)	PVC/PUR	622	**324781 (5m) (ext.)**	PVC/PUR	625

... Baumüller ...

Selection by manufacturer part number

Basic cables	Jacket	Page	Extension cables	Jacket	Page
Baumüller					
Servo cables					
324782 (7m)	PVC/PUR	622	324781 (5m) (ext.)	PVC/PUR	625
324783 (10m)	PVC/PUR	622	324781 (5m) (ext.)	PVC/PUR	625
324784 (15m)	PVC/PUR	622	324781 (5m) (ext.)	PVC/PUR	625
324785 (20m)	PVC/PUR	622	324781 (5m) (ext.)	PVC/PUR	625
324786 (25m)	PVC/PUR	622	324781 (5m) (ext.)	PVC/PUR	623
324787 (30m)	PVC/PUR	622	324781 (5m) (ext.)	PVC/PUR	623
324788 (35m)	PVC/PUR	622	324781 (5m) (ext.)	PVC/PUR	623
324789 (40m)	PVC/PUR	623	324781 (5m) (ext.)	PVC/PUR	623
324790 (50m)	PVC/PUR	623	324781 (5m) (ext.)	PVC/PUR	623
324791 (75m)	PVC/PUR	623	324781 (5m) (ext.)	PVC/PUR	623
324792 (100m)	PVC/PUR	623	324781 (5m) (ext.)	PVC/PUR	623
326577 (5m)	PVC/PUR	625	326577 (5m) (ext.)	PVC/PUR	627
326578 (7m)	PVC/PUR	625	326577 (5m) (ext.)	PVC/PUR	627
326579 (10m)	PVC/PUR	625	326577 (5m) (ext.)	PVC/PUR	627
326580 (15m)	PVC/PUR	625	326577 (5m) (ext.)	PVC/PUR	627
326581 (20m)	PVC/PUR	626	326577 (5m) (ext.)	PVC/PUR	627
326582 (25m)	PVC/PUR	626	326577 (5m) (ext.)	PVC/PUR	627
326583 (30m)	PVC/PUR	626	326577 (5m) (ext.)	PVC/PUR	627
326584 (35m)	PVC/PUR	626	326577 (5m) (ext.)	PVC/PUR	627
326585 (40m)	PVC/PUR	626	326577 (5m) (ext.)	PVC/PUR	627
326586 (50m)	PVC/PUR	626	326577 (5m) (ext.)	PVC/PUR	627
326587 (75m)	PVC/PUR	626	326577 (5m) (ext.)	PVC/PUR	627
326588 (100m)	PVC/PUR	626	326577 (5m) (ext.)	PVC/PUR	627
326589 (5m)	PVC/PUR	627	326589 (5m) (ext.)	PVC/PUR	628
326591 (7m)	PVC/PUR	627	326589 (5m) (ext.)	PVC/PUR	628
326592 (10m)	PVC/PUR	627	326589 (5m) (ext.)	PVC/PUR	628
326593 (15m)	PVC/PUR	627	326589 (5m) (ext.)	PVC/PUR	628
326594 (20m)	PVC/PUR	627	326589 (5m) (ext.)	PVC/PUR	628
326596 (25m)	PVC/PUR	627	326589 (5m) (ext.)	PVC/PUR	628
326597 (30m)	PVC/PUR	628	326589 (5m) (ext.)	PVC/PUR	628
326598 (35m)	PVC/PUR	628	326589 (5m) (ext.)	PVC/PUR	628
326599 (40m)	PVC/PUR	628	326589 (5m) (ext.)	PVC/PUR	628
326600 (5m)	PVC/PUR	628	326600 (5m) (ext.)	PVC/PUR	629
326601 (7m)	PVC/PUR	628	326600 (5m) (ext.)	PVC/PUR	629
326602 (10m)	PVC/PUR	628	326600 (5m) (ext.)	PVC/PUR	629
326603 (15m)	PVC/PUR	629	326600 (5m) (ext.)	PVC/PUR	629
326604 (20m)	PVC/PUR	629	326600 (5m) (ext.)	PVC/PUR	629
326605 (25m)	PVC/PUR	629	326600 (5m) (ext.)	PVC/PUR	629
326606 (30m)	PVC/PUR	629	326600 (5m) (ext.)	PVC/PUR	629
326607 (35m)	PVC/PUR	629	326600 (5m) (ext.)	PVC/PUR	629
326608 (40m)	PVC/PUR	629	326600 (5m) (ext.)	PVC/PUR	629
326609 (5m)	PVC/PUR	630	326609 (5m) (ext.)	PVC/PUR	631
326610 (7m)	PVC/PUR	630	326609 (5m) (ext.)	PVC/PUR	631
326611 (10m)	PVC/PUR	630	326609 (5m) (ext.)	PVC/PUR	631
326612 (15m)	PVC/PUR	630	326609 (5m) (ext.)	PVC/PUR	631
326613 (20m)	PVC/PUR	630	326609 (5m) (ext.)	PVC/PUR	631
326614 (25m)	PVC/PUR	630	326609 (5m) (ext.)	PVC/PUR	631
326615 (30m)	PVC/PUR	630	326609 (5m) (ext.)	PVC/PUR	631
326616 (35m)	PVC/PUR	630	326609 (5m) (ext.)	PVC/PUR	631

Selection by manufacturer part number

Basic cables	Jacket	Page	Extension cables	Jacket	Page
326617 (40m)	PVC/PUR	630	326609 (5m) (ext.)	PVC/PUR	631
380967 (7m)	PVC/PUR	623	414840 (5m) (ext.)	PVC/PUR	625
413410 (10m)	PVC/PUR	623	414840 (5m) (ext.)	PVC/PUR	625
414840 (5m)	PVC/PUR	624	414840 (5m) (ext.)	PVC/PUR	625
414841 (15m)	PVC/PUR	624	414840 (5m) (ext.)	PVC/PUR	625
414842 (20m)	PVC/PUR	624	414840 (5m) (ext.)	PVC/PUR	625
414843 (25m)	PVC/PUR	624	414840 (5m) (ext.)	PVC/PUR	625
414846 (30m)	PVC/PUR	624	414840 (5m) (ext.)	PVC/PUR	625
414848 (35m)	PVC/PUR	624	414840 (5m) (ext.)	PVC/PUR	625
414849 (40m)	PVC/PUR	624	414840 (5m) (ext.)	PVC/PUR	625
414850 (50m)	PVC/PUR	624	414840 (5m) (ext.)	PVC/PUR	625
414851 (75m)	PVC/PUR	625	414840 (5m) (ext.)	PVC/PUR	625
414852 (100m)	PVC/PUR	625	414840 (5m) (ext.)	PVC/PUR	625
Resolver cables					
239540 (5m)	PVC/TPE/PUR	631	246658 (3m) (ext.)	PVC/TPE/PUR	633
239541 (8m)	PVC/TPE/PUR	631	246658 (3m) (ext.)	PVC/TPE/PUR	633
239542 (10m)	PVC/TPE/PUR	631	246658 (3m) (ext.)	PVC/TPE/PUR	633
239543 (15m)	PVC/TPE/PUR	631	246658 (3m) (ext.)	PVC/TPE/PUR	633
239544 (20m)	PUR	631	246658 (3m) (ext.)	PUR	633
239544 (20m)	PVC/TPE	631	246658 (3m) (ext.)	PVC/TPE	633
239545 (25m)	PVC/TPE/PUR	631	246658 (3m) (ext.)	PVC/TPE/PUR	633
239546 (30m)	PVC/TPE/PUR	632	246658 (3m) (ext.)	PVC/TPE/PUR	633
239547 (35m)	PVC/TPE/PUR	632	246658 (3m) (ext.)	PVC/TPE/PUR	633
240520 (40m)	PVC/TPE/PUR	632	246658 (3m) (ext.)	PVC/TPE/PUR	633
240521 (45m)	PVC/TPE/PUR	632	246658 (3m) (ext.)	PVC/TPE/PUR	633
240522 (50m)	PVC/TPE/PUR	632	246658 (3m) (ext.)	PVC/TPE/PUR	633
242954 (6m)	PVC/TPE/PUR	632	246658 (3m) (ext.)	PVC/TPE/PUR	633
243379 (4m)	PVC/TPE/PUR	632	246658 (3m) (ext.)	PVC/TPE/PUR	633
244033 (55m)	PVC/TPE/PUR	632	246658 (3m) (ext.)	PVC/TPE/PUR	633
245484 (60m)	PVC/TPE/PUR	633	246658 (3m) (ext.)	PVC/TPE/PUR	633
246658 (3m)	PVC/TPE/PUR	633	246658 (3m) (ext.)	PVC/TPE/PUR	633
Pulse encoder cable					
198962 (3m)	PVC/TPE/PUR	633	198962 (3m) (ext.)	PVC/TPE/PUR	634
198963 (5m)	PVC/TPE/PUR	633	198962 (3m) (ext.)	PVC/TPE/PUR	634
198964 (8m)	PVC/TPE/PUR	633	198962 (3m) (ext.)	PVC/TPE/PUR	634
198965 (10m)	PVC/TPE/PUR	633	198962 (3m) (ext.)	PVC/TPE/PUR	634
198966 (15m)	PVC/TPE/PUR	634	198962 (3m) (ext.)	PVC/TPE/PUR	634
198967 (20m)	PVC/TPE/PUR	634	198962 (3m) (ext.)	PVC/TPE/PUR	634
198968 (25m)	PVC/TPE/PUR	634	198962 (3m) (ext.)	PVC/TPE/PUR	634
198969 (30m)	PVC/TPE/PUR	634	198962 (3m) (ext.)	PVC/TPE/PUR	634
208829 (40m)	PVC/TPE/PUR	634	198962 (3m) (ext.)	PVC/TPE/PUR	634
225360 (35m)	PVC/TPE/PUR	634	198962 (3m) (ext.)	PVC/TPE/PUR	634
369864 (3m)	PVC/TPE/PUR	635	393889 (2m) (ext.)	PVC/TPE/PUR	637
371494 (20m)	PVC/TPE/PUR	635	393889 (2m) (ext.)	PVC/TPE/PUR	637
378022 (50m)	PVC/TPE/PUR	635	393889 (2m) (ext.)	PVC/TPE/PUR	637
380358 (35m)	PVC/TPE/PUR	635	393889 (2m) (ext.)	PVC/TPE/PUR	637
382005 (45m)	PVC/TPE/PUR	635	393889 (2m) (ext.)	PVC/TPE/PUR	637
389807 (7m)	PVC/TPE/PUR	635	393889 (2m) (ext.)	PVC/TPE/PUR	637
389808 (9m)	PVC/TPE	635	393889 (2m) (ext.)	PVC/TPE	637
389808 (9m)	PUR	635	393889 (2m) (ext.)	PUR	637
391216 (40m)	PVC/TPE/PUR	635	393889 (2m) (ext.)	PVC/TPE/PUR	637

... Baumüller ... Baumüller, SpeedTec ...

Selection by manufacturer part number

Basic cables	Jacket	Page	Extension cables	Jacket	Page
Baumüller					
Pulse encoder cable					
393889 (2m)	PVC/TPE	636	393889 (2m) (ext.)	PVC/TPE	637
393889 (2m)	PUR	636	393889 (2m) (ext.)	PUR	637
393890 (8m)	PVC/TPE/PUR	636	393889 (2m) (ext.)	PVC/TPE/PUR	637
393891 (10m)	PVC/TPE/PUR	636	393889 (2m) (ext.)	PVC/TPE/PUR	637
393892 (15m)	PVC/TPE/PUR	636	393889 (2m) (ext.)	PVC/TPE/PUR	637
393893 (25m)	PVC/TPE/PUR	636	393889 (2m) (ext.)	PVC/TPE/PUR	637
393894 (30m)	PVC/TPE/PUR	636	393889 (2m) (ext.)	PVC/TPE/PUR	637
394014 (5m)	PVC/TPE/PUR	636	393889 (2m) (ext.)	PVC/TPE/PUR	637
Baumüller, SpeedTec					
Servo cables, SpeedTec					
445872	PVC/PUR	638	445872	PVC/PUR	639
445887	PVC/PUR	638	445872	PVC/PUR	639
445889	PVC/PUR	638	445872	PVC/PUR	639
447675	PVC/PUR	638	445872	PVC/PUR	639
447676	PVC/PUR	638	445872	PVC/PUR	639
447677	PVC/PUR	638	445872	PVC/PUR	639
447678	PVC/PUR	638	445872	PVC/PUR	639
447679	PVC/PUR	638	445872	PVC/PUR	639
447680	PVC/PUR	639	445872	PVC/PUR	639
447681	PVC/PUR	639	445872	PVC/PUR	639
447682	PVC/PUR	639	445872	PVC/PUR	639
447683	PVC/PUR	639	445872	PVC/PUR	639
447684	PVC/PUR	639	445872	PVC/PUR	639
447687	PVC/PUR	639	445872	PVC/PUR	639
447688	PVC/PUR	640	447684	PVC/PUR	641
447692	PVC/PUR	640	447684	PVC/PUR	641
447698	PVC/PUR	640	447684	PVC/PUR	641
447852	PVC/PUR	640	447684	PVC/PUR	641
447853	PVC/PUR	640	447684	PVC/PUR	641
447854	PVC/PUR	640	447684	PVC/PUR	641
447855	PVC/PUR	640	447684	PVC/PUR	641
447856	PVC/PUR	640	447684	PVC/PUR	641
447857	PVC/PUR	641	447684	PVC/PUR	641
447858	PVC/PUR	641	447684	PVC/PUR	641
447686	PVC/PUR	641	447686	PVC/PUR	643
447689	PVC/PUR	641	447686	PVC/PUR	643
447690	PVC/PUR	641	447686	PVC/PUR	643
447691	PVC/PUR	641	447686	PVC/PUR	643
447693	PVC/PUR	642	447686	PVC/PUR	643
447694	PVC/PUR	642	447686	PVC/PUR	643
447695	PVC/PUR	642	447686	PVC/PUR	643
447696	PVC/PUR	642	447686	PVC/PUR	643
447697	PVC/PUR	642	447686	PVC/PUR	643
447699	PVC/PUR	642	447686	PVC/PUR	643
448060	PVC/PUR	642	447686	PVC/PUR	643
448061	PVC/PUR	642	447686	PVC/PUR	643
448063	PVC/PUR	643	448063	PVC/PUR	644
448064	PVC/PUR	643	448063	PVC/PUR	644
448065	PVC/PUR	643	448063	PVC/PUR	644

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... Baumüller, SpeedTec ...

Selection by manufacturer part number

Basic cables	Jacket	Page	Extension cables	Jacket	Page
448066	PVC/PUR	643	448063	PVC/PUR	644
448067	PVC/PUR	643	448063	PVC/PUR	644
448069	PVC/PUR	643	448063	PVC/PUR	644
448070	PVC/PUR	644	448063	PVC/PUR	644
448071	PVC/PUR	644	448063	PVC/PUR	644
448072	PVC/PUR	644	448063	PVC/PUR	644
448080	PVC/PUR	644	448080	PVC/PUR	645
448118	PVC/PUR	644	448080	PVC/PUR	645
448119	PVC/PUR	645	448080	PVC/PUR	645
448120	PVC/PUR	645	448080	PVC/PUR	645
448121	PVC/PUR	645	448080	PVC/PUR	645
448122	PVC/PUR	645	448080	PVC/PUR	645
448123	PVC/PUR	645	448080	PVC/PUR	645
448124	PVC/PUR	645	448080	PVC/PUR	645
448125	PVC/PUR	645	448080	PVC/PUR	645
448129	PVC/PUR	646	448129	PVC/PUR	647
448131	PVC/PUR	646	448129	PVC/PUR	647
448132	PVC/PUR	646	448129	PVC/PUR	647
448133	PVC/PUR	646	448129	PVC/PUR	647
448134	PVC/PUR	646	448129	PVC/PUR	647
448135	PVC/PUR	646	448129	PVC/PUR	647
448136	PVC/PUR	646	448129	PVC/PUR	647
448137	PVC/PUR	646	448129	PVC/PUR	647
448138	PVC/PUR	646	448129	PVC/PUR	647
Resolver cables, SpeedTec					
448944	PVC/PUR/TPE	647	448944	PVC/PUR/TPE	649
448945	PVC/PUR/TPE	647	448944	PVC/PUR/TPE	649
448946	PVC/PUR/TPE	647	448944	PVC/PUR/TPE	649
448948	PVC/PUR/TPE	647	448944	PVC/PUR/TPE	649
448949	PVC/PUR/TPE	647	448944	PVC/PUR/TPE	649
448956	PVC/PUR/TPE	647	448944	PVC/PUR/TPE	649
448962	PVC/PUR/TPE	648	448944	PVC/PUR/TPE	649
448967	PVC/PUR/TPE	648	448944	PVC/PUR/TPE	649
448970	PVC/PUR/TPE	648	448944	PVC/PUR/TPE	649
448971	PVC/PUR/TPE	648	448944	PVC/PUR/TPE	649
448973	PVC/PUR/TPE	648	448944	PVC/PUR/TPE	649
448976	PVC/PUR/TPE	648	448944	PVC/PUR/TPE	649
448978	PVC/PUR/TPE	648	448944	PVC/PUR/TPE	649
448980	PVC/PUR/TPE	649	448944	PVC/PUR/TPE	649
448981	PVC/PUR/TPE	649	448944	PVC/PUR/TPE	649
448982	PVC/PUR/TPE	649	448944	PVC/PUR/TPE	649
Pulse encoder cables, SpeedTec					
448816	PVC/PUR/TPE	649	448816	PVC/PUR/TPE	651
448817	PVC/PUR/TPE	649	448816	PVC/PUR/TPE	651
448818	PVC/PUR/TPE	649	448816	PVC/PUR/TPE	651
448819	PVC/PUR/TPE	650	448816	PVC/PUR/TPE	651
448820	PVC/PUR/TPE	650	448816	PVC/PUR/TPE	651
448821	PVC/PUR/TPE	650	448816	PVC/PUR/TPE	651
448822	PVC/PUR/TPE	650	448816	PVC/PUR/TPE	651
448823	PVC/PUR/TPE	650	448816	PVC/PUR/TPE	651
448824	PVC/PUR/TPE	650	448816	PVC/PUR/TPE	651
448826	PVC/PUR/TPE	650	448816	PVC/PUR/TPE	651

... Beckhoff ... Berger Lahr ... Bosch Rexroth ...

Selection by manufacturer part number

Basic cables	Jacket	Page	Extension cables	Jacket	Page
Baumüller, SpeedTec					
Pulse encoder cables, SpeedTec					
448827	PVC/PUR/TPE	651	448816	PVC/PUR/TPE	651
448828	PVC/PUR/TPE	651	448816	PVC/PUR/TPE	651
448830	PVC/PUR/TPE	651	448816	PVC/PUR/TPE	651
448832	PVC/PUR/TPE	651	448816	PVC/PUR/TPE	651
Beckhoff					
Motor cables					
ZK4500-8015-xxx	PUR	652			
ZK4500-8024-xxx	PVC/PUR	652			
ZK4501-8024-xxx	PVC/PUR	652			
ZK4530-8110-xxxx	PVC/PUR	652			
Servo cables					
ZK4000-2111-xxxx	PVC/PUR	652			
ZK4000-2112-xxxx	PVC/PUR	652			
ZK4000-2711-xxxx	PVC/PUR	653			
ZK4500-0023-xxxx	PVC/PUR	653	ZK4501-0023-xxxx	PVC/PUR	653
ZK4500-0024-xxxx	PVC/PUR	653	ZK4501-0024-xxxx	PVC/PUR	653
Hybrid servo cables					
ZK4500-8022-xxxx	PVC/PUR	654	ZK4501-8022-xxxx	PVC/PUR	654
ZK4500-8023-xxxx	PVC/PUR	654	ZK4501-8023-xxxx	PVC/PUR	654
ZK4704-0421-xxxx	PVC/PUR	654			
Encoder cables					
ZK4000-2410-xxxx	PVC/PUR	654			
ZK4000-2610-xxxx	PVC/PUR	654			
ZK4510-0020-xxxx	PVC/PUR	655	ZK4511-0020-xxxx	PVC/PUR	655
ZK4520-0020-xxxx	PVC/PUR	655			
Thermal protection cables					
ZK4000-2510-xxxx	PVC/TPE	655			
Resolver cables					
ZK4000-2210-xxxx	PVC/PUR/TPE	655			
ZK4530-0010-xxxx	PVC/PUR/TPE	655	ZK4531-0020-xxxx	PVC/PUR/TPE	656
ZK4530-8010-xxxx	PVC/PUR/TPE	656	ZK4724-0410-xxxx	PVC/PUR/TPE	656
Network cables EtherCAT					
ZK1090-9191-xxxx	TPE	656			
Berger Lahr					
Servo cables					
VW3M5101Rxxx	PUR/PVC	657			
VW3M5102Rxxx	PUR/PVC	657			
Resolver cables					
VW3M8101Rxxx	TPE/PUR/PVC	657			
Bosch Rexroth					
Power cables					
IKG0331	PUR/PVC	658	IKG0332	PUR/PVC	667
IKG4008	PUR/PVC	658	IKG4006	PUR/PVC	667
IKG4009	PUR/PVC	658	IKG4006	PUR/PVC	667
IKG4017	PUR/PVC	658	IKG4006	PUR/PVC	667
IKG4018	PUR/PVC	658			
IKG4020	PUR/PVC	658			
IKG4055	PUR/PVC	658			
IKG4060	PUR/PVC	658			

... Bosch Rexroth ...

Selection by manufacturer part number

Basic cables	Jacket	Page	Extension cables	Jacket	Page
IKG4067	PUR/PVC	658	IKG4061	PUR/PVC	667
IKG4070	PUR/PVC	659	IKG4061	PUR/PVC	667
IKG4072	PUR/PVC	659	IKG4074	PUR/PVC	667
IKG4087	PUR/PVC	659	IKG4081	PUR/PVC	667
IKG4090	PUR/PVC	659	IKG4081	PUR/PVC	667
IKG4100	PUR/PVC	659			
IKG4103	PUR/PVC	659			
IKG4107	PUR/PVC	659			
IKG4118	PUR/PVC	659			
IKG4119	PUR/PVC	660			
IKG4147	PUR/PVC	660	IKG4141	PUR/PVC	667
IKG4150	PUR/PVC	660	IKG4141	PUR/PVC	667
IKG4155	PUR/PVC	660	IKG4141	PUR/PVC	667
IKG4164	PUR/PVC	660			
IKG4167	PUR/PVC	660	IKG4161	PUR/PVC	667
IKG4172	PUR/PVC	660			
IKG4173	PUR/PVC	660			
IKG4186	PUR/PVC	661			
IKG4200	PUR/PVC	661			
IKG4204	PUR/PVC	661			
IKL0001	PUR/PVC	661	IKL0003	PUR/PVC	667
IKL0002	PVC/PUR	661			
IKL0006	PUR/PVC	661			
IKL0011	PUR/PVC	661			
IKL0012	PVC/PUR	661			
IKL0021	PUR/PVC	661	IKL0023	PUR/PVC	668
IKL0022	PVC/PUR	661			
IKL0041	PUR/PVC	662			
IKL0042	PUR/PVC	662			
IKL0061	PUR/PVC	662			
IKL0081	PUR/PVC	662	IKL0089	PUR/PVC	668
IKL0101	PUR/PVC	662			
IKL0121	PUR/PVC	662			
IKL0161	PUR/PVC	662	IKL0168	PUR/PVC	668
RKL0006	PVC/PUR	663			
RKL0013	PVC/PUR	663			
RKL0014	PVC/PUR	663			
RKL0019	PVC/PUR	663			
RKL0053	PVC/PUR	663			
RKL0054	PVC/PUR	663			
RKL4300	PUR/PVC	663	RKL4304	PUR/PVC	668
RKL4301	PUR/PVC	663	RKL4304	PUR/PVC	668
RKL4302	PUR/PVC	663	RKL4305	PUR/PVC	668
RKL4303	PUR/PVC	664	RKL4305	PUR/PVC	668
RKL4306	PUR/PVC	664	RKL4311	PUR/PVC	668
RKL4307	PUR/PVC	664	RKL4311	PUR/PVC	668
RKL4308	PUR/PVC	664			
RKL4309	PUR/PVC	664			
RKL4310	PUR/PVC	664	RKL4312	PUR/PVC	668
RKL4313	PUR/PVC	664	RKL4316	PUR/PVC	669
RKL4314	PUR/PVC	664	RKL4316	PUR/PVC	669

... Bosch Rexroth ...

Selection by manufacturer part number

Basic cables	Jacket	Page	Extension cables	Jacket	Page
Bosch Rexroth					
Power cables					
RKL4315	PUR/PVC	665	**RKL4316**	PUR/PVC	669
RKL4317	PUR/PVC	665	**RKL4319**	PUR/PVC	669
RKL4318	PUR/PVC	665	**RKL4319**	PUR/PVC	669
RKL4320	PUR/PVC	665			
RKL4321	PUR/PVC	665	**RKL4336**	PUR/PVC	669
RKL4322	PUR/PVC	665			
RKL4323	PUR/PVC	665	**RKL4338**	PUR/PVC	669
RKL4324	PUR/PVC	665			
RKL4325	PUR/PVC	665			
RKL4326	PUR/PVC	666	**RKL4336**	PUR/PVC	669
RKL4327	PUR/PVC	666			
RKL4328	PUR/PVC	666	**RKL4338**	PUR/PVC	669
RKL4329	PUR/PVC	666			
RKL4330	PUR/PVC	666	**RKL4340**	PUR/PVC	669
RKL4331	PUR/PVC	666	**RKL4341**	PUR/PVC	669
RKL4332	PVC/PUR	666			
RKL4343	PVC/PUR	666			
RKL4344	PVC/PUR	666			
Servo cables					
RL2-002CBB-NN-xxx,x	PVC/PUR	670	**RL2-500CBB-NN-xxx,x**	PVC/PUR	670
RL2-022CBB-NN-xxx,x	PVC/PUR	670	**RL2-521CBB-NN-xxx,x**	PVC/PUR	670
RL2-045EBB-NN-xxx,x	PVC/PUR	670	**RL2-542EBB-NN-xxx,x**	PVC/PUR	670
Hybrid servo cables					
RH2-021DBB-NN	PUR	670			
RH2-022DBB-NN	PUR	670			
RH2-023DBB-NN	PUR	670			
RKH0101	PUR	671			
RKH0900	PUR	671			
Encoder cables					
IKS0230	TPE/PVC/PUR	671	**IKS0232**	TPE/PVC/PUR	674
IKS0251	TPE	671	**IKS0255**	TPE	674
IKS0253	TPE	671	**IKS0255**	TPE	674
IKS0259	TPE	671			
IKS0262	TPE	671			
IKS0301	TPE/PVC/PUR	671	**IKS0303**	TPE/PVC/PUR	674
IKS0315	TPE/PVC/PUR	671			
IKS0374	TPE/PVC/PUR	671			
IKS4001	TPE/PVC/PUR	672			
IKS4002	TPE/PVC/PUR	672			
IKS4020	TPE/PVC/PUR	672	**IKS4376**	TPE/PVC/PUR	675
IKS4038	TPE/PVC/PUR	672			
IKS4041	TPE/PVC/PUR	672			
IKS4042	TPE/PVC/PUR	672	**IKS4151**	TPE/PVC/PUR	674
IKS4066	TPE/PVC/PUR	672			
IKS4103	TPE/PVC/PUR	672	**IKS4322**	TPE/PVC/PUR	675
IKS4142	TPE/PVC/PUR	673	**IKS4376**	TPE/PVC/PUR	675
IKS4314	TPE/PVC/PUR	673			
IKS4374	TPE/PVC/PUR	673			
IKS4375	TPE/PVC/PUR	673			

Selection by manufacturer part number

Basic cables	Jacket	Page	Extension cables	Jacket	Page
IKS4384	TPE/PVC/PUR	673			
IKS4389	TPE/PVC/PUR	673			
RG2-002AAB-NN-xxx,x	PVC/TPE	673	RG2-510AAB-NN-xxx,x	PVC/TPE	675
RKG0014	TPE/PVC/PUR	673			
RKG0020	TPE/PVC/PUR	673			
RKG0026	TPE/PVC/PUR	674			
RKG0028	TPE/PVC/PUR	674			
RKG4200	TPE/PVC/PUR	674	RKG4201	TPE/PVC/PUR	675
Elau/Schneider Electric					
Servo cables					
E-MO-067	PVC/PUR	676			
E-MO-087	PVC/PUR	676			
E-MO-092	PVC/PUR	676			
E-MO-111 SH-Motor 1.5	PVC/PUR	676			
E-MO-113 SH-Motor 2.5	PVC/PUR	676			
Hybrid servo cables					
E-MO-109, VW3E1109Rxxx	PUR	677			
E-MO-117, VW3E1117Rxxx	PUR	677			
E-MO-118, VW3E1118Rxxx	PUR	677			
E-MO-119, VW3E1119Rxxx	PUR	677			
E-MO-120, VW3E1120Rxxx	PUR	677			
E-MO-121, VW3E1121Rxxx	PUR	677			
E-MO-124, VW3E1124Rxxx	PUR	677			
E-MO-125, VW3E1125Rxxx	PUR	677			
E-MO-126, VW3E1126Rxxx	PUR	677			
E-MO-127, VW3E1127Rxxx	PUR	677			
Encoder cables					
E-FB-060	PVC/TPE	677			
E-FB-071	PVC/TPE/PUR	677			
E-FB-080	PVC/TPE/PUR	677			
Fagor					
Path measuring cables					
			iEEC-x	PUR/TPE	678
			iXC-C2-D	PUR/TPE	678
			iXC-C2-FN2	PUR/TPE	678
			iXC-C2-H	PUR/TPE	678
			iXC-C4-D	PUR/TPE	678
			iXC-C8-F-C9	PUR/TPE	678
			iXC-C8-F-D	PUR/TPE	679
			iXC-C8-FN	PUR/TPE	679
Fanuc					
Power cables					
LX660-8077-T261	PUR/PVC/TPE	680			
LX660-8077-T264	PUR/PVC/TPE	680			
LX660-8077-T265	PUR/PVC/TPE	680			
LX660-8077-T266	PUR/PVC/TPE	680			
LX660-8077-T267	PUR/PVC/TPE	680			
LX660-8077-T270	PUR/PVC/TPE	680			
LX660-8077-T271	PUR/PVC/TPE	681			
LX660-8077-T272	PUR/PVC/TPE	681			
LX660-8077-T273	PUR/PVC/TPE	681			

... Fanuc ... Festo ... Heidenhain ...

Selection by manufacturer part number

Basic cables	Jacket	Page	Extension cables	Jacket	Page
Fanuc					
Power cables					
LX660-8077-T291	PUR/PVC/TPE	681			
LX660-8077-T292	PUR/PVC/TPE	681			
LX660-8077-T293	PUR/PVC/TPE	681			
LX660-8077-T296	PUR/PVC/TPE	682			
LX660-8077-T298	PUR/PVC/TPE	682			
LX660-8077-T300	PUR/PVC/TPE	682			
Servo cables					
LX660-8077-T259	PUR	682			
LX660-8077-T274	PUR	682			
LX660-8077-T416	PUR	682			
LX660-8077-T451	PUR	682			
LX660-8077-T470	PUR	683			
LX660-8077-T471	PUR	683			
Brake cables					
LX660-8077-T311	PUR	683			
Signal cables					
LX660-2018-T015	PVC	683			
LX660-4077-T296	PUR/TPE	683			
LX660-4077-T297	PUR/TPE	683			
LX660-4077-T302	PUR/TPE	683			
LX660-4077-T303	PUR/TPE	684			
LX660-4077-T310	TPE	684			
LX660-4077-T319	PUR/TPE	684			
Festo					
Servo cables					
NEBM-M16G8-E-xxx-Q7-LE8	PUR	685			
NEBM-M23G6-E-xxx-N-LE7	PVC/PUR	685			
NEBM-M23G8-E-xxx-N-LE8	PVC/PUR	685			
NEBM-M40G8-E-xxx-N-LE7	PVC/PUR	685			
Control cables					
KPWR-MC-1-SUB-9HC-xxx	PVC/PUR	685			
Encoder cables					
NEBM-M23G12-E-xxx-N-S1G9	PVC/PUR/TPE	685			
Data cables					
KDI-MC-M8-SUB-9-xxx	PVC/PUR	686			
KES-MC-1-SUB-9-xxx	PVC/PUR	686			
NEBM-M12G8-E-xxx-N-S1G15	PVC/PUR/TPE	686			
NEBM-M12G8-E-xxx-S1G9	PVC/PUR/TPE	686			
NEBM-M12W8-E-xxx-N-S1G15	PVC/PUR/TPE	686			
NEBM-S1G15-E-xxx-LE6	PVC/PUR/TPE	687			
NEBM-S1G9-E-xxx-LE6	PVC/PUR	687			
Bus cables					
FBA-CO-SUB-9-M12	PVC/PUR/TPE	687			
Heidenhain					
Servo cables					
352 960-xx	PVC/PUR	688			
352 962-xx	PVC/PUR	688			
352 963-xx	PVC/PUR	688			

Heidenhain ... Jetter ... Kollmorgen/Danaher Motion ...

Selection by manufacturer part number

Basic cables	Jacket	Page	Extension cables	Jacket	Page
Adapter cables					
298 401-xx	PVC/PUR/TPE	688			
333 164-xx	PVC/PUR/TPE	688			
368 330-xx	PVC/PUR	688			
524 599-xx	PVC/PUR/TPE	689			
534 855-xx	PVC/PUR/TPE	689			
605 424-xx	PVC/PUR/TPE	689			
289 440-xx	PVC/PUR/TPE	689			
298 399-xx	PVC/PUR/TPE	689			
298 400-xx	PVC/PUR/TPE	689			
309 783-xx	PVC/PUR/TPE	689			
336 376-xx	PVC/PUR/TPE	690			
604 419-xx	PUR/TPE	690			
298 402-xx	PUR/TPE	690			
309 738-xx	PUR/TPE	690			
309 774-xx	PUR/TPE	690			
368 172-xx	PVC/PUR/TPE	690			
309 777-xx	PUR/TPE	691			
309 778-xx	PUR/TPE	691			
533 627-xx	PUR/TPE	691			
310 193-xx	PUR/TPE	691			
310 197-xx	PUR/TPE	691			
310 199-xx	PUR/TPE	691			
323 897-xx	PUR/TPE	691			
324 544-xx	PUR/TPE	692			
332 115-xx	PUR/TPE	692			
335 077-xx	PUR/TPE	692			
354 411-xx	PUR/TPE	692			
355 398-xx	PUR/TPE	692			
360 472-xx	PUR/TPE	692			
309 779-xx	PUR/TPE	692			
309 780-xx	PUR/TPE	693			
354 770-xx	PUR/TPE	693			
Jetter					
Motor cables					
Cable No. 201	PVC/PUR/TPE	694			
Cable No. 203	PVC/PUR/TPE	694			
Cable No. 26.1	PVC/PUR/TPE	694			
Servo cables					
Cable No. 202	PVC/PUR	694			
Cable No. 204	PVC/PUR	694			
Cable No. 24.1	PVC/PUR	694			
Resolver cables					
Cable No. 23	PVC/PUR/TPE	695			
Cable No. 423	PVC/PUR/TPE	695			
Cable No. 523	PVC/PUR/TPE	695			
Cable No. 723	PVC/PUR/TPE	695			
Kollmorgen/Danaher Motion					
Motor cables					
88959 (5m)	TPE	696			
88960 (10m)	TPE	696			

... Kollmorgen/Danaher Motion ...

Selection by manufacturer part number

Basic cables	Jacket	Page	Extension cables	Jacket	Page
Kollmorgen/Danaher Motion					
Motor cables					
88962 (15m)	TPE	696			
88964 (20m)	TPE	696			
88966 (25m)	TPE	696			
89918 (5m)	PVC/TPE	696			
89952 (10m)	PVC/TPE	696			
89953 (15m)	PVC/TPE	696			
89954 (20m)	PVC/TPE	696			
89956 (25m)	PVC/TPE	696			
89959 (5m)	PVC/TPE	696			
89960 (10m)	PVC/TPE	696			
89962 (15m)	PVC/TPE	696			
89964 (20m)	PVC/TPE	697			
89966 (25m)	PVC/TPE	697			
90083 (5m)	PVC/TPE	697			
90084 (10m)	PVC/TPE	697			
90085 (15m)	PVC/TPE	697			
90086 (20m)	PVC/TPE	697			
90087 (25m)	PVC/TPE	697			
102575 (5m)	PVC/TPE	697			
102576 (10m)	PVC/TPE	697			
102806 (15m)	PVC/TPE	697			
102807 (20m)	PVC/TPE	698			
102808 (25m)	PVC/TPE	698			
107473 (5m)	PVC/TPE	698			
107474 (10m)	PVC/TPE	698			
107475 (15m)	PVC/TPE	698			
107476 (20m)	PVC/TPE	698			
107477 (25m)	PVC/TPE	698			
107485 (5m)	PVC/TPE	698			
107486 (10m)	PVC/TPE	699			
107487 (15m)	PVC/TPE	699			
107488 (20m)	PVC/TPE	699			
107489 (25m)	PVC/TPE	699			
200456 (5m)	PVC/TPE	699			
200457 (10m)	PVC/TPE	699			
200458 (15m)	PVC/TPE	699			
200459 (20m)	PVC/TPE	699			
200460 (25m)	PVC/TPE	699			
200468 (5m)	PVC/TPE	699			
200469 (10m)	PVC/TPE	700			
200470 (15m)	PVC/TPE	700			
200471 (20m)	PVC/TPE	700			
200472 (25m)	PVC/TPE	700			
200618 (5m)	PVC/TPE	700			
200619 (10m)	PVC/TPE	700			
200620 (15m)	PVC/TPE	700			
200621 (20m)	PVC/TPE	700			
200622 (25m)	PVC/TPE	700			

... Kollmorgen/Danaher Motion ...

Selection by manufacturer part number

Basic cables	Jacket	Page	Extension cables	Jacket	Page
Servo cables					
89957 (5m)	PVC/PUR	701			
89961 (10m)	PVC/PUR	701			
89963 (15m)	PVC/PUR	701			
89965 (20m)	PVC/PUR	701			
89967 (25m)	PVC/PUR	701			
89968 (5m)	PVC/PUR	701			
89969 (25m)	PVC/PUR	701			
89970 (10m)	PVC/PUR	701			
89971 (15m)	PVC/PUR	702			
89972 (20m)	PVC/PUR	702			
90088 (5m)	PVC/PUR	702			
90089 (10m)	PVC/PUR	702			
90090 (15m)	PVC/PUR	702			
90091 (20m)	PVC/PUR	702			
90092 (25m)	PVC/PUR	702			
102579 (5m)	PVC/PUR	703			
102580 (10m)	PVC/PUR	703			
102809 (15m)	PVC/PUR	703			
102810 (20m)	PVC/PUR	703			
102811 (25m)	PVC/PUR	703			
107479 (5m)	PVC/PUR	703			
107480 (10m)	PVC/PUR	703			
107481 (15m)	PVC/PUR	704			
107482 (20m)	PVC/PUR	704			
107483 (25m)	PVC/PUR	704			
107491 (5m)	PVC/PUR	704			
107492 (10m)	PVC/PUR	704			
107493 (15m)	PVC/PUR	704			
107494 (20m)	PVC/PUR	704			
107495 (25m)	PVC/PUR	705			
200462 (5m)	PVC/PUR	705			
200463 (10m)	PVC/PUR	705			
200464 (15m)	PVC/PUR	705			
200465 (20m)	PVC/PUR	705			
200466 (25m)	PVC/PUR	705			
200474 (5m)	PVC/PUR	705			
200475 (10m)	PVC/PUR	705			
200476 (15m)	PVC/PUR	706			
200477 (20m)	PVC/PUR	706			
200478 (25m)	PVC/PUR	706			
200623 (5m)	PVC/PUR	706			
200624 (10m)	PVC/PUR	706			
200625 (15m)	PVC/PUR	706			
200626 (20m)	PVC/PUR	706			
200627 (25m)	PVC/PUR	706			
Signal cables					
84972 (5m)	PVC/TPE/PUR	707			
84973 (10m)	PVC/TPE/PUR	707			
84974 (15m)	PVC/TPE/PUR	707			
84975 (20m)	PVC/TPE/PUR	707			

... Kollmorgen/Danaher Motion ... Lenze ...

Selection by manufacturer part number

Basic cables	Jacket	Page	Extension cables	Jacket	Page
Kollmorgen/Danaher Motion					
Signal cables					
85034 (5m)	PVC/TPE/PUR	708			
85035 (10m)	PVC/TPE/PUR	708			
85036 (15m)	PVC/TPE/PUR	708			
85037 (20m)	PVC/TPE/PUR	708			
85039 (5m)	PVC/TPE/PUR	709			
85040 (10m)	PVC/TPE/PUR	709			
85041 (15m)	PVC/TPE/PUR	709			
85042 (20m)	PVC/TPE/PUR	709			
87655 (25m)	PVC/TPE/PUR	707			
90287 (5m)	PVC/TPE	707			
91019 (10m)	PVC/TPE	707			
91807 (20m)	PVC/TPE	708			
91811 (15m)	PVC/TPE	708			
92205 (25m)	PVC/TPE	708			
107915 (5m)	PVC/TPE	708			
107916 (10m)	PVC/TPE	708			
107917 (15m)	PVC/TPE	708			
107918 (20m)	PVC/TPE	708			
107919 (25m)	PVC/TPE	708			
Lenze					
Servo cables					
EWLMxxxGMS-015C	PUR/PVC	710	**EWLMxxxZM-015C**	PUR/PVC	712
EWLMxxxGMS-025	PUR/PVC	710	**EWLMxxxZM-025**	PUR/PVC	712
EWLMxxxGMS-040I	PVC/PUR	710			
EYP0010AxxxxA00P01	PUR/PVC	710	**EYP0010VxxxxM01P01**	PUR/PVC	712
EYP0010AxxxxM01A00	PUR/PVC	710	**EYP0010VxxxxM01P01**	PUR/PVC	712
EYP0011AxxxxA00P01	PUR/PVC	710	**EYP0011VxxxxM01P01**	PUR/PVC	712
EYP0011AxxxxM01A00	PUR/PVC	710	**EYP0011VxxxxM01P01**	PUR/PVC	712
EYP0012AxxxxA00P01	PUR/PVC	710	**EYP0012VxxxxM01P01**	PUR/PVC	712
EYP0012AxxxxA00P02	PUR/PVC	711	**EYP0012VxxxxM02P02**	PUR/PVC	712
EYP0012AxxxxM01A00	PUR/PVC	711	**EYP0012VxxxxM01P01**	PUR/PVC	712
EYP0012AxxxxM02A00	PUR/PVC	711	**EYP0012VxxxxM02P02**	PUR/PVC	712
EYP0013AxxxxA00P02	PUR/PVC	711	**EYP0013VxxxxM02P02**	PUR/PVC	713
EYP0013AxxxxM02A00	PUR/PVC	711	**EYP0013VxxxxM02P02**	PUR/PVC	713
EYP0014AxxxxA00P03	PUR/PVC	711	**EYP0014VxxxxM03P03**	PUR/PVC	713
EYP0014AxxxxM03A00	PUR/PVC	711	**EYP0014VxxxxM03P03**	PUR/PVC	713
EYP0015AxxxxA00P03	PUR/PVC	711	**EYP0015VxxxxM03P03**	PUR/PVC	713
EYP0015AxxxxM03A00	PUR/PVC	711	**EYP0015VxxxxM03P03**	PUR/PVC	713
EYP0016AxxxxA00P03	PUR/PVC	712	**EYP0016VxxxxM03P03**	PUR/PVC	713
EYP0016AxxxxM03A00	PUR/PVC	712	**EYP0016VxxxxM03P03**	PUR/PVC	713
Fan cables					
EWLLxxxGMS	TPE/PVC	713	**EWLLxxxZM**	TPE/PVC	713
EYL002AxxxxL01A00	TPE/PVC	713	**EYL002VxxxxL01J01**	TPE/PVC	713
EYL002AxxxxL02A00	TPE/PVC	713	**EYL002VxxxxL02J02**	TPE/PVC	714
Encoder cables					
EWLExxxGM-T	TPE/PVC/PUR	715	**EWLExxxZMST**	TPE/PVC/PUR	715
EWLExxxGX-T	TPE/PVC/PUR	715			
Feedback cables					
EYF0017AxxxxA00W02	PUR	715			

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Lenze ... LinMot ... LTi DRiVES ... Mitsubishi Electric ... Nidec/Control Techniques ...

Basic cables	Jacket	Page	Extension cables	Jacket	Page
EYF0018AxxxxA00S03	TPE/PUR/PVC	715			
EYF0018AxxxxA00W02	TPE/PVC	715			
EYF0018AxxxxF02S03	TPE/PVC	716			
EYF0018AxxxxF02W02	TPE/PUR/PVC	716			
EYF0019AxxxxF02S03	PUR	716	**EYF0019VxxxxA00G02**	PUR	718
EYF0020AxxxxA00S04	TPE/PUR/PVC	716			
EYF0020AxxxxA00S05	TPE/PUR/PVC	716			
EYF0020AxxxxF01S04	TPE/PUR/PVC	716			
EYF0020AxxxxF01S05	TPE/PUR/PVC	717			
EYF0021AxxxxA00S03	TPE/PUR	717			
EYF0021AxxxxF03S03	TPE/PUR	717			
EYF0021AxxxxF07S03	PUR/TPE	717			
Resolver cables					
EWLRxxxGM-T	TPE/PVC/PUR	718	**EWLRxxxZMST**	TPE/PVC/PUR	718
EWLRxxxGX-T	TPE/PVC/PUR	718			
LinMot					
Motor cables					
P10-70x…-D01/D02-MS	PVC/PUR	719			
Servo cables					
P10-70x…-D03-MS	PVC/PUR	719			
LTi DRiVES					
Servo cables					
KM3-KSxxx	PUR/PVC	720	**KM3-KSxxx (ext.)**	PUR/PVC	720
KM3-KSxxx-24A	PUR/PVC	720	**KM3-KSxxx-24A (ext.)**	PUR/PVC	720
KM3-KSxxx-63A	PUR/PVC	720	**KM3-KSxxx-63A (ext.)**	PUR/PVC	720
Encoder cables					
KGH2-KSxxx	TPE/PVC	721	**KGH2-KSxxx (ext.)**	TPE/PVC	719
KGH3-KSxxx	TPE/PVC	721	**KGH3-KSxxx (ext.)**	TPE/PVC	719
KGS2-KSxxx	TPE/PUR	721	**KGS2-KSxxx (ext.)**	TPE/PUR	719
KRY2-CDF-KSxxx	TPE/PUR/PVC	721	**KRY2-CDF-KSxxx (ext.)**	TPE/PUR/PVC	719
KRY2-KSxxx	TPE/PUR/PVC	721	**KRY2-KSxxx (ext.)**	TPE/PUR/PVC	719
Mitsubishi Electric					
Motor cables					
MR-BKS1CBL-xxx-A1-H	PVC/PUR	722			
MR-BKS1CBL-xxx-A2-H	PVC/PUR	722			
MR-PWS1CBL-xxx-A1-H	PVC/PUR	722			
MR-PWS1CBL-xxx-A2-H	PVC/PUR	722			
PCS015N-xxx-0-0C4	PVC/PUR	722			
PCS025N-xxx-0-0C5	PVC/PUR	722			
PCS025N-xxx-C4	PVC/PUR	722			
PCS040N-xxx-0-0C4	PVC/PUR/TPE	722			
PCS040N-xxx-0-0C5	PVC/PUR/TPE	722			
PCS060N-xxx-0-0C5	PVC/PUR/TPE	723			
Encoder cables					
MR-J3ENCBL-xxx-A1-H	PVC/PUR	723			
MR-J3ENCBL-xxx-A2-H	PVC/PUR	723			
MR-J3ENSCBL-xxx-H	PVC/PUR	723			
Nidec/Control Techniques					
Motor cables					
PS B A A A XXX	TPE/PVC	724			
PS B A A B XXX	TPE/PVC	724			

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Selection by manufacturer part number

Basic cables	Jacket	Page	Extension cables	Jacket	Page
Nidec/Control Techniques					
Motor cables					
PS B A B B XXX	TPE/PVC	724			
PS B A F A XXX	TPE/PVC	724			
PS B A F B XXX	TPE/PVC	724			
PS B B A A XXX	TPE/PVC	724			
PS B B A B XXX	TPE/PVC	725			
PS B B B B XXX	TPE/PVC	725			
PS B B F A XXX	TPE/PVC	724			
PS B B F B XXX	TPE/PVC	725			
PS B C A B XXX	TPE/PVC	725			
PS B C B B XXX	TPE/PVC	725			
PS B C F B XXX	TPE/PVC	725			
PS B D A B XXX	TPE/PVC	725			
PS B D B B XXX	TPE/PVC	725			
PS B D F B XXX	TPE/PVC	725			
PS B E A B XXX	TPE/PVC	726			
PS B E B B XXX	TPE/PVC	726			
PS B E F B XXX	TPE/PVC	726			
PS B G A A XXX	TPE/PVC	724			
PS B G A B XXX	TPE/PVC	726			
PS B G B B XXX	TPE/PVC	726			
PS B G F A XXX	TPE/PVC	724			
PS B G F B XXX	TPE/PVC	726			
Servo cables					
PB B A A A XXX	PUR/PVC	726			
PB B A A B XXX	PUR/PVC	727			
PB B A B B XXX	PUR/PVC	727			
PB B A F A XXX	PUR/PVC	726			
PB B A F B XXX	PUR/PVC	727			
PB B A G B XXX	PUR/PVC	727			
PB B B A A XXX	PUR/PVC	726			
PB B B A B XXX	PUR/PVC	727			
PB B B B B XXX	PUR/PVC	727			
PB B B F A XXX	PUR/PVC	727			
PB B B F B XXX	PUR/PVC	727			
PB B B G B XXX	PUR/PVC	728			
PB B C A B XXX	PUR/PVC	728			
PB B C B B XXX	PUR/PVC	728			
PB B C F B XXX	PUR/PVC	728			
PB B C G B XXX	PUR/PVC	728			
PB B D A B XXX	PUR/PVC	728			
PB B D B B XXX	PUR/PVC	728			
PB B D F B XXX	PUR/PVC	728			
PB B D G B XXX	PUR/PVC	728			
PB B E A B XXX	PUR/PVC	728			
PB B E B B XXX	PUR/PVC	728			
PB B E F B XXX	PUR/PVC	729			
PB B E G B XXX	PUR/PVC	729			
PB B G A A XXX	PUR/PVC	727			
PB B G A B XXX	PUR/PVC	729			

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Selection by manufacturer part number

Basic cables	Jacket	Page	Extension cables	Jacket	Page
PB B G B B XXX	PUR/PVC	729			
PB B G F A XXX	PUR/PVC	727			
PB B G F B XXX	PUR/PVC	729			
PB B G G B XXX	PUR/PVC	729			
Encoder cables					
SS B A H C XXX	TPE/PVC/PUR	729			
SS B A H H XXX	TPE/PVC/PUR	729			
SS B A H N XXX	TPE/PVC/PUR	729			
NUM					
Power cables					
AGOFRU018LMxxx	PVC/TPE	730	**AGOFRU018LMxxx (ext.)**	PVC/TPE	730
AGOFRU019LMxxx	PVC/TPE	730	**AGOFRU019LMxxx (ext.)**	PVC/TPE	730
Servo cables					
AGOFRU018Mxxx	PVC/PUR	730	**AGOFRU018Mxxx (ext.)**	PVC/PUR	731
AGOFRU019Mxxx	PVC/PUR	730	**AGOFRU019Mxxx (ext.)**	PVC/PUR	731
AGOFRU020Mxxx	PVC/PUR	730	**AGOFRU020Mxxx (ext.)**	PVC/PUR	731
Fan cables					
AGOFRU012Mxxx	PVC/TPE	731	**AGOFRU012Mxxx (ext.)**	PVC/TPE	731
Encoder cables					
AGOFRU029Mxxx	PVC/TPE	731	**AGOFRU029Mxxx (ext.)**	PVC/TPE	732
AGOFRU030Mxxx	PVC/TPE	731	**AGOFRU030Mxxx (ext.)**	PVC/TPE	732
Omron					
Motor cables					
R88A-CAWA-xxxS-DE	TPE	733			
R88A-CAWCxxx	PVC/TPE	733			
R88A-CAWCxxxS-E	PVC/TPE	733			
R88A-CAWDxxxS	PVC/TPE	733			
R88A-CAWDxxxS-E	PVC/TPE	733			
R88A-CAWFxxxS-E	PVC/TPE	733			
Control cables					
JZSP-CHM000-xx-E	PVC/PUR/TPE	733			
JZSP-CHM000-xx-ME	PVC/PUR/TPE	733			
JZSP-CHM030-xx-E	PVC/PUR/TPE	734			
JZSP-CHM030-xx-ME	PVC/PUR/TPE	734			
JZSP-CSM22-xx-E-G1	PVC/PUR/TPE	734			
R88A-CAWCxxxB-E	PVC/PUR/TPE	734			
R88A-CAWExxxB	PVC/PUR/TPE	734			
Encoder cables					
JZSP-CHP800-xx-E	PVC/TPE/PUR	735			
JZSP-CHP800-xx-ME	PVC/TPE/PUR	735			
JZSP-CSP21-xx-E-G1	PVC/TPE/PUR	735			
R88A-CRWA-xxxC-DE	PVC/TPE/PUR	735			
R88A-CRWBxxxN	PVC/TPE/PUR	735			
R88A-CRWBxxxN-E	PVC/TPE/PUR	735			
Parker					
Motor cables					
iMOK42	PVC/PUR	736			
iMOK43	PUR/PVC	736			
iMOK44	PUR/PVC	736			
iMOK45	PUR/PVC	736			
iMOK54	PVC/PUR	736			

... SEW ... Siemens ...

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Basic cables	Jacket	Page	Extension cables	Jacket	Page
Parker					
Motor cables					
iMOK55	PVC/PUR	736			
iMOK56	PVC/PUR	736			
iMOK57	PUR/PVC	736			
Resolver cables					
iREK32	PVC/PUR/TPE	737			
iREK33	PVC/PUR/TPE	737			
iREK41	PVC/PUR/TPE	737			
iREK42	PVC/PUR/TPE	737			
SEW					
Motor cables					
0590 4773	TPE/PVC/PUR	738	0590 3610	TPE/PVC/PUR	740
0590 4803	PVC/PUR/TPE	738			
0590 6245	PVC/PUR/TPE	738			
0590 6253	PVC/PUR/TPE	738			
1335 0293	PVC/PUR/TPE	739	1335 0021	PVC/PUR/TPE	740
1335 0307	PVC/PUR/TPE	739	1335 0048	PVC/PUR/TPE	740
1335 0315	PVC/PUR/TPE	739	1335 0056	PVC/PUR/TPE	740
Servo cables					
1332 4861	PUR/PVC	741	0593 6500	PUR/PVC	744
1333 1221	PVC/PUR/TPE	742			
1333 2155	PVC/PUR/TPE	742			
1335 0153	PVC/PUR	742	1335 0099	PVC/PUR	745
1335 0161	PVC/PUR	742	1335 0102	PVC/PUR	745
1335 0188	PVC/PUR	742	1335 0110	PVC/PUR	745
1335 0234	PVC/PUR	742	1335 4221	PUR	745
1335 0242	PVC/PUR	742	1335 4248	PVC/PUR	745
1335 0250	PVC/PUR	743			
1335 4302	PUR	743			
1335 4310	PVC/PUR	743			
1335 4329	PVC/PUR	743	1335 4337	PVC/PUR	745
1335 4388	PUR	743			
1335 4396	PUR	743			
Hybrid servo cables					
0186 725 3	PUR	746			
0187 889 5	PUR	746			
0593 278 5	PUR	746			
0593 755 8	PUR	746			
0816 208 5	PUR	746			
0816 325 1	PUR	746			
0816 326 X	PUR	746			
0817 886 0	PUR	746			
0817 887 9	PUR	746			
0817 888 7	PUR	746			
0817 948 4	PUR	746			
1811 8119	PUR	746			
Control cables					
0199 560x	PVC/PUR/TPE	747			
Encoder cables					
0198 9308	PUR	747			

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Basic cables	Jacket	Page	Extension cables	Jacket	Page
0199 3194	PUR	747	0199 5413	PVC/PUR	747
0199 4875	PVC	747			
0595 1518	PVC/PUR/TPE	747			
1332 4535	PVC	747	0199 5405	PVC/PUR	747
1332 4551	PUR	747	0199 5405	PVC/PUR	747
1332 7429	PVC	747			
1332 7437	PUR	747			
Siemens					
Power cables					
6FX8002-5CN06	PVC/PUR/TPE	748			
6FX8002-5CN16	PVC/PUR/TPE	748			
6FX8002-5CN26	PVC/PUR/TPE	748			
6FX8002-5CN36	PVC/PUR/TPE	748			
6FX8002-5CN46	PVC/PUR/TPE	748			
6FX8002-5CN56	PVC/PUR/TPE	748			
6FX8002-5CS06	PVC/PUR/TPE	748			
6FX_002-5CA01	TPE/PVC/PUR	749	6FX_002-5CA05	TPE/PVC/PUR	755
6FX_002-5CA11	TPE/PVC/PUR	749	6FX_002-5CA15	TPE/PVC/PUR	755
6FX_002-5CA13	TPE/PVC/PUR	749			
6FX_002-5CA21	TPE/PVC/PUR	749	6FX_002-5CA28	TPE/PVC/PUR	755
6FX_002-5CA23	TPE/PVC/PUR	749	6FX_002-5CX28	TPE/PVC/PUR	755
6FX_002-5CA31	TPE/PVC/PUR	749	6FX_002-5CA38	TPE/PVC/PUR	755
6FX_002-5CA41	TPE/PVC/PUR	749	6FX_002-5CA48	TPE/PVC/PUR	755
6FX_002-5CA51	TPE/PVC/PUR	750	6FX_002-5CA58	TPE/PVC/PUR	756
6FX_002-5CA61	TPE/PVC/PUR	750	6FX_002-5CA68	TPE/PVC/PUR	756
6FX_002-5CG01	PVC/PUR/TPE	750			
6FX_002-5CG11	PVC/PUR/TPE	750	6FX_002-5CA15	PVC/PUR/TPE	755
6FX_002-5CG13	PVC/PUR/TPE	750	6FX_002-5CX18	PVC/PUR/TPE	756
6FX_002-5CG21	PVC/PUR/TPE	750	6FX_002-5CA28	PVC/PUR/TPE	756
6FX_002-5CG23	PVC/PUR/TPE	751	6FX_002-5CX28	PVC/PUR/TPE	756
6FX_002-5CG31	PVC/PUR/TPE	751			
6FX_002-5CG41	PVC/PUR/TPE	751			
6FX_002-5CG51	PVC/PUR/TPE	751			
6FX_002-5CG61	PVC/PUR/TPE	751			
6FX_002-5CK01	PUR/TPE	751			
6FX_002-5CL01	PVC/PUR/TPE	751			
6FX_002-5CL02	PVC/PUR/TPE	752			
6FX_002-5CL12	PVC/PUR/TPE	752			
6FX_002-5CS01	TPE/PVC/PUR	752			
6FX_002-5CS02	PVC/PUR/TPE	752			
6FX_002-5CS11	PVC/PUR/TPE	752	6FX_002-5CA15	PVC/PUR/TPE	755
6FX_002-5CS12	PVC/PUR/TPE	753			
6FX_002-5CS13	PVC/PUR/TPE	753	6FX_002-5CX18	PVC/PUR/TPE	756
6FX_002-5CS21	TPE/PVC/PUR	753			
6FX_002-5CS23	PVC/PUR/TPE	753	6FX_002-5CX28	PVC/PUR/TPE	756
6FX_002-5CS24	PVC/PUR/TPE	753			
6FX_002-5CS31	TPE/PVC/PUR	753			
6FX_002-5CS41	TPE/PVC/PUR	754	6FX_002-5CA48	TPE/PVC/PUR	755
6FX_002-5CS42	PVC/PUR/TPE	754			
6FX_002-5CS51	TPE/PVC/PUR	754	6FX_002-5CA58	TPE/PVC/PUR	756
6FX_002-5CS52	PVC/PUR/TPE	754			

... Siemens ...

Selection by manufacturer part number

Basic cables	Jacket	Page	Extension cables	Jacket	Page
Siemens					
Power cables					
6FX_002-5CS54	PVC/PUR/TPE	754	6FX_002-5CA68	PVC/PUR/TPE	756
6FX_002-5CS61	PVC/PUR/TPE	754	6FX_002-5CA68	PVC/PUR/TPE	756
6FX_002-5CS62	PVC/PUR/TPE	755			
6FX_002-5CS64	PVC/PUR/TPE	755	6FX_002-5CX18	PVC/PUR/TPE	756
Servo cables					
6FX_002-5DA01	PUR/PVC	756	6FX_002-5DA05	PUR/PVC	763
6FX_002-5DA11	PUR/PVC	756	6FX_002-5DA15	PUR/PVC	763
6FX_002-5DA21	PUR/PVC	757	6FX_002-5DA28	PUR/PVC	764
6FX_002-5DA23	PUR/PVC	757	6FX_002-5DX28	PUR/PVC	764
6FX_002-5DA30	PVC/PUR	757			
6FX_002-5DA31	PUR/PVC	757	6FX_002-5DA38	PUR/PVC	764
6FX_002-5DA33	PUR/PVC	757	6FX_002-5DX38	PUR/PVC	764
6FX_002-5DA41	PUR/PVC	757	6FX_002-5DA48	PUR/PVC	764
6FX_002-5DA43	PUR/PVC	758	6FX_002-5DX48	PUR/PVC	764
6FX_002-5DA51	PUR/PVC	758	6FX_002-5DA58	PUR/PVC	764
6FX_002-5DA61	PUR/PVC	758	6FX_002-5DA68	PUR/PVC	764
6FX_002-5DG01	PVC/PUR	758	6FX_002-5DA05	PVC/PUR	763
6FX_002-5DG11	PVC/PUR	758	6FX_002-5DA15	PVC/PUR	763
6FX_002-5DG13	PVC/PUR	758			
6FX_002-5DG21	PVC/PUR	759			
6FX_002-5DG23	PUR	759			
6FX_002-5DG31	PVC/PUR	759			
6FX_002-5DG33	PUR	759			
6FX_002-5DG41	PVC/PUR	759	6FX_002-5DA48	PVC/PUR	764
6FX_002-5DG43	PUR	759			
6FX_002-5DG51	PVC/PUR	759			
6FX_002-5DG61	PVC/PUR	760			
6FX_002-5DN06	PVC/PUR	760			
6FX_002-5DN16	PVC/PUR	760			
6FX_002-5DN26	PVC/PUR	760			
6FX_002-5DN30	PUR/PVC	760			
6FX_002-5DN46	PVC/PUR	761			
6FX_002-5DN56	PVC/PUR	761			
6FX_002-5DS01	PUR/PVC	761			
6FX_002-5DS06	PVC/PUR	761			
6FX_002-5DS11	PVC/PUR	761	6FX_002-5DA15	PVC/PUR	763
6FX_002-5DS13	PVC/PUR	762			
6FX_002-5DS21	PUR/PVC	762			
6FX_002-5DS23	PUR	762			
6FX_002-5DS33	PUR	762			
6FX_002-5DS36	PVC/PUR	762			
6FX_002-5DS41	PVC/PUR	762	6FX_002-5DA48	PVC/PUR	764
6FX_002-5DS43	PUR	762			
6FX_002-5DS51	PVC/PUR	763			
6FX_002-5DS54	PVC/PUR	763			
6FX_002-5DS61	PUR/PVC	763			
6FX_002-5DS64	PVC/PUR	763			

... Siemens ...

Selection by manufacturer part number

Basic cables	Jacket	Page	Extension cables	Jacket	Page
Hybrid servo cables					
6FX_002-8QN04 Neu!	PUR	765	6FX_002-8QE04 New!	PUR	765
6FX_002-8QN08 New!	PUR	765	6FX_002-8QE08 New!	PUR	765
6FX_002-8QN11	PUR	765	6FX_002-8QE11	PUR	765
6FX_002-8QN21	PUR	765	6FX_002-8QE21	PUR	765
Signal cables					
6FX8002-2CF20	PVC/PUR/TPE	766			
6FX8002-2CQ31	PVC/PUR/TPE	766	6FX8002-2CQ34	PVC/PUR/TPE	771
6FX8002-2DC40	PVC/PUR	766			
6FX8002-2DC42	PVC/PUR	766			
6FX_002-1DC00	PUR/PVC	766	6FX_002-2DC34	PUR/PVC	772
6FX_002-2AD00	TPE/PVC/PUR	766	6FX_002-2AD04	TPE/PVC/PUR	771
6FX_002-2AH00	TPE/PVC/PUR	767	6FX_002-2AH04	TPE/PVC/PUR	771
6FX_002-2AH11	PVC/PUR/TPE	767			
6FX_002-2CA11	TPE/PVC/PUR	767	6FX_002-2CB54	TPE/PVC/PUR	772
6FX_002-2CA15	TPE/PVC/PUR	767	6FX_002-2CA54	TPE/PVC/PUR	772
6FX_002-2CA31	TPE/PVC/PUR	767	6FX_002-2CA34	TPE/PVC/PUR	771
6FX_002-2CA51	TPE/PVC/PUR	767	6FX_002-2CA54	TPE/PVC/PUR	771
6FX_002-2CA71	TPE/PVC/PUR	768			
6FX_002-2CB31	TPE/PUR	768			
6FX_002-2CB51	TPE/PVC/PUR	768	6FX_002-2CC14	TPE/PVC/PUR	772
6FX_002-2CC11	TPE/PVC/PUR	768	6FX_002-2CB54	TPE/PVC/PUR	772
6FX_002-2CD01	TPE/PVC/PUR	768	6FX_002-2CB54	TPE/PVC/PUR	772
6FX_002-2CF01	TPE/PVC/PUR	768			
6FX_002-2CF02	TPE/PVC/PUR	768	6FX_002-2CF04	TPE/PVC/PUR	772
6FX_002-2CG00	TPE/PVC/PUR	768	6FX_002-2CB54	TPE/PVC/PUR	772
6FX_002-2CH00	TPE/PVC/PUR	769	6FX_002-2AD04	TPE/PVC/PUR	771
6FX_002-2CK00	TPE/PVC/PUR	769			
6FX_002-2CL00	TPE/PVC/PUR	769			
6FX_002-2CR00	PVC/PUR/TPE	769			
6FX_002-2CT12	PVC/PUR/TPE	769			
6FX_002-2DB10	PUR	769			
6FX_002-2DC10	PUR/PVC	770	6FX_002-2DC34	PUR/PVC	772
6FX_002-2DC20	PUR/PVC	770	6FX_002-2DC34	PUR/PVC	772
6FX_002-2DC36	PVC/PUR	770			
6FX_002-2EQ00	TPE/PVC/PUR	770			
6FX_002-2EQ10	TPE/PVC/PUR	770	6FX_002-2EQ14	TPE/PVC/PUR	772
6FX_002-2EQ20	PVC/PUR/TPE	770			
6FX_002-2EQ31	PVC/PUR/TPE	770			
6FX_002-5BL03	PVC/PUR	771			
6fx3002-2CT10	PVC/PUR/TPE	771			
Signal cables DriveCliq					
6FX8002-2DC30-1AD0(3m)	PUR	773	6FX8002-2DC34-1DA0(30m)	PUR	773
6FX8002-2DC30-1AF0(5m)	PUR	773	6FX8002-2DC34-1AF0(5m)	PUR	773
6FX8002-2DC30-1BA0(10m)	PUR	773	6FX8002-2DC34-1BA0(10m)	PUR	773
6FX8002-2DC30-1BF0(15m)	PUR	773	6FX8002-2DC34-1BF0(15m)	PUR	773
6FX8002-2DC30-1CA0(20m)	PUR	773	6FX8002-2DC34-1CA0(20m)	PUR	773
6FX8002-2DC30-1CF0(25m)	PUR	773	6FX8002-2DC34-1CF0(25m)	PUR	773
6FX8002-2DC30-1DA0(30m)	PUR	773	6FX8002-2DC34-1DA0(30m)	PUR	773

... Siemens, SpeedTec ...

Selection by manufacturer part number

Basic cables	Jacket	Page	Extension cables	Jacket	Page
Siemens, SpeedTec					
Power cables, SpeedTec					
6FX_002-5CG10	PVC/PUR/TPE	774			
6FX_002-5CG12	PVC/PUR/TPE	774			
6FX_002-5CG22	PVC/PUR/TPE	774			
6FX_002-5CG32	PVC/PUR/TPE	774	6FX_002-5CQ38	PVC/PUR/TPE	777
6FX_002-5CG42	PVC/PUR/TPE	774			
6FX_002-5CG52	PVC/PUR/TPE	774			
6FX_002-5CG62	PVC/PUR/TPE	774	6FX_002-5CQ68	PVC/PUR/TPE	777
6FX_002-5CN01	PVC/PUR/TPE	775			
6FX_002-5CN11	PVC/PUR/TPE	775			
6FX_002-5CN21	PVC/PUR/TPE	775			
6FX_002-5CN31	PVC/PUR/TPE	775	6FX_002-5CQ38	PVC/PUR/TPE	777
6FX_002-5CN41	PVC/PUR/TPE	775			
6FX_002-5CN51	PVC/PUR/TPE	775			
6FX_002-5CN54	PVC/PUR/TPE	775			
6FX_002-5CN61	PVC/PUR/TPE	776	6FX_002-5CQ68	PVC/PUR/TPE	777
6FX_002-5CN64	PVC/PUR/TPE	776	6FX_002-5CQ68	PVC/PUR/TPE	777
6FX_002-5CQ01	PVC/PUR/TPE	776			
6FX_002-5CQ11	PVC/PUR/TPE	776			
6FX_002-5CQ21	PVC/PUR/TPE	776			
6FX_002-5CQ31	PVC/PUR/TPE	776	6FX_002-5CQ38	PVC/PUR/TPE	777
6FX_002-5CQ41	PVC/PUR/TPE	776			
6FX_002-5CQ51	PVC/PUR/TPE	777			
6FX_002-5CQ61	PVC/PUR/TPE	777	6FX_002-5CQ68	PVC/PUR/TPE	777
Servo cables, SpeedTec					
6FX_002-5DG10	PVC/PUR	778	6FX_002-5DN05	PVC/PUR	782
6FX_002-5DG11	PVC/PUR	778	6FX_002-5DN15	PVC/PUR	782
6FX_002-5DG12	PVC/PUR	778	6FX_002-5DN15	PVC/PUR	782
6FX_002-5DG22	PVC/PUR	778	6FX_002-5DQ28	PVC/PUR	782
6FX_002-5DG32	PVC/PUR	778	6FX_002-5DQ38	PVC/PUR	782
6FX_002-5DG42	PVC/PUR	778	6FX_002-5DQ48	PVC/PUR	782
6FX_002-5DG52	PVC/PUR	778	6FX_002-5DQ58	PVC/PUR	782
6FX_002-5DG62	PVC/PUR	778	6FX_002-5DQ68	PVC/PUR	782
6FX_002-5DN01	PVC/PUR	779	6FX_002-5DN05	PVC/PUR	782
6FX_002-5DN11	PVC/PUR	779	6FX_002-5DN15	PVC/PUR	782
6FX_002-5DN21	PVC/PUR	779	6FX_002-5DQ28	PVC/PUR	782
6FX_002-5DN27	PVC/PUR	779			
6FX_002-5DN31	PVC/PUR	779	6FX_002-5DQ38	PVC/PUR	782
6FX_002-5DN41	PVC/PUR	779	6FX_002-5DQ48	PVC/PUR	782
6FX_002-5DN51	PVC/PUR	780			
6FX_002-5DN54	PVC/PUR	780	6FX_002-5DQ58	PVC/PUR	782
6FX_002-5DN61	PVC/PUR	780	6FX_002-5DQ68	PVC/PUR	782
6FX_002-5DN64	PVC/PUR	780	6FX_002-5DQ68	PVC/PUR	782
6FX_002-5DQ01	PVC/PUR	781	6FX_002-5DN05	PVC/PUR	782
6FX_002-5DQ11	PVC/PUR	781	6FX_002-5DN15	PVC/PUR	782
6FX_002-5DQ21	PVC/PUR	781	6FX_002-5DQ28	PVC/PUR	782
6FX_002-5DQ31	PVC/PUR	781	6FX_002-5DQ38	PVC/PUR	782
6FX_002-5DQ41	PVC/PUR	781	6FX_002-5DQ48	PVC/PUR	782
6FX_002-5DQ51	PVC/PUR	781	6FX_002-5DQ58	PVC/PUR	782
6FX_002-5DQ61	PVC/PUR	781	6FX_002-5DQ68	PVC/PUR	782

... Stöber

Selection by manufacturer part number

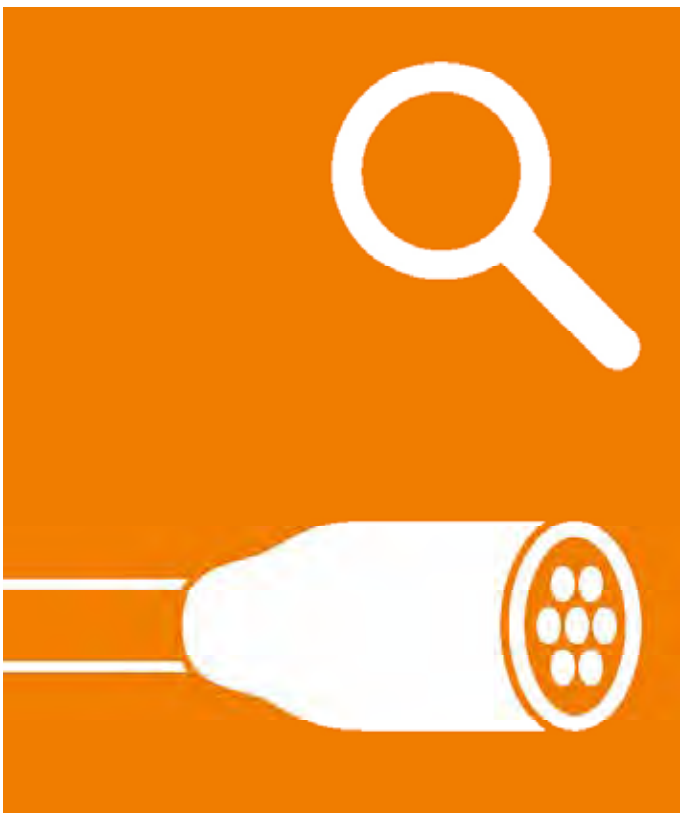
Basic cables	Jacket	Page	Extension cables	Jacket	Page
Stöber					
Servo cables					
Gr.1,5-Motor-10,0mm²	PUR/PVC	783			
Gr.1,5-Motor-4,0mm²	PUR/PVC	783			
Gr.1,5-Motor-6,0mm²	PUR/PVC	783			
Gr.1-Motor-1,0mm²	PUR/PVC	783			
Gr.1-Motor-1,5mm²	PUR/PVC	783			
Gr.1-Motor-2,5mm²	PUR/PVC	783			
Gr.1-Motor-4,0mm²	PUR/PVC	783			
Encoder cables					
Encoder ED/EK iSDS4000	TPE/PVC/PUR	784			
Encoder ES iSDS4000	TPE/PUR	784			
Encoder HTL	TPE/PVC/PUR	784			
Encoder iMDS5000	TPE/PVC/PUR	784			
Resolver iMDS5000	TPE/PVC/PUR	784			
Resolver iSDS4000	TPE/PVC/PUR	784			

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Harnessed drive cables | Allen-Bradley/Rockwell PVC/PUR/TPE

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality*		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Allen-Bradley/Rockwell Motor cables					
Basic cable					
2090-CPWM4DF-08AFxx					
PVC M.I.	01	MAT9761795	(4G10)C	18.5	7.5
PUR O.I.	06	MAT9861793	(4G10)C	17.0	10
TPE F	02	MAT9961791	(4G10)C	18.5	7.5
TPE H*	03	MAT9961790	(4G10)C	18.5	7.5
2090-CPWM4DF-10AFxx					
PVC M.I.	01	MAT9761796	(4G6.0)C	16.0	7.5
PUR O.I.	06	MAT9861794	(4G6.0)C	14.5	10
TPE F	02	MAT9961793	(4G6.0)C	16.0	7.5
TPE H*	03	MAT9961792	(4G6.0)C	16.0	7.5
Basic cable					
2090-CPWM4DF-12AFxx					
PVC M.I.	01	MAT9761797	(4G4.0)C	13.0	7.5
PUR O.I.	06	MAT9861795	(4G4.0)C	12.5	10
TPE F	02	MAT9961795	(4G4.0)C	13.0	7.5
TPE H*	03	MAT9961794	(4G4.0)C	13.0	7.5
2090-CPWM4DF-14AFxx					
PVC M.I.	01	MAT9761798	(4G2.5)C	11.5	7.5
PUR O.I.	06	MAT9861796	(4G2.5)C	10.5	10
PUR M.I.	07	MAT9861798	(4G2.5)C	12.5	7.5
TPE F	02	MAT9961797	(4G2.5)C	11.5	7.5
TPE H*	03	MAT9961796	(4G2.5)C	11.5	7.5
2090-CPWM4DF-16AFxx					
PVC M.I.	01	MAT9761799	(4G1.5)C	10.0	7.5
PUR O.I.	06	MAT9861797	(4G1.5)C	9.0	10
PUR M.I.	07	MAT9861799	(4G1.5)C	11.0	7.5
TPE F	02	MAT9961799	(4G1.5)C	10.0	7.5
TPE H*	03	MAT9961798	(4G1.5)C	10.0	7.5
Basic cable					
2090-CPWM7DF-02AF					
PVC M.I.	01	MAT9761715	(4G35)C	31.0	7.5
PUR O.I.	06	MAT9861711	(4G35)C	28.0	10
2090-CPWM7DF-04AF					
PVC M.I.	01	MAT9761714	(4G25)C	27.5	7.5
PUR O.I.	06	MAT9861710	(4G25)C	25.0	10
TPE F	02	MAT9961725	(4G25)C	27.5	7.5
TPE H*	03	MAT9961726	(4G25)C	27.0	7.5

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits. Example image.
igus® gladly pre-harnesses the cable according to your technical guidelines. **G =** with green-yellow earth core, **x =** without earth core
* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Allen-Bradley/Rockwell PVC/PUR/TPE

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality*		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Allen-Bradley/Rockwell Motor cables					
2090-CPWM7DF-06AF					
PVC M.I.	**01**	MAT9761713	(4G16)C	23.0	7.5
PUR O.I.	**06**	MAT9861709	(4G16)C	20.5	10
TPE F	**02**	MAT9961723	(4G16)C	23.0	7.5
TPE H*	**03**	MAT9961724	(4G16)C	23.0	7.5
2090-CPWM7DF-08AFxx					
PVC M.I.	**01**	MAT9761704	(4G10)C	18.5	7.5
PUR O.I.	**06**	MAT9861706	(4G10)C	17.0	10
TPE F	**02**	MAT9961707	(4G10)C	18.5	7.5
TPE H*	**03**	MAT9961708	(4G10)C	18.5	7.5
2090-CPWM7DF-10AFxx					
PVC M.I.	**01**	MAT9761703	(4G6.0)C	16.0	7.5
PUR O.I.	**06**	MAT9861705	(4G6.0)C	14.5	10
TPE F	**02**	MAT9961705	(4G6.0)C	16.0	7.5
TPE H*	**03**	MAT9961706	(4G6.0)C	16.0	7.5
Basic cable					
2090-CPWM7DF-12AFxx					
PVC M.I.	**01**	MAT9761702	(4G4.0)C	13.0	7.5
PUR O.I.	**06**	MAT9861704	(4G4.0)C	12.5	10
TPE F	**02**	MAT9961709	(4G4.0)C	13.0	7.5
TPE H*	**03**	MAT9961704	(4G4.0)C	13.0	7.5
2090-CPWM7DF-14AFxx					
PVC M.I.	**01**	MAT9761701	(4G2.5)C	11.5	7.5
PUR O.I.	**06**	MAT9861703	(4G2.5)C	10.5	10
PUR M.I.	**07**	MAT9861702	(4G2.5)C	12.5	7.5
TPE F	**02**	MAT9961710	(4G2.5)C	11.5	7.5
TPE H*	**03**	MAT9961711	(4G2.5)C	11.5	7.5
2090-CPWM7DF-16AFxx					
PVC M.I.	**01**	MAT9761758	(4G1.5)C	10.0	7.5
PUR O.I.	**06**	MAT9861760	(4G1.5)C	9.0	10
PUR M.I.	**07**	MAT9861759	(4G1.5)C	11.0	7.5
TPE F	**02**	MAT9961761	(4G1.5)C	10.0	7.5
Basic cable					
2090-XX_PMP-10SXX					
PVC M.I.	**01**	MAT9761712	(4G6.0)C	16.0	7.5
PUR O.I.	**06**	MAT9961718	(4G6.0)C	14.5	10
TPE F	**02**	MAT9961703	(4G6.0)C	16.0	7.5
TPE H*	**03**	MAT9961715	(4G6.0)C	16.0	7.5

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits. Example image.
igus® gladly pre-harnesses the cable according to your technical guidelines. **G =** with green-yellow earth core, **x =** without earth core
* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Allen-Bradley/Rockwell PVC/PUR/TPE

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality*		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Allen-Bradley/Rockwell Motor cables					
Basic cable					
2090-XX_PMP-14SXX					
PVC M.I.	01	MAT9761711	(4G2.5)C	11.5	7.5
PUR O.I.	06	MAT9961717	(4G2.5)C	10.5	10
PUR M.I.	07	MAT9851711	(4G2.5)C	12.5	7.5
TPE F	02	MAT9961702	(4G2.5)C	11.5	7.5
TPE H*	03	MAT9961714	(4G2.5)C	11.5	7.5
2090-XX_PMP-16SXX					
PVC M.I.	01	MAT9761710	(4G1.5)C	10.0	7.5
PUR O.I.	06	MAT9961716	(4G1.5)C	9.0	10
PUR M.I.	07	MAT9861701	(4G1.5)C	11.0	7.5
TPE F	02	MAT9961701	(4G1.5)C	10.0	7.5
TPE H*	03	MAT9961713	(4G1.5)C	10.0	7.5
Extension cable					
2090-CPWM7E7-08AF					
PUR O.I.	06	MAT9861716	(4G10)C	17.0	10
2090-CPWM7E7-10AF					
PUR O.I.	06	MAT9861715	(4G6.0)C	14.5	10
Extension cable					
2090-CPWM7E7-12AF					
PUR O.I.	06	MAT9861714	(4G4.0)C	12.5	10
2090-CPWM7E7-14AF					
PUR O.I.	06	MAT9861713	(4G2.5)C	10.5	10
2090-CPWM7E7-16AF					
PUR O.I.	06	MAT9861712	(4G1.5)C	9.0	10
Allen-Bradley/Rockwell Servo cables					
Basic cable					
2090-CPBM4DF-08AFxx					
PVC M.I.	05	MAT9751799	(4G10+(2x1.5)C)C	21.5	7.5
PUR O.I.	06	MAT9851798	(4G10+(2x1.5)C)C	21.0	10
PUR M.I.	07	MAT9851799	(4G10+(2x1.5)C)C	21.0	7.5
2090-CPBM4DF-10AFxx					
PVC O.I.	04	MAT9751797	(4G6.0+(2x1.5)C)C	16.5	10
PVC M.I.	05	MAT9751798	(4G6.0+(2x1.5)C)C	18.0	7.5
PUR O.I.	06	MAT9851796	(4G6.0+(2x1.5)C)C	16.5	10
PUR M.I.	07	MAT9851797	(4G6.0+(2x1.5)C)C	17.5	7.5

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits. Example image.
igus® gladly pre-harnesses the cable according to your technical guidelines. **G =** with green-yellow earth core, **x =** without earth core
* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Allen-Bradley/Rockwell

PVC/PUR

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality*		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Allen-Bradley/Rockwell Servo cables					
Basic cable					
2090-CPBM4DF-12AFxx					
PVC O.I.	04	MAT9751795	(4G4.0+(2x1.5)C)C	15.0	10
PVC M.I.	05	MAT9751796	(4G4.0+(2x1.5)C)C	16.0	7.5
PUR O.I.	06	MAT9851794	(4G4.0+(2x1.5)C)C	15.0	10
PUR M.I.	07	MAT9851795	(4G4.0+(2x1.5)C)C	16.0	7.5
2090-CPBM4DF-14AFxx					
PVC O.I.	04	MAT9751791	(4G2.5+(2x1.5)C)C	14.0	10
PVC M.I.	05	MAT9751792	(4G2.5+(2x1.5)C)C	14.5	7.5
PUR O.I.	06	MAT9851790	(4G2.5+(2x1.5)C)C	14.0	10
PUR M.I.	07	MAT9851791	(4G2.5+(2x1.5)C)C	14.5	7.5
2090-CPBM4DF-16AFxx					
PVC O.I.	04	MAT9751757	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9751756	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9851755	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9851754	(4G1.5+(2x1.5)C)	13.0	7.5
Basic cable					
2090-CPBM7DF-02AF					
PUR M.I.	07	MAT9851745	(4G35+(2x1.5)C)C	32.0	7.5
2090-CPBM7DF-04AF					
PUR O.I.	06	MAT9851743	(4G25+(2x1.5)C)C	28.5	10
PUR M.I.	07	MAT9851744	(4G25+(2x1.5)C)C	28.0	7.5
Basic cable					
2090-CPBM7DF-06AF					
PUR O.I.	06	MAT9851741	(4G16+(2x1.5)C)C	24.0	10
PUR M.I.	07	MAT9851742	(4G16+(2x1.5)C)C	24.0	7.5
2090-CPBM7DF-08AFxx					
PVC M.I.	05	MAT9751745	(4G10+(2x1.5)C)C	21.5	7.5
PUR O.I.	06	MAT9851736	(4G10+(2x1.5)C)C	21.0	10
PUR M.I.	07	MAT9851735	(4G10+(2x1.5)C)C	21.0	7.5
2090-CPBM7DF-10AFxx					
PVC O.I.	04	MAT9751706	(4G6.0+(2x1.5)C)C	16.5	10
PVC M.I.	05	MAT9751705	(4G6.0+(2x1.5)C)C	18.0	7.5
PUR O.I.	06	MAT9851712	(4G6.0+(2x1.5)C)C	16.5	10
PUR M.I.	07	MAT9851705	(4G6.0+(2x1.5)C)C	17.5	7.5
2090-CPBM7DF-12AFxx					
PVC O.I.	04	MAT9751793	(4G4.0+(2x1.5)C)C	15.0	10
PVC M.I.	05	MAT9751794	(4G4.0+(2x1.5)C)C	16.0	7.5
PUR O.I.	06	MAT9851792	(4G4.0+(2x1.5)C)C	15.0	10
PUR M.I.	07	MAT9851793	(4G4.0+(2x1.5)C)C	16.0	7.5

Harnessed drive cables | Allen-Bradley/Rockwell PVC/PUR

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality*		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Allen-Bradley/Rockwell Servo cables					
Basic cable					
2090-CPBM7DF-14AFxx					
PVC O.I.	04	MAT9751744	(4G2.5+(2x1.5)C)C	14.0	10
PVC M.I.	05	MAT9751743	(4G2.5+(2x1.5)C)C	14.5	7.5
PUR O.I.	06	MAT9851734	(4G2.5+(2x1.5)C)C	14.0	10
PUR M.I.	07	MAT9851733	(4G2.5+(2x1.5)C)C	14.5	7.5
2090-CPBM7DF-16AFxx					
PVC O.I.	04	MAT9751742	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9751741	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9851732	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9851731	(4G1.5+(2x1.5)C)	13.0	7.5
Basic cable					
2090-XX_PMF-10SXX					
PVC O.I.	04	MAT9711730	(4G6.0+(2x1.5)C)C	16.5	10
PVC M.I.	05	MAT9961722	(4G6.0+(2x1.5)C)C	18.0	7.5
PUR O.I.	06	MAT9811726	(4G6.0+(2x1.5)C)C	16.5	10
PUR M.I.	07	MAT9851708	(4G6.0+(2x1.5)C)C	17.5	7.5
Basic cable					
2090-XX_PMF-14SXX					
PVC O.I.	04	MAT9711729	(4G2.5+(2x1.5)C)C	14.0	10
PVC M.I.	05	MAT9961721	(4G2.5+(2x1.5)C)C	14.5	7.5
PUR O.I.	06	MAT9811725	(4G2.5+(2x1.5)C)C	14.0	10
PUR M.I.	07	MAT9851707	(4G2.5+(2x1.5)C)C	14.5	7.5
2090-XX_PMF-16SXX					
PVC O.I.	04	MAT9711728	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9961720	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9811724	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9851706	(4G1.5+(2x1.5)C)	13.0	7.5
Extension cable					
2090-CPBM7E7-08AFxx					
PVC M.I.	05	MAT9751709	(4G10+(2x1.5)C)C	21.5	7.5
PUR O.I.	06	MAT9851710	(4G10+(2x1.5)C)C	21.0	10
PUR M.I.	07	MAT9851709	(4G10+(2x1.5)C)C	21.0	7.5

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits. Example image.
igus® gladly pre-harnesses the cable according to your technical guidelines. **G =** with green-yellow earth core, **x =** without earth core
* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Allen-Bradley/Rockwell PVC/PUR

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality*		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Allen-Bradley/Rockwell Servo cables					
2090-CPBM7E7-10AFxx					
PVC O.I.	04	MAT9751708	(4G6.0+(2x1.5)C)C	16.5	10
PVC M.I.	05	MAT9751707	(4G6.0+(2x1.5)C)C	18.0	7.5
PUR O.I.	06	MAT9851714	(4G6.0+(2x1.5)C)C	16.5	10
PUR M.I.	07	MAT9851713	(4G6.0+(2x1.5)C)C	17.5	7.5
Extension cable					
2090-CPBM7E7-12AFxx					
PVC O.I.	04	MAT9751789	(4G2.5+(2x1.5)C)C	14.0	10
PVC M.I.	05	MAT9751790	(4G2.5+(2x1.5)C)C	14.5	7.5
PUR O.I.	06	MAT9851788	(4G2.5+(2x1.5)C)C	14.0	10
PUR M.I.	07	MAT9851789	(4G2.5+(2x1.5)C)C	14.5	7.5
2090-CPBM7E7-14AFxx					
PVC O.I.	04	MAT9751747	(4G2.5+(2x1.5)C)C	14.0	10
PVC M.I.	05	MAT9751746	(4G2.5+(2x1.5)C)C	14.5	7.5
PUR O.I.	06	MAT9851738	(4G2.5+(2x1.5)C)C	14.0	10
PUR M.I.	07	MAT9851737	(4G2.5+(2x1.5)C)C	14.5	7.5
2090-CPBM7E7-16AFxx					
PVC O.I.	04	MAT9751749	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9751748	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9851740	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9851739	(4G1.5+(2x1.5)C)	13.0	7.5
Allen-Bradley/Rockwell Hybrid servo cables					
Basic cable					
2090-CSBM1DE-10AF					
PUR O.I.	27	MAT9851723	(4G6.0+(2x1.0)C+(2xAWG22)C)C	17.5	10
Basic cable					
2090-CSBM1DE-14AF					
PVC O.I.	26	MAT9751711	(4G2.5+(2x1.0)C+(2xAWG22)C)C	14.5	10
PUR O.I.	27	MAT9851720	(4G2.5+(2x1.0)C+(2xAWG22)C)C	14.5	10
2090-CSBM1DE-18AF					
PVC O.I.	26	MAT9751710	(4G2.5+(2x1.0)C+(2xAWG22)C)C	14.5	10
PUR O.I.	27	MAT9851719	(4G2.5+(2x1.0)C+(2xAWG22)C)C	14.5	10

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits. Example image.
igus® gladly pre-harnesses the cable according to your technical guidelines. **G =** with green-yellow earth core, **x =** without earth core
* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Allen-Bradley/Rockwell PVC/PUR

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality*		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Allen-Bradley/Rockwell Hybrid servo cables					
Basic cable					
2090-CSBM1DF-10AF					
PUR O.I.	27	MAT9851717	(4G6.0+(2x1.0)C+(2xAWG22)C)C	17.5	10
2090-CSBM1DF-14AF					
PVC O.I.	26	MAT9751703	(4G2.5+(2x1.0)C+(2xAWG22)C)C	14.5	10
PUR O.I.	27	MAT9851703	(4G2.5+(2x1.0)C+(2xAWG22)C)C	14.5	10
2090-CSBM1DF-18AF					
PVC O.I.	26	MAT9751701	(4G1.0+(2x0.75)C+(2xAWG22)C)C	12.0	10
PUR O.I.	27	MAT9851701	(4G1.0+(2x0.75)C+(2xAWG22)C)C	12.0	10
Basic cable					
2090-CSBM1DG-10AF					
PUR O.I.	27	MAT9851750	(4G6.0+(2x1.0)C+(2xAWG22)C)C	17.5	10
Basic cable					
2090-CSBM1DG-14AF					
PVC O.I.	26	MAT9751719	(4G2.5+(2x1.0)C+(2xAWG22)C)C	14.5	10
PUR O.I.	27	MAT9851747	(4G2.5+(2x1.0)C+(2xAWG22)C)C	14.5	10
2090-CSBM1DG-18AF					
PVC O.I.	26	MAT9751718	(4G1.0+(2x0.75)C+(2xAWG22)C)C	12.0	10
PUR O.I.	27	MAT9851746	(4G1.0+(2x0.75)C+(2xAWG22)C)C	12.0	10
Basic cable					
2090-CSWM1DE-10AF					
PUR O.I.	27	MAT9851724	(4G6.0+(2x1.0)C+(2xAWG22)C)C	17.5	10
Basic cable					
2090-CSWM1DE-14AF					
PVC O.I.	26	MAT9751713	(4G2.5+(2x1.0)C+(2xAWG22)C)C	14.5	10
PUR O.I.	27	MAT9851722	(4G2.5+(2x1.0)C+(2xAWG22)C)C	14.5	10
2090-CSWM1DE-18AF					
PVC O.I.	26	MAT9751712	(4G1.0+(2x0.75)C+(2xAWG22)C)C	12.0	10
PUR O.I.	27	MAT9851721	(4G1.0+(2x0.75)C+(2xAWG22)C)C	12.0	10

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits. Example image.
igus® gladly pre-harnesses the cable according to your technical guidelines. **G =** with green-yellow earth core, **x =** without earth core
* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Allen-Bradley/Rockwell PVC/PUR

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality*		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Allen-Bradley/Rockwell Hybrid servo cables					
Basic cable					
2090-CSWM1DF-10AF					
PUR O.I.	27	MAT9851718	(4G6.0+(2x1.0)C+(2xAWG22)C)C	17.5	10
Basic cable					
2090-CSWM1DF-14AF					
PVC O.I.	26	MAT9751704	(4G2.5+(2x1.0)C+(2xAWG22)C)C	14.5	10
PUR O.I.	27	MAT9851704	(4G2.5+(2x1.0)C+(2xAWG22)C)C	14.5	10
2090-CSWM1DF-18AF					
PVC O.I.	26	MAT9751702	(4G1.0+(2x0.75)C+(2xAWG22)C)C	12.0	10
PUR O.I.	27	MAT9851702	(4G1.0+(2x0.75)C+(2xAWG22)C)C	12.0	10
Basic cable					
2090-CSWM1DG-10AF					
PUR O.I.	27	MAT9851751	(4G6.0+(2x1.0)C+(2xAWG22)C)C	17.5	10
Basic cable					
2090-CSWM1DG-14AF					
PVC O.I.	26	MAT9751721	(4G2.5+(2x1.0)C+(2xAWG22)C)C	14.5	10
PUR O.I.	27	MAT9851749	(4G2.5+(2x1.0)C+(2xAWG22)C)C	14.5	10
2090-CSWM1DG-18AF					
PVC O.I.	26	MAT9751720	(4G1.0+(2x0.75)C+(2xAWG22)C)C	12.0	10
PUR O.I.	27	MAT9851748	(4G1.0+(2x0.75)C+(2xAWG22)C)C	12.0	10
Extension cable					
2090-CSBM1E1-10AF					
PUR O.I.	27	MAT9851729	(4G6.0+(2x1.0)C+(2xAWG22)C)C	17.5	10
Extension cable					
2090-CSBM1E1-14AF					
PVC O.I.	26	MAT9751715	(4G2.5+(2x1.0)C+(2xAWG22)C)C	14.5	10
PUR O.I.	27	MAT9851726	(4G2.5+(2x1.0)C+(2xAWG22)C)C	14.5	10
2090-CSBM1E1-18AF					
PVC O.I.	26	MAT9751714	(4G1.0+(2x0.75)C+(2xAWG22)C)C	12.0	10
PUR O.I.	27	MAT9851725	(4G1.0+(2x0.75)C+(2xAWG22)C)C	12.0	10

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits. Example image.
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* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Allen-Bradley/Rockwell PVC/PUR/TPE

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality*		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Allen-Bradley/Rockwell Hybrid servo cables					
Extension cable					
2090-CSWM1E1-10AF					
PUR O.I.	27	MAT9851730	(4G6.0+(2x1.0)C+(2xAWG22)C)C	17.5	10
Extension cable					
2090-CSWM1E1-14AF					
PVC O.I.	26	MAT9751717	(4G2.5+(2x1.0)C+(2xAWG22)C)C	14.5	10
PUR O.I.	27	MAT9851728	(4G2.5+(2x1.0)C+(2xAWG22)C)C	14.5	10
2090-CSWM1E1-18AF					
PVC O.I.	26	MAT9751716	(4G1.0+(2x0.75)C+(2xAWG22)C)C	12.0	10
PUR O.I.	27	MAT9851727	(4G1.0+(2x0.75)C+(2xAWG22)C)C	12.0	10
Allen-Bradley/Rockwell Brake cables					
Basic cable					
2090-UX_BMP-18SXX					
PVC M.I.	18	MAT9711727	(3G0.75)C	8.0	7.5
PVC, oil-res.	20	MAT9961719	(3G0.75)C	8.0	6.8
PUR M.I.	22	MAT9811705	(3G0.75)C	8.0	6.8
Allen-Bradley/Rockwell Feedback cables					
Basic cable					
2090-CFBM4DF-CDAFxx					
PUR O.I.	09	MAT9841775	(3x(4x0.14)+(2x0.14+2x0.34)+2x1.5)C	9.0	10
PUR M.I.	10	MAT9841753	(3x(4x0.14)+(2x0.14+2x0.34)+2x1.5)C	10.0	7.5
TPE H*	11	MAT9941768	(3x(4x0.14)+(2x0.14+2x0.34)+2x1.5)C	10.0	6.8
2090-CFBM4DF-CEAFxx					
PUR O.I.	09	MAT9841796	(3x(4x0.14)+(2x0.14+2x0.34)+2x1.5)C	9.0	10
PUR M.I.	10	MAT9841798	(3x(4x0.14)+(2x0.14+2x0.34)+2x1.5)C	10.0	7.5
TPE H*	11	MAT9941799	(3x(4x0.14)+(2x0.14+2x0.34)+2x1.5)C	10.0	6.8
Basic cable					
2090-CFBM7DD-CDAFxx					
PUR M.I.	10	MAT9841795	(3x(4x0.14)+(2x0.14+2x0.34)+2x1.5)C	10.0	7.5
2090-CFBM7DD-CEAFxx					
PUR M.I.	10	MAT9841797	(3x(4x0.14)+(2x0.14+2x0.34)+2x1.5)C	10.0	7.5

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* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Allen-Bradley/Rockwell PUR/TPE

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality*		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Allen-Bradley/Rockwell Feedback cables					
Basic cable					
2090-CFBM7DF-CDAFxx					
PUR O.I.	**09**	MAT9841771	(3x(4x0.14)+(2x0.14+2x0.34)+2x1.5)C	9.0	10
PUR M.I.	**10**	MAT9841750	(3x(4x0.14)+(2x0.14+2x0.34)+2x1.5)C	10.0	7.5
TPE H*	**11**	MAT9941764	(3x(4x0.14)+(2x0.14+2x0.34)+2x1.5)C	10.0	6.8
2090-CFBM7DF-CEAFxx					
PUR O.I.	**09**	MAT9841774	(3x(4x0.14)+(2x0.14+2x0.34)+2x1.5)C	9.0	10
PUR M.I.	**10**	MAT9841752	(3x(4x0.14)+(2x0.14+2x0.34)+2x1.5)C	10.0	7.5
TPE H*	**11**	MAT9941767	(3x(4x0.14)+(2x0.14+2x0.34)+2x1.5)C	10.0	6.8
Basic cable					
2090-XX_FMF-Sxx					
PUR O.I.	**09**	MAT9941709	(3x(4x0.14)+(2x0.14+2x0.34)+2x1.5)C	9.0	10
PUR M.I.	**10**	MAT9841770	(3x(4x0.14)+(2x0.14+2x0.34)+2x1.5)C	10.0	7.5
TPE H*	**11**	MAT9941763	(3x(4x0.14)+(2x0.14+2x0.34)+2x1.5)C	10.0	6.8
Basic cable					
2090-XX_FMP-Sxx					
PUR O.I.	**09**	MAT9841769	(3x(4x0.14)+(2x0.14+2x0.34)+2x1.5)C	9.0	10
PUR M.I.	**10**	MAT9941704	(3x(4x0.14)+(2x0.14+2x0.34)+2x1.5)C	10.0	7.5
TPE H*	**11**	MAT9941762	(3x(4x0.14)+(2x0.14+2x0.34)+2x1.5)C	10.0	6.8
Extension cable					
2090-CFBM7E7-CDAFxx					
PUR O.I.	**09**	MAT9841772	(3x(4x0.14)+(2x0.14+2x0.34)+2x1.5)C	9.0	10
PUR M.I.	**10**	MAT9841751	(3x(4x0.14)+(2x0.14+2x0.34)+2x1.5)C	10.0	7.5
TPE H*	**11**	MAT9941765	(3x(4x0.14)+(2x0.14+2x0.34)+2x1.5)C	10.0	6.8
2090-CFBM7E7-CEAFxx					
PUR O.I.	**09**	MAT9841773	(3x(4x0.14)+(2x0.14+2x0.34)+2x1.5)C	9.0	10
PUR M.I.	**10**	MAT9741776	(3x(4x0.14)+(2x0.14+2x0.34)+2x1.5)C	10.0	7.5
TPE H*	**11**	MAT9941766	(3x(4x0.14)+(2x0.14+2x0.34)+2x1.5)C	10.0	6.8
Allen-Bradley/Rockwell Adapter cables (transition cables)					
Basic cable					
2090-CFBM4E2-CATR					
PUR O.I.	**09**	MAT9841799	(3x(4x0.14)+(2x0.14+2x0.34)+2x1.5)C	9.0	10
Basic cable					
2090-CPWM4E2-14TR					
PUR O.I.	**06**	MAT9861792	(4G2.5)C	10.5	10

Harnessed drive cables | B&R
PVC/PUR

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
B&R Motor cables					
Basic cable					
8BCMxxxx.1011A-0					
PVC M.I.	05	MAT9610008	(4G0.75+2x(2x0.34)C)C	12.5	7.5
PUR O.I.	06	MAT9850108	(4G0.75+2x(2x0.34)C)C	12.0	10
PUR M.I.	07	MAT9600008	(4G0.75+2x(2x0.34)C)C	12.5	7.5
Basic cable					
8BCMxxxx.1034C-0					
PVC M.I.	05	MAT9610009	(4G0.75+2x(2x0.34)C)C	12.5	7.5
PUR O.I.	06	MAT9850109	(4G0.75+2x(2x0.34)C)C	12.0	10
PUR M.I.	07	MAT9600009	(4G0.75+2x(2x0.34)C)C	12.5	7.5
Basic cable					
8BCMxxxx.1312A-0					
PVC O.I.	04	MAT9750106	(4G4.0+2x(2x1.5)C)C	17.0	10
PVC M.I.	05	MAT9610012	(4G4.0+2x(2x1.5)C)C	18.0	7.5
PUR O.I.	06	MAT9850106	(4G4.0+2x(2x1.5)C)C	17.0	10
PUR M.I.	07	MAT9600012	(4G4.0+2x(2x1.5)C)C	17.5	7.5
Basic cable					
8BCMxxxx.1322A-0					
PVC O.I.	04	MAT9750107	(4G4.0+2x(2x1.5)C)C	17.0	10
PVC M.I.	05	MAT9610013	(4G4.0+2x(2x1.5)C)C	18.0	7.5
PUR O.I.	06	MAT9850107	(4G4.0+2x(2x1.5)C)C	17.0	10
PUR M.I.	07	MAT9600013	(4G4.0+2x(2x1.5)C)C	17.5	7.5
Basic cable					
8CMxxx.12-0					
PVC M.I.	05	MAT9610000	(4G0.75+2x(2x0.34)C)C	12.5	7.5
PUR O.I.	06	MAT9850100	(4G0.75+2x(2x0.34)C)C	12.0	10
PUR M.I.	07	MAT9600000	(4G0.75+2x(2x0.34)C)C	12.5	7.5

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits. Example image.
igus® gladly pre-harnesses the cable according to your technical guidelines. **G =** with green-yellow earth core, **x =** without earth core
* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | B&R
PVC/PUR

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
B&R Servo cables					
Basic cable					
8BCMxxxx.1111A-0					
PVC O.I.	04	MAT9750104	(4G1.5+2x(2x0.75)C)C	13.5	10
PVC M.I.	05	MAT9610010	(4G1.5+2x(2x0.75)C)C	14.5	7.5
PUR O.I.	06	MAT9850104	(4G1.5+2x(2x0.75)C)C	13.5	10
PUR M.I.	07	MAT9600010	(4G1.5+2x(2x0.75)C)C	14.5	7.5
8BCMxxxx.1311A-0					
PVC O.I.	04	MAT9750105	(4G4.0+2x(2x1.5)C)C	17.0	10
PVC M.I.	05	MAT9610011	(4G1.5+2x(2x0.75)C)C	14.5	7.5
PUR O.I.	06	MAT9850105	(4G4.0+2x(2x1.5)C)C	17.0	10
PUR M.I.	07	MAT9600011	(4G1.5+2x(2x0.75)C)C	14.5	7.5
Basic cable					
8CMxxx.12-1					
PVC O.I.	04	MAT9750101	(4G1.5+2x(2x0.75)C)C	13.5	10
PVC M.I.	05	MAT9610001	(4G1.5+2x(2x0.75)C)C	14.5	7.5
PUR O.I.	06	MAT9850101	(4G1.5+2x(2x0.75)C)C	13.5	10
PUR M.I.	07	MAT9600001	(4G1.5+2x(2x0.75)C)C	14.5	7.5
8CMxxx.12-3					
PVC O.I.	04	MAT9750102	(4G4.0+2x(2x1.5)C)C	17.0	10
PVC M.I.	05	MAT9610002	(4G4.0+2x(2x1.5)C)C	18.0	7.5
PUR O.I.	06	MAT9850102	(4G4.0+2x(2x1.5)C)C	17.0	10
PUR M.I.	07	MAT9600002	(4G4.0+2x(2x1.5)C)C	17.5	7.5
8CMxxx.12-5					
PVC M.I.	05	MAT9610003	(4G10+2x(2x1.5)C)C	23.0	7.5
PUR O.I.	06	MAT9850103	(4G10+2x(2x1.5)C)C	22.5	10
PUR M.I.	07	MAT9600003	(4G10+2x(2x1.5)C)C	22.5	7.5
Extension cable					
8BCFxxxx.12230-0					
PVC	08	MAT9740101	((4x0.14)+2x(2x0.34))C	7.0	10
PUR O.I.	09	MAT9840115	((4x0.14)+2x(2x0.34))C	7.0	10
Extension cable					
8BCMxxxx.10360-0					
PVC M.I.	05	MAT9750108	(4G0.75+2x(2x0.34)C)C	12.5	7.5
PUR O.I.	06	MAT9850115	(4G0.75+2x(2x0.34)C)C	12.0	10
PUR M.I.	07	MAT9850116	(4G0.75+2x(2x0.34)C)C	12.5	7.5

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* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | B&R PVC/PUR/TPE

* Technical information on the cable quality (Code 01-31): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
B&R Hybrid servo cables					
Basic cable					
8BCHxxxx.1111A-0					
PUR O.I.	27	MAT9850113	(4G1.5+(2x0.75)C +(2x2x0.14+2x0.25)C)C	15.0	10
8BCHxxxx.1312A-0					
PUR O.I.	27	MAT9850110	(4G4.0+(2x1.0)C +(2x2x0.14+2x0.25)C)C	16.5	10
8CHxxxx.1111A-0					
PUR O.I.	27	MAT9850112	(4G1.5+(2x0.75)C +(2x2x0.14+2x0.25)C)C	15.0	10
Basic cable					
8ECHxxxx.1111A-0					
PUR O.I.	27	MAT9850114	(4G1.5+(2x0.75)C +(2x2x0.14+2x0.25)C)C	15.0	10
Extension cable					
8ECH00xx.11140-0					
PUR O.I.	27	MAT9850117	(4G1.5+(2x0.75)C +(2x2x0.14+2x0.25)C)C	15.0	10
B&R EnDat cables					
Basic cable					
8BCExxxx.1111A-0					
PVC	08	MAT9670002	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9820102	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	11	MAT9660002	(5x(2x0.14)+2x0.5)C	8.5	6.8
8CExxx.12-1					
PVC	08	MAT9670001	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9820101	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	11	MAT9660001	(5x(2x0.14)+2x0.5)C	8.5	6.8
B&R Encoder cables					
Basic cable					
8BCFxxxx.1221B-0					
PVC	08	MAT9670003	((4x0.14)+2x(2x0.34))C	7.0	10
PUR O.I.	09	MAT9840103	((4x0.14)+2x(2x0.34))C	7.0	10

Harnessed drive cables | B&R
PVC/PUR/TPE

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
B&R Encoder cables					
Basic cable					
8BCRxxxx.1121A-0					
PVC	14	MAT9640015	(3x(2x0.25))C	7.0	7.5
PUR	15	MAT9840105	(3x(2x0.25))C	7.0	7.5
TPE H*	16	MAT9630015	(3x(2x0.25))C	8.0	6.8
Basic cable					
8BCSxxxx.1111A-0					
PVC	08	MAT9670004	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	09	MAT9840114	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9820104	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	11	MAT9660004	(5x(2x0.14)+2x0.5)C	8.5	6.8
B&R Resolver cables					
Basic cable					
8BCRxxx.1111A-0					
PVC	14	MAT9640010	(3x(2x0.25))C	7.0	7.5
PUR	15	MAT9840102	(3x(2x0.25))C	7.0	7.5
TPE H*	16	MAT9630010	(3x(2x0.25))C	8.0	6.8
8CRxxx.12-1					
PVC	14	MAT9640001	(3x(2x0.25))C	7.0	7.5
PUR	15	MAT9840101	(3x(2x0.25))C	7.0	7.5
TPE H*	16	MAT9630001	(3x(2x0.25))C	8.0	6.8
B&R Bus cables					
Basic cable					
X20CA3E61.xxxx					
PVC, oil-res.	28	MAT9630100	(4x0.38)C	7.0	12.5
PUR	29	MAT9730101	(4x0.38)C	7.0	12.5
TPE	12	MAT9930102	(4x0.38)C	7.5	10
Basic cable					
X67CA0E41.xxxx					
PVC, oil-res.	28	MAT9630103	(4x0.38)C	7.0	12.5
PUR	29	MAT9730104	(4x0.38)C	7.0	12.5
TPE	12	MAT9930105	(4x0.38)C	7.5	10

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits. Example image.
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* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Baumüller PVC/PUR

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Baumüller Servo cables					
15 A Basic cable					
324781 (5m)					
PVC O.I.	04	MAT9750201	(4G1.5+2x(2x0.75)C)C	13.5	10
PVC M.I.	05	MAT9295001	(4G1.5+2x(2x0.75)C)C	14.5	7.5
PUR O.I.	06	MAT9850201	(4G1.5+2x(2x0.75)C)C	13.5	10
PUR M.I.	07	MAT9296001	(4G1.5+2x(2x0.75)C)C	14.5	7.5
324782 (7m)					
PVC O.I.	04	MAT9750202	(4G1.5+2x(2x0.75)C)C	13.5	10
PVC M.I.	05	MAT9295002	(4G1.5+2x(2x0.75)C)C	14.5	7.5
PUR O.I.	06	MAT9850202	(4G1.5+2x(2x0.75)C)C	13.5	10
PUR M.I.	07	MAT9296002	(4G1.5+2x(2x0.75)C)C	14.5	7.5
324783 (10m)					
PVC O.I.	04	MAT9750203	(4G1.5+2x(2x0.75)C)C	13.5	10
PVC M.I.	05	MAT9295003	(4G1.5+2x(2x0.75)C)C	14.5	7.5
PUR O.I.	06	MAT9850203	(4G1.5+2x(2x0.75)C)C	13.5	10
PUR M.I.	07	MAT9296003	(4G1.5+2x(2x0.75)C)C	14.5	7.5
324784 (15m)					
PVC O.I.	04	MAT9750204	(4G1.5+2x(2x0.75)C)C	13.5	10
PVC M.I.	05	MAT9295004	(4G1.5+2x(2x0.75)C)C	14.5	7.5
PUR O.I.	06	MAT9850204	(4G1.5+2x(2x0.75)C)C	13.5	10
PUR M.I.	07	MAT9296004	(4G1.5+2x(2x0.75)C)C	14.5	7.5
324785 (20m)					
PVC O.I.	04	MAT9750205	(4G1.5+2x(2x0.75)C)C	13.5	10
PVC M.I.	05	MAT9295005	(4G1.5+2x(2x0.75)C)C	14.5	7.5
PUR O.I.	06	MAT9850205	(4G1.5+2x(2x0.75)C)C	13.5	10
PUR M.I.	07	MAT9296005	(4G1.5+2x(2x0.75)C)C	14.5	7.5
324786 (25m)					
PVC O.I.	04	MAT9750206	(4G1.5+2x(2x0.75)C)C	13.5	10
PVC M.I.	05	MAT9295006	(4G1.5+2x(2x0.75)C)C	14.5	7.5
PUR O.I.	06	MAT9850206	(4G1.5+2x(2x0.75)C)C	13.5	10
PUR M.I.	07	MAT9296006	(4G1.5+2x(2x0.75)C)C	14.5	7.5
324787 (30m)					
PVC O.I.	04	MAT9750207	(4G1.5+2x(2x0.75)C)C	13.5	10
PVC M.I.	05	MAT9295007	(4G1.5+2x(2x0.75)C)C	14.5	7.5
PUR O.I.	06	MAT9850207	(4G1.5+2x(2x0.75)C)C	13.5	10
PUR M.I.	07	MAT9296007	(4G1.5+2x(2x0.75)C)C	14.5	7.5
324788 (35m)					
PVC O.I.	04	MAT9750208	(4G1.5+2x(2x0.75)C)C	13.5	10
PVC M.I.	05	MAT9295008	(4G1.5+2x(2x0.75)C)C	14.5	7.5
PUR O.I.	06	MAT9850208	(4G1.5+2x(2x0.75)C)C	13.5	10
PUR M.I.	07	MAT9296008	(4G1.5+2x(2x0.75)C)C	14.5	7.5

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* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Baumüller

PVC/PUR

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Baumüller Servo cables					
324789 (40m)					
PVC O.I.	04	MAT9750209	(4G1.5+2x(2x0.75)C)C	13.5	10
PVC M.I.	05	MAT9295009	(4G1.5+2x(2x0.75)C)C	14.5	7.5
PUR O.I.	06	MAT9850209	(4G1.5+2x(2x0.75)C)C	13.5	10
PUR M.I.	07	MAT9296009	(4G1.5+2x(2x0.75)C)C	14.5	7.5
324790 (50m)					
PVC O.I.	04	MAT9750210	(4G1.5+2x(2x0.75)C)C	13.5	10
PVC M.I.	05	MAT9295010	(4G1.5+2x(2x0.75)C)C	14.5	7.5
PUR O.I.	06	MAT9850210	(4G1.5+2x(2x0.75)C)C	13.5	10
PUR M.I.	07	MAT9296010	(4G1.5+2x(2x0.75)C)C	14.5	7.5
324791 (75m)					
PVC O.I.	04	MAT9750211	(4G1.5+2x(2x0.75)C)C	13.5	10
PVC M.I.	05	MAT9295011	(4G1.5+2x(2x0.75)C)C	14.5	7.5
PUR O.I.	06	MAT9850211	(4G1.5+2x(2x0.75)C)C	13.5	10
PUR M.I.	07	MAT9296011	(4G1.5+2x(2x0.75)C)C	14.5	7.5
324792 (100m)					
PVC O.I.	04	MAT9750212	(4G1.5+2x(2x0.75)C)C	13.5	10
PVC M.I.	05	MAT9295012	(4G1.5+2x(2x0.75)C)C	14.5	7.5
PUR O.I.	06	MAT9850212	(4G1.5+2x(2x0.75)C)C	13.5	10
PUR M.I.	07	MAT9296012	(4G1.5+2x(2x0.75)C)C	14.5	7.5
15 A Extension cable					
324781 (5m) (ext.)					
PVC O.I.	04	MAT9750213	(4G1.5+2x(2x0.75)C)C	13.5	10
PVC M.I.	05	MAT9297001	(4G1.5+2x(2x0.75)C)C	14.5	7.5
PUR O.I.	06	MAT9850213	(4G1.5+2x(2x0.75)C)C	13.5	10
PUR M.I.	07	MAT9298001	(4G1.5+2x(2x0.75)C)C	14.5	7.5
20 A Basic cable					
380967 (7m)					
PVC O.I.	04	MAT9750215	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9295021	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9850215	(4G2.5+2x(2x1.5)C)C	16.0	10
PUR M.I.	07	MAT9296021	(4G2.5+2x(2x1.5)C)C	16.0	7.5
413410 (10m)					
PVC O.I.	04	MAT9750216	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9295022	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9850216	(4G2.5+2x(2x1.5)C)C	16.0	10
PUR M.I.	07	MAT9296022	(4G2.5+2x(2x1.5)C)C	16.0	7.5

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits. Example image.
igus® gladly pre-harnesses the cable according to your technical guidelines. **G =** with green-yellow earth core, **x =** without earth core
* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Baumüller PVC/PUR

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Baumüller Servo cables					
20 A Basic cable					
414840 (5m)					
PVC O.I.	04	MAT9750214	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9295020	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9850214	(4G2.5+2x(2x1.5)C)C	16.0	10
PUR M.I.	07	MAT9296020	(4G2.5+2x(2x1.5)C)C	16.0	7.5
414841 (15m)					
PVC O.I.	04	MAT9750217	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9295023	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9850217	(4G2.5+2x(2x1.5)C)C	16.0	10
PUR M.I.	07	MAT9296023	(4G2.5+2x(2x1.5)C)C	16.0	7.5
414842 (20m)					
PVC O.I.	04	MAT9750218	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9295024	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9850218	(4G2.5+2x(2x1.5)C)C	16.0	10
PUR M.I.	07	MAT9296024	(4G2.5+2x(2x1.5)C)C	16.0	7.5
414843 (25m)					
PVC O.I.	04	MAT9750219	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9295025	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9850219	(4G2.5+2x(2x1.5)C)C	16.0	10
PUR M.I.	07	MAT9296025	(4G2.5+2x(2x1.5)C)C	16.0	7.5
414846 (30m)					
PVC O.I.	04	MAT9750220	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9295026	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9850220	(4G2.5+2x(2x1.5)C)C	16.0	10
PUR M.I.	07	MAT9296026	(4G2.5+2x(2x1.5)C)C	16.0	7.5
414848 (35m)					
PVC O.I.	04	MAT9750221	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9295027	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9850221	(4G2.5+2x(2x1.5)C)C	16.0	10
PUR M.I.	07	MAT9296027	(4G2.5+2x(2x1.5)C)C	16.0	7.5
414849 (40m)					
PVC O.I.	04	MAT9750222	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9295028	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9850222	(4G2.5+2x(2x1.5)C)C	16.0	10
PUR M.I.	07	MAT9296028	(4G2.5+2x(2x1.5)C)C	16.0	7.5
414850 (50m)					
PVC O.I.	04	MAT9750223	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9295029	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9850223	(4G2.5+2x(2x1.5)C)C	16.0	10
PUR M.I.	07	MAT9296029	(4G2.5+2x(2x1.5)C)C	16.0	7.5

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igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Baumüller

PVC/PUR

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Baumüller Servo cables					
414851 (75m)					
PVC O.I.	04	MAT9750224	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9295030	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9850224	(4G2.5+2x(2x1.5)C)C	16.0	10
PUR M.I.	07	MAT9296030	(4G2.5+2x(2x1.5)C)C	16.0	7.5
414852 (100m)					
PVC O.I.	04	MAT9750225	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9295031	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9850225	(4G2.5+2x(2x1.5)C)C	16.0	10
PUR M.I.	07	MAT9296031	(4G2.5+2x(2x1.5)C)C	16.0	7.5
20 A Extension cable					
414840 (5m) (ext.)					
PVC O.I.	04	MAT9750226	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9297020	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9850226	(4G2.5+2x(2x1.5)C)C	16.0	10
PUR M.I.	07	MAT9298020	(4G2.5+2x(2x1.5)C)C	16.0	7.5
21 A Basic cable					
326577 (5m)					
PVC O.I.	04	MAT9750227	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9295040	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9850227	(4G2.5+2x(2x1.5)C)C	16.0	10
PUR M.I.	07	MAT9296040	(4G2.5+2x(2x1.5)C)C	16.0	7.5
326578 (7m)					
PVC O.I.	04	MAT9750228	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9295041	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9850228	(4G2.5+2x(2x1.5)C)C	16.0	10
PUR M.I.	07	MAT9296041	(4G2.5+2x(2x1.5)C)C	16.0	7.5
326579 (10m)					
PVC O.I.	04	MAT9750229	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9295042	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9850229	(4G2.5+2x(2x1.5)C)C	16.0	10
PUR M.I.	07	MAT9296042	(4G2.5+2x(2x1.5)C)C	16.0	7.5
326580 (15m)					
PVC O.I.	04	MAT9750230	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9295043	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9850230	(4G2.5+2x(2x1.5)C)C	16.0	10
PUR M.I.	07	MAT9296043	(4G2.5+2x(2x1.5)C)C	16.0	7.5

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* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Baumüller Servo cables					
21 A Basic cable					
326581 (20m)					
PVC O.I.	04	MAT9750231	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9295044	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9850231	(4G2.5+2x(2x1.5)C)C	16.0	10
PUR M.I.	07	MAT9296044	(4G2.5+2x(2x1.5)C)C	16.0	7.5
326582 (25m)					
PVC O.I.	04	MAT9750232	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9295045	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9850232	(4G2.5+2x(2x1.5)C)C	16.0	10
PUR M.I.	07	MAT9296045	(4G2.5+2x(2x1.5)C)C	16.0	7.5
326583 (30m)					
PVC O.I.	04	MAT9750233	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9295046	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9850233	(4G2.5+2x(2x1.5)C)C	16.0	10
PUR M.I.	07	MAT9296046	(4G2.5+2x(2x1.5)C)C	16.0	7.5
326584 (35m)					
PVC O.I.	04	MAT9750234	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9295047	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9850234	(4G2.5+2x(2x1.5)C)C	16.0	10
PUR M.I.	07	MAT9296047	(4G2.5+2x(2x1.5)C)C	16.0	7.5
326585 (40m)					
PVC O.I.	04	MAT9750235	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9295048	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9850235	(4G2.5+2x(2x1.5)C)C	16.0	10
PUR M.I.	07	MAT9296048	(4G2.5+2x(2x1.5)C)C	16.0	7.5
326586 (50m)					
PVC O.I.	04	MAT9750236	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9295049	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9850236	(4G2.5+2x(2x1.5)C)C	16.0	10
PUR M.I.	07	MAT9296049	(4G2.5+2x(2x1.5)C)C	16.0	7.5
326587 (75m)					
PVC O.I.	04	MAT9750237	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9295050	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9850237	(4G2.5+2x(2x1.5)C)C	16.0	10
PUR M.I.	07	MAT9296050	(4G2.5+2x(2x1.5)C)C	16.0	7.5
326588 (100m)					
PVC O.I.	04	MAT9750238	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9295051	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9850238	(4G2.5+2x(2x1.5)C)C	16.0	10
PUR M.I.	07	MAT9296051	(4G2.5+2x(2x1.5)C)C	16.0	7.5

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Harnessed drive cables | Baumüller

PVC/PUR

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Baumüller Servo cables					
21 A Extension cable					
326577 (5m) (ext.)					
PVC O.I.	04	MAT9750239	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9297040	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9850239	(4G2.5+2x(2x1.5)C)C	16.0	10
PUR M.I.	07	MAT9298040	(4G2.5+2x(2x1.5)C)C	16.0	7.5
28 A Basic cable					
326589 (5m)					
PVC O.I.	04	MAT9750240	(4G4.0+2x(2x1.5)C)C	17.0	10
PVC M.I.	05	MAT9295060	(4G4.0+2x(2x1.5)C)C	18.0	7.5
PUR O.I.	06	MAT9850240	(4G4.0+2x(2x1.5)C)C	17.0	10
PUR M.I.	07	MAT9296060	(4G2.5+2x(2x1.5)C)C	16.0	7.5
326591 (7m)					
PVC O.I.	04	MAT9750241	(4G4.0+2x(2x1.5)C)C	17.0	10
PVC M.I.	05	MAT9295061	(4G4.0+2x(2x1.5)C)C	18.0	7.5
PUR O.I.	06	MAT9850241	(4G4.0+2x(2x1.5)C)C	17.0	10
PUR M.I.	07	MAT9296061	(4G2.5+2x(2x1.5)C)C	16.0	7.5
326592 (10m)					
PVC O.I.	04	MAT9750242	(4G4.0+2x(2x1.5)C)C	17.0	10
PVC M.I.	05	MAT9295062	(4G4.0+2x(2x1.5)C)C	18.0	7.5
PUR O.I.	06	MAT9850242	(4G4.0+2x(2x1.5)C)C	17.0	10
PUR M.I.	07	MAT9296062	(4G2.5+2x(2x1.5)C)C	16.0	7.5
326593 (15m)					
PVC O.I.	04	MAT9750243	(4G4.0+2x(2x1.5)C)C	17.0	10
PVC M.I.	05	MAT9295063	(4G4.0+2x(2x1.5)C)C	18.0	7.5
PUR O.I.	06	MAT9850243	(4G4.0+2x(2x1.5)C)C	17.0	10
PUR M.I.	07	MAT9296063	(4G2.5+2x(2x1.5)C)C	16.0	7.5
326594 (20m)					
PVC O.I.	04	MAT9750244	(4G4.0+2x(2x1.5)C)C	17.0	10
PVC M.I.	05	MAT9295064	(4G4.0+2x(2x1.5)C)C	18.0	7.5
PUR O.I.	06	MAT9850244	(4G4.0+2x(2x1.5)C)C	17.0	10
PUR M.I.	07	MAT9296064	(4G2.5+2x(2x1.5)C)C	16.0	7.5
326596 (25m)					
PVC O.I.	04	MAT9750245	(4G4.0+2x(2x1.5)C)C	17.0	10
PVC M.I.	05	MAT9295065	(4G4.0+2x(2x1.5)C)C	18.0	7.5
PUR O.I.	06	MAT9850245	(4G4.0+2x(2x1.5)C)C	17.0	10
PUR M.I.	07	MAT9296065	(4G2.5+2x(2x1.5)C)C	16.0	7.5

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Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Baumüller Servo cables					
28 A Basic cable					
326597 (30m)					
PVC O.I.	04	MAT9750246	(4G4.0+2x(2x1.5)C)C	17.0	10
PVC M.I.	05	MAT9295066	(4G4.0+2x(2x1.5)C)C	18.0	7.5
PUR O.I.	06	MAT9850246	(4G4.0+2x(2x1.5)C)C	17.0	10
PUR M.I.	07	MAT9296066	(4G2.5+2x(2x1.5)C)C	16.0	7.5
326598 (35m)					
PVC O.I.	04	MAT9750247	(4G4.0+2x(2x1.5)C)C	17.0	10
PVC M.I.	05	MAT9295067	(4G4.0+2x(2x1.5)C)C	18.0	7.5
PUR O.I.	06	MAT9850247	(4G4.0+2x(2x1.5)C)C	17.0	10
PUR M.I.	07	MAT9296067	(4G2.5+2x(2x1.5)C)C	16.0	7.5
326599 (40m)					
PVC O.I.	04	MAT9750248	(4G4.0+2x(2x1.5)C)C	17.0	10
PVC M.I.	05	MAT9295068	(4G4.0+2x(2x1.5)C)C	18.0	7.5
PUR O.I.	06	MAT9850248	(4G4.0+2x(2x1.5)C)C	17.0	10
PUR M.I.	07	MAT9296068	(4G2.5+2x(2x1.5)C)C	16.0	7.5
28 A Extension cable					
326589 (5m) (ext.)					
PVC O.I.	04	MAT9750249	(4G4.0+2x(2x1.5)C)C	17.0	10
PVC M.I.	05	MAT9297060	(4G4.0+2x(2x1.5)C)C	18.0	7.5
PUR O.I.	06	MAT9850249	(4G4.0+2x(2x1.5)C)C	17.0	10
PUR M.I.	07	MAT9298060	(4G2.5+2x(2x1.5)C)C	16.0	7.5
36 A Basic cable					
326600 (5m)					
PVC O.I.	04	MAT9750250	(4G6.0+2x(2x1.5)C)C	19.0	10
PVC M.I.	05	MAT9295070	(4G6.0+2x(2x1.5)C)C	21.0	7.5
PUR O.I.	06	MAT9850250	(4G6.0+2x(2x1.5)C)C	19.0	10
PUR M.I.	07	MAT9296070	(4G6.0+2x(2x1.5)C)C	19.5	7.5
326601 (7m)					
PVC O.I.	04	MAT9750251	(4G6.0+2x(2x1.5)C)C	19.0	10
PVC M.I.	05	MAT9295071	(4G6.0+2x(2x1.5)C)C	21.0	7.5
PUR O.I.	06	MAT9850251	(4G6.0+2x(2x1.5)C)C	19.0	10
PUR M.I.	07	MAT9296071	(4G6.0+2x(2x1.5)C)C	19.5	7.5
326602 (10m)					
PVC O.I.	04	MAT9750252	(4G6.0+2x(2x1.5)C)C	19.0	10
PVC M.I.	05	MAT9295072	(4G6.0+2x(2x1.5)C)C	21.0	7.5
PUR O.I.	06	MAT9850252	(4G6.0+2x(2x1.5)C)C	19.0	10
PUR M.I.	07	MAT9296072	(4G6.0+2x(2x1.5)C)C	19.5	7.5

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igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Baumüller

PVC/PUR

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Baumüller Servo cables					
326603 (15m)					
PVC O.I.	04	MAT9750253	(4G6.0+2x(2x1.5)C)C	19.0	10
PVC M.I.	05	MAT9295073	(4G6.0+2x(2x1.5)C)C	21.0	7.5
PUR O.I.	06	MAT9850253	(4G6.0+2x(2x1.5)C)C	19.0	10
PUR M.I.	07	MAT9296073	(4G6.0+2x(2x1.5)C)C	19.5	7.5
326604 (20m)					
PVC O.I.	04	MAT9750254	(4G6.0+2x(2x1.5)C)C	19.0	10
PVC M.I.	05	MAT9295074	(4G6.0+2x(2x1.5)C)C	21.0	7.5
PUR O.I.	06	MAT9850254	(4G6.0+2x(2x1.5)C)C	19.0	10
PUR M.I.	07	MAT9296074	(4G6.0+2x(2x1.5)C)C	19.5	7.5
326605 (25m)					
PVC O.I.	04	MAT9750255	(4G6.0+2x(2x1.5)C)C	19.0	10
PVC M.I.	05	MAT9295075	(4G6.0+2x(2x1.5)C)C	21.0	7.5
PUR O.I.	06	MAT9850255	(4G6.0+2x(2x1.5)C)C	19.0	10
PUR M.I.	07	MAT9296075	(4G6.0+2x(2x1.5)C)C	19.5	7.5
326606 (30m)					
PVC O.I.	04	MAT9750256	(4G6.0+2x(2x1.5)C)C	19.0	10
PVC M.I.	05	MAT9295076	(4G6.0+2x(2x1.5)C)C	21.0	7.5
PUR O.I.	06	MAT9850256	(4G6.0+2x(2x1.5)C)C	19.0	10
PUR M.I.	07	MAT9296076	(4G6.0+2x(2x1.5)C)C	19.5	7.5
326607 (35m)					
PVC O.I.	04	MAT9750257	(4G6.0+2x(2x1.5)C)C	19.0	10
PVC M.I.	05	MAT9295077	(4G6.0+2x(2x1.5)C)C	21.0	7.5
PUR O.I.	06	MAT9850257	(4G6.0+2x(2x1.5)C)C	19.0	10
PUR M.I.	07	MAT9296077	(4G6.0+2x(2x1.5)C)C	19.5	7.5
326608 (40m)					
PVC O.I.	04	MAT9750258	(4G6.0+2x(2x1.5)C)C	19.0	10
PVC M.I.	05	MAT9295078	(4G6.0+2x(2x1.5)C)C	21.0	7.5
PUR O.I.	06	MAT9850258	(4G6.0+2x(2x1.5)C)C	19.0	10
PUR M.I.	07	MAT9296078	(4G6.0+2x(2x1.5)C)C	19.5	7.5
36 A Extension cable					
326600 (5m) (ext.)					
PVC O.I.	04	MAT9750259	(4G6.0+2x(2x1.5)C)C	19.0	10
PVC M.I.	05	MAT9297070	(4G6.0+2x(2x1.5)C)C	21.0	7.5
PUR O.I.	06	MAT9850259	(4G6.0+2x(2x1.5)C)C	19.0	10
PUR M.I.	07	MAT9298070	(4G6.0+2x(2x1.5)C)C	19.5	7.5

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits. Example image.
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* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Baumüller PVC/PUR

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Baumüller Servo cables					
50 A Basic cable					
326609 (5m)					
PVC M.I.	05	MAT9295080	(4G10+2x(2x1.5)C)C	23.0	7.5
PUR O.I.	06	MAT9850260	(4G10+2x(2x1.5)C)C	22.5	10
PUR M.I.	07	MAT9296080	(4G10+2x(2x1.5)C)C	22.5	7.5
326610 (7m)					
PVC M.I.	05	MAT9295081	(4G10+2x(2x1.5)C)C	23.0	7.5
PUR O.I.	06	MAT9850261	(4G10+2x(2x1.5)C)C	22.5	10
PUR M.I.	07	MAT9296081	(4G10+2x(2x1.5)C)C	22.5	7.5
326611 (10m)					
PVC M.I.	05	MAT9295082	(4G10+2x(2x1.5)C)C	23.0	7.5
PUR O.I.	06	MAT9850262	(4G10+2x(2x1.5)C)C	22.5	10
PUR M.I.	07	MAT9296082	(4G10+2x(2x1.5)C)C	22.5	7.5
326612 (15m)					
PVC M.I.	05	MAT9295083	(4G10+2x(2x1.5)C)C	23.0	7.5
PUR O.I.	06	MAT9850263	(4G10+2x(2x1.5)C)C	22.5	10
PUR M.I.	07	MAT9296083	(4G10+2x(2x1.5)C)C	22.5	7.5
326613 (20m)					
PVC M.I.	05	MAT9295084	(4G10+2x(2x1.5)C)C	23.0	7.5
PUR O.I.	06	MAT9850264	(4G10+2x(2x1.5)C)C	22.5	10
PUR M.I.	07	MAT9296084	(4G10+2x(2x1.5)C)C	22.5	7.5
326614 (25m)					
PVC M.I.	05	MAT9295085	(4G10+2x(2x1.5)C)C	23.0	7.5
PUR O.I.	06	MAT9850265	(4G10+2x(2x1.5)C)C	22.5	10
PUR M.I.	07	MAT9296085	(4G10+2x(2x1.5)C)C	22.5	7.5
326615 (30m)					
PVC M.I.	05	MAT9295086	(4G10+2x(2x1.5)C)C	23.0	7.5
PUR O.I.	06	MAT9850266	(4G10+2x(2x1.5)C)C	22.5	10
PUR M.I.	07	MAT9296086	(4G10+2x(2x1.5)C)C	22.5	7.5
326616 (35m)					
PVC M.I.	05	MAT9295087	(4G10+2x(2x1.5)C)C	23.0	7.5
PUR O.I.	06	MAT9850267	(4G10+2x(2x1.5)C)C	22.5	10
PUR M.I.	07	MAT9296087	(4G10+2x(2x1.5)C)C	22.5	7.5
326617 (40m)					
PVC M.I.	05	MAT9295088	(4G10+2x(2x1.5)C)C	23.0	7.5
PUR O.I.	06	MAT9850268	(4G10+2x(2x1.5)C)C	22.5	10
PUR M.I.	07	MAT9296088	(4G10+2x(2x1.5)C)C	22.5	7.5

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits. Example image.
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Harnessed drive cables | Baumüller
PVC/PUR/TPE

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Baumüller Servo cables					
50 A Extension cable					
326609 (5m) (ext.)					
PVC M.I.	05	MAT9297080	(4G10+2x(2x1.5)C)C	23.0	7.5
PUR O.I.	06	MAT9850269	(4G10+2x(2x1.5)C)C	22.5	10
PUR M.I.	07	MAT9298080	(4G10+2x(2x1.5)C)C	22.5	7.5
Baumüller Resolver cables					
SRS/SRM50 & SKS/SKM36 Basic cable					
239540 (5m)					
PVC	08	MAT9290003	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	09	MAT9940203	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9840203	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	11	MAT9291003	(5x(2x0.14)+2x0.5)C	8.5	6.8
239541 (8m)					
PVC	08	MAT9290005	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	09	MAT9940205	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9840205	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	11	MAT9291005	(5x(2x0.14)+2x0.5)C	8.5	6.8
239542 (10m)					
PVC	08	MAT9290006	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	09	MAT9940206	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9840206	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	11	MAT9291006	(5x(2x0.14)+2x0.5)C	8.5	6.8
239543 (15m)					
PVC	08	MAT9290007	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	09	MAT9940207	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9840207	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	11	MAT9291007	(5x(2x0.14)+2x0.5)C	8.5	6.8
239544 (20m)					
PUR O.I.	09	MAT9940208	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9840208	(5x(2x0.14)+2x0.5)C	9.0	7.5
239544 (20m)					
PVC	08	MAT9290008	(5x(2x0.14)+2x0.5)C	8.0	10
TPE H*	11	MAT9291008	(5x(2x0.14)+2x0.5)C	8.5	6.8
239545 (25m)					
PVC	08	MAT9290009	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	09	MAT9940209	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9840209	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	11	MAT9291009	(5x(2x0.14)+2x0.5)C	8.5	6.8

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igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Baumüller PVC/PUR/TPE

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Baumüller Resolver cables					
SRS/SRM50 & SKS/SKM36 Basic cable					
239546 (30m)					
PVC	08	MAT9290010	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	09	MAT9940210	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9840210	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	11	MAT9291010	(5x(2x0.14)+2x0.5)C	8.5	6.8
239547 (35m)					
PVC	08	MAT9290011	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	09	MAT9940211	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9840211	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	11	MAT9291011	(5x(2x0.14)+2x0.5)C	8.5	6.8
240520 (40m)					
PVC	08	MAT9290012	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	09	MAT9940212	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9840212	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	11	MAT9291012	(5x(2x0.14)+2x0.5)C	8.5	6.8
240521 (45m)					
PVC	08	MAT9290013	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	09	MAT9940213	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9840213	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	11	MAT9291013	(5x(2x0.14)+2x0.5)C	8.5	6.8
240522 (50m)					
PVC	08	MAT9290014	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	09	MAT9940214	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9840214	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	11	MAT9291014	(5x(2x0.14)+2x0.5)C	8.5	6.8
242954 (6m)					
PVC	08	MAT9290004	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	09	MAT9940204	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9840204	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	11	MAT9291004	(5x(2x0.14)+2x0.5)C	8.5	6.8
243379 (4m)					
PVC	08	MAT9290002	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	09	MAT9940202	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9840202	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	11	MAT9291002	(5x(2x0.14)+2x0.5)C	8.5	6.8
244033 (55m)					
PVC	08	MAT9290015	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	09	MAT9940215	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9840215	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	11	MAT9291015	(5x(2x0.14)+2x0.5)C	8.5	6.8

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igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Baumüller
PVC/PUR/TPE

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Baumüller Resolver cables					
245484 (60m)					
PVC	08	MAT9290016	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	09	MAT9940216	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9840216	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	11	MAT9291016	(5x(2x0.14)+2x0.5)C	8.5	6.8
246658 (3m)					
PVC	08	MAT9290001	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	09	MAT9940201	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9840201	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	11	MAT9291001	(5x(2x0.14)+2x0.5)C	8.5	6.8
SRS/SRM50 & SKS/SKM36 Extension cable					
246658 (3m) (ext.)					
PVC	08	MAT9292001	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	09	MAT9940217	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9840217	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	11	MAT9293001	(5x(2x0.14)+2x0.5)C	8.5	6.8
Baumüller Pulse encoder cables					
Pulse encoder Basic cable					
198962 (3m)					
PVC	08	MAT9290020	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	09	MAT9940218	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9840218	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	11	MAT9291020	(5x(2x0.14)+2x0.5)C	8.5	6.8
198963 (5m)					
PVC	08	MAT9290021	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	09	MAT9940219	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9840219	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	11	MAT9291021	(5x(2x0.14)+2x0.5)C	8.5	6.8
198964 (8m)					
PVC	08	MAT9290022	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	09	MAT9940220	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9840220	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	11	MAT9291022	(5x(2x0.14)+2x0.5)C	8.5	6.8
198965 (10m)					
PVC	08	MAT9290023	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	09	MAT9940221	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9840221	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	11	MAT9291023	(5x(2x0.14)+2x0.5)C	8.5	6.8

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* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Baumüller PVC/PUR/TPE

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Baumüller Pulse encoder cables					
Pulse encoder Basic cable					
198966 (15m)					
PVC	08	MAT9290024	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	09	MAT9940222	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9840222	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	11	MAT9291024	(5x(2x0.14)+2x0.5)C	8.5	6.8
198967 (20m)					
PVC	08	MAT9290025	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	09	MAT9940223	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9840223	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	11	MAT9291025	(5x(2x0.14)+2x0.5)C	8.5	6.8
198968 (25m)					
PVC	08	MAT9290026	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	09	MAT9940224	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9840224	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	11	MAT9291026	(5x(2x0.14)+2x0.5)C	8.5	6.8
198969 (30m)					
PVC	08	MAT9290027	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	09	MAT9940225	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9840225	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	11	MAT9291027	(5x(2x0.14)+2x0.5)C	8.5	6.8
208829 (40m)					
PVC	08	MAT9290029	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	09	MAT9940227	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9840227	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	11	MAT9291029	(5x(2x0.14)+2x0.5)C	8.5	6.8
225360 (35m)					
PVC	08	MAT9290028	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	09	MAT9940226	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9840226	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	11	MAT9291028	(5x(2x0.14)+2x0.5)C	8.5	6.8
Pulse encoder Extension cable					
198962 (3m) (ext.)					
PUR O.I.	09	MAT9940228	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9840228	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	11	MAT9293020	(5x(2x0.14)+2x0.5)C	8.5	6.8
198962 (3m) (ext.)					
PVC	08	MAT9292020	(5x(2x0.14)+2x0.5)C	8.0	10

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* Cable qualities: **M.I** = with inner jacket, **O.I.** = without inner jacket, **F** = flame-retardant, **H** = halogen-free **OIL** = oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Baumüller
PVC/PUR/TPE

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Baumüller Pulse encoder cables					
ECN1313/EQN1325 Basic cable					
369864 (3m)					
PVC	08	MAT9290031	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	09	MAT9940230	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9840230	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	11	MAT9291031	(5x(2x0.14)+2x0.5)C	8.5	6.8
371494 (20m)					
PVC	08	MAT9290038	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	09	MAT9940237	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9840237	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	11	MAT9291038	(5x(2x0.14)+2x0.5)C	8.5	6.8
378022 (50m)					
PVC	08	MAT9290044	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	09	MAT9940243	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9840243	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	11	MAT9291044	(5x(2x0.14)+2x0.5)C	8.5	6.8
380358 (35m)					
PVC	08	MAT9290041	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	09	MAT9940240	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9840240	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	11	MAT9291041	(5x(2x0.14)+2x0.5)C	8.5	6.8
382005 (45m)					
PVC	08	MAT9290043	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	09	MAT9940242	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9840242	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	11	MAT9291043	(5x(2x0.14)+2x0.5)C	8.5	6.8
389807 (7m)					
PVC	08	MAT9290033	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	09	MAT9940232	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9840232	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	11	MAT9291033	(5x(2x0.14)+2x0.5)C	8.5	6.8
389808 (9m)					
PVC	08	MAT9290035	(5x(2x0.14)+2x0.5)C	8.0	10
TPE H*	11	MAT9291035	(5x(2x0.14)+2x0.5)C	8.5	6.8
389808 (9m)					
PUR O.I.	09	MAT9940234	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9840234	(5x(2x0.14)+2x0.5)C	9.0	6.8
391216 (40m)					
PVC	08	MAT9290042	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	09	MAT9940241	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9840241	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	11	MAT9291042	(5x(2x0.14)+2x0.5)C	8.5	6.8

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igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Baumüller
PVC/PUR/TPE

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Baumüller Pulse encoder cables					
ECN1313/EQN1325 Basic cable					
393889 (2m)					
PVC	08	MAT9290030	(5x(2x0.14)+2x0.5)C	8.0	10
TPE H*	11	MAT9291030	(5x(2x0.14)+2x0.5)C	8.5	6.8
393889 (2m)					
PUR O.I.	09	MAT9940229	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9840229	(5x(2x0.14)+2x0.5)C	9.0	7.5
393890 (8m)					
PVC	08	MAT9290034	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	09	MAT9940233	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9840233	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	11	MAT9291034	(5x(2x0.14)+2x0.5)C	8.5	6.8
393891 (10m)					
PVC	08	MAT9290036	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	09	MAT9940235	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9840235	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	11	MAT9291036	(5x(2x0.14)+2x0.5)C	8.5	6.8
393892 (15m)					
PVC	08	MAT9290037	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	09	MAT9940236	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9840236	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	11	MAT9291037	(5x(2x0.14)+2x0.5)C	8.5	6.8
393893 (25m)					
PVC	08	MAT9290039	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	09	MAT9940238	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9840238	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	11	MAT9291039	(5x(2x0.14)+2x0.5)C	8.5	6.8
393894 (30m)					
PVC	08	MAT9290040	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	09	MAT9940239	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9840239	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	11	MAT9291040	(5x(2x0.14)+2x0.5)C	8.5	6.8
394014 (5m)					
PVC	08	MAT9290032	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	09	MAT9940231	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9840231	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	11	MAT9291032	(5x(2x0.14)+2x0.5)C	8.5	6.8

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Harnessed drive cables | Baumüller
PVC/PUR/TPE

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Baumüller Pulse encoder cables					
ECN1313/EQN1325 Extension cable					
393889 (2m) (ext.)					
PVC	**08**	MAT9292030	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	**10**	MAT9840244	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	**11**	MAT9293030	(5x(2x0.14)+2x0.5)C	8.5	6.8
393889 (2m) (ext.)					
PUR O.I.	**09**	MAT9940244	(5x(2x0.14)+2x0.5)C	8.0	10

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Harnessed drive cables | Baumüller, SpeedTec PVC/PUR

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Baumüller Servo cables, SpeedTec					
15 A Basic cable, SpeedTec					
445872					
PVC O.I.	04	MAT9750260	(4G1.5+2x(2x0.75)C)C	13.5	10
PVC M.I.	05	MAT9295089	(4G1.5+2x(2x0.75)C)C	14.5	7.5
PUR O.I.	06	MAT9850270	(4G1.5+2x(2x0.75)C)C	12.5	10
PUR M.I.	07	MAT9296089	(4G1.5+2x(2x0.75)C)C	14.5	7.5
445887					
PVC O.I.	04	MAT9750261	(4G1.5+2x(2x0.75)C)C	13.5	10
PVC M.I.	05	MAT9295090	(4G1.5+2x(2x0.75)C)C	14.5	7.5
PUR O.I.	06	MAT9850271	(4G1.5+2x(2x0.75)C)C	12.5	10
PUR M.I.	07	MAT9296090	(4G1.5+2x(2x0.75)C)C	14.5	7.5
445889					
PVC O.I.	04	MAT9750262	(4G1.5+2x(2x0.75)C)C	13.5	10
PVC M.I.	05	MAT9295091	(4G1.5+2x(2x0.75)C)C	14.5	7.5
PUR O.I.	06	MAT9850272	(4G1.5+2x(2x0.75)C)C	12.5	10
PUR M.I.	07	MAT9296091	(4G1.5+2x(2x0.75)C)C	14.5	7.5
447675					
PVC O.I.	04	MAT9750263	(4G1.5+2x(2x0.75)C)C	13.5	10
PVC M.I.	05	MAT9295092	(4G1.5+2x(2x0.75)C)C	14.5	7.5
PUR O.I.	06	MAT9850273	(4G1.5+2x(2x0.75)C)C	12.5	10
PUR M.I.	07	MAT9296092	(4G1.5+2x(2x0.75)C)C	14.5	7.5
447676					
PVC O.I.	04	MAT9750264	(4G1.5+2x(2x0.75)C)C	13.5	10
PVC M.I.	05	MAT9295093	(4G1.5+2x(2x0.75)C)C	14.5	7.5
PUR O.I.	06	MAT9850274	(4G1.5+2x(2x0.75)C)C	12.5	10
PUR M.I.	07	MAT9296093	(4G1.5+2x(2x0.75)C)C	14.5	7.5
447677					
PVC O.I.	04	MAT9750265	(4G1.5+2x(2x0.75)C)C	13.5	10
PVC M.I.	05	MAT9295094	(4G1.5+2x(2x0.75)C)C	14.5	7.5
PUR O.I.	06	MAT9850275	(4G1.5+2x(2x0.75)C)C	12.5	10
PUR M.I.	07	MAT9296094	(4G1.5+2x(2x0.75)C)C	14.5	7.5
447678					
PVC O.I.	04	MAT9750266	(4G1.5+2x(2x0.75)C)C	13.5	10
PVC M.I.	05	MAT9295095	(4G1.5+2x(2x0.75)C)C	14.5	7.5
PUR O.I.	06	MAT9850276	(4G1.5+2x(2x0.75)C)C	12.5	10
PUR M.I.	07	MAT9296095	(4G1.5+2x(2x0.75)C)C	14.5	7.5
447679					
PVC O.I.	04	MAT9750267	(4G1.5+2x(2x0.75)C)C	13.5	10
PVC M.I.	05	MAT9295096	(4G1.5+2x(2x0.75)C)C	14.5	7.5
PUR O.I.	06	MAT9850277	(4G1.5+2x(2x0.75)C)C	12.5	10
PUR M.I.	07	MAT9296096	(4G1.5+2x(2x0.75)C)C	14.5	7.5

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Harnessed drive cables | Baumüller, SpeedTec

PVC/PUR

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Baumüller Servo cables, SpeedTec					
447680					
PVC O.I.	04	MAT9750268	(4G1.5+2x(2x0.75)C)C	13.5	10
PVC M.I.	05	MAT9295097	(4G1.5+2x(2x0.75)C)C	14.5	7.5
PUR O.I.	06	MAT9850278	(4G1.5+2x(2x0.75)C)C	12.5	10
PUR M.I.	07	MAT9296097	(4G1.5+2x(2x0.75)C)C	14.5	7.5
447681					
PVC O.I.	04	MAT9750269	(4G1.5+2x(2x0.75)C)C	13.5	10
PVC M.I.	05	MAT9295098	(4G1.5+2x(2x0.75)C)C	14.5	7.5
PUR O.I.	06	MAT9850279	(4G1.5+2x(2x0.75)C)C	12.5	10
PUR M.I.	07	MAT9296098	(4G1.5+2x(2x0.75)C)C	14.5	7.5
447682					
PVC O.I.	04	MAT9750270	(4G1.5+2x(2x0.75)C)C	13.5	10
PVC M.I.	05	MAT9295099	(4G1.5+2x(2x0.75)C)C	14.5	7.5
PUR O.I.	06	MAT9850280	(4G1.5+2x(2x0.75)C)C	12.5	10
PUR M.I.	07	MAT9296099	(4G1.5+2x(2x0.75)C)C	14.5	7.5
447683					
PVC O.I.	04	MAT9750271	(4G1.5+2x(2x0.75)C)C	13.5	10
PVC M.I.	05	MAT9295100	(4G1.5+2x(2x0.75)C)C	14.5	7.5
PUR O.I.	06	MAT9850281	(4G1.5+2x(2x0.75)C)C	12.5	10
PUR M.I.	07	MAT9296100	(4G1.5+2x(2x0.75)C)C	14.5	7.5
15 A Extension cable, SpeedTec					
445872					
PVC O.I.	04	MAT9750272	(4G1.5+2x(2x0.75)C)C	13.5	10
PVC M.I.	05	MAT9297085	(4G1.5+2x(2x0.75)C)C	14.5	7.5
PUR O.I.	06	MAT9850282	(4G1.5+2x(2x0.75)C)C	12.5	10
PUR M.I.	07	MAT9298085	(4G1.5+2x(2x0.75)C)C	14.5	7.5
20 A Basic cable, SpeedTec					
447684					
PVC O.I.	04	MAT9750273	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9295101	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9850283	(4G2.5+2x(2x1.5)C)C	15.5	10
PUR M.I.	07	MAT9296101	(4G2.5+2x(2x1.5)C)C	16.0	7.5
447687					
PVC O.I.	04	MAT9750274	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9295102	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9850284	(4G2.5+2x(2x1.5)C)C	15.5	10
PUR M.I.	07	MAT9296102	(4G2.5+2x(2x1.5)C)C	16.0	7.5





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Harnessed drive cables | Baumüller, SpeedTec PVC/PUR

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Baumüller Servo cables, SpeedTec					
20 A Basic cable, SpeedTec					
447688					
PVC O.I.	04	MAT9750275	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9295103	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9850285	(4G2.5+2x(2x1.5)C)C	15.5	10
PUR M.I.	07	MAT9296103	(4G2.5+2x(2x1.5)C)C	16.0	7.5
447692					
PVC O.I.	04	MAT9750276	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9295104	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9850286	(4G2.5+2x(2x1.5)C)C	15.5	10
PUR M.I.	07	MAT9296104	(4G2.5+2x(2x1.5)C)C	16.0	7.5
447698					
PVC O.I.	04	MAT9750277	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9295105	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9850287	(4G2.5+2x(2x1.5)C)C	15.5	10
PUR M.I.	07	MAT9296105	(4G2.5+2x(2x1.5)C)C	16.0	7.5
447852					
PVC O.I.	04	MAT9750278	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9295106	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9850288	(4G2.5+2x(2x1.5)C)C	15.5	10
PUR M.I.	07	MAT9296106	(4G2.5+2x(2x1.5)C)C	16.0	7.5
447853					
PVC O.I.	04	MAT9750279	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9295107	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9850289	(4G2.5+2x(2x1.5)C)C	15.5	10
PUR M.I.	07	MAT9296107	(4G2.5+2x(2x1.5)C)C	16.0	7.5
447854					
PVC O.I.	04	MAT9750280	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9295108	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9850290	(4G2.5+2x(2x1.5)C)C	15.5	10
PUR M.I.	07	MAT9296108	(4G2.5+2x(2x1.5)C)C	16.0	7.5
447855					
PVC O.I.	04	MAT9750281	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9295109	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9850291	(4G2.5+2x(2x1.5)C)C	15.5	10
PUR M.I.	07	MAT9296109	(4G2.5+2x(2x1.5)C)C	16.0	7.5
447856					
PVC O.I.	04	MAT9750282	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9295110	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9850292	(4G2.5+2x(2x1.5)C)C	15.5	10
PUR M.I.	07	MAT9296110	(4G2.5+2x(2x1.5)C)C	16.0	7.5

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits. Example image.
igus® gladly pre-harnesses the cable according to your technical guidelines. **G =** with green-yellow earth core, **x =** without earth core
* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Baumüller, SpeedTec
PVC/PUR

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Baumüller Servo cables, SpeedTec					
447857					
PVC O.I.	04	MAT9750283	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9295111	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9850293	(4G2.5+2x(2x1.5)C)C	15.5	10
PUR M.I.	07	MAT9296111	(4G2.5+2x(2x1.5)C)C	16.0	7.5
447858					
PVC O.I.	04	MAT9750284	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9295112	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9850294	(4G2.5+2x(2x1.5)C)C	15.5	10
PUR M.I.	07	MAT9296112	(4G2.5+2x(2x1.5)C)C	16.0	7.5
20 A Extension cable, SpeedTec					
447684					
PVC O.I.	04	MAT9750285	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9297086	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9850295	(4G2.5+2x(2x1.5)C)C	15.5	10
PUR M.I.	07	MAT9298086	(4G2.5+2x(2x1.5)C)C	16.0	7.5
21 A Basic cable, SpeedTec					
447686					
PVC O.I.	04	MAT9750286	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9295113	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9850296	(4G2.5+2x(2x1.5)C)C	15.5	10
PUR M.I.	07	MAT9296113	(4G2.5+2x(2x1.5)C)C	16.0	7.5
447689					
PVC O.I.	04	MAT9750287	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9295114	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9850297	(4G2.5+2x(2x1.5)C)C	15.5	10
PUR M.I.	07	MAT9296114	(4G2.5+2x(2x1.5)C)C	16.0	7.5
447690					
PVC O.I.	04	MAT9750288	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9295115	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9850298	(4G2.5+2x(2x1.5)C)C	15.5	10
PUR M.I.	07	MAT9296115	(4G2.5+2x(2x1.5)C)C	16.0	7.5
447691					
PVC O.I.	04	MAT9750289	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9295116	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9850299	(4G2.5+2x(2x1.5)C)C	15.5	10
PUR M.I.	07	MAT9296116	(4G2.5+2x(2x1.5)C)C	16.0	7.5

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igus® gladly pre-harnesses the cable according to your technical guidelines. **G =** with green-yellow earth core, **x =** without earth core
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igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Baumüller, SpeedTec PVC/PUR

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Baumüller Servo cables, SpeedTec					
21 A Basic cable, SpeedTec					
447693					
PVC O.I.	04	MAT9750290	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9295117	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9850300	(4G2.5+2x(2x1.5)C)C	15.5	10
PUR M.I.	07	MAT9296117	(4G2.5+2x(2x1.5)C)C	16.0	7.5
447694					
PVC O.I.	04	MAT9750291	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9295118	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9880201	(4G2.5+2x(2x1.5)C)C	15.5	10
PUR M.I.	07	MAT9296118	(4G2.5+2x(2x1.5)C)C	16.0	7.5
447695					
PVC O.I.	04	MAT9750292	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9295119	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9880202	(4G2.5+2x(2x1.5)C)C	15.5	10
PUR M.I.	07	MAT9296119	(4G2.5+2x(2x1.5)C)C	16.0	7.5
447696					
PVC O.I.	04	MAT9750293	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9295120	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9880203	(4G2.5+2x(2x1.5)C)C	15.5	10
PUR M.I.	07	MAT9296120	(4G2.5+2x(2x1.5)C)C	16.0	7.5
447697					
PVC O.I.	04	MAT9750294	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9295121	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9880204	(4G2.5+2x(2x1.5)C)C	15.5	10
PUR M.I.	07	MAT9296121	(4G2.5+2x(2x1.5)C)C	16.0	7.5
447699					
PVC O.I.	04	MAT9750295	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9295122	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9880205	(4G2.5+2x(2x1.5)C)C	15.5	10
PUR M.I.	07	MAT9296122	(4G2.5+2x(2x1.5)C)C	16.0	7.5
448060					
PVC O.I.	04	MAT9750296	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9295123	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9880206	(4G2.5+2x(2x1.5)C)C	15.5	10
PUR M.I.	07	MAT9296123	(4G2.5+2x(2x1.5)C)C	16.0	7.5
448061					
PVC O.I.	04	MAT9750297	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9295124	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9880207	(4G2.5+2x(2x1.5)C)C	15.5	10
PUR M.I.	07	MAT9296124	(4G2.5+2x(2x1.5)C)C	16.0	7.5

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Harnessed drive cables | Baumüller, SpeedTec
PVC/PUR

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Baumüller Servo cables, SpeedTec					
21 A Extension cable, SpeedTec					
447686					
PVC O.I.	04	MAT9750298	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9297081	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9880208	(4G2.5+2x(2x1.5)C)C	15.5	10
PUR M.I.	07	MAT9298081	(4G2.5+2x(2x1.5)C)C	16.0	7.5
28 A Basic cable, SpeedTec					
448063					
PVC O.I.	04	MAT9750299	(4G4.0+2x(2x1.5)C)C	17.0	10
PVC M.I.	05	MAT9295125	(4G4.0+2x(2x1.5)C)C	18.0	7.5
PUR O.I.	06	MAT9880209	(4G4.0+2x(2x1.5)C)C	16.5	10
PUR M.I.	07	MAT9296125	(4G4.0+2x(2x1.5)C)C	17.5	7.5
448064					
PVC O.I.	04	MAT9750300	(4G4.0+2x(2x1.5)C)C	17.0	10
PVC M.I.	05	MAT9295126	(4G4.0+2x(2x1.5)C)C	18.0	7.5
PUR O.I.	06	MAT9880210	(4G4.0+2x(2x1.5)C)C	16.5	10
PUR M.I.	07	MAT9296126	(4G4.0+2x(2x1.5)C)C	17.5	7.5
448065					
PVC O.I.	04	MAT9780201	(4G4.0+2x(2x1.5)C)C	17.0	10
PVC M.I.	05	MAT9295127	(4G4.0+2x(2x1.5)C)C	18.0	7.5
PUR O.I.	06	MAT9880211	(4G4.0+2x(2x1.5)C)C	16.5	10
PUR M.I.	07	MAT9296127	(4G4.0+2x(2x1.5)C)C	17.5	7.5
448066					
PVC O.I.	04	MAT9780202	(4G4.0+2x(2x1.5)C)C	17.0	10
PVC M.I.	05	MAT9295128	(4G4.0+2x(2x1.5)C)C	18.0	7.5
PUR O.I.	06	MAT9880212	(4G4.0+2x(2x1.5)C)C	16.5	10
PUR M.I.	07	MAT9296128	(4G4.0+2x(2x1.5)C)C	17.5	7.5
448067					
PVC O.I.	04	MAT9780203	(4G4.0+2x(2x1.5)C)C	17.0	10
PVC M.I.	05	MAT9295129	(4G4.0+2x(2x1.5)C)C	18.0	7.5
PUR O.I.	06	MAT9880213	(4G4.0+2x(2x1.5)C)C	16.5	10
PUR M.I.	07	MAT9296129	(4G4.0+2x(2x1.5)C)C	17.5	7.5
448069					
PVC O.I.	04	MAT9780204	(4G4.0+2x(2x1.5)C)C	17.0	10
PVC M.I.	05	MAT9295130	(4G4.0+2x(2x1.5)C)C	18.0	7.5
PUR O.I.	06	MAT9880214	(4G4.0+2x(2x1.5)C)C	16.5	10
PUR M.I.	07	MAT9296130	(4G4.0+2x(2x1.5)C)C	17.5	7.5

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Harnessed drive cables | Baumüller, SpeedTec PVC/PUR

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Baumüller Servo cables, SpeedTec					
28 A Basic cable, SpeedTec					
448070					
PVC O.I.	04	MAT9780205	(4G4.0+2x(2x1.5)C)C	17.0	10
PVC M.I.	05	MAT9295131	(4G4.0+2x(2x1.5)C)C	18.0	7.5
PUR O.I.	06	MAT9880215	(4G4.0+2x(2x1.5)C)C	16.5	10
PUR M.I.	07	MAT9296131	(4G4.0+2x(2x1.5)C)C	17.5	7.5
448071					
PVC O.I.	04	MAT9780206	(4G4.0+2x(2x1.5)C)C	17.0	10
PVC M.I.	05	MAT9295132	(4G4.0+2x(2x1.5)C)C	18.0	7.5
PUR O.I.	06	MAT9880216	(4G4.0+2x(2x1.5)C)C	16.5	10
PUR M.I.	07	MAT9296132	(4G4.0+2x(2x1.5)C)C	17.5	7.5
448072					
PVC O.I.	04	MAT9780207	(4G4.0+2x(2x1.5)C)C	17.0	10
PVC M.I.	05	MAT9295133	(4G4.0+2x(2x1.5)C)C	18.0	7.5
PUR O.I.	06	MAT9880217	(4G4.0+2x(2x1.5)C)C	16.5	10
PUR M.I.	07	MAT9296133	(4G4.0+2x(2x1.5)C)C	17.5	7.5
28 A Extension cable, SpeedTec					
448063					
PVC O.I.	04	MAT9780208	(4G4.0+2x(2x1.5)C)C	17.0	10
PVC M.I.	05	MAT9297082	(4G4.0+2x(2x1.5)C)C	18.0	7.5
PUR O.I.	06	MAT9880218	(4G4.0+2x(2x1.5)C)C	16.5	10
PUR M.I.	07	MAT9298082	(4G4.0+2x(2x1.5)C)C	17.5	7.5
36 A Basic cable, SpeedTec					
448080					
PVC O.I.	04	MAT9780209	(4G6.0+2x(2x1.5)C)C	19.0	10
PVC M.I.	05	MAT9295134	(4G6.0+2x(2x1.5)C)C	21.0	7.5
PUR O.I.	06	MAT9880219	(4G6.0+2x(2x1.5)C)C	18.5	10
PUR M.I.	07	MAT9296151	(4G6.0+2x(2x1.5)C)C	19.5	7.5
448118					
PVC O.I.	04	MAT9780210	(4G6.0+2x(2x1.5)C)C	19.0	10
PVC M.I.	05	MAT9295135	(4G6.0+2x(2x1.5)C)C	21.0	7.5
PUR O.I.	06	MAT9880220	(4G6.0+2x(2x1.5)C)C	18.5	10
PUR M.I.	07	MAT9296134	(4G6.0+2x(2x1.5)C)C	19.5	7.5

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Harnessed drive cables | Baumüller, SpeedTec

PVC/PUR

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Baumüller Servo cables, SpeedTec					
448119					
PVC O.I.	04	MAT9780211	(4G6.0+2x(2x1.5)C)C	19.0	10
PVC M.I.	05	MAT9295136	(4G6.0+2x(2x1.5)C)C	21.0	7.5
PUR O.I.	06	MAT9880221	(4G6.0+2x(2x1.5)C)C	18.5	10
PUR M.I.	07	MAT9296135	(4G6.0+2x(2x1.5)C)C	19.5	7.5
448120					
PVC O.I.	04	MAT9780212	(4G6.0+2x(2x1.5)C)C	19.0	10
PVC M.I.	05	MAT9295137	(4G6.0+2x(2x1.5)C)C	21.0	7.5
PUR O.I.	06	MAT9880222	(4G6.0+2x(2x1.5)C)C	18.5	10
PUR M.I.	07	MAT9296136	(4G6.0+2x(2x1.5)C)C	19.5	7.5
448121					
PVC O.I.	04	MAT9780213	(4G6.0+2x(2x1.5)C)C	19.0	10
PVC M.I.	05	MAT9295138	(4G6.0+2x(2x1.5)C)C	21.0	7.5
PUR O.I.	06	MAT9880223	(4G6.0+2x(2x1.5)C)C	18.5	10
PUR M.I.	07	MAT9296137	(4G6.0+2x(2x1.5)C)C	19.5	7.5
448122					
PVC O.I.	04	MAT9780214	(4G6.0+2x(2x1.5)C)C	19.0	10
PVC M.I.	05	MAT9295139	(4G6.0+2x(2x1.5)C)C	21.0	7.5
PUR O.I.	06	MAT9880224	(4G6.0+2x(2x1.5)C)C	18.5	10
PUR M.I.	07	MAT9296138	(4G6.0+2x(2x1.5)C)C	19.5	7.5
448123					
PVC O.I.	04	MAT9780215	(4G6.0+2x(2x1.5)C)C	19.0	10
PVC M.I.	05	MAT9295140	(4G6.0+2x(2x1.5)C)C	21.0	7.5
PUR O.I.	06	MAT9880225	(4G6.0+2x(2x1.5)C)C	18.5	10
PUR M.I.	07	MAT9296139	(4G6.0+2x(2x1.5)C)C	19.5	7.5
448124					
PVC O.I.	04	MAT9780216	(4G6.0+2x(2x1.5)C)C	19.0	10
PVC M.I.	05	MAT9295141	(4G6.0+2x(2x1.5)C)C	21.0	7.5
PUR O.I.	06	MAT9880226	(4G6.0+2x(2x1.5)C)C	18.5	10
PUR M.I.	07	MAT9296140	(4G6.0+2x(2x1.5)C)C	19.5	7.5
448125					
PVC O.I.	04	MAT9780217	(4G6.0+2x(2x1.5)C)C	19.0	10
PVC M.I.	05	MAT9295142	(4G6.0+2x(2x1.5)C)C	21.0	7.5
PUR O.I.	06	MAT9880227	(4G6.0+2x(2x1.5)C)C	18.5	10
PUR M.I.	07	MAT9296141	(4G6.0+2x(2x1.5)C)C	19.5	7.5
36 A Extension cable, SpeedTec					
448080					
PVC O.I.	04	MAT9780218	(4G6.0+2x(2x1.5)C)C	19.0	10
PVC M.I.	05	MAT9297083	(4G6.0+2x(2x1.5)C)C	21.0	7.5
PUR O.I.	06	MAT9880228	(4G6.0+2x(2x1.5)C)C	18.5	10
PUR M.I.	07	MAT9298083	(4G6.0+2x(2x1.5)C)C	19.5	7.5



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igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Baumüller, SpeedTec PVC/PUR

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Baumüller Servo cables, SpeedTec					
50 A Basic cable, SpeedTec					
448129					
PVC M.I.	05	MAT9295143	(4G10+2x(2x1.5)C)C	23.0	7.5
PUR O.I.	06	MAT9880229	(4G10+2x(2x1.5)C)C	21.0	10
PUR M.I.	07	MAT9296142	(4G10+2x(2x1.5)C)C	22.5	7.5
448131					
PVC M.I.	05	MAT9295144	(4G10+2x(2x1.5)C)C	23.0	7.5
PUR O.I.	06	MAT9880230	(4G10+2x(2x1.5)C)C	21.0	10
PUR M.I.	07	MAT9296143	(4G10+2x(2x1.5)C)C	22.5	7.5
448132					
PVC M.I.	05	MAT9295145	(4G10+2x(2x1.5)C)C	23.0	7.5
PUR O.I.	06	MAT9880231	(4G10+2x(2x1.5)C)C	21.0	10
PUR M.I.	07	MAT9296144	(4G10+2x(2x1.5)C)C	22.5	7.5
448133					
PVC M.I.	05	MAT9295146	(4G10+2x(2x1.5)C)C	23.0	7.5
PUR O.I.	06	MAT9880232	(4G10+2x(2x1.5)C)C	21.0	10
PUR M.I.	07	MAT9296145	(4G10+2x(2x1.5)C)C	22.5	7.5
448134					
PVC M.I.	05	MAT9295147	(4G10+2x(2x1.5)C)C	23.0	7.5
PUR O.I.	06	MAT9880233	(4G10+2x(2x1.5)C)C	21.0	10
PUR M.I.	07	MAT9296146	(4G10+2x(2x1.5)C)C	22.5	7.5
448135					
PVC M.I.	05	MAT9295148	(4G10+2x(2x1.5)C)C	23.0	7.5
PUR O.I.	06	MAT9880234	(4G10+2x(2x1.5)C)C	21.0	10
PUR M.I.	07	MAT9296147	(4G10+2x(2x1.5)C)C	22.5	7.5
448136					
PVC M.I.	05	MAT9295149	(4G10+2x(2x1.5)C)C	23.0	7.5
PUR O.I.	06	MAT9880235	(4G10+2x(2x1.5)C)C	21.0	10
PUR M.I.	07	MAT9296148	(4G10+2x(2x1.5)C)C	22.5	7.5
448137					
PVC M.I.	05	MAT9295150	(4G10+2x(2x1.5)C)C	23.0	7.5
PUR O.I.	06	MAT9880236	(4G10+2x(2x1.5)C)C	21.0	10
PUR M.I.	07	MAT9296149	(4G10+2x(2x1.5)C)C	22.5	7.5
448138					
PVC M.I.	05	MAT9295151	(4G10+2x(2x1.5)C)C	23.0	7.5
PUR O.I.	06	MAT9880237	(4G10+2x(2x1.5)C)C	21.0	10
PUR M.I.	07	MAT9296150	(4G10+2x(2x1.5)C)C	22.5	7.5

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits. Example image.
igus® gladly pre-harnesses the cable according to your technical guidelines. **G =** with green-yellow earth core, **x =** without earth core
* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Baumüller, SpeedTec
PVC/PUR/TPE

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Baumüller Servo cables, SpeedTec					
50 A Extension cable, SpeedTec					
448129					
PVC M.I.	05	MAT9297084	(4G10+2x(2x1.5)C)C	23.0	7.5
PUR O.I.	06	MAT9880238	(4G10+2x(2x1.5)C)C	21.0	10
PUR M.I.	07	MAT9298084	(4G10+2x(2x1.5)C)C	22.5	7.5
Baumüller Resolver cables, SpeedTec					
SRS/SRM50 & SKS/SKM36 Basic cable, SpeedTec					
448944					
PVC	08	MAT9290060	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	09	MAT9940260	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9840260	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	11	MAT9291060	(5x(2x0.14)+2x0.5)C	8.5	6.8
448945					
PVC	08	MAT9290057	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	09	MAT9940257	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9840257	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	11	MAT9291057	(5x(2x0.14)+2x0.5)C	8.5	6.8
448946					
PVC	08	MAT9290056	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	09	MAT9940256	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9840256	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	11	MAT9291056	(5x(2x0.14)+2x0.5)C	8.5	6.8
448948					
PVC	08	MAT9290045	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	09	MAT9940245	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9840245	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	11	MAT9291045	(5x(2x0.14)+2x0.5)C	8.5	6.8
448949					
PVC	08	MAT9290046	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	09	MAT9940246	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9840246	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	11	MAT9291046	(5x(2x0.14)+2x0.5)C	8.5	6.8
448956					
PVC	08	MAT9290047	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	09	MAT9940247	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9840247	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	11	MAT9291047	(5x(2x0.14)+2x0.5)C	8.5	6.8

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* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Baumüller, SpeedTec PVC/PUR/TPE

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Baumüller Resolver cables, SpeedTec					
SRS/SRM50 & SKS/SKM36 Basic cable, SpeedTec					
448962					
PVC	**08**	MAT9290048	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	**09**	MAT9940248	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	**10**	MAT9840248	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	**11**	MAT9291048	(5x(2x0.14)+2x0.5)C	8.5	6.8
448967					
PVC	**08**	MAT9290049	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	**09**	MAT9940249	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	**10**	MAT9840249	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	**11**	MAT9291049	(5x(2x0.14)+2x0.5)C	8.5	6.8
448970					
PVC	**08**	MAT9290050	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	**09**	MAT9940250	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	**10**	MAT9840250	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	**11**	MAT9291050	(5x(2x0.14)+2x0.5)C	8.5	6.8
448971					
PVC	**08**	MAT9290051	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	**09**	MAT9940251	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	**10**	MAT9840251	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	**11**	MAT9291051	(5x(2x0.14)+2x0.5)C	8.5	6.8
448973					
PVC	**08**	MAT9290052	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	**09**	MAT9940252	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	**10**	MAT9840252	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	**11**	MAT9291052	(5x(2x0.14)+2x0.5)C	8.5	6.8
448976					
PVC	**08**	MAT9290053	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	**09**	MAT9940253	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	**10**	MAT9840253	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	**11**	MAT9291053	(5x(2x0.14)+2x0.5)C	8.5	6.8
448978					
PVC	**08**	MAT9290054	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	**09**	MAT9940254	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	**10**	MAT9840254	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	**11**	MAT9291054	(5x(2x0.14)+2x0.5)C	8.5	6.8

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igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Baumüller, SpeedTec
PVC/PUR/TPE

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Baumüller Resolver cables, SpeedTec					
448980					
PVC	08	MAT9290055	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	09	MAT9940255	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9840255	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	11	MAT9291055	(5x(2x0.14)+2x0.5)C	8.5	6.8
448981					
PVC	08	MAT9290058	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	09	MAT9940258	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9840258	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	11	MAT9291058	(5x(2x0.14)+2x0.5)C	8.5	6.8
448982					
PVC	08	MAT9290059	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	09	MAT9940259	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9840259	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	11	MAT9291059	(5x(2x0.14)+2x0.5)C	8.5	6.8
SRS/SRM50 & SKS/SKM36 Extension cable, SpeedTec					
448944					
PVC	08	MAT9292040	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	09	MAT9940261	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9840261	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	11	MAT9293040	(5x(2x0.14)+2x0.5)C	8.5	6.8
Baumüller Pulse encoder cables, SpeedTec					
ECN1313/EQN1325 Basic cable, SpeedTec					
448816					
PVC	08	MAT9290069	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	09	MAT9940270	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9840270	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	11	MAT9291069	(5x(2x0.14)+2x0.5)C	8.5	6.8
448817					
PVC	08	MAT9290061	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	09	MAT9940262	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9840262	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	11	MAT9291061	(5x(2x0.14)+2x0.5)C	8.5	6.8
448818					
PVC	08	MAT9290075	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	09	MAT9940276	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9840276	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	11	MAT9291075	(5x(2x0.14)+2x0.5)C	8.5	6.8

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igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Baumüller, SpeedTec
PVC/PUR/TPE

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Baumüller Pulse encoder cables, SpeedTec					
ECN1313/EQN1325 Basic cable, SpeedTec					
448819					
PVC	08	MAT9290066	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	09	MAT9940267	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9840267	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	11	MAT9291066	(5x(2x0.14)+2x0.5)C	8.5	6.8
448820					
PVC	08	MAT9290070	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	09	MAT9940271	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9840271	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	11	MAT9291070	(5x(2x0.14)+2x0.5)C	8.5	6.8
448821					
PVC	08	MAT9290067	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	09	MAT9940268	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9840268	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	11	MAT9291067	(5x(2x0.14)+2x0.5)C	8.5	6.8
448822					
PVC	08	MAT9290071	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	09	MAT9940272	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9840272	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	11	MAT9291071	(5x(2x0.14)+2x0.5)C	8.5	6.8
448823					
PVC	08	MAT9290072	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	09	MAT9940273	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9840273	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	11	MAT9291072	(5x(2x0.14)+2x0.5)C	8.5	6.8
448824					
PVC	08	MAT9290062	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	09	MAT9940263	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9840263	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	11	MAT9291062	(5x(2x0.14)+2x0.5)C	8.5	6.8
448826					
PVC	08	MAT9290073	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	09	MAT9940274	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9840274	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	11	MAT9291073	(5x(2x0.14)+2x0.5)C	8.5	6.8

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igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Baumüller, SpeedTec
PVC/PUR/TPE

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Baumüller Pulse encoder cables, SpeedTec					
448827					
PVC	08	MAT9290064	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	09	MAT9940265	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9840265	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	11	MAT9291064	(5x(2x0.14)+2x0.5)C	8.5	6.8
448828					
PVC	08	MAT9290068	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	09	MAT9940269	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9840269	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	11	MAT9291068	(5x(2x0.14)+2x0.5)C	8.5	6.8
448830					
PVC	08	MAT9290065	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	09	MAT9940266	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9840266	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	11	MAT9291065	(5x(2x0.14)+2x0.5)C	8.5	6.8
448832					
PVC	08	MAT9290063	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	09	MAT9940264	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9840264	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	11	MAT9291063	(5x(2x0.14)+2x0.5)C	8.5	6.8

ECN1313/EQN1325
Extension cable, SpeedTec



448816					
PVC	08	MAT9292050	(5x(2x0.14)+2x0.5)C	8.0	10
PUR O.I.	09	MAT9940277	(5x(2x0.14)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9840277	(5x(2x0.14)+2x0.5)C	9.0	7.5
TPE H*	11	MAT9293050	(5x(2x0.14)+2x0.5)C	8.5	6.8

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* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Beckhoff
PVC/PUR

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Beckhoff Motor cables					
Basic cable					
ZK4500-8015-xxx					
PUR O.I.	06	MAT9850314	(4G4.0+(2x1.0)C+(2xAWG22)C)C	16.0	10
ZK4500-8024-xxx					
PVC O.I.	04	MAT9750312	(4G2.5+(2x1.0)C+(2xAWG22)C)C	15.0	10
PUR O.I.	06	MAT9850312	(4G2.5+(2x1.0)C+(2xAWG22)C)C	15.0	10
Basic cable					
ZK4501-8024-xxx					
PVC O.I.	04	MAT9750313	(4G2.5+(2x1.0)C+(2xAWG22)C)C	15.0	10
PUR O.I.	06	MAT9850313	(4G2.5+(2x1.0)C+(2xAWG22)C)C	15.0	10
Basic cable					
ZK4530-8110-xxxx					
PVC	14	MAT9381006	(4x(2x0.25))C	7.5	7.5
PUR	15	MAT9382006	(4x(2x0.25))C	7.5	7.5
Extension cable					
ZK4704-0411-xxxx					
PVC M.I.	05	MAT9371008	(4G0.75+(2x0.5)C)C	11.0	7.5
PUR M.I.	07	MAT9750316	(4G0.75+(2x0.5)C)C	11.5	7.5
Beckhoff Servo cables					
Basic cable					
ZK4000-2111-xxxx					
PVC O.I.	04	MAT9750305	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9371005	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9850305	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9372005	(4G1.5+(2x1.5)C)	13.0	7.5
Basic cable					
ZK4000-2112-xxxx					
PVC O.I.	04	MAT9750306	(4G2.5+(2x1.5)C)C	14.0	10
PVC M.I.	05	MAT9371006	(4G2.5+(2x1.5)C)C	14.5	7.5
PUR O.I.	06	MAT9850306	(4G2.5+(2x1.5)C)C	14.0	10
PUR M.I.	07	MAT9372006	(4G2.5+(2x1.5)C)C	14.5	7.5

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits. Example image.
igus® gladly pre-harnesses the cable according to your technical guidelines. **G =** with green-yellow earth core, **x =** without earth core
* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Beckhoff
PVC/PUR

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Beckhoff Servo cables					
Basic cable					
ZK4000-2711-xxxx					
PVC O.I.	04	MAT9750307	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9371007	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9850307	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9372007	(4G1.5+(2x1.5)C)	13.0	7.5
Basic cable					
ZK4500-0023-xxxx					
PVC O.I.	04	MAT9750301	(4G1.5+2x(2x0.75)C)C	13.5	10
PVC M.I.	05	MAT9371001	(4G1.5+2x(2x0.75)C)C	14.5	7.5
PUR O.I.	06	MAT9850301	(4G1.5+2x(2x0.75)C)C	13.5	10
PUR M.I.	07	MAT9372001	(4G1.5+2x(2x0.75)C)C	14.5	7.5
Basic cable					
ZK4500-0024-xxxx					
PVC O.I.	04	MAT9750302	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9371002	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9850302	(4G2.5+2x(2x1.5)C)C	16.0	10
PUR M.I.	07	MAT9372002	(4G2.5+2x(2x1.5)C)C	16.0	7.5
Extension cable					
ZK4501-0023-xxxx					
PVC O.I.	04	MAT9750303	(4G1.5+2x(2x0.75)C)C	13.5	10
PVC M.I.	05	MAT9371003	(4G1.5+2x(2x0.75)C)C	14.5	7.5
PUR O.I.	06	MAT9850303	(4G1.5+2x(2x0.75)C)C	13.5	10
PUR M.I.	07	MAT9372003	(4G1.5+2x(2x0.75)C)C	14.5	7.5
Extension cable					
ZK4501-0024-xxxx					
PVC O.I.	04	MAT9750304	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9371004	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9850304	(4G2.5+2x(2x1.5)C)C	16.0	10
PUR M.I.	07	MAT9372004	(4G2.5+2x(2x1.5)C)C	16.0	7.5

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* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Beckhoff
PVC/PUR

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Beckhoff Hybrid servo cables					
Basic cable					
ZK4500-8022-xxxx					
PVC O.I.	26	MAT9750308	(4G1.0+(2x0.75)C+(2xAWG22)C)C	12.0	10
PUR O.I.	27	MAT9850308	(4G1.0+(2x0.75)C+(2xAWG22)C)C	12.0	10
Basic cable					
ZK4500-8023-xxxx					
PVC O.I.	26	MAT9750309	(4G1.5+(2x0.75)C+(2xAWG22)C)C	13.0	10
PUR O.I.	27	MAT9850309	(4G1.5+(2x0.75)C+(2xAWG22)C)C	13.0	10
Basic cable					
ZK4704-0421-xxxx					
PVC O.I.	26	MAT9750315	(4G0.75+(2x0.34)C+(2xAWG22)C)C	12.0	10
PUR O.I.	27	MAT9850315	(4G0.75+(2x0.34)C+(2xAWG22)C)C	12.0	10
Extension cable					
ZK4501-8022-xxxx					
PVC O.I.	26	MAT9750310	(4G1.0+(2x0.75)C+(2xAWG22)C)C	12.0	10
PUR O.I.	27	MAT9850310	(4G1.0+(2x0.75)C+(2xAWG22)C)C	12.0	10
Extension cable					
ZK4501-8023-xxxx					
PVC O.I.	26	MAT9750311	(4G1.5+(2x0.75)C+(2xAWG22)C)C	13.0	10
PUR O.I.	27	MAT9850311	(4G1.5+(2x0.75)C+(2xAWG22)C)C	13.0	10
Beckhoff Encoder cables					
Basic cable					
ZK4000-2410-xxxx					
PVC	14	MAT9381005	(8x(2x0.25))C	10.5	7.5
PUR	15	MAT9382005	(8x(2x0.25))C	10.5	7.5
Basic cable					
ZK4000-2610-xxxx					
PVC	14	MAT9381004	(8x(2x0.25))C	10.5	7.5
PUR	15	MAT9382004	(8x(2x0.25))C	10.5	7.5

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* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Beckhoff
PVC/PUR/TPE

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Beckhoff Encoder cables					
Basic cable					
ZK4510-0020-xxxx					
PVC	14	MAT9381001	(8x(2x0.25))C	10.5	7.5
PUR	15	MAT9382001	(8x(2x0.25))C	10.5	7.5
Basic cable					
ZK4520-0020-xxxx					
PVC	14	MAT9381002	(6x(2x0.25))C	9.0	7.5
PUR	15	MAT9382002	(6x(2x0.25))C	9.0	7.5
Extension cable					
ZK4511-0020-xxxx					
PVC	14	MAT9381003	(8x(2x0.25))C	10.5	7.5
PUR	15	MAT9382003	(8x(2x0.25))C	10.5	7.5
Beckhoff Thermal protection cables					
Basic cable					
ZK4000-2510-xxxx					
PVC	14	MAT9386001	(2x0.25)C	5.0	7.5
TPE H*	11	MAT9387001	(4x0.34)C	6.0	6.8
Beckhoff Resolver cables					
Basic cable					
ZK4000-2210-xxxx					
PVC	14	MAT9383003	(4x(2x0.25))C	7.5	7.5
PUR	15	MAT9384003	(4x(2x0.25))C	7.5	7.5
TPE H*	16	MAT9920303	(4x(2x0.25))C	8.5	6.8
Basic cable					
ZK4530-0010-xxxx					
PVC	14	MAT9383001	(4x(2x0.25))C	7.5	7.5
PUR	15	MAT9384001	(4x(2x0.25))C	7.5	7.5
TPE H*	16	MAT9920301	(4x(2x0.25))C	8.5	6.8

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits. Example image.
igus® gladly pre-harnesses the cable according to your technical guidelines. **G =** with green-yellow earth core, **x =** without earth core
* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
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Harnessed drive cables | Beckhoff
PVC/PUR/TPE

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Beckhoff Resolver cables					
Basic cable					
ZK4530-8010-xxxx					
PVC	14	MAT9383005	(4x(2x0.25))C	7.5	7.5
PUR	15	MAT9384005	(4x(2x0.25))C	7.5	7.5
TPE H*	16	MAT9920306	(4x(2x0.25))C	8.5	6.8
Extension cable					
ZK4531-0020-xxxx					
PVC	14	MAT9383002	(4x(2x0.25))C	7.5	7.5
PUR	15	MAT9384002	(4x(2x0.25))C	7.5	7.5
TPE H*	16	MAT9920302	(4x(2x0.25))C	8.5	6.8
Extension cable					
ZK4724-0410-xxxx					
PVC	14	MAT9383004	(3x(2x0.25))C	7.0	7.5
PUR	15	MAT9384004	(3x(2x0.25))C	7.0	7.5
TPE H*	16	MAT9920305	(3x(2x0.25))C	8.0	6.8
Beckhoff Network cables EtherCAT					
Basic cable					
ZK1090-9191-xxxx					
PUR	29	MAT9385003	(4x(2x0.15))C	7.5	12.5
TPE	12	MAT9385002	(4x(2x0.15))C	8.5	10

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* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Berger Lahr
PVC/PUR/TPE

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Berger Lahr Servo cables					
Basic cable					
VW3M5101Rxxx					
PVC O.I.	04	MAT94503001	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT94502001	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT94501001	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT94500001	(4G1.5+(2x1.5)C)	13.0	7.5
VW3M5102Rxxx					
PVC O.I.	04	MAT94503002	(4G2.5+(2x1.5)C)C	14.0	10
PVC M.I.	05	MAT94502003	(4G2.5+(2x1.5)C)C	14.5	7.5
PUR O.I.	06	MAT94501003	(4G2.5+(2x1.5)C)C	14.0	10
PUR M.I.	07	MAT94500003	(4G2.5+(2x1.5)C)C	14.5	7.5
Berger Lahr Resolver cables					
Basic cable					
VW3M8101Rxxx					
PVC	08	MAT94603001	(4x(2x0.34)+4x0.5)C	9.5	10
PUR M.I.	10	MAT94601001	(4x(2x0.34)+4x0.5)C	10.0	7.5
TPE H*	11	MAT94600001	(4x(2x0.34)+4x0.5)C	10.0	6.8

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* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Bosch Rexroth

PVC/PUR

EPLAN macros available online ▶ Page 582/583

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Bosch Rexroth Power cables					
Basic cable					
IKG0331					
PVC M.I.	05	MAT9190014	(4G0.75+(2x0.5)C)C	11.0	7.5
PUR M.I.	07	MAT9090014	(4G0.75+(2x0.5)C)C	11.5	7.5
IKG4008					
PVC M.I.	05	MAT9190064	(4G1.0+2x(2x0.75)C)	13.5	7.5
PUR O.I.	06	MAT9851315	(4G1.0+2x(2x0.75)C)	13.0	10
PUR M.I.	07	MAT9090064	(4G1.0+2x(2x0.75)C)	13.5	7.5
IKG4009					
PVC M.I.	05	MAT9190001	(4G1.0+2x(2x0.75)C)	13.5	7.5
PUR O.I.	06	MAT9851316	(4G1.0+2x(2x0.75)C)	13.0	10
PUR M.I.	07	MAT9090001	(4G1.0+2x(2x0.75)C)	13.5	7.5
IKG4017					
PVC M.I.	05	MAT9190002	(4G1.0+2x(2x0.75)C)	13.5	7.5
PUR O.I.	06	MAT9851317	(4G1.0+2x(2x0.75)C)	13.0	10
PUR M.I.	07	MAT9090002	(4G1.0+2x(2x0.75)C)	13.5	7.5
IKG4018					
PVC M.I.	05	MAT9190003	(4G1.0+2x(2x0.75)C)	13.5	7.5
PUR O.I.	06	MAT9851318	(4G1.0+2x(2x0.75)C)	13.0	10
PUR M.I.	07	MAT9090003	(4G1.0+2x(2x0.75)C)	13.5	7.5
IKG4020					
PVC M.I.	05	MAT9190004	(4G1.0+2x(2x0.75)C)	13.5	7.5
PUR O.I.	06	MAT9851319	(4G1.0+2x(2x0.75)C)	13.0	10
PUR M.I.	07	MAT9090004	(4G1.0+2x(2x0.75)C)	13.5	7.5
IKG4055					
PVC O.I.	04	MAT9751309	(4G1.5+2x(2x0.75)C)C	13.5	10
PVC M.I.	05	MAT9190005	(4G1.5+2x(2x0.75)C)C	14.5	7.5
PUR O.I.	06	MAT9851320	(4G1.5+2x(2x0.75)C)C	13.5	10
PUR M.I.	07	MAT9090005	(4G1.5+2x(2x0.75)C)C	14.5	7.5
IKG4060					
PVC O.I.	04	MAT9751310	(4G1.5+2x(2x0.75)C)C	13.5	10
PVC M.I.	05	MAT9190006	(4G1.5+2x(2x0.75)C)C	14.5	7.5
PUR O.I.	06	MAT9851321	(4G1.5+2x(2x0.75)C)C	13.5	10
PUR M.I.	07	MAT9090006	(4G1.5+2x(2x0.75)C)C	14.5	7.5
IKG4067					
PVC O.I.	04	MAT9751311	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9190007	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9851322	(4G2.5+2x(2x1.5)C)C	16.0	10
PUR M.I.	07	MAT9090007	(4G2.5+2x(2x1.5)C)C	16.0	7.5

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Harnessed drive cables | Bosch Rexroth

PVC/PUR

EPLAN macros available online ▶ Page 582/583

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Bosch Rexroth Power cables					
IKG4070					
PVC O.I.	04	MAT9751312	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9190008	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9851323	(4G2.5+2x(2x1.5)C)C	16.0	10
PUR M.I.	07	MAT9090008	(4G2.5+2x(2x1.5)C)C	16.0	7.5
IKG4072					
PVC O.I.	04	MAT9751313	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9190068	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9851324	(4G2.5+2x(2x1.5)C)C	16.0	10
PUR M.I.	07	MAT9090068	(4G2.5+2x(2x1.5)C)C	16.0	7.5
IKG4087					
PVC O.I.	04	MAT9751314	(4G4.0+2x(2x1.5)C)C	17.0	10
PVC M.I.	05	MAT9190009	(4G4.0+2x(2x1.5)C)C	18.0	7.5
PUR O.I.	06	MAT9851325	(4G4.0+2x(2x1.5)C)C	17.0	10
PUR M.I.	07	MAT9090009	(4G4.0+2x(2x1.5)C)C	17.5	7.5
IKG4090					
PVC O.I.	04	MAT9751315	(4G4.0+2x(2x1.5)C)C	17.0	10
PVC M.I.	05	MAT9190010	(4G4.0+2x(2x1.5)C)C	18.0	7.5
PUR O.I.	06	MAT9851326	(4G4.0+2x(2x1.5)C)C	17.0	10
PUR M.I.	07	MAT9090010	(4G4.0+2x(2x1.5)C)C	17.5	7.5
IKG4100					
PVC M.I.	05	MAT9190020	(4G1.0+2x(2x0.75)C)	13.5	7.5
PUR O.I.	06	MAT9851327	(4G1.0+2x(2x0.75)C)	13.0	10
PUR M.I.	07	MAT9090020	(4G1.0+2x(2x0.75)C)	13.5	7.5
IKG4103					
PVC O.I.	04	MAT9751316	(4G6.0+2x(2x1.5)C)C	19.0	10
PVC M.I.	05	MAT9190076	(4G6.0+2x(2x1.5)C)C	21.0	7.5
PUR O.I.	06	MAT9851328	(4G6.0+2x(2x1.5)C)C	19.0	10
PUR M.I.	07	MAT9090076	(4G6.0+2x(2x1.5)C)C	19.5	7.5
IKG4107					
PVC O.I.	04	MAT9751317	(4G6.0+2x(2x1.5)C)C	19.0	10
PVC M.I.	05	MAT9190011	(4G6.0+2x(2x1.5)C)C	21.0	7.5
PUR O.I.	06	MAT9851329	(4G6.0+2x(2x1.5)C)C	19.0	10
PUR M.I.	07	MAT9090011	(4G6.0+2x(2x1.5)C)C	19.5	7.5
IKG4118					
PVC O.I.	04	MAT9751318	(4G6.0+2x(2x1.5)C)C	19.0	10
PVC M.I.	05	MAT9190070	(4G6.0+2x(2x1.5)C)C	21.0	7.5
PUR O.I.	06	MAT9851330	(4G6.0+2x(2x1.5)C)C	19.0	10
PUR M.I.	07	MAT9090070	(4G6.0+2x(2x1.5)C)C	19.5	7.5

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* Cable qualities: **M.I** = with inner jacket, **O.I.** = without inner jacket, **F** = flame-retardant, **H** = halogen-free **OIL** = oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Bosch Rexroth

PVC/PUR

EPLAN macros available online ▶ Page 582/583

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Bosch Rexroth Power cables					
Basic cable					
IKG4119					
PVC M.I.	05	MAT9190027	(4G1.0+2x(2x0.75)C)	13.5	7.5
PUR O.I.	06	MAT9851331	(4G1.0+2x(2x0.75)C)	13.0	10
PUR M.I.	07	MAT9090027	(4G1.0+2x(2x0.75)C)	13.5	7.5
IKG4119					
PVC M.I.	05	MAT9190027	(4G1.0+2x(2x0.75)C)	13.5	7.5
PUR O.I.	06	MAT9851331	(4G1.0+2x(2x0.75)C)	13.0	10
PUR M.I.	07	MAT9090027	(4G1.0+2x(2x0.75)C)	13.5	7.5
IKG4147					
PVC O.I.	04	MAT9751319	(4G6.0+2x(2x1.5)C)C	19.0	10
PVC M.I.	05	MAT9190038	(4G6.0+2x(2x1.5)C)C	21.0	7.5
PUR O.I.	06	MAT9851332	(4G6.0+2x(2x1.5)C)C	19.0	10
PUR M.I.	07	MAT9090038	(4G6.0+2x(2x1.5)C)C	19.5	7.5
IKG4150					
PVC O.I.	04	MAT9751320	(4G6.0+2x(2x1.5)C)C	19.0	10
PVC M.I.	05	MAT9190012	(4G6.0+2x(2x1.5)C)C	21.0	7.5
PUR O.I.	06	MAT9851333	(4G6.0+2x(2x1.5)C)C	19.0	10
PUR M.I.	07	MAT9090012	(4G6.0+2x(2x1.5)C)C	19.5	7.5
IKG4155					
PVC O.I.	04	MAT9751321	(4G6.0+2x(2x1.5)C)C	19.0	10
PVC M.I.	05	MAT9190028	(4G6.0+2x(2x1.5)C)C	21.0	7.5
PUR O.I.	06	MAT9851334	(4G6.0+2x(2x1.5)C)C	19.0	10
PUR M.I.	07	MAT9090028	(4G6.0+2x(2x1.5)C)C	19.5	7.5
IKG4164					
PVC M.I.	05	MAT9190035	(4G10+2x(2x1.5)C)C	23.0	7.5
PUR O.I.	06	MAT9851335	(4G10+2x(2x1.5)C)C	22.5	10
PUR M.I.	07	MAT9090035	(4G10+2x(2x1.5)C)C	22.5	7.5
IKG4167					
PVC M.I.	05	MAT9190013	(4G10+2x(2x1.5)C)C	23.0	7.5
PUR O.I.	06	MAT9851336	(4G10+2x(2x1.5)C)C	22.5	10
PUR M.I.	07	MAT9090013	(4G10+2x(2x1.5)C)C	22.5	7.5
IKG4172					
PVC M.I.	05	MAT9190069	(4G16+2x(2x1.5)C)C	26.5	7.5
PUR O.I.	06	MAT9851337	(4G16+2x(2x1.5)C)C	26.0	10
PUR M.I.	07	MAT9090069	(4G16+2x(2x1.5)C)C	26.0	7.5
IKG4173					
PVC M.I.	05	MAT9190072	(4G25+2x(2x1.5)C)C	31.0	7.5
PUR O.I.	06	MAT9851338	(4G25+2x(2x1.5)C)C	28.5	10
PUR M.I.	07	MAT9090072	(4G25+2x(2x1.5)C)C	31.0	7.5

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits. Example image.
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igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Bosch Rexroth

PVC/PUR

EPLAN macros available online ▶ Page 582/583

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Bosch Rexroth Power cables					
IKG4186					
PVC M.I.	05	MAT9190021	(4G16+2x(2x1.5)C)C	26.5	7.5
PUR O.I.	06	MAT9851339	(4G16+2x(2x1.5)C)C	26.0	10
PUR M.I.	07	MAT9090021	(4G16+2x(2x1.5)C)C	26.0	7.5
IKG4200					
PVC M.I.	05	MAT9190032	(4G16+2x(2x1.5)C)C	26.5	7.5
PUR O.I.	06	MAT9851340	(4G16+2x(2x1.5)C)C	26.0	10
PUR M.I.	07	MAT9090032	(4G16+2x(2x1.5)C)C	26.0	7.5
IKG4204					
PVC M.I.	05	MAT9190052	(4G25+2x(2x1.5)C)C	31.0	7.5
PUR O.I.	06	MAT9851341	(4G25+2x(2x1.5)C)C	28.5	10
PUR M.I.	07	MAT9090052	(4G25+2x(2x1.5)C)C	31.0	7.5
IKL0001					
PVC M.I.	05	MAT9190022	(4G1.0+2x(2x0.75)C)	13.5	7.5
PUR O.I.	06	MAT9851301	(4G1.0+2x(2x0.75)C)	13.0	10
PUR M.I.	07	MAT9090022	(4G1.0+2x(2x0.75)C)	13.5	7.5
IKL0002					
PVC M.I.	05	MAT9751354	(4G1.0+2x(2x0.75)C)	13.5	7.5
PUR O.I.	06	MAT9851385	(4G1.0+2x(2x0.75)C)	13.0	10
PUR M.I.	07	MAT9851384	(4G1.0+2x(2x0.75)C)	13.5	7.5
IKL0006					
PVC M.I.	05	MAT9190067	(4G1.0+2x(2x0.75)C)	13.5	7.5
PUR O.I.	06	MAT9851302	(4G1.0+2x(2x0.75)C)	13.0	10
PUR M.I.	07	MAT9090067	(4G1.0+2x(2x0.75)C)	13.5	7.5
IKL0011					
PVC M.I.	05	MAT9190023	(4G1.0+2x(2x0.75)C)	13.5	7.5
PUR O.I.	06	MAT9851303	(4G1.0+2x(2x0.75)C)	13.0	10
PUR M.I.	07	MAT9090023	(4G1.0+2x(2x0.75)C)	13.5	7.5
IKL0012					
PVC M.I.	05	MAT9751355	(4G1.0+2x(2x0.75)C)	13.5	7.5
PUR O.I.	06	MAT9851387	(4G1.0+2x(2x0.75)C)	13.0	10
PUR M.I.	07	MAT9851386	(4G1.0+2x(2x0.75)C)	13.5	7.5
IKL0021					
PVC O.I.	04	MAT9751301	(4G1.5+2x(2x0.75)C)C	13.5	10
PVC M.I.	05	MAT9190024	(4G1.5+2x(2x0.75)C)C	14.5	7.5
PUR O.I.	06	MAT9851304	(4G1.5+2x(2x0.75)C)C	13.5	10
PUR M.I.	07	MAT9090024	(4G1.5+2x(2x0.75)C)C	14.5	7.5
IKL0022					
PVC O.I.	04	MAT9751357	(4G1.5+2x(2x0.75)C)C	13.5	10
PVC M.I.	05	MAT9751356	(4G1.5+2x(2x0.75)C)C	14.5	7.5
PUR O.I.	06	MAT9851389	(4G1.5+2x(2x0.75)C)C	13.5	10
PUR M.I.	07	MAT9851388	(4G1.5+2x(2x0.75)C)C	14.5	7.5

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igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Bosch Rexroth

PVC/PUR

EPLAN macros available online ▶ Page 582/583

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Bosch Rexroth Power cables					
Basic cable					
IKL0041					
PVC O.I.	04	MAT9751302	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9190017	(4G1.5+2x(2x0.75)C)C	14.5	7.5
PUR O.I.	06	MAT9851305	(4G2.5+2x(2x1.5)C)C	16.0	10
PUR M.I.	07	MAT9090017	(4G2.5+2x(2x1.5)C)C	16.0	7.5
IKL0042					
PVC O.I.	04	MAT9751303	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9190077	(4G1.5+2x(2x0.75)C)C	14.5	7.5
PUR O.I.	06	MAT9851306	(4G2.5+2x(2x1.5)C)C	16.0	10
PUR M.I.	07	MAT9090077	(4G2.5+2x(2x1.5)C)C	16.0	7.5
IKL0061					
PVC O.I.	04	MAT9751304	(4G4.0+2x(2x1.5)C)C	17.0	10
PVC M.I.	05	MAT9190018	(4G4.0+2x(2x1.5)C)C	18.0	7.5
PUR O.I.	06	MAT9851307	(4G4.0+2x(2x1.5)C)C	17.0	10
PUR M.I.	07	MAT9090018	(4G4.0+2x(2x1.5)C)C	17.5	7.5
IKL0081					
PVC O.I.	04	MAT9751305	(4G6.0+2x(2x1.5)C)C	19.0	10
PVC M.I.	05	MAT9190030	(4G6.0+2x(2x1.5)C)C	21.0	7.5
PUR O.I.	06	MAT9851308	(4G6.0+2x(2x1.5)C)C	19.0	10
PUR M.I.	07	MAT9090030	(4G6.0+2x(2x1.5)C)C	19.5	7.5
IKL0101					
PVC O.I.	04	MAT9751306	(4G6.0+2x(2x1.5)C)C	19.0	10
PVC M.I.	05	MAT9190025	(4G6.0+2x(2x1.5)C)C	21.0	7.5
PUR O.I.	06	MAT9851309	(4G6.0+2x(2x1.5)C)C	19.0	10
PUR M.I.	07	MAT9090025	(4G6.0+2x(2x1.5)C)C	19.5	7.5
IKL0121					
PVC M.I.	05	MAT9190019	(4G10+2x(2x1.5)C)C	23.0	7.5
PUR O.I.	06	MAT9851310	(4G10+2x(2x1.5)C)C	22.5	10
PUR M.I.	07	MAT9090019	(4G10+2x(2x1.5)C)C	22.5	7.5
IKL0161					
PVC M.I.	05	MAT9190063	(4G25+2x(2x1.5)C)C	31.0	7.5
PUR O.I.	06	MAT9851311	(4G25+2x(2x1.5)C)C	28.5	10
PUR M.I.	07	MAT9090063	(4G25+2x(2x1.5)C)C	31.0	7.5

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Harnessed drive cables | Bosch Rexroth

PVC/PUR

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* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Bosch Rexroth Power cables					
Basic cable					
RKL0006					
PVC M.I.	05	MAT9751359	(4G1.0+2x(2x0.75)C)	13.5	7.5
PUR O.I.	06	MAT9851393	(4G1.0+2x(2x0.75)C)	13.0	10
PUR M.I.	07	MAT9851392	(4G1.0+2x(2x0.75)C)	13.5	7.5
RKL0013					
PVC M.I.	05	MAT9751360	(4G0.75+(2x0.5)C)C	11.0	7.5
PUR M.I.	07	MAT9851394	(4G0.75+(2x0.5)C)C	11.5	7.5
RKL0014					
PVC M.I.	05	MAT9751361	(4G1.0+2x(2x0.75)C)	13.5	7.5
PUR O.I.	06	MAT9851396	(4G1.0+2x(2x0.75)C)	13.0	10
PUR M.I.	07	MAT9851395	(4G1.0+2x(2x0.75)C)	13.5	7.5
RKL0019					
PVC O.I.	04	MAT9751363	(4G1.5+2x(2x0.75)C)C	13.5	10
PVC M.I.	05	MAT9751362	(4G1.5+2x(2x0.75)C)C	14.5	7.5
PUR O.I.	06	MAT9851398	(4G1.0+2x(2x0.75)C)	13.0	10
PUR M.I.	07	MAT9851397	(4G1.5+2x(2x0.75)C)C	14.5	7.5
RKL0053					
PVC M.I.	05	MAT9751364	(4G1.0+2x(2x0.75)C)	13.5	7.5
PUR O.I.	06	MAT98513100	(4G1.0+2x(2x0.75)C)	13.0	10
PUR M.I.	07	MAT9851399	(4G1.0+2x(2x0.75)C)	13.5	7.5
RKL0054					
PVC O.I.	04	MAT9751366	(4G1.5+2x(2x0.75)C)C	13.5	10
PVC M.I.	05	MAT9751365	(4G1.5+2x(2x0.75)C)C	14.5	7.5
PUR O.I.	06	MAT98513102	(4G1.5+2x(2x0.75)C)C	13.5	10
PUR M.I.	07	MAT98513101	(4G1.5+2x(2x0.75)C)C	14.5	7.5
RKL4300					
PVC O.I.	04	MAT9751326	(4G1.5+2x(2x0.75)C)C	13.5	10
PVC M.I.	05	MAT9190071	(4G1.5+2x(2x0.75)C)C	14.5	7.5
PUR O.I.	06	MAT9851349	(4G1.5+2x(2x0.75)C)C	13.5	10
PUR M.I.	07	MAT9090071	(4G1.5+2x(2x0.75)C)C	14.5	7.5
RKL4301					
PVC O.I.	04	MAT9751327	(4G1.5+2x(2x0.75)C)C	13.5	10
PVC M.I.	05	MAT9190037	(4G1.5+2x(2x0.75)C)C	14.5	7.5
PUR O.I.	06	MAT9851350	(4G1.5+2x(2x0.75)C)C	13.5	10
PUR M.I.	07	MAT9090037	(4G1.5+2x(2x0.75)C)C	14.5	7.5
RKL4302					
PVC M.I.	05	MAT9190026	(4G1.0+2x(2x0.75)C)	13.5	7.5
PUR O.I.	06	MAT9851351	(4G1.0+2x(2x0.75)C)	13.0	10
PUR M.I.	07	MAT9090026	(4G1.0+2x(2x0.75)C)	13.5	7.5

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PVC/PUR

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* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Bosch Rexroth Power cables					
Basic cable					
RKL4303					
PVC M.I.	05	MAT9190029	(4G1.0+2x(2x0.75)C)	13.5	7.5
PUR O.I.	06	MAT9851352	(4G1.0+2x(2x0.75)C)	13.0	10
PUR M.I.	07	MAT9090029	(4G1.0+2x(2x0.75)C)	13.5	7.5
RKL4306					
PVC O.I.	04	MAT9751328	(4G1.5+2x(2x0.75)C)C	13.5	10
PVC M.I.	05	MAT9190040	(4G1.5+2x(2x0.75)C)C	14.5	7.5
PUR O.I.	06	MAT9851353	(4G1.5+2x(2x0.75)C)C	13.5	10
PUR M.I.	07	MAT9090040	(4G1.5+2x(2x0.75)C)C	14.5	7.5
RKL4307					
PVC O.I.	04	MAT9751329	(4G1.5+2x(2x0.75)C)C	13.5	10
PVC M.I.	05	MAT9190041	(4G1.5+2x(2x0.75)C)C	14.5	7.5
PUR O.I.	06	MAT9851354	(4G1.5+2x(2x0.75)C)C	13.5	10
PUR M.I.	07	MAT9090041	(4G1.5+2x(2x0.75)C)C	14.5	7.5
RKL4308					
PVC O.I.	04	MAT9751330	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9190033	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9851355	(4G2.5+2x(2x1.5)C)C	16.0	10
PUR M.I.	07	MAT9090033	(4G2.5+2x(2x1.5)C)C	16.0	7.5
RKL4309					
PVC O.I.	04	MAT9751331	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9190042	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9851356	(4G2.5+2x(2x1.5)C)C	16.0	10
PUR M.I.	07	MAT9090042	(4G2.5+2x(2x1.5)C)C	16.0	7.5
RKL4310					
PVC O.I.	04	MAT9751332	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9190043	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9851357	(4G2.5+2x(2x1.5)C)C	16.0	10
PUR M.I.	07	MAT9090043	(4G2.5+2x(2x1.5)C)C	16.0	7.5
RKL4313					
PVC O.I.	04	MAT9751333	(4G4.0+2x(2x1.5)C)C	17.0	10
PVC M.I.	05	MAT9190062	(4G4.0+2x(2x1.5)C)C	18.0	7.5
PUR O.I.	06	MAT9851358	(4G4.0+2x(2x1.5)C)C	17.0	10
PUR M.I.	07	MAT9090062	(4G4.0+2x(2x1.5)C)C	17.5	7.5
RKL4314					
PVC O.I.	04	MAT9751334	(4G4.0+2x(2x1.5)C)C	17.0	10
PVC M.I.	05	MAT9190060	(4G4.0+2x(2x1.5)C)C	18.0	7.5
PUR O.I.	06	MAT9851359	(4G4.0+2x(2x1.5)C)C	17.0	10
PUR M.I.	07	MAT9090060	(4G4.0+2x(2x1.5)C)C	17.5	7.5

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PVC/PUR

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* Technical information on the cable quality (Code 01-31): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Bosch Rexroth Power cables					
RKL4315					
PVC O.I.	04	MAT9751335	(4G4.0+2x(2x1.5)C)C	17.0	10
PVC M.I.	05	MAT9190059	(4G4.0+2x(2x1.5)C)C	18.0	7.5
PUR O.I.	06	MAT9851360	(4G4.0+2x(2x1.5)C)C	17.0	10
PUR M.I.	07	MAT9090059	(4G4.0+2x(2x1.5)C)C	17.5	7.5
RKL4317					
PVC O.I.	04	MAT9751336	(4G6.0+2x(2x1.5)C)C	19.0	10
PVC M.I.	05	MAT9190061	(4G6.0+2x(2x1.5)C)C	21.0	7.5
PUR O.I.	06	MAT9851361	(4G6.0+2x(2x1.5)C)C	19.0	10
PUR M.I.	07	MAT9090061	(4G6.0+2x(2x1.5)C)C	19.5	7.5
RKL4318					
PVC O.I.	04	MAT9751337	(4G6.0+2x(2x1.5)C)C	19.0	10
PVC M.I.	05	MAT9190047	(4G6.0+2x(2x1.5)C)C	21.0	7.5
PUR O.I.	06	MAT9851362	(4G6.0+2x(2x1.5)C)C	19.0	10
PUR M.I.	07	MAT9090047	(4G6.0+2x(2x1.5)C)C	19.5	7.5
RKL4320					
PVC O.I.	04	MAT9751338	(4G1.5+2x(2x0.75)C)C	13.5	10
PVC M.I.	05	MAT9190039	(4G1.5+2x(2x0.75)C)C	14.5	7.5
PUR O.I.	06	MAT9851363	(4G1.5+2x(2x0.75)C)C	13.5	10
PUR M.I.	07	MAT9090039	(4G1.5+2x(2x0.75)C)C	14.5	7.5
RKL4321					
PVC O.I.	04	MAT9751339	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9190075	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9851364	(4G2.5+2x(2x1.5)C)C	16.0	10
PUR M.I.	07	MAT9090075	(4G2.5+2x(2x1.5)C)C	16.0	7.5
RKL4322					
PVC O.I.	04	MAT9751340	(4G4.0+2x(2x1.5)C)C	17.0	10
PVC M.I.	05	MAT9190078	(4G4.0+2x(2x1.5)C)C	18.0	7.5
PUR O.I.	06	MAT9851365	(4G4.0+2x(2x1.5)C)C	17.0	10
PUR M.I.	07	MAT9090078	(4G4.0+2x(2x1.5)C)C	17.5	7.5
RKL4323					
PVC O.I.	04	MAT9751341	(4G6.0+2x(2x1.5)C)C	19.0	10
PVC M.I.	05	MAT9190073	(4G6.0+2x(2x1.5)C)C	21.0	7.5
PUR O.I.	06	MAT9851366	(4G6.0+2x(2x1.5)C)C	19.0	10
PUR M.I.	07	MAT9090073	(4G6.0+2x(2x1.5)C)C	19.5	7.5
RKL4324					
PVC M.I.	05	MAT9190079	(4G10+2x(2x1.5)C)C	23.0	7.5
PUR O.I.	06	MAT9851367	(4G10+2x(2x1.5)C)C	22.5	10
PUR M.I.	07	MAT9090079	(4G10+2x(2x1.5)C)C	22.5	7.5
RKL4325					
PVC O.I.	04	MAT9751342	(4G1.5+2x(2x0.75)C)C	13.5	10
PVC M.I.	05	MAT9190049	(4G1.5+2x(2x0.75)C)C	14.5	7.5
PUR O.I.	06	MAT9851368	(4G1.5+2x(2x0.75)C)C	13.5	10
PUR M.I.	07	MAT9090049	(4G1.5+2x(2x0.75)C)C	14.5	7.5

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* Cable qualities: **M.I** = with inner jacket, **O.I.** = without inner jacket, **F** = flame-retardant, **H** = halogen-free **OIL** = oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

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PVC/PUR

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* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Bosch Rexroth Power cables					
Basic cable					
RKL4326					
PVC O.I.	04	MAT9751343	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9190045	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9851369	(4G2.5+2x(2x1.5)C)C	16.0	10
PUR M.I.	07	MAT9090045	(4G2.5+2x(2x1.5)C)C	16.0	7.5
RKL4327					
PVC O.I.	04	MAT9751344	(4G4.0+2x(2x1.5)C)C	17.0	10
PVC M.I.	05	MAT9190050	(4G4.0+2x(2x1.5)C)C	18.0	7.5
PUR O.I.	06	MAT9851370	(4G4.0+2x(2x1.5)C)C	17.0	10
PUR M.I.	07	MAT9090050	(4G4.0+2x(2x1.5)C)C	17.5	7.5
RKL4328					
PVC O.I.	04	MAT9751345	(4G6.0+2x(2x1.5)C)C	19.0	10
PVC M.I.	05	MAT9190057	(4G6.0+2x(2x1.5)C)C	21.0	7.5
PUR O.I.	06	MAT9851371	(4G6.0+2x(2x1.5)C)C	19.0	10
PUR M.I.	07	MAT9090057	(4G6.0+2x(2x1.5)C)C	19.5	7.5
RKL4329					
PVC M.I.	05	MAT9190051	(4G10+2x(2x1.5)C)C	23.0	7.5
PUR O.I.	06	MAT9851372	(4G10+2x(2x1.5)C)C	22.5	10
PUR M.I.	07	MAT9090051	(4G10+2x(2x1.5)C)C	22.5	7.5
RKL4330					
PVC M.I.	05	MAT9190080	(4G16+2x(2x1.5)C)C	26.5	7.5
PUR O.I.	06	MAT9851373	(4G16+2x(2x1.5)C)C	26.0	10
PUR M.I.	07	MAT9090080	(4G16+2x(2x1.5)C)C	26.0	7.5
RKL4331					
PVC M.I.	05	MAT9190081	(4G25+2x(2x1.5)C)C	31.0	7.5
PUR O.I.	06	MAT9851374	(4G25+2x(2x1.5)C)C	28.5	10
PUR M.I.	07	MAT9090081	(4G25+2x(2x1.5)C)C	31.0	7.5
RKL4332					
PVC M.I.	05	MAT9751367	(4G35+2x(2x1.5)C)C	34.0	7.5
PUR O.I.	06	MAT98513104	(4G35+2x(2x1.5)C)C	35.0	10
RKL4343					
PVC O.I.	04	MAT9751369	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9751368	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT98513106	(4G2.5+2x(2x1.5)C)C	16.0	10
PUR M.I.	07	MAT98513105	(4G2.5+2x(2x1.5)C)C	16.0	7.5
RKL4344					
PVC M.I.	05	MAT9751370	(4G16+2x(2x1.5)C)C	26.5	7.5
PUR O.I.	06	MAT98513108	(4G16+2x(2x1.5)C)C	26.0	10
PUR M.I.	07	MAT98513107	(4G16+2x(2x1.5)C)C	26.0	7.5

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Harnessed drive cables | Bosch Rexroth

PVC/PUR

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* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Bosch Rexroth Power cables					
Linking cable with adapter plug					
IKG0332					
PVC M.I.	05	MAT9190015	(4G0.75+(2x0.5)C)C	11.0	7.5
PUR M.I.	07	MAT9090015	(4G0.75+(2x0.5)C)C	11.5	7.5
IKG4006					
PVC M.I.	05	MAT9191001	(4G1.0+2x(2x0.75)C)	13.5	7.5
PUR O.I.	06	MAT9851342	(4G1.0+2x(2x0.75)C)	13.0	10
PUR M.I.	07	MAT9091001	(4G1.0+2x(2x0.75)C)	13.5	7.5
IKG4016					
PVC M.I.	05	MAT9191002	(4G1.0+2x(2x0.75)C)	13.5	7.5
PUR O.I.	06	MAT9851343	(4G1.0+2x(2x0.75)C)	13.0	10
PUR M.I.	07	MAT9091002	(4G1.0+2x(2x0.75)C)	13.5	7.5
IKG4061					
PVC O.I.	04	MAT9751322	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9191004	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9851344	(4G2.5+2x(2x1.5)C)C	16.0	10
PUR M.I.	07	MAT9091004	(4G2.5+2x(2x1.5)C)C	16.0	7.5
IKG4074					
PVC O.I.	04	MAT9751323	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9191014	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9851345	(4G2.5+2x(2x1.5)C)C	16.0	10
PUR M.I.	07	MAT9091014	(4G2.5+2x(2x1.5)C)C	16.0	7.5
IKG4081					
PVC O.I.	04	MAT9751324	(4G4.0+2x(2x1.5)C)C	17.0	10
PVC M.I.	05	MAT9191016	(4G4.0+2x(2x1.5)C)C	18.0	7.5
PUR O.I.	06	MAT9851346	(4G4.0+2x(2x1.5)C)C	17.0	10
PUR M.I.	07	MAT9091016	(4G4.0+2x(2x1.5)C)C	17.5	7.5
IKG4141					
PVC O.I.	04	MAT9751325	(4G6.0+2x(2x1.5)C)C	19.0	10
PVC M.I.	05	MAT9191003	(4G6.0+2x(2x1.5)C)C	21.0	7.5
PUR O.I.	06	MAT9851347	(4G6.0+2x(2x1.5)C)C	19.0	10
PUR M.I.	07	MAT9091003	(4G6.0+2x(2x1.5)C)C	19.5	7.5
IKG4161					
PVC M.I.	05	MAT9190036	(4G10+2x(2x1.5)C)C	23.0	7.5
PUR O.I.	06	MAT9851348	(4G10+2x(2x1.5)C)C	22.5	10
PUR M.I.	07	MAT9090036	(4G10+2x(2x1.5)C)C	22.5	7.5
IKL0003					
PVC M.I.	05	MAT9751358	(4G1.0+2x(2x0.75)C)	13.5	7.5
PUR O.I.	06	MAT9851391	(4G1.0+2x(2x0.75)C)	13.0	10
PUR M.I.	07	MAT9851390	(4G1.0+2x(2x0.75)C)	13.5	7.5

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* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Bosch Rexroth Power cables					
Linking cable with adapter plug					
IKL0023					
PVC O.I.	04	MAT9751307	(4G1.5+2x(2x0.75)C)C	13.5	10
PVC M.I.	05	MAT9191013	(4G1.5+2x(2x0.75)C)C	14.5	7.5
PUR O.I.	06	MAT9851312	(4G1.5+2x(2x0.75)C)C	13.5	10
PUR M.I.	07	MAT9091013	(4G1.5+2x(2x0.75)C)C	14.5	7.5
IKL0089					
PVC O.I.	04	MAT9751308	(4G6.0+2x(2x1.5)C)C	19.0	10
PVC M.I.	05	MAT9191005	(4G6.0+2x(2x1.5)C)C	21.0	7.5
PUR O.I.	06	MAT9851313	(4G6.0+2x(2x1.5)C)C	19.0	10
PUR M.I.	07	MAT9091005	(4G6.0+2x(2x1.5)C)C	19.5	7.5
IKL0168					
PVC M.I.	05	MAT9191006	(4G25+2x(2x1.5)C)C	31.0	7.5
PUR O.I.	06	MAT9851314	(4G25+2x(2x1.5)C)C	28.5	10
PUR M.I.	07	MAT9091006	(4G25+2x(2x1.5)C)C	31.0	7.5
RKL0035					
PVC M.I.	05	MAT9751371	(4G0.75+(2x0.5)C)C	11.0	7.5
PUR M.I.	07	MAT98513109	(4G0.75+(2x0.5)C)C	11.5	7.5
RKL4304					
PVC O.I.	04	MAT9751346	(4G1.5+2x(2x0.75)C)C	13.5	10
PVC M.I.	05	MAT9191007	(4G1.5+2x(2x0.75)C)C	14.5	7.5
PUR O.I.	06	MAT9851375	(4G1.5+2x(2x0.75)C)C	13.5	10
PUR M.I.	07	MAT9091007	(4G1.5+2x(2x0.75)C)C	14.5	7.5
RKL4305					
PVC M.I.	05	MAT9191008	(4G1.0+2x(2x0.75)C)	13.5	7.5
PUR O.I.	06	MAT9851376	(4G1.0+2x(2x0.75)C)	13.0	10
PUR M.I.	07	MAT9091008	(4G1.0+2x(2x0.75)C)	13.5	7.5
RKL4311					
PVC O.I.	04	MAT9751347	(4G1.5+2x(2x0.75)C)C	13.5	10
PVC M.I.	05	MAT9191009	(4G1.5+2x(2x0.75)C)C	14.5	7.5
PUR O.I.	06	MAT9851377	(4G1.5+2x(2x0.75)C)C	13.5	10
PUR M.I.	07	MAT9091009	(4G1.5+2x(2x0.75)C)C	14.5	7.5
Extension cable					
RKL4312					
PVC O.I.	04	MAT9751348	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9191010	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9851378	(4G2.5+2x(2x1.5)C)C	16.0	10
PUR M.I.	07	MAT9091010	(4G2.5+2x(2x1.5)C)C	16.0	7.5

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PVC/PUR

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* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Bosch Rexroth Power cables					
RKL4316					
PVC O.I.	04	MAT9751349	(4G4.0+2x(2x1.5)C)C	17.0	10
PVC M.I.	05	MAT9191011	(4G4.0+2x(2x1.5)C)C	18.0	7.5
PUR O.I.	06	MAT9851379	(4G4.0+2x(2x1.5)C)C	17.0	10
PUR M.I.	07	MAT9091011	(4G4.0+2x(2x1.5)C)C	17.5	7.5
RKL4319					
PVC O.I.	04	MAT9751350	(4G6.0+2x(2x1.5)C)C	19.0	10
PVC M.I.	05	MAT9191012	(4G6.0+2x(2x1.5)C)C	21.0	7.5
PUR O.I.	06	MAT9851380	(4G6.0+2x(2x1.5)C)C	19.0	10
PUR M.I.	07	MAT9091012	(4G6.0+2x(2x1.5)C)C	19.5	7.5
RKL4335					
PVC O.I.	04	MAT9751373	(4G1.5+2x(2x0.75)C)C	13.5	10
PVC M.I.	05	MAT9751372	(4G1.5+2x(2x0.75)C)C	14.5	7.5
PUR O.I.	06	MAT98513111	(4G1.5+2x(2x0.75)C)C	13.5	10
PUR M.I.	07	MAT98513110	(4G1.5+2x(2x0.75)C)C	14.5	7.5
RKL4336					
PVC O.I.	04	MAT9751351	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9191018	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9851381	(4G2.5+2x(2x1.5)C)C	16.0	10
PUR M.I.	07	MAT9091018	(4G2.5+2x(2x1.5)C)C	16.0	7.5
RKL4337					
PVC O.I.	04	MAT9751375	(4G4.0+2x(2x1.5)C)C	17.0	10
PVC M.I.	05	MAT9751374	(4G4.0+2x(2x1.5)C)C	18.0	7.5
PUR O.I.	06	MAT98513113	(4G4.0+2x(2x1.5)C)C	17.0	10
PUR M.I.	07	MAT98513112	(4G4.0+2x(2x1.5)C)C	17.5	7.5
RKL4338					
PVC O.I.	04	MAT9751352	(4G6.0+2x(2x1.5)C)C	19.0	10
PVC M.I.	05	MAT9191017	(4G6.0+2x(2x1.5)C)C	21.0	7.5
PUR O.I.	06	MAT9851382	(4G6.0+2x(2x1.5)C)C	19.0	10
PUR M.I.	07	MAT9091017	(4G6.0+2x(2x1.5)C)C	19.5	7.5
RKL4339					
PVC M.I.	05	MAT9751376	(4G10+2x(2x1.5)C)C	23.0	7.5
PUR O.I.	06	MAT98513115	(4G10+2x(2x1.5)C)C	22.5	10
PUR M.I.	07	MAT98513114	(4G10+2x(2x1.5)C)C	22.5	7.5
RKL4340					
PVC M.I.	05	MAT9191015	(4G16+2x(2x1.5)C)C	26.5	7.5
PUR O.I.	06	MAT9851383	(4G16+2x(2x1.5)C)C	26.0	10
PUR M.I.	07	MAT9091015	(4G16+2x(2x1.5)C)C	26.0	7.5
RKL4341					
PVC M.I.	05	MAT9751377	(4G25+2x(2x1.5)C)C	31.0	7.5
PUR O.I.	06	MAT98513117	(4G25+2x(2x1.5)C)C	28.5	10
PUR M.I.	07	MAT98513116	(4G25+2x(2x1.5)C)C	31.0	7.5

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Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Bosch Rexroth Servo cables					
Basic cable					
RL2-002CBB-NN-xxx,x					
PVC M.I.	05	MAT97513150	(4G1.0+2x(2x0.75)C)	13.5	7.5
PUR O.I.	06	MAT98513156	(4G1.0+2x(2x0.75)C)	13.0	10
PUR M.I.	07	MAT98513150	(4G1.0+2x(2x0.75)C)	13.5	7.5
RL2-022CBB-NN-xxx,x					
PVC M.I.	05	MAT97513152	(4G1.0+2x(2x0.75)C)	13.5	7.5
PUR O.I.	06	MAT98513158	(4G1.0+2x(2x0.75)C)	13.0	10
PUR M.I.	07	MAT98513152	(4G1.0+2x(2x0.75)C)	13.5	7.5
RL2-045EBB-NN-xxx,x					
PVC M.I.	05	MAT97513154	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT98513160	(4G2.5+2x(2x1.5)C)C	16.0	10
PUR M.I.	07	MAT98513154	(4G2.5+2x(2x1.5)C)C	16.0	7.5
Extension cable					
RL2-500CBB-NN-xxx,x					
PVC M.I.	05	MAT97513151	(4G1.0+2x(2x0.75)C)	13.5	7.5
PUR O.I.	06	MAT98513157	(4G1.0+2x(2x0.75)C)	13.0	10
PUR M.I.	07	MAT98513151	(4G1.0+2x(2x0.75)C)	13.5	7.5
RL2-521CBB-NN-xxx,x					
PVC M.I.	05	MAT97513153	(4G1.0+2x(2x0.75)C)	13.5	7.5
PUR O.I.	06	MAT98513159	(4G1.0+2x(2x0.75)C)	13.0	10
PUR M.I.	07	MAT98513153	(4G1.0+2x(2x0.75)C)	13.5	7.5
RL2-542EBB-NN-xxx,x					
PVC M.I.	05	MAT97513155	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT98513161	(4G2.5+2x(2x1.5)C)C	16.0	10
PUR M.I.	07	MAT98513155	(4G2.5+2x(2x1.5)C)C	16.0	7.5
Bosch Rexroth Hybrid servo cables					
Basic cable					
RH2-021DBB-NN					
PUR O.I.	27	MAT98513122	(4G1.5+(2x0.75)C +(2x2x0.14+2x0.25)C)C	15.0	10
RH2-022DBB-NN					
PUR O.I.	27	MAT98513123	(4G1.5+(2x0.75)C +(2x2x0.14+2x0.25)C)C	15.0	10
RH2-023DBB-NN					
PUR O.I.	27	MAT98513124	(4G1.5+(2x0.75)C +(2x2x0.14+2x0.25)C)C	15.0	10

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* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Bosch Rexroth

PVC/PUR/TPE

EPLAN macros available online ▶ Page 582/583

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Bosch Rexroth Hybrid servo cables					
Basic cable					
RKH0101					
PUR O.I.	27	MAT98513120	(5x2.5+(5x0.35)+(4xAWG22)C)C	17.0	10
Basic cable					
RKH0900					
PUR O.I.	27	MAT98513121	(5x2.5+(5x0.35)+(4xAWG22)C)C	17.0	10
Bosch Rexroth Encoder cables					
Basic cable					
IKS0230					
PVC	08	MAT9110008	(2x(2x0.25)+2x0.5)C	6.5	10
PUR M.I.	10	MAT9841307	(2x(2x0.25)+2x0.5)C	6.5	7.5
TPE H*	11	MAT9100008	(2x(2x0.25)+2x0.5)C	6.5	6.8
IKS0251					
TPE H*	24	MAT9100014	(12x0.5)C	12.0	5
IKS0253					
TPE H*	24	MAT9100023	(12x0.5)C	12.0	5
IKS0259					
TPE H*	24	MAT9100032	(12x0.5)C	12.0	5
IKS0262					
TPE H*	24	MAT9100016	(12x0.5)C	12.0	5
IKS0301					
PVC	08	MAT9110015	(4x(2x0.25)+2x1.0)C	8.5	10
PUR M.I.	10	MAT9841308	(4x(2x0.25)+2x1.0)C	9.0	7.5
TPE H*	11	MAT9100015	(4x(2x0.25)+2x1.0)C	9.0	6.8
IKS0315					
PVC	08	MAT9110020	(4x(2x0.25)+2x1.0)C	8.5	10
PUR M.I.	10	MAT9841309	(4x(2x0.25)+2x1.0)C	9.0	7.5
TPE H*	11	MAT9100020	(4x(2x0.25)+2x1.0)C	9.0	6.8
IKS0374					
PVC	08	MAT9110011	(4x(2x0.25)+2x1.0)C	8.5	10
PUR M.I.	10	MAT9841310	(4x(2x0.25)+2x1.0)C	9.0	7.5
TPE H*	11	MAT9100011	(4x(2x0.25)+2x1.0)C	9.0	6.8

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Harnessed drive cables | Bosch Rexroth

PVC/PUR/TPE

EPLAN macros available online ▶ Page 582/583

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Bosch Rexroth Encoder cables					
Basic cable					
IKS4001					
PVC	08	MAT9110026	(4x(2x0.14)+(4x0.14)C+4x1.0)C	10.0	10
PUR M.I.	10	MAT9841311	(4x(2x0.14)+(4x0.14)C+4x1.0)C	10.0	7.5
TPE H*	11	MAT9100026	(4x(2x0.14)+(4x0.14)C+4x1.0)C	10.0	6.8
IKS4002					
PVC	08	MAT9110010	(3x(2x0.25)C+(3x0.25)+2x1.0)C	10.0	10
PUR M.I.	10	MAT9841312	(3x(2x0.25)C+(3x0.25)+2x1.0)C	10.0	7.5
TPE H*	11	MAT9100010	(3x(2x0.25)C+(3x0.25)+2x1.0)C	10.0	6.8
IKS4020					
PVC	08	MAT9110006	(4x(2x0.14)+(4x0.14)C+4x1.0)C	10.0	10
PUR M.I.	10	MAT9841313	(4x(2x0.14)+(4x0.14)C+4x1.0)C	10.0	7.5
TPE H*	11	MAT9100006	(4x(2x0.14)+(4x0.14)C+4x1.0)C	10.0	6.8
IKS4038					
PVC	08	MAT9110027	(4x(2x0.14)+(4x0.14)C+4x1.0)C	10.0	10
PUR M.I.	10	MAT9841314	(4x(2x0.14)+(4x0.14)C+4x1.0)C	10.0	7.5
TPE H*	11	MAT9100027	(4x(2x0.14)+(4x0.14)C+4x1.0)C	10.0	6.8
IKS4041					
PVC	08	MAT9110028	(3x(2x0.25)C+(3x0.25)+2x1.0)C	10.0	10
PUR M.I.	10	MAT9841315	(3x(2x0.25)C+(3x0.25)+2x1.0)C	10.0	7.5
TPE H*	11	MAT9100028	(3x(2x0.25)C+(3x0.25)+2x1.0)C	10.0	6.8
IKS4042					
PVC	08	MAT9110017	(4x(2x0.25)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9841316	(4x(2x0.25)+2x0.5)C	8.5	7.5
TPE H*	11	MAT9100017	(4x(2x0.25)+2x0.5)C	8.5	6.8
Basic cable					
IKS4066					
PVC	08	MAT9110025	(4x(2x0.25)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9841317	(4x(2x0.25)+2x0.5)C	8.5	7.5
TPE H*	11	MAT9100025	(4x(2x0.25)+2x0.5)C	8.5	6.8
Basic cable					
IKS4103					
PVC	08	MAT9110001	(4x(2x0.25)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9841318	(4x(2x0.25)+2x0.5)C	8.5	7.5
TPE H*	11	MAT9100001	(4x(2x0.25)+2x0.5)C	8.5	6.8

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Harnessed drive cables | Bosch Rexroth

PVC/PUR/TPE

EPLAN macros available online ▶ Page 582/583

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Bosch Rexroth Encoder cables					
Basic cable					
IKS4142					
PVC	08	MAT9110007	(4x(2x0.14)+(4x0.14)C+4x1.0)C	10.0	10
PUR M.I.	10	MAT9841319	(4x(2x0.14)+(4x0.14)C+4x1.0)C	10.0	7.5
TPE H*	11	MAT9100007	(4x(2x0.14)+(4x0.14)C+4x1.0)C	10.0	6.8
IKS4314					
PVC	08	MAT9110004	(4x(2x0.25)+2x1.0)C	8.5	10
PUR M.I.	10	MAT9841320	(4x(2x0.25)+2x1.0)C	9.0	7.5
TPE H*	11	MAT9100004	(4x(2x0.25)+2x1.0)C	9.0	6.8
IKS4374					
PVC	08	MAT9110002	(4x(2x0.25)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9841321	(4x(2x0.25)+2x0.5)C	8.5	7.5
TPE H*	11	MAT9100002	(4x(2x0.25)+2x0.5)C	8.5	6.8
IKS4375					
PVC	08	MAT9110003	(4x(2x0.25)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9841322	(4x(2x0.25)+2x0.5)C	8.5	7.5
TPE H*	11	MAT9100003	(4x(2x0.25)+2x0.5)C	8.5	6.8
IKS4384					
PVC	08	MAT9110005	(3x(2x0.25)C+(3x0.25)+2x1.0)C	10.0	10
PUR M.I.	10	MAT9841323	(3x(2x0.25)C+(3x0.25)+2x1.0)C	10.0	7.5
TPE H*	11	MAT9100005	(3x(2x0.25)C+(3x0.25)+2x1.0)C	10.0	6.8
IKS4389					
PVC	08	MAT9110033	(3x(2x0.25)C+(3x0.25)+2x1.0)C	10.0	10
PUR M.I.	10	MAT9841324	(3x(2x0.25)C+(3x0.25)+2x1.0)C	10.0	7.5
TPE H*	11	MAT9100033	(3x(2x0.25)C+(3x0.25)+2x1.0)C	10.0	6.8
Basic cable					
RG2-002AAB-NN-xxx,x					
PVC	08	MAT9741301	(2x(2x0.25)+2x0.5)C	6.5	10
TPE H*	11	MAT9941301	(2x(2x0.25)+2x0.5)C	6.5	6.8
RKG0014					
PVC	08	MAT9110030	(3x(2x0.25)C+(3x0.25)+2x1.0)C	10.0	10
PUR M.I.	10	MAT9841301	(3x(2x0.25)C+(3x0.25)+2x1.0)C	10.0	7.5
TPE H*	11	MAT9100030	(3x(2x0.25)C+(3x0.25)+2x1.0)C	10.0	6.8
RKG0020					
PVC	08	MAT9110034	(4x(2x0.25)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9841302	(4x(2x0.25)+2x0.5)C	8.5	7.5
TPE H*	11	MAT9100034	(4x(2x0.25)+2x0.5)C	8.5	6.8

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Harnessed drive cables | Bosch Rexroth

PVC/PUR/TPE

EPLAN macros available online ▶ Page 582/583

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Bosch Rexroth Encoder cables					
Basic cable					
RKG0026					
PVC	08	MAT9110029	(3x(2x0.25)C+(3x0.25)+2x1.0)C	10.0	10
PUR M.I.	10	MAT9841303	(3x(2x0.25)C+(3x0.25)+2x1.0)C	10.0	7.5
TPE H*	11	MAT9100029	(3x(2x0.25)C+(3x0.25)+2x1.0)C	10.0	6.8
RKG0028					
PVC	08	MAT9110031	(3x(2x0.25)C+(3x0.25)+2x1.0)C	10.0	10
PUR M.I.	10	MAT9841304	(3x(2x0.25)C+(3x0.25)+2x1.0)C	10.0	7.5
TPE H*	11	MAT9100031	(3x(2x0.25)C+(3x0.25)+2x1.0)C	10.0	6.8
RKG4200					
PVC	08	MAT9110013	(4x(2x0.25)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9841305	(4x(2x0.25)+2x0.5)C	8.5	7.5
TPE H*	11	MAT9100013	(4x(2x0.25)+2x0.5)C	8.5	6.8
Linking cable with adapter plug					
IKS0232					
PVC	08	MAT9110009	(2x(2x0.25)+2x0.5)C	6.5	10
PUR M.I.	10	MAT9841325	(2x(2x0.25)+2x0.5)C	6.5	7.5
TPE H*	11	MAT9100009	(2x(2x0.25)+2x0.5)C	6.5	6.8
IKS0255					
TPE H*	24	MAT9100018	(12x0.5)C	12.0	5
IKS0303					
PVC	08	MAT9110019	(4x(2x0.25)+2x1.0)C	8.5	10
PUR M.I.	10	MAT9841326	(4x(2x0.25)+2x1.0)C	9.0	7.5
TPE H*	11	MAT9100019	(4x(2x0.25)+2x1.0)C	9.0	6.8
IKS4065					
PVC	08	MAT9111001	(4x(2x0.25)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9841327	(4x(2x0.25)+2x0.5)C	8.5	7.5
TPE H*	11	MAT9101001	(4x(2x0.25)+2x0.5)C	8.5	6.8
IKS4151					
PVC	08	MAT9111002	(4x(2x0.25)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9841328	(4x(2x0.25)+2x0.5)C	8.5	7.5
TPE H*	11	MAT9101002	(4x(2x0.25)+2x0.5)C	8.5	6.8
IKS4153					
PVC	08	MAT9111003	(4x(2x0.25)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9841329	(4x(2x0.25)+2x0.5)C	8.5	7.5
TPE H*	11	MAT9101003	(4x(2x0.25)+2x0.5)C	8.5	6.8

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Harnessed drive cables | Bosch Rexroth

PVC/PUR/TPE

EPLAN macros available online ▶ Page 582/583

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Bosch Rexroth Encoder cables					
IKS4322					
PVC	08	MAT9111005	(4x(2x0.25)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9841331	(4x(2x0.25)+2x0.5)C	8.5	7.5
TPE H*	11	MAT9101005	(4x(2x0.25)+2x0.5)C	8.5	6.8
IKS4376					
PVC	08	MAT9111004	(4x(2x0.25)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9841330	(4x(2x0.25)+2x0.5)C	8.5	7.5
TPE H*	11	MAT9101004	(4x(2x0.25)+2x0.5)C	8.5	6.8
Extension cable with adapter plug					
RG2-510AAB-NN-xxx,x					
PVC	08	MAT9741302	(2x(2x0.25)+2x0.5)C	6.5	10
TPE H*	11	MAT9941302	(2x(2x0.25)+2x0.5)C	6.5	6.8
RKG4201					
PVC	08	MAT9111006	(4x(2x0.25)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9841306	(4x(2x0.25)+2x0.5)C	8.5	7.5
TPE H*	11	MAT9101006	(4x(2x0.25)+2x0.5)C	8.5	6.8

ePLAN data portal

EPLAN macros suitable for Bosch Rexroth available online

Can be used directly in CAE planning.

Learn more about it on page 582/583 and online: www.igus-asean.com/eplan-macro

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Harnessed drive cables | Elau/Schneider Electric
PVC/PUR

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Elau/Schneider Electric Servo cables					
Basic cable					
E-MO-067					
PVC O.I.	04	MAT9750701	(4G1.5+2x(2x0.75)C)C	13.5	10
PVC M.I.	05	MAT9470001	(4G1.5+2x(2x0.75)C)C	14.5	7.5
PUR O.I.	06	MAT9850701	(4G1.5+2x(2x0.75)C)C	13.5	10
PUR M.I.	07	MAT9470101	(4G1.5+2x(2x0.75)C)C	14.5	7.5
E-MO-092					
PVC O.I.	04	MAT9750704	(4G1.5+2x(2x0.75)C)C	13.5	10
PVC M.I.	05	MAT9470004	(4G1.5+2x(2x0.75)C)C	14.5	7.5
PUR O.I.	06	MAT9850704	(4G1.5+2x(2x0.75)C)C	13.5	10
PUR M.I.	07	MAT9470104	(4G1.5+2x(2x0.75)C)C	14.5	7.5
Basic cable					
E-MO-087					
PVC O.I.	04	MAT9750703	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9470003	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9850703	(4G1.5+2x(2x0.75)C)C	13.5	10
PUR M.I.	07	MAT9470103	(4G2.5+2x(2x1.5)C)C	16.0	7.5
Basic cable					
E-MO-111 SH-Motor 1.5					
PVC O.I.	04	MAT9750702	(4G1.5+2x(2x0.75)C)C	13.5	10
PVC M.I.	05	MAT9470002	(4G1.5+2x(2x0.75)C)C	14.5	7.5
PUR O.I.	06	MAT9850702	(4G1.5+2x(2x0.75)C)C	13.5	10
PUR M.I.	07	MAT9470102	(4G1.5+2x(2x0.75)C)C	14.5	7.5
Basic cable					
E-MO-113 SH-Motor 2.5					
PVC O.I.	04	MAT9750705	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9470005	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9850705	(4G1.5+2x(2x0.75)C)C	13.5	10
PUR M.I.	07	MAT9470105	(4G2.5+2x(2x1.5)C)C	16.0	7.5

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* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Elau/Schneider Electric
PVC/PUR/TPE

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Elau/Schneider Electric Hybrid servo cables					
Basic cable					
E-MO-109, VW3E1109Rxxx					
PUR O.I.	06	MAT9850706	(4G25+2x(2x1.5)C)C	28.5	10
E-MO-117, VW3E1117Rxxx					
PUR O.I.	27	MAT9850707	5G2.5+(4xAWG24)C+(2x0.25)C	14.5	10
E-MO-118, VW3E1118Rxxx					
PUR O.I.	27	MAT9850708	5G2.5+(4xAWG24)C+(2x0.25)C	14.5	10
E-MO-119, VW3E1119Rxxx					
PUR O.I.	27	MAT9850709	5G2.5+(4xAWG24)C+(2x0.25)C	14.5	10
E-MO-120, VW3E1120Rxxx					
PUR O.I.	27	MAT9850710	5G2.5+(4xAWG24)C+(2x0.25)C	14.5	10
E-MO-121, VW3E1121Rxxx					
PUR O.I.	27	MAT9850711	5G2.5+(4xAWG24)C+(2x0.25)C	14.5	10
E-MO-124, VW3E1124Rxxx					
PUR O.I.	27	MAT9850712	5G2.5+(4xAWG24)C+(2x0.25)C	14.5	10
E-MO-125, VW3E1125Rxxx					
PUR O.I.	27	MAT9850713	5G2.5+(4xAWG24)C+(2x0.25)C	14.5	10
E-MO-126, VW3E1126Rxxx					
PUR O.I.	27	MAT9850714	5G2.5+(4xAWG24)C+(2x0.25)C	14.5	10
E-MO-127, VW3E1127Rxxx					
PUR O.I.	27	MAT9850715	5G2.5+(4xAWG24)C+(2x0.25)C	14.5	10
Elau/Schneider Electric Encoder cables					
Basic cable					
E-FB-060					
PVC	08	MAT9480001	(4x(2x0.25)+2x0.5)C	8.0	10
TPE H*	11	MAT9480101	(4x(2x0.25)+2x0.5)C	8.5	6.8
E-FB-071					
PVC	08	MAT9480002	(4x(2x0.25)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9940702	(4x(2x0.25)+2x0.5)C	8.5	7.5
TPE H*	11	MAT9480102	(4x(2x0.25)+2x0.5)C	8.5	6.8
Basic cable					
E-FB-080					
PVC	08	MAT9480003	(4x(2x0.25)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9940703	(4x(2x0.25)+2x0.5)C	8.5	7.5
TPE H*	11	MAT9480103	(4x(2x0.25)+2x0.5)C	8.5	6.8

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits. Example image.
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* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Fagor
PUR/TPE

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Fagor Path measuring cables					
Extension cable					
iEEC-x					
PUR O.I.	09	MAT9950808	(4x(2x0.14)+4x0.5)C	8.5	10
PUR M.I.	10	MAT9850808	(4x(2x0.14)+4x0.5)C	9.0	7.5
TPE H*	11	MAT9520070	(4x(2x0.14)+4x0.5)C	9.0	6.8
Extension cable					
iXC-C2-D					
PUR O.I.	09	MAT9950801	(4x(2x0.14)+4x0.5)C	8.5	10
PUR M.I.	10	MAT9850801	(4x(2x0.14)+4x0.5)C	9.0	7.5
TPE H*	11	MAT9520001	(4x(2x0.14)+4x0.5)C	9.0	6.8
Extension cable					
iXC-C2-FN2					
PUR O.I.	09	MAT9950807	(4x(2x0.14)+4x0.5)C	8.5	10
PUR M.I.	10	MAT9850807	(4x(2x0.14)+4x0.5)C	9.0	7.5
TPE H*	11	MAT9520060	(4x(2x0.14)+4x0.5)C	9.0	6.8
Extension cable					
iXC-C2-H					
PUR O.I.	09	MAT9950803	(4x(2x0.14)+4x0.5)C	8.5	10
PUR M.I.	10	MAT9850803	(4x(2x0.14)+4x0.5)C	9.0	7.5
TPE H*	11	MAT9520020	(4x(2x0.14)+4x0.5)C	9.0	6.8
Extension cable					
iXC-C4-D					
PUR O.I.	09	MAT9950802	(4x(2x0.14)+4x0.5)C	8.5	10
PUR M.I.	10	MAT9850802	(4x(2x0.14)+4x0.5)C	9.0	7.5
TPE H*	11	MAT9520010	(4x(2x0.14)+4x0.5)C	9.0	6.8
Extension cable					
iXC-C8-F-C9					
PUR O.I.	09	MAT9950805	(2x(2x(2x0.14))+(4x0.14)C+(4x0.5))C	10.5	10
PUR M.I.	10	MAT9850805	(2x(2x(2x0.14))+(4x0.14)C+(4x0.5))C	11.0	7.5
TPE H*	11	MAT9520040	(2x(2x(2x0.14))+(4x0.14)C+(4x0.5))C	11.0	6.8

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits. Example image.
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* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Fagor
PUR/TPE

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Fagor Path measuring cables					
Extension cable					
iXC-C8-F-D					
PUR O.I.	**09**	MAT9950804	(2x(2x(2x0.14))+(4x0.14)C+(4x0.5))C	10.5	10
PUR M.I.	**10**	MAT9850804	(2x(2x(2x0.14))+(4x0.14)C+(4x0.5))C	11.0	7.5
TPE H*	**11**	MAT9520030	(2x(2x(2x0.14))+(4x0.14)C+(4x0.5))C	11.0	6.8
Extension cable					
iXC-C8-FN					
PUR O.I.	**09**	MAT9950806	(4x(2x0.14)+4x0.5)C	8.5	10
PUR M.I.	**10**	MAT9850806	(4x(2x0.14)+4x0.5)C	9.0	7.5
TPE H*	**11**	MAT9520050	(4x(2x0.14)+4x0.5)C	9.0	6.8

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* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Fanuc
PVC/PUR/TPE

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Fanuc Power cables					
Basic cable					
LX660-8077-T261					
PVC M.I.	01	MAT9760901	(4G1.5)C	10.0	7.5
PUR O.I.	06	MAT9200061	(4G1.5)C	9.0	10
PUR M.I.	07	MAT9210061	(4G1.5)C	11.0	7.5
TPE F	02	MAT9960901	(4G1.5)C	10.0	7.5
Basic cable					
LX660-8077-T264					
PVC M.I.	01	MAT9760902	(4G2.5)C	11.5	7.5
PUR O.I.	06	MAT9200064	(4G2.5)C	10.5	10
PUR M.I.	07	MAT9210064	(4G2.5)C	12.5	7.5
TPE F	02	MAT9960902	(4G2.5)C	11.5	7.5
LX660-8077-T266					
PVC M.I.	01	MAT9760904	(4G2.5)C	11.5	7.5
PUR O.I.	06	MAT9200066	(4G2.5)C	10.5	10
PUR M.I.	07	MAT9210066	(4G2.5)C	12.5	7.5
TPE F	02	MAT9960904	(4G2.5)C	11.5	7.5
Basic cable					
LX660-8077-T265					
PVC M.I.	01	MAT9760903	(4G2.5)C	11.5	7.5
PUR O.I.	06	MAT9200065	(4G2.5)C	10.5	10
PUR M.I.	07	MAT9210065	(4G2.5)C	12.5	7.5
TPE F	02	MAT9960903	(4G2.5)C	11.5	7.5
LX660-8077-T267					
PVC M.I.	01	MAT9760905	(4G2.5)C	11.5	7.5
PUR O.I.	06	MAT9200067	(4G2.5)C	10.5	10
PUR M.I.	07	MAT9210067	(4G2.5)C	12.5	7.5
TPE F	02	MAT9960905	(4G2.5)C	11.5	7.5
Basic cable					
LX660-8077-T270					
PVC M.I.	01	MAT9760906	(4G4.0)C	13.0	7.5
PUR O.I.	06	MAT9200070	(4G4.0)C	12.5	10
PUR M.I.	07	MAT9210070	(4G4.0+(2x1.5)C)C	16.0	7.5
TPE F	02	MAT9960906	(4G4.0)C	13.0	7.5

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igus® gladly pre-harnesses the cable according to your technical guidelines. **G =** with green-yellow earth core, **x =** without earth core
* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Fanuc
PVC/PUR/TPE

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Fanuc Power cables					
Basic cable					
LX660-8077-T271					
PVC M.I.	01	MAT9760907	(4G4.0)C	13.0	7.5
PUR O.I.	06	MAT9200071	(4G4.0)C	12.5	10
PUR M.I.	07	MAT9210071	(4G4.0+(2x1.5)C)C	16.0	7.5
TPE F	02	MAT9960907	(4G4.0)C	13.0	7.5
LX660-8077-T272					
PVC M.I.	01	MAT9760908	(4G10)C	18.5	7.5
PUR O.I.	06	MAT9200072	(4G10)C	17.0	10
PUR M.I.	07	MAT9210072	(4G10+(2x1.5)C)C	21.0	7.5
TPE F	02	MAT9960908	(4G10)C	18.5	7.5
LX660-8077-T273					
PVC M.I.	01	MAT9760909	(4G10)C	18.5	7.5
PUR O.I.	06	MAT9200073	(4G10)C	17.0	10
PUR M.I.	07	MAT9210073	(4G10+(2x1.5)C)C	21.0	7.5
TPE F	02	MAT9960909	(4G10)C	18.5	7.5
Basic cable					
LX660-8077-T291					
PVC M.I.	01	MAT9760910	(4G2.5)C	11.5	7.5
PUR O.I.	06	MAT9200091	(4G2.5)C	10.5	10
PUR M.I.	07	MAT9210091	(4G2.5)C	12.5	7.5
TPE F	02	MAT9960910	(4G2.5)C	11.5	7.5
LX660-8077-T293					
PVC M.I.	01	MAT9760912	(4G4.0)C	13.0	7.5
PUR O.I.	06	MAT9200093	(4G4.0)C	12.5	10
PUR M.I.	07	MAT9210093	(4G4.0+(2x1.5)C)C	16.0	7.5
TPE F	02	MAT9960912	(4G4.0)C	13.0	7.5
Basic cable					
LX660-8077-T292					
PVC M.I.	01	MAT9760911	(4G4.0)C	13.0	7.5
PUR O.I.	06	MAT9200092	(4G4.0)C	12.5	10
PUR M.I.	07	MAT9210092	(4G4.0+(2x1.5)C)C	16.0	7.5
TPE F	02	MAT9960911	(4G4.0)C	13.0	7.5

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igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Fanuc
PVC/PUR/TPE

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Fanuc Power cables					
Basic cable					
LX660-8077-T296					
PVC M.I.	01	MAT9760913	(4G2.5)C	11.5	7.5
PUR O.I.	06	MAT9200096	(4G2.5)C	10.5	10
PUR M.I.	07	MAT9210096	(4G2.5)C	12.5	7.5
TPE F	02	MAT9960913	(4G2.5)C	11.5	7.5
Basic cable					
LX660-8077-T298					
PVC M.I.	01	MAT9760914	(4G4.0)C	13.0	7.5
PUR O.I.	06	MAT9200098	(4G4.0)C	12.5	10
PUR M.I.	07	MAT9210098	(4G4.0+(2x1.5)C)C	16.0	7.5
TPE F	02	MAT9960914	(4G4.0)C	13.0	7.5
Basic cable					
LX660-8077-T300					
PVC M.I.	01	MAT9760915	(4G2.5)C	11.5	7.5
PUR O.I.	06	MAT9200300	(4G2.5)C	10.5	10
PUR M.I.	07	MAT9210300	(4G2.5)C	12.5	7.5
TPE F	02	MAT9960915	(4G2.5)C	11.5	7.5
Fanuc Servo cables					
Basic cable					
LX660-8077-T259					
PUR O.I.	06	MAT9850916	(4G1.5)C	9.0	10
Basic cable					
LX660-8077-T274					
PUR O.I.	06	MAT9850921	(4G2.5)C	10.5	10
LX660-8077-T416					
PUR O.I.	06	MAT9850923	(4G1.5+(2x1.5)C)	12.5	10
LX660-8077-T451					
PUR O.I.	06	MAT9850920	(4G2.5)C	10.5	10

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* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Fanuc
PVC/PUR/TPE

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Fanuc Servo cables					
Basic cable					
LX660-8077-T470					
PUR O.I.	06	MAT9850925	(4G4.0)C	12.5	10
Basic cable					
LX660-8077-T471					
PUR O.I.	06	MAT9850917	(4G4.0)C	12.5	10
Fanuc Brake cables					
Basic cable					
LX660-8077-T311					
PUR M.I.	22	MAT9810919	(3G0.75)C	8.0	6.8
Fanuc Signal cables					
Basic cable					
LX660-2018-T015					
PVC	14	MAT9840924	(10x(2x0.25))C	12.0	7.5
Basic cable					
LX660-4077-T296					
PUR O.I.	09	MAT9300296	((2x0.25)+5x0.5)C	7.0	10
PUR M.I.	10	MAT9840901	((2x0.25)+5x0.5)C	8.0	7.5
TPE H*	11	MAT9310296	((2x0.25)+5x0.5)C	7.5	6.8
Basic cable					
LX660-4077-T297					
PUR O.I.	09	MAT9300297	((2x0.25)+5x0.5)C	7.0	10
PUR M.I.	10	MAT9840902	((2x0.25)+5x0.5)C	8.0	7.5
TPE H*	11	MAT9310297	((2x0.25)+5x0.5)C	7.5	6.8
Basic cable					
LX660-4077-T302					
PUR O.I.	09	MAT9300302	((4x0.25)+3x(2x0.25+2x0.5))C	9.5	10

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* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Fanuc
PUR/TPE

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Fanuc Signal cables					
Basic cable					
PUR M.I.	10	MAT9840903	((4x0.25)+3x(2x0.25+2x0.5))C	11.0	7.5
TPE H*	11	MAT9310302	((4x0.25)+3x(2x0.25+2x0.5))C	10.0	6.8
Basic cable					
LX660-4077-T303					
PUR O.I.	09	MAT9300303	((4x0.25)+3x(2x0.25+2x0.5))C	9.5	10
PUR M.I.	10	MAT9840904	((4x0.25)+3x(2x0.25+2x0.5))C	11.0	7.5
TPE H*	11	MAT9310303	((4x0.25)+3x(2x0.25+2x0.5))C	10.0	6.8
LX660-4077-T310					
TPE H*	11	MAT9940922	((4x0.25)+3x(2x0.25+2x0.5))C	10.0	6.8
Basic cable					
LX660-4077-T319					
PUR O.I.	09	MAT9300319	((4x0.25)+3x(2x0.25+2x0.5))C	9.5	10
PUR M.I.	10	MAT9840905	((4x0.25)+3x(2x0.25+2x0.5))C	11.0	7.5
TPE H*	11	MAT9310319	((4x0.25)+3x(2x0.25+2x0.5))C	10.0	6.8

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* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Festo
PVC/PUR/TPE

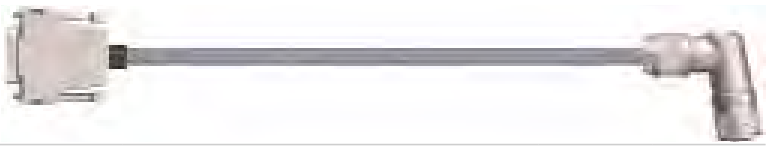
* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Festo Servo cables					
Basic cable					
NEBM-M16G8-E-xxx-Q7-LE8					
PUR O.I.	06	MAT9852303	(4G0.75+2x(2x0.34)C)C	12.0	10
Basic cable					
NEBM-M23G6-E-xxx-N-LE7					
PVC O.I.	04	MAT9752301	(4G1.5+2x(2x0.75)C)C	13.5	10
PVC M.I.	05	MAT9752317	(4G1.5+2x(2x0.75)C)C	14.5	7.5
PUR O.I.	06	MAT9852301	(4G1.5+2x(2x0.75)C)C	13.5	10
PUR M.I.	07	MAT9852317	(4G1.5+2x(2x0.75)C)C	14.5	7.5
NEBM-M23G8-E-xxx-N-LE8					
PVC O.I.	04	MAT9752300	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9752316	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9852300	(4G2.5+(4x0.5)C)C	13.5	10
PUR M.I.	07	MAT9852316	(4G2.5+(4x0.5)C)C	14.0	7.5
Basic cable					
NEBM-M40G8-E-xxx-N-LE7					
PVC O.I.	04	MAT9752302	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9752318	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9852302	(4G2.5+2x(2x1.5)C)C	16.0	10
PUR M.I.	07	MAT9852318	(4G2.5+2x(2x1.5)C)C	16.0	7.5
Festo Control cables					
Basic cable					
KPWR-MC-1-SUB-9HC-xxx					
PVC M.I.	18	MAT9712320	(3G1.5)C	9.0	7.5
PUR M.I.	22	MAT9812320	(3G1.5)C	9.5	6.8
Festo Encoder cables					
Basic cable					
NEBM-M23G12-E-xxx-N-S1G9					
PVC	08	MAT9742308	(3x(2x0.14)C+2x(0.5)C)C	9.5	10
PUR O.I.	09	MAT9842308	(3x(2x0.14)C+2x(0.5)C)C	9.5	10
PUR M.I.	10	MAT9842324	(3x(2x0.14)C+2x(0.5)C)C	10.0	7.5
TPE H*	11	MAT9942308	(3x(2x0.14)C+2x(0.5)C)C	10.0	6.8

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits. Example image.
igus® gladly pre-harnesses the cable according to your technical guidelines. **G =** with green-yellow earth core, **x =** without earth core
* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Festo
PVC/PUR/TPE

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Festo Data cables					
Basic cable					
KDI-MC-M8-SUB-9-xxx					
PVC	30	MAT9722311	(3x0.25)C	5.0	10
PUR	13	MAT9822311	(3x0.25)C	5.5	10
Basic cable					
KES-MC-1-SUB-9-xxx					
PVC	30	MAT9722310	(14x0.14)C	7.0	10
PUR	13	MAT9822310	(14x0.14)C	7.5	10
Basic cable					
NEBM-M12G8-E-xxx-N-S1G15					
PVC	14	MAT9722305	(4x(2x0.25))C	7.5	7.5
PUR	15	MAT9822305	(4x(2x0.25))C	7.5	7.5
TPE H*	16	MAT9922305	(4x(2x0.25))C	8.5	6.8
Basic cable					
NEBM-M12G8-E-xxx-S1G9					
PVC	14	MAT9722306	(4x(2x0.25))C	7.5	7.5
PUR	15	MAT9822306	(4x(2x0.25))C	7.5	7.5
TPE H*	16	MAT9922306	(4x(2x0.25))C	8.5	6.8
Basic cable					
NEBM-M12W8-E-xxx-N-S1G15					
PVC	14	MAT9722307	(4x(2x0.25))C	7.5	7.5
PUR	15	MAT9822307	(4x(2x0.25))C	7.5	7.5
TPE H*	16	MAT9922307	(4x(2x0.25))C	8.5	6.8

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* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
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Harnessed drive cables | Festo
PVC/PUR/TPE

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Festo Data cables					
Basic cable					
NEBM-S1G15-E-xxx-LE6					
PVC	14	MAT9722309	(4x(2x0.5))C	9.5	7.5
PUR	15	MAT9822309	(4x(2x0.5))C	9.5	7.5
TPE H*	16	MAT9922309	(4x(2x0.5))C	9.5	6.8
Basic cable					
NEBM-S1G9-E-xxx-LE6					
PVC	30	MAT9722313	(7x0.34)C	7.5	10
PUR	13	MAT9822313	(7x0.34)C	6.5	10
Festo Bus cables					
Basic cable					
FBA-CO-SUB-9-M12					
PVC, oil-res.	28	MAT9732312	(4x0.5)C	8.5	12.5
PUR	29	MAT9832312	(4x0.5)C	8.5	12.5
TPE	12	MAT9932312	(4x0.5)C	8.0	10

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igus® gladly pre-harnesses the cable according to your technical guidelines. **G =** with green-yellow earth core, **x =** without earth core
* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Heidenhain PVC/PUR/TPE

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Heidenhain Servo cables					
Linking cable					
352 960-xx					
PVC O.I.	04	MAT94907005	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9761001	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT93907005	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9861001	(4G1.5+(2x1.5)C)	13.0	7.5
352 962-xx					
PVC O.I.	04	MAT94907008	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9761003	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT93907008	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9861003	(4G1.5+(2x1.5)C)	13.0	7.5
352 963-xx					
PVC O.I.	04	MAT94907006	(4G4.0+(2x1.5)C)C	15.0	10
PVC M.I.	05	MAT9761002	(4G4.0+(2x1.5)C)C	16.0	7.5
PUR O.I.	06	MAT93907006	(4G4.0+(2x1.5)C)C	15.0	10
PUR M.I.	07	MAT9861002	(4G4.0+(2x1.5)C)C	16.0	7.5
Heidenhain Adapter cables					
Basic cable					
298 401-xx					
PVC	08	MAT9741006	(4x(2x0.14)+4x0.5)C	8.5	10
PUR O.I.	09	MAT9841008	(4x(2x0.14)+4x0.5)C	8.5	10
PUR M.I.	10	MAT9841007	(4x(2x0.14)+4x0.5)C	9.0	7.5
TPE H*	11	MAT9941021	(4x(2x0.14)+4x0.5)C	9.0	6.8
Basic cable					
333 164-xx					
PVC	08	MAT9741008	(4x(2x0.14)+4x0.5)C	8.5	10
PUR O.I.	09	MAT9841009	(4x(2x0.14)+4x0.5)C	8.5	10
PUR M.I.	10	MAT9841004	(4x(2x0.14)+4x0.5)C	9.0	7.5
TPE H*	11	MAT9941019	(4x(2x0.14)+4x0.5)C	9.0	6.8
Basic cable					
368 330-xx					
PVC	08	MAT9741010	((4x0.14)+2x(2x0.34))C	7.0	10
PUR O.I.	09	MAT9841006	((4x0.14)+2x(2x0.34))C	7.0	10

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* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Heidenhain
PVC/PUR/TPE

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Heidenhain Adapter cables					
Basic cable					
524 599-xx					
PVC	08	MAT9741007	(4x(2x0.14)+4x0.5)C	8.5	10
PUR O.I.	09	MAT9841003	(4x(2x0.14)+4x0.5)C	8.5	10
PUR M.I.	10	MAT9841002	(4x(2x0.14)+4x0.5)C	9.0	7.5
TPE H*	11	MAT9941018	(4x(2x0.14)+4x0.5)C	9.0	6.8
Basic cable					
534 855-xx					
PVC	08	MAT9741009	(4x(2x0.14)+(4x0.14)C+4x1.0)C	10.0	10
PUR M.I.	10	MAT9841005	(4x(2x0.14)+(4x0.14)C+4x1.0)C	10.0	7.5
TPE H*	11	MAT9941020	(4x(2x0.14)+(4x0.14)C+4x1.0)C	10.0	6.8
Basic cable					
605 424-xx					
PVC	08	MAT9741000	(3x(2x0.14)C+(4x0.14)+(4x0.25)+(2x0.5))C	10.0	10
PUR O.I.	09	MAT9841001	(3x(2x0.14)C+(4x0.14)+(4x0.25)+(2x0.5))C	10.0	10
PUR M.I.	10	MAT9841000	(3x(2x0.14)C+(4x0.14)+(4x0.25)+(2x0.5))C	11.0	7.5
TPE H*	11	MAT9941000	(3x(2x0.14)C+(4x0.14)+(4x0.25)+(2x0.5))C	10.5	6.8
Linking cable					
289 440-xx					
PVC	08	MAT9741002	(4x(2x0.14)+(4x0.14)C+4x1.0)C	10.0	10
PUR M.I.	10	MAT94901005	(4x(2x0.14)+(4x0.14)C+4x1.0)C	10.0	7.5
TPE H*	11	MAT93901005	(4x(2x0.14)+(4x0.14)C+4x1.0)C	10.0	6.8
298 399-xx					
PUR O.I.	09	MAT9941011	(4x(2x0.14)+4x0.5)C	8.5	10
PUR M.I.	10	MAT94905001	(4x(2x0.14)+4x0.5)C	9.0	7.5
TPE H*	11	MAT93905001	(4x(2x0.14)+4x0.5)C	9.0	6.8
298 400-xx					
PUR O.I.	09	MAT9941012	(4x(2x0.14)+4x0.5)C	8.5	10
PUR M.I.	10	MAT94906002	(4x(2x0.14)+4x0.5)C	9.0	7.5
TPE H*	11	MAT93906002	(4x(2x0.14)+4x0.5)C	9.0	6.8
309 783-xx					
PUR O.I.	09	MAT9941008	(4x(2x0.14)+4x0.5)C	8.5	10
PUR M.I.	10	MAT94903003	(4x(2x0.14)+4x0.5)C	9.0	7.5
TPE H*	11	MAT93903003	(4x(2x0.14)+4x0.5)C	9.0	6.8

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igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Heidenhain PVC/PUR/TPE

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Heidenhain Adapter cables					
Linking cable					
336 376-xx					
PVC	08	MAT9741001	(4x(2x0.14)+(4x0.14)C+4x1.0)C	10.0	10
PUR M.I.	10	MAT94901004	(4x(2x0.14)+(4x0.14)C+4x1.0)C	10.0	7.5
TPE H*	11	MAT93901004	(4x(2x0.14)+(4x0.14)C+4x1.0)C	10.0	6.8
604 419-xx					
PUR O.I.	09	MAT9941003	(4x(2x0.14)+4x0.5)C	8.5	10
PUR M.I.	10	MAT94901003	(4x(2x0.14)+4x0.5)C	9.0	7.5
TPE H*	11	MAT93901003	(4x(2x0.14)+4x0.5)C	9.0	6.8
Linking cable					
298 402-xx					
PUR O.I.	09	MAT9941016	(4x(2x0.14)+4x0.5)C	8.5	10
PUR M.I.	10	MAT94909001	(4x(2x0.14)+4x0.5)C	9.0	7.5
TPE H*	11	MAT93909001	(4x(2x0.14)+4x0.5)C	9.0	6.8
Linking cable					
309 738-xx					
PUR O.I.	09	MAT9941007	(4x(2x0.14)+4x0.5)C	8.5	10
PUR M.I.	10	MAT94903001	(4x(2x0.14)+4x0.5)C	9.0	7.5
TPE H*	11	MAT93903001	(4x(2x0.14)+4x0.5)C	9.0	6.8
Linking cable					
309 774-xx					
PUR M.I.	10	MAT94906001	(4x(2x0.14)+4x0.5)C	9.0	7.5
TPE H*	11	MAT93906001	(4x(2x0.14)+4x0.5)C	9.0	6.8
Linking cable					
368 172-xx					
PVC	08	MAT9741003	(3x(2x0.14)C+2x(0.5)C)C	9.5	10
PUR M.I.	10	MAT94903002	(3x(2x0.14)C+2x(0.5)C)C	10.0	7.5
TPE H*	11	MAT93903002	(4x(2x0.14)+(4x0.14)C+4x1.0)C	10.0	6.8

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* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Heidenhain
PVC/PUR/TPE

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Heidenhain Adapter cables					
Linking cable					
309 777-xx					
PUR O.I.	**09**	MAT9941013	(4x(2x0.14)+4x0.5)C	8.5	10
PUR M.I.	**10**	MAT94907001	(4x(2x0.14)+4x0.5)C	9.0	7.5
TPE H*	**11**	MAT93907001	(4x(2x0.14)+4x0.5)C	9.0	6.8
309 778-xx					
PUR O.I.	**09**	MAT9941014	(2x(2x(2x0.14))+(4x0.14)C+(4x0.5))C	10.5	10
PUR M.I.	**10**	MAT94907002	(2x(2x(2x0.14))+(4x0.14)C+(4x0.5))C	11.0	7.5
TPE H*	**11**	MAT93907002	(2x(2x(2x0.14))+(4x0.14)C+(4x0.5))C	11.0	6.8
533 627-xx					
PUR O.I.	**09**	MAT9941004	(4x(2x0.14)+4x0.5)C	8.5	10
PUR M.I.	**10**	MAT94901006	(4x(2x0.14)+4x0.5)C	9.0	7.5
TPE H*	**11**	MAT93901006	(4x(2x0.14)+4x0.5)C	9.0	6.8
Linking cable					
310 193-xx					
PUR M.I.	**10**	MAT94907003	(3x(2x0.14)C+(2x0.5)C)C	10.0	7.5
TPE H*	**11**	MAT93907003	(3x(2x0.14)C+(2x0.5)C)C	10.0	6.8
Linking cable					
310 197-xx					
PUR M.I.	**10**	MAT94902001	(3x(2x0.14)C+(2x0.5)C)C	10.0	7.5
TPE H*	**11**	MAT93902001	(3x(2x0.14)C+(2x0.5)C)C	10.0	6.8
310 199-xx					
PUR O.I.	**09**	MAT9941006	(4x(2x0.14)+4x0.5)C	8.5	10
PUR M.I.	**10**	MAT94902003	(4x(2x0.14)+4x0.5)C	9.0	7.5
TPE H*	**11**	MAT93902003	(4x(2x0.14)+4x0.5)C	9.0	6.8
Linking cable					
323 897-xx					
PUR O.I.	**09**	MAT9941015	(2x(2x(2x0.14))+(4x0.14)C+(4x0.5))C	10.5	10
PUR M.I.	**10**	MAT94907004	(2x(2x(2x0.14))+(4x0.14)C+(4x0.5))C	11.0	7.5
TPE H*	**11**	MAT93907004	(2x(2x(2x0.14))+(4x0.14)C+(4x0.5))C	11.0	6.8

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igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Heidenhain PUR/TPE

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Heidenhain Adapter cables					
Linking cable					
324 544-xx					
PUR O.I.	09	MAT9941005	(2x(2x(2x0.14))+(4x0.14)C+(4x0.5))C	10.5	10
PUR M.I.	10	MAT94902002	(2x(2x(2x0.14))+(4x0.14)C+(4x0.5))C	11.0	7.5
TPE H*	11	MAT93902002	(2x(2x(2x0.14))+(4x0.14)C+(4x0.5))C	11.0	6.8
332 115-xx					
PUR O.I.	09	MAT9941001	(2x(2x(2x0.14))+(4x0.14)C+(4x0.5))C	10.5	10
PUR M.I.	10	MAT94901001	(2x(2x(2x0.14))+(4x0.14)C+(4x0.5))C	11.0	7.5
TPE H*	11	MAT93901001	(2x(2x(2x0.14))+(4x0.14)C+(4x0.5))C	11.0	6.8
Linking cable					
335 077-xx					
PUR M.I.	10	MAT94908001	(4x(2x0.14)+4x0.5)C	9.0	7.5
TPE H*	11	MAT93908001	(4x(2x0.14)+4x0.5)C	9.0	6.8
Linking cable					
354 411-xx					
PUR O.I.	09	MAT9941009	(2x(2x(2x0.14))+(4x0.14)C+(4x0.5))C	10.5	10
PUR M.I.	10	MAT94904001	(2x(2x(2x0.14))+(4x0.14)C+(4x0.5))C	11.0	7.5
TPE H*	11	MAT93904001	(2x(2x(2x0.14))+(4x0.14)C+(4x0.5))C	11.0	6.8
355 398-xx					
PUR O.I.	09	MAT9941010	(2x(2x(2x0.14))+(4x0.14)C+(4x0.5))C	10.5	10
PUR M.I.	10	MAT94904002	(2x(2x(2x0.14))+(4x0.14)C+(4x0.5))C	11.0	7.5
TPE H*	11	MAT93904002	(2x(2x(2x0.14))+(4x0.14)C+(4x0.5))C	11.0	6.8
Linking cable					
360 472-xx					
PUR O.I.	09	MAT9941002	(2x(2x(2x0.14))+(4x0.14)C+(4x0.5))C	10.5	10
PUR M.I.	10	MAT94901002	(2x(2x(2x0.14))+(4x0.14)C+(4x0.5))C	11.0	7.5
TPE H*	11	MAT93901002	(2x(2x(2x0.14))+(4x0.14)C+(4x0.5))C	11.0	6.8
Linking cable					
309 779-xx					
PUR O.I.	09	MAT99411017	(2x(2x(2x0.14))+(4x0.14)C+(4x0.5))C	10.5	10
PUR M.I.	10	MAT94907007	(2x(2x(2x0.14))+(4x0.14)C+(4x0.5))C	11.0	7.5
TPE H*	11	MAT93907007	(2x(2x(2x0.14))+(4x0.14)C+(4x0.5))C	11.0	6.8

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Harnessed drive cables | Heidenhain
PVC/PUR/TPE

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Heidenhain Adapter cables					
Linking cable					
309 780-xx					
PVC	08	MAT9741004	(3x(2x0.14)C+2x(0.5)C)C	9.5	10
PUR M.I.	10	MAT94909002	(3x(2x0.14)C+2x(0.5)C)C	10.0	7.5
TPE H*	11	MAT93909002	(3x(2x0.14)C+2x(0.5)C)C	10.0	6.8
Linking cable					
354 770-xx					
TPE	12	MAT94910001	((2xAWG28)+2xAWG20)C	5.5	12.5
	12	MAT94910002	((2xAWG24)+2xAWG20)C	6.5	12.5

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igus® gladly pre-harnesses the cable according to your technical guidelines. **G =** with green-yellow earth core, **x =** without earth core
* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Jetter
PVC/PUR/TPE

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Jetter Motor cables					
Basic cable					
Cable No. 201					
PVC M.I.	01	MAT9761805	(4G4.0)C	13.0	7.5
PUR O.I.	06	MAT9861806	(4G4.0)C	12.5	10
PUR M.I.	07	MAT9851807	(4G4.0+(2x1.5)C)C	16.0	7.5
TPE F	02	MAT9961808	(4G4.0)C	13.0	7.5
Cable No. 203					
PVC M.I.	01	MAT9761809	(4G4.0)C	13.0	7.5
PUR O.I.	06	MAT9861810	(4G4.0)C	12.5	10
PUR M.I.	07	MAT9851811	(4G4.0+(2x1.5)C)C	16.0	7.5
TPE F	02	MAT9961812	(4G4.0)C	13.0	7.5
Cable No. 26.1					
PVC M.I.	01	MAT9761801	(4G1.5)C	10.0	7.5
PUR O.I.	06	MAT9861802	(4G1.5)C	9.0	10
PUR M.I.	07	MAT9861803	(4G1.5)C	11.0	7.5
TPE F	02	MAT9961804	(4G1.5)C	10.0	7.5
Jetter Servo cables					
Basic cable					
Cable No. 202					
PVC M.I.	05	MAT9751806	(4G4.0+(2x1.5)C)C	16.0	7.5
PUR O.I.	06	MAT9861807	(4G4.0+(2x1.5)C)C	15.0	10
PUR M.I.	07	MAT9851808	(4G4.0+(2x1.5)C)C	16.0	7.5
Cable No. 204					
PVC M.I.	05	MAT9751810	(4G6.0+(2x1.5)C)C	18.0	7.5
PUR O.I.	06	MAT9861811	(4G6.0+(2x1.5)C)C	16.5	10
PUR M.I.	07	MAT9851812	(4G6.0+(2x1.5)C)C	17.5	7.5
Basic cable					
Cable No. 24.1					
PVC M.I.	05	MAT9751802	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9851803	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9851804	(4G1.5+(2x1.5)C)	13.0	7.5

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits. Example image.
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* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Jetter
PVC/PUR/TPE

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Jetter Resolver cables					
Basic cable					
Cable No. 23					
PVC	08	MAT9741801	(3x(2x0.14)C+2x(0.5)C)C	9.5	10
PUR M.I.	10	MAT9841802	(3x(2x0.14)C+(2x0.5)C)C	10.0	7.5
TPE H*	11	MAT9941803	(3x(2x0.14)C+(2x0.5)C)C	10.0	7.5
Cable No. 423					
PVC	08	MAT9741804	(3x(2x0.14)C+2x(0.5)C)C	9.5	10
PUR M.I.	10	MAT9841805	(3x(2x0.14)C+(2x0.5)C)C	10.0	7.5
TPE H*	11	MAT9941806	(3x(2x0.14)C+(2x0.5)C)C	10.0	7.5
Basic cable					
Cable No. 523					
PVC	14	MAT9741807	(5x(2x0.25))C	8.5	7.5
PUR	15	MAT9841808	(5x(2x0.25))C	8.5	7.5
TPE H*	16	MAT9941809	(5x(2x0.25))C	9.0	6.8
Cable No. 723					
PVC	14	MAT9741810	(5x(2x0.25))C	8.5	7.5
PUR	15	MAT9841811	(5x(2x0.25))C	8.5	7.5
TPE H*	16	MAT9941812	(5x(2x0.25))C	9.0	6.8

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits. Example image.
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* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Kollmorgen/Danaher Motion PVC/TPE

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Kollmorgen/Danaher Motion Motor cables					
Basic cable					
88959 (5m)					
TPE H*	03	MAT9960626	(4G2.5)C	11.5	7.5
88960 (10m)					
TPE H*	03	MAT9960627	(4G2.5)C	11.5	7.5
88962 (15m)					
TPE H*	03	MAT9960628	(4G2.5)C	11.5	7.5
88964 (20m)					
TPE H*	03	MAT9960629	(4G2.5)C	11.5	7.5
88966 (25m)					
TPE H*	03	MAT9960630	(4G2.5)C	11.5	7.5
89918 (5m)					
PVC M.I.	01	MAT9340068	(4G1.5)C	10.0	7.5
TPE F	02	MAT9440068	(4G1.5)C	10.0	7.5
TPE H*	03	MAT9960621	(4G1.5)C	10.0	7.5
89952 (10m)					
PVC M.I.	01	MAT9340069	(4G1.5)C	10.0	7.5
TPE F	02	MAT9440069	(4G1.5)C	10.0	7.5
TPE H*	03	MAT9960622	(4G1.5)C	10.0	7.5
89953 (15m)					
PVC M.I.	01	MAT9340070	(4G1.5)C	10.0	7.5
TPE F	02	MAT9440070	(4G1.5)C	10.0	7.5
TPE H*	03	MAT9960623	(4G1.5)C	10.0	7.5
89954 (20m)					
PVC M.I.	01	MAT9340071	(4G1.5)C	10.0	7.5
TPE F	02	MAT9440071	(4G1.5)C	10.0	7.5
TPE H*	03	MAT9960624	(4G1.5)C	10.0	7.5
89956 (25m)					
PVC M.I.	01	MAT9340072	(4G1.5)C	10.0	7.5
TPE F	02	MAT9440072	(4G1.5)C	10.0	7.5
TPE H*	03	MAT9960625	(4G1.5)C	10.0	7.5
89959 (5m)					
PVC M.I.	01	MAT9340004	(4G2.5)C	11.5	7.5
TPE F	02	MAT9440004	(4G2.5)C	11.5	7.5
89960 (10m)					
PVC M.I.	01	MAT9340073	(4G2.5)C	11.5	7.5
TPE F	02	MAT9440073	(4G2.5)C	11.5	7.5
89962 (15m)					
PVC M.I.	01	MAT9340074	(4G2.5)C	11.5	7.5
TPE F	02	MAT9440074	(4G2.5)C	11.5	7.5

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igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Kollmorgen/Danaher Motion

PVC/TPE

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Kollmorgen/Danaher Motion Motor cables					
89964 (20m)					
PVC M.I.	**01**	MAT9340075	(4G2.5)C	11.5	7.5
TPE F	**02**	MAT9440075	(4G2.5)C	11.5	7.5
89966 (25m)					
PVC M.I.	**01**	MAT9340076	(4G2.5)C	11.5	7.5
TPE F	**02**	MAT9440076	(4G2.5)C	11.5	7.5
90083 (5m)					
PVC M.I.	**01**	MAT9340063	(4G1.5)C	10.0	7.5
TPE F	**02**	MAT9440063	(4G1.5)C	10.0	7.5
TPE H*	**03**	MAT9960616	(4G1.5)C	10.0	7.5
90084 (10m)					
PVC M.I.	**01**	MAT9340064	(4G1.5)C	10.0	7.5
TPE F	**02**	MAT9440064	(4G1.5)C	10.0	7.5
TPE H*	**03**	MAT9960617	(4G1.5)C	10.0	7.5
90085 (15m)					
PVC M.I.	**01**	MAT9340065	(4G1.5)C	10.0	7.5
TPE F	**02**	MAT9440065	(4G1.5)C	10.0	7.5
TPE H*	**03**	MAT9960618	(4G1.5)C	10.0	7.5
90086 (20m)					
PVC M.I.	**01**	MAT9340066	(4G1.5)C	10.0	7.5
TPE F	**02**	MAT9440066	(4G1.5)C	10.0	7.5
TPE H*	**03**	MAT9960619	(4G1.5)C	10.0	7.5
90087 (25m)					
PVC M.I.	**01**	MAT9340067	(4G1.5)C	10.0	7.5
TPE F	**02**	MAT9440067	(4G1.5)C	10.0	7.5
TPE H*	**03**	MAT9960620	(4G1.5)C	10.0	7.5
Basic cable					
102575 (5m)					
PVC M.I.	**01**	MAT9340058	(4G1.5)C	10.0	7.5
TPE F	**02**	MAT9440058	(4G1.5)C	10.0	7.5
TPE H*	**03**	MAT9960611	(4G1.5)C	10.0	7.5
102576 (10m)					
PVC M.I.	**01**	MAT9340059	(4G1.5)C	10.0	7.5
TPE F	**02**	MAT9440059	(4G1.5)C	10.0	7.5
TPE H*	**03**	MAT9960612	(4G1.5)C	10.0	7.5
102806 (15m)					
PVC M.I.	**01**	MAT9340060	(4G1.5)C	10.0	7.5
TPE F	**02**	MAT9440060	(4G1.5)C	10.0	7.5
TPE H*	**03**	MAT9960613	(4G1.5)C	10.0	7.5

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Harnessed drive cables | Kollmorgen/Danaher Motion
PVC/TPE

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Kollmorgen/Danaher Motion Motor cables					
Basic cable					
102807 (20m)					
PVC M.I.	01	MAT9340061	(4G1.5)C	10.0	7.5
TPE F	02	MAT9440061	(4G1.5)C	10.0	7.5
TPE H*	03	MAT9960614	(4G1.5)C	10.0	7.5
102808 (25m)					
PVC M.I.	01	MAT9340062	(4G1.5)C	10.0	7.5
TPE F	02	MAT9440062	(4G1.5)C	10.0	7.5
TPE H*	03	MAT9960615	(4G1.5)C	10.0	7.5
Basic cable					
107473 (5m)					
PVC M.I.	01	MAT9340053	(4G1.5)C	10.0	7.5
TPE F	02	MAT9440053	(4G1.5)C	10.0	7.5
TPE H*	03	MAT9960606	(4G1.5)C	10.0	7.5
107474 (10m)					
PVC M.I.	01	MAT9340054	(4G1.5)C	10.0	7.5
TPE F	02	MAT9440054	(4G1.5)C	10.0	7.5
TPE H*	03	MAT9960607	(4G1.5)C	10.0	7.5
107475 (15m)					
PVC M.I.	01	MAT9340055	(4G1.5)C	10.0	7.5
TPE F	02	MAT9440055	(4G1.5)C	10.0	7.5
TPE H*	03	MAT9960608	(4G1.5)C	10.0	7.5
107476 (20m)					
PVC M.I.	01	MAT9340056	(4G1.5)C	10.0	7.5
TPE F	02	MAT9440056	(4G1.5)C	10.0	7.5
TPE H*	03	MAT9960609	(4G1.5)C	10.0	7.5
107477 (25m)					
PVC M.I.	01	MAT9340057	(4G1.5)C	10.0	7.5
TPE F	02	MAT9440057	(4G1.5)C	10.0	7.5
TPE H*	03	MAT9960610	(4G1.5)C	10.0	7.5
Basic cable					
107485 (5m)					
PVC M.I.	01	MAT9340002	(4G1.5)C	10.0	7.5
TPE F	02	MAT9440002	(4G1.5)C	10.0	7.5
TPE H*	03	MAT9960601	(4G1.5)C	10.0	7.5

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igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Kollmorgen/Danaher Motion

PVC/TPE

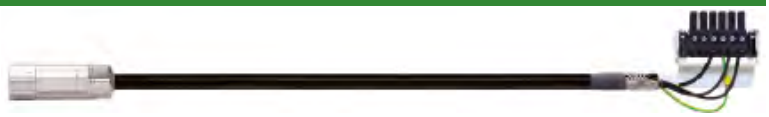
* Technical information on the cable quality (Code 01-31): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Kollmorgen/Danaher Motion Motor cables					
107486 (10m)					
PVC M.I.	01	MAT9340049	(4G1.5)C	10.0	7.5
TPE F	02	MAT9440049	(4G1.5)C	10.0	7.5
TPE H*	03	MAT9960602	(4G1.5)C	10.0	7.5
107487 (15m)					
PVC M.I.	01	MAT9340050	(4G1.5)C	10.0	7.5
TPE F	02	MAT9440050	(4G1.5)C	10.0	7.5
TPE H*	03	MAT9960603	(4G1.5)C	10.0	7.5
107488 (20m)					
PVC M.I.	01	MAT9340051	(4G1.5)C	10.0	7.5
TPE F	02	MAT9440051	(4G1.5)C	10.0	7.5
TPE H*	03	MAT9960604	(4G1.5)C	10.0	7.5
107489 (25m)					
PVC M.I.	01	MAT9340052	(4G1.5)C	10.0	7.5
TPE F	02	MAT9440052	(4G1.5)C	10.0	7.5
TPE H*	03	MAT9960605	(4G1.5)C	10.0	7.5
Basic cable					
200456 (5m)					
PVC M.I.	01	MAT9340077	(4G1.5)C	10.0	7.5
TPE F	02	MAT9440077	(4G1.5)C	10.0	7.5
TPE H*	03	MAT9960631	(4G1.5)C	10.0	7.5
200457 (10m)					
PVC M.I.	01	MAT9340078	(4G1.5)C	10.0	7.5
TPE F	02	MAT9440078	(4G1.5)C	10.0	7.5
TPE H*	03	MAT9960632	(4G1.5)C	10.0	7.5
200458 (15m)					
PVC M.I.	01	MAT9340079	(4G1.5)C	10.0	7.5
TPE F	02	MAT9440079	(4G1.5)C	10.0	7.5
TPE H*	03	MAT9960633	(4G1.5)C	10.0	7.5
200459 (20m)					
PVC M.I.	01	MAT9340080	(4G1.5)C	10.0	7.5
TPE F	02	MAT9440080	(4G1.5)C	10.0	7.5
TPE H*	03	MAT9960634	(4G1.5)C	10.0	7.5
200460 (25m)					
PVC M.I.	01	MAT9340081	(4G1.5)C	10.0	7.5
TPE F	02	MAT9440081	(4G1.5)C	10.0	7.5
TPE H*	03	MAT9960635	(4G1.5)C	10.0	7.5
200468 (5m)					
PVC M.I.	01	MAT9340082	(4G2.5)C	11.5	7.5
TPE F	02	MAT9440082	(4G2.5)C	11.5	7.5
TPE H*	03	MAT9960636	(4G2.5)C	11.5	7.5

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igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Kollmorgen/Danaher Motion PVC/TPE

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Kollmorgen/Danaher Motion Motor cables					
Basic cable					
200469 (10m)					
PVC M.I.	01	MAT9340083	(4G2.5)C	11.5	7.5
TPE F	02	MAT9440083	(4G2.5)C	11.5	7.5
TPE H*	03	MAT9960637	(4G2.5)C	11.5	7.5
200470 (15m)					
PVC M.I.	01	MAT9340084	(4G2.5)C	11.5	7.5
TPE F	02	MAT9440084	(4G2.5)C	11.5	7.5
TPE H*	03	MAT9960638	(4G2.5)C	11.5	7.5
200471 (20m)					
PVC M.I.	01	MAT9340085	(4G2.5)C	11.5	7.5
TPE F	02	MAT9440085	(4G2.5)C	11.5	7.5
TPE H*	03	MAT9960639	(4G2.5)C	11.5	7.5
200472 (25m)					
PVC M.I.	01	MAT9340086	(4G2.5)C	11.5	7.5
TPE F	02	MAT9440086	(4G2.5)C	11.5	7.5
TPE H*	03	MAT9960640	(4G2.5)C	11.5	7.5
200618 (5m)					
PVC M.I.	01	MAT9340087	(4G4.0)C	13.0	7.5
TPE F	02	MAT9440087	(4G4.0)C	13.0	7.5
TPE H*	03	MAT9960641	(4G4.0)C	13.0	7.5
200619 (10m)					
PVC M.I.	01	MAT9340088	(4G4.0)C	13.0	7.5
TPE F	02	MAT9440088	(4G4.0)C	13.0	7.5
TPE H*	03	MAT9960642	(4G4.0)C	13.0	7.5
200620 (15m)					
PVC M.I.	01	MAT9340089	(4G4.0)C	13.0	7.5
TPE F	02	MAT9440089	(4G4.0)C	13.0	7.5
TPE H*	03	MAT9960643	(4G4.0)C	13.0	7.5
200621 (20m)					
PVC M.I.	01	MAT9340090	(4G4.0)C	13.0	7.5
TPE F	02	MAT9440090	(4G4.0)C	13.0	7.5
TPE H*	03	MAT9960644	(4G4.0)C	13.0	7.5
200622 (25m)					
PVC M.I.	01	MAT9340091	(4G4.0)C	13.0	7.5
TPE F	02	MAT9440091	(4G4.0)C	13.0	7.5
TPE H*	03	MAT9960645	(4G4.0)C	13.0	7.5

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* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
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Harnessed drive cables | Kollmorgen/Danaher Motion

PVC/PUR

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Kollmorgen/Danaher Motion Servo cables					
Basic cable					
89957 (5m)					
PVC O.I.	04	MAT9750621	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9340024	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9850621	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9440024	(4G1.5+(2x1.5)C)	13.0	7.5
89961 (10m)					
PVC O.I.	04	MAT9750622	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9340025	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9850622	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9440025	(4G1.5+(2x1.5)C)	13.0	7.5
89963 (15m)					
PVC O.I.	04	MAT9750623	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9340026	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9850623	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9440026	(4G1.5+(2x1.5)C)	13.0	7.5
89965 (20m)					
PVC O.I.	04	MAT9750624	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9340027	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9850624	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9440027	(4G1.5+(2x1.5)C)	13.0	7.5
89967 (25m)					
PVC O.I.	04	MAT9750625	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9340028	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9850625	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9440028	(4G1.5+(2x1.5)C)	13.0	7.5
89968 (5m)					
PVC O.I.	04	MAT9750626	(4G2.5+(2x1.5)C)C	14.0	10
PVC M.I.	05	MAT9340029	(4G2.5+(2x1.5)C)C	14.5	7.5
PUR O.I.	06	MAT9850626	(4G2.5+(2x1.5)C)C	14.0	10
PUR M.I.	07	MAT9440029	(4G2.5+(2x1.5)C)C	14.5	7.5
89969 (25m)					
PVC O.I.	04	MAT9750630	(4G2.5+(2x1.5)C)C	14.0	10
PVC M.I.	05	MAT9340033	(4G2.5+(2x1.5)C)C	14.5	7.5
PUR O.I.	06	MAT9850630	(4G2.5+(2x1.5)C)C	14.0	10
PUR M.I.	07	MAT9440033	(4G2.5+(2x1.5)C)C	14.5	7.5
89970 (10m)					
PVC O.I.	04	MAT9750627	(4G2.5+(2x1.5)C)C	14.0	10
PVC M.I.	05	MAT9340030	(4G2.5+(2x1.5)C)C	14.5	7.5
PUR O.I.	06	MAT9850627	(4G2.5+(2x1.5)C)C	14.0	10
PUR M.I.	07	MAT9440030	(4G2.5+(2x1.5)C)C	14.5	7.5

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits. Example image.
igus® gladly pre-harnesses the cable according to your technical guidelines. **G =** with green-yellow earth core, **x =** without earth core
* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Kollmorgen/Danaher Motion PVC/PUR

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Kollmorgen/Danaher Motion Servo cables					
Basic cable					
89971 (15m)					
PVC O.I.	04	MAT9750628	(4G2.5+(2x1.5)C)C	14.0	10
PVC M.I.	05	MAT9340031	(4G2.5+(2x1.5)C)C	14.5	7.5
PUR O.I.	06	MAT9850628	(4G2.5+(2x1.5)C)C	14.0	10
PUR M.I.	07	MAT9440031	(4G2.5+(2x1.5)C)C	14.5	7.5
89972 (20m)					
PVC O.I.	04	MAT9750629	(4G2.5+(2x1.5)C)C	14.0	10
PVC M.I.	05	MAT9340032	(4G2.5+(2x1.5)C)C	14.5	7.5
PUR O.I.	06	MAT9850629	(4G2.5+(2x1.5)C)C	14.0	10
PUR M.I.	07	MAT9440032	(4G2.5+(2x1.5)C)C	14.5	7.5
90088 (5m)					
PVC O.I.	04	MAT9750616	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9340019	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9850616	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9440019	(4G1.5+(2x1.5)C)	13.0	7.5
90089 (10m)					
PVC O.I.	04	MAT9750617	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9340020	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9850617	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9440020	(4G1.5+(2x1.5)C)	13.0	7.5
90090 (15m)					
PVC O.I.	04	MAT9750618	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9340021	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9850618	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9440021	(4G1.5+(2x1.5)C)	13.0	7.5
90091 (20m)					
PVC O.I.	04	MAT9750619	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9340022	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9850619	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9440022	(4G1.5+(2x1.5)C)	13.0	7.5
90092 (25m)					
PVC O.I.	04	MAT9750620	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9340023	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9850620	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9440023	(4G1.5+(2x1.5)C)	13.0	7.5

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igus® gladly pre-harnesses the cable according to your technical guidelines. **G =** with green-yellow earth core, **x =** without earth core
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Harnessed drive cables | Kollmorgen/Danaher Motion

PVC/PUR

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Kollmorgen/Danaher Motion Servo cables					
Basic cable					
102579 (5m)					
PVC O.I.	04	MAT9750611	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9340014	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9850611	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9440014	(4G1.5+(2x1.5)C)	13.0	7.5
102580 (10m)					
PVC O.I.	04	MAT9750612	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9340015	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9850612	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9440015	(4G1.5+(2x1.5)C)	13.0	7.5
102809 (15m)					
PVC O.I.	04	MAT9750613	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9340016	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9850613	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9440016	(4G1.5+(2x1.5)C)	13.0	7.5
102810 (20m)					
PVC O.I.	04	MAT9750614	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9340017	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9850614	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9440017	(4G1.5+(2x1.5)C)	13.0	7.5
102811 (25m)					
PVC O.I.	04	MAT9750615	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9340018	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9850615	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9440018	(4G1.5+(2x1.5)C)	13.0	7.5
Basic cable					
107479 (5m)					
PVC O.I.	04	MAT9750606	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9340009	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9850606	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9440009	(4G1.5+(2x1.5)C)	13.0	7.5
107480 (10m)					
PVC O.I.	04	MAT9750607	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9340010	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9850607	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9440010	(4G1.5+(2x1.5)C)	13.0	7.5

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igus® gladly pre-harnesses the cable according to your technical guidelines. **G =** with green-yellow earth core, **x =** without earth core
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PVC/PUR

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Kollmorgen/Danaher Motion Servo cables					
Basic cable					
107481 (15m)					
PVC O.I.	04	MAT9750608	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9340011	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9850608	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9440011	(4G1.5+(2x1.5)C)	13.0	7.5
107482 (20m)					
PVC O.I.	04	MAT9750609	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9340012	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9850609	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9440012	(4G1.5+(2x1.5)C)	13.0	7.5
107483 (25m)					
PVC O.I.	04	MAT9750610	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9340013	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9850610	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9440013	(4G1.5+(2x1.5)C)	13.0	7.5
Basic cable					
107491 (5m)					
PVC O.I.	04	MAT9750601	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9340001	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9850601	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9440001	(4G1.5+(2x1.5)C)	13.0	7.5
107492 (10m)					
PVC O.I.	04	MAT9750602	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9340005	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9850602	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9440005	(4G1.5+(2x1.5)C)	13.0	7.5
107493 (15m)					
PVC O.I.	04	MAT9750603	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9340006	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9850603	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9440006	(4G1.5+(2x1.5)C)	13.0	7.5
107494 (20m)					
PVC O.I.	04	MAT9750604	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9340007	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9850604	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9440007	(4G1.5+(2x1.5)C)	13.0	7.5

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PVC/PUR

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Kollmorgen/Danaher Motion Servo cables					
107495 (25m)					
PVC O.I.	04	MAT9750605	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9340008	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9850605	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9440008	(4G1.5+(2x1.5)C)	13.0	7.5
Basic cable					
200462 (5m)					
PVC O.I.	04	MAT9750631	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9340034	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9850631	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9440034	(4G1.5+(2x1.5)C)	13.0	7.5
200463 (10m)					
PVC O.I.	04	MAT9750632	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9340035	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9850632	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9440035	(4G1.5+(2x1.5)C)	13.0	7.5
200464 (15m)					
PVC O.I.	04	MAT9750633	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9340036	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9850633	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9440036	(4G1.5+(2x1.5)C)	13.0	7.5
200465 (20m)					
PVC O.I.	04	MAT9750634	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9340037	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9850634	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9440037	(4G1.5+(2x1.5)C)	13.0	7.5
200466 (25m)					
PVC O.I.	04	MAT9750635	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9340038	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9850635	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9440038	(4G1.5+(2x1.5)C)	13.0	7.5
200474 (5m)					
PVC O.I.	04	MAT9750636	(4G2.5+(2x1.5)C)C	14.0	10
PVC M.I.	05	MAT9340039	(4G2.5+(2x1.5)C)C	14.5	7.5
PUR O.I.	06	MAT9850636	(4G2.5+(2x1.5)C)C	14.0	10
PUR M.I.	07	MAT9440039	(4G2.5+(2x1.5)C)C	14.5	7.5
200475 (10m)					
PVC O.I.	04	MAT9750637	(4G2.5+(2x1.5)C)C	14.0	10
PVC M.I.	05	MAT9340040	(4G2.5+(2x1.5)C)C	14.5	7.5
PUR O.I.	06	MAT9850637	(4G2.5+(2x1.5)C)C	14.0	10
PUR M.I.	07	MAT9440040	(4G2.5+(2x1.5)C)C	14.5	7.5

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Harnessed drive cables | Kollmorgen/Danaher Motion

PVC/PUR

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Kollmorgen/Danaher Motion Servo cables					
Basic cable					
200476 (15m)					
PVC O.I.	04	MAT9750638	(4G2.5+(2x1.5)C)C	14.0	10
PVC M.I.	05	MAT9340041	(4G2.5+(2x1.5)C)C	14.5	7.5
PUR O.I.	06	MAT9850638	(4G2.5+(2x1.5)C)C	14.0	10
PUR M.I.	07	MAT9440041	(4G2.5+(2x1.5)C)C	14.5	7.5
200477 (20m)					
PVC O.I.	04	MAT9750639	(4G2.5+(2x1.5)C)C	14.0	10
PVC M.I.	05	MAT9340042	(4G2.5+(2x1.5)C)C	14.5	7.5
PUR O.I.	06	MAT9850639	(4G2.5+(2x1.5)C)C	14.0	10
PUR M.I.	07	MAT9440042	(4G2.5+(2x1.5)C)C	14.5	7.5
200478 (25m)					
PVC O.I.	04	MAT9750640	(4G2.5+(2x1.5)C)C	14.0	10
PVC M.I.	05	MAT9340043	(4G2.5+(2x1.5)C)C	14.5	7.5
PUR O.I.	06	MAT9850640	(4G2.5+(2x1.5)C)C	14.0	10
PUR M.I.	07	MAT9440043	(4G2.5+(2x1.5)C)C	14.5	7.5
200623 (5m)					
PVC O.I.	04	MAT9750641	(4G4.0+(2x1.5)C)C	15.0	10
PVC M.I.	05	MAT9340044	(4G4.0+(2x1.5)C)C	16.0	7.5
PUR O.I.	06	MAT9850641	(4G4.0+(2x1.5)C)C	15.0	10
PUR M.I.	07	MAT9440044	(4G4.0+(2x1.5)C)C	16.0	7.5
200624 (10m)					
PVC O.I.	04	MAT9750642	(4G4.0+(2x1.5)C)C	15.0	10
PVC M.I.	05	MAT9340045	(4G4.0+(2x1.5)C)C	16.0	7.5
PUR O.I.	06	MAT9850642	(4G4.0+(2x1.5)C)C	15.0	10
PUR M.I.	07	MAT9440045	(4G4.0+(2x1.5)C)C	16.0	7.5
200625 (15m)					
PVC O.I.	04	MAT9750643	(4G4.0+(2x1.5)C)C	15.0	10
PVC M.I.	05	MAT9340046	(4G4.0+(2x1.5)C)C	16.0	7.5
PUR O.I.	06	MAT9850643	(4G4.0+(2x1.5)C)C	15.0	10
PUR M.I.	07	MAT9440046	(4G4.0+(2x1.5)C)C	16.0	7.5
200626 (20m)					
PVC O.I.	04	MAT9750644	(4G4.0+(2x1.5)C)C	15.0	10
PVC M.I.	05	MAT9340047	(4G4.0+(2x1.5)C)C	16.0	7.5
PUR O.I.	06	MAT9850644	(4G4.0+(2x1.5)C)C	15.0	10
PUR M.I.	07	MAT9440047	(4G4.0+(2x1.5)C)C	16.0	7.5
200627 (25m)					
PVC O.I.	04	MAT9750645	(4G4.0+(2x1.5)C)C	15.0	10
PVC M.I.	05	MAT9340048	(4G4.0+(2x1.5)C)C	16.0	7.5
PUR O.I.	06	MAT9850645	(4G4.0+(2x1.5)C)C	15.0	10
PUR M.I.	07	MAT9440048	(4G4.0+(2x1.5)C)C	16.0	7.5

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits. Example image.
igus® gladly pre-harnesses the cable according to your technical guidelines. **G =** with green-yellow earth core, **x =** without earth core
* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Kollmorgen/Danaher Motion

PVC/PUR/TPE

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Kollmorgen/Danaher Motion Signal cables					
Basic cable					
84972 (5m)					
PVC	14	MAT9320001	(4x(2x0.25))C	7.5	7.5
PUR	15	MAT9840601	(4x(2x0.25))C	7.5	7.5
TPE H*	16	MAT9330001	(4x(2x0.25))C	8.5	6.8
84973 (10m)					
PVC	14	MAT9320009	(4x(2x0.25))C	7.5	7.5
PUR	15	MAT9840602	(4x(2x0.25))C	7.5	7.5
TPE H*	16	MAT9330009	(4x(2x0.25))C	8.5	6.8
84974 (15m)					
PVC	14	MAT9320010	(4x(2x0.25))C	7.5	7.5
PUR	15	MAT9840603	(4x(2x0.25))C	7.5	7.5
TPE H*	16	MAT9330010	(4x(2x0.25))C	8.5	6.8
84975 (20m)					
PVC	14	MAT9320011	(4x(2x0.25))C	7.5	7.5
PUR	15	MAT9840604	(4x(2x0.25))C	7.5	7.5
TPE H*	16	MAT9330011	(4x(2x0.25))C	8.5	6.8
87655 (25m)					
PVC	14	MAT9320012	(4x(2x0.25))C	7.5	7.5
PUR	15	MAT9840605	(4x(2x0.25))C	7.5	7.5
TPE H*	16	MAT9330012	(4x(2x0.25))C	8.5	6.8
90287 (5m)					
PVC	14	MAT9320002	(8x(2x0.25))C	10.5	7.5
TPE H*	16	MAT9330002	(8x(2x0.34))C	13.0	6.8
91019 (10m)					
PVC	14	MAT9320013	(8x(2x0.25))C	10.5	7.5
TPE H*	16	MAT9330013	(8x(2x0.34))C	13.0	6.8
91807 (20m)					
PVC	14	MAT9320015	(8x(2x0.25))C	10.5	7.5
TPE H*	16	MAT9330015	(8x(2x0.34))C	13.0	6.8
91811 (15m)					
PVC	14	MAT9320014	(8x(2x0.25))C	10.5	7.5
TPE H*	16	MAT9330014	(8x(2x0.34))C	13.0	6.8
92205 (25m)					
PVC	14	MAT9320016	(8x(2x0.25))C	10.5	7.5
TPE H*	16	MAT9330016	(8x(2x0.34))C	13.0	6.8

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Harnessed drive cables | Kollmorgen/Danaher Motion
PVC/PUR/TPE

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Kollmorgen/Danaher Motion Signal cables					
Basic cable					
107915 (5m)					
PVC	14	MAT9320004	(8x(2x0.25))C	10.5	7.5
TPE H*	16	MAT9330004	(8x(2x0.34))C	13.0	6.8
107916 (10m)					
PVC	14	MAT9320017	(8x(2x0.25))C	10.5	7.5
TPE H*	16	MAT9330017	(8x(2x0.34))C	13.0	6.8
107917 (15m)					
PVC	14	MAT9320018	(8x(2x0.25))C	10.5	7.5
TPE H*	16	MAT9330018	(8x(2x0.34))C	13.0	6.8
107918 (20m)					
PVC	14	MAT9320019	(8x(2x0.25))C	10.5	7.5
TPE H*	16	MAT9330019	(8x(2x0.34))C	13.0	6.8
107919 (25m)					
PVC	14	MAT9320020	(8x(2x0.25))C	10.5	7.5
TPE H*	16	MAT9330020	(8x(2x0.34))C	13.0	6.8
Basic cable					
85034 (5m)					
PVC	14	MAT9320007	(6x(2x0.25))C	9.0	7.5
PUR	15	MAT9840606	(6x(2x0.25))C	9.0	7.5
TPE H*	16	MAT9330007	(6x(2x0.25))C	10.0	6.8
85035 (10m)					
PVC	14	MAT9320021	(6x(2x0.25))C	9.0	7.5
PUR	15	MAT9840607	(6x(2x0.25))C	9.0	7.5
TPE H*	16	MAT9330021	(6x(2x0.25))C	10.0	6.8
85036 (15m)					
PVC	14	MAT9320022	(6x(2x0.25))C	9.0	7.5
PUR	15	MAT9840608	(6x(2x0.25))C	9.0	7.5
TPE H*	16	MAT9330022	(6x(2x0.25))C	10.0	6.8
85037 (20m)					
PVC	14	MAT9320023	(6x(2x0.25))C	9.0	7.5
PUR	15	MAT9840609	(6x(2x0.25))C	9.0	7.5
TPE H*	16	MAT9330023	(6x(2x0.25))C	10.0	6.8

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* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Kollmorgen/Danaher Motion

PVC/PUR/TPE

* Technical information on the cable quality (Code 01-31): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Kollmorgen/Danaher Motion Signal cables					
Basic cable					
85039 (5m)					
PVC	14	MAT9320008	(6x(2x0.25))C	9.0	7.5
PUR	15	MAT9840610	(6x(2x0.25))C	9.0	7.5
TPE H*	16	MAT9330008	(6x(2x0.25))C	10.0	6.8
85040 (10m)					
PVC	14	MAT9320024	(6x(2x0.25))C	9.0	7.5
PUR	15	MAT9840611	(6x(2x0.25))C	9.0	7.5
TPE H*	16	MAT9330024	(6x(2x0.25))C	10.0	6.8
85041 (15m)					
PVC	14	MAT9320025	(6x(2x0.25))C	9.0	7.5
PUR	15	MAT9840612	(6x(2x0.25))C	9.0	7.5
TPE H*	16	MAT9330025	(6x(2x0.25))C	10.0	6.8
85042 (20m)					
PVC	14	MAT9320026	(6x(2x0.25))C	9.0	7.5
PUR	15	MAT9840613	(6x(2x0.25))C	9.0	7.5
TPE H*	16	MAT9330026	(6x(2x0.25))C	10.0	6.8

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Harnessed drive cables | Lenze
PVC/PUR

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Lenze Servo cables					
Basic cable					
EWLMxxxGMS-015C					
PVC O.I.	04	MAT9751101	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9130001	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9851101	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9120001	(4G1.5+(2x1.5)C)	13.0	7.5
EWLMxxxGMS-025					
PVC O.I.	04	MAT9751102	(4G2.5+(2x1.5)C)C	14.0	10
PVC M.I.	05	MAT9130002	(4G2.5+(2x1.5)C)C	14.5	7.5
PUR O.I.	06	MAT9851102	(4G2.5+(2x1.5)C)C	14.0	10
PUR M.I.	07	MAT9120002	(4G2.5+(2x1.5)C)C	14.5	7.5
EWLMxxxGMS-040I					
PVC O.I.	04	MAT9751130	(4G4.0+(2x1.5)C)C	15.0	10
PVC M.I.	05	MAT9751129	(4G4.0+(2x1.5)C)C	16.0	7.5
PUR O.I.	06	MAT9851130	(4G4.0+(2x1.5)C)C	15.0	10
PUR M.I.	07	MAT9851129	(4G4.0+(2x1.5)C)C	16.0	7.5
EYP0010AxxxxA00P01					
PVC O.I.	04	MAT9751116	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9130063	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9851118	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9120063	(4G1.5+(2x1.5)C)	13.0	7.5
EYP0010AxxxxM01A00					
PVC O.I.	04	MAT9751107	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9130050	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9851105	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9120050	(4G1.5+(2x1.5)C)	13.0	7.5
EYP0011AxxxxA00P01					
PVC O.I.	04	MAT9751117	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9130064	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9851119	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9120064	(4G1.5+(2x1.5)C)	13.0	7.5
EYP0011AxxxxM01A00					
PVC O.I.	04	MAT9751108	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9130051	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9851106	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9120051	(4G1.5+(2x1.5)C)	13.0	7.5
EYP0012AxxxxA00P01					
PVC O.I.	04	MAT9751118	(4G2.5+(2x1.5)C)C	14.0	10
PVC M.I.	05	MAT9130065	(4G2.5+(2x1.5)C)C	14.5	7.5
PUR O.I.	06	MAT9851120	(4G2.5+(2x1.5)C)C	14.0	10
PUR M.I.	07	MAT9120065	(4G2.5+(2x1.5)C)C	14.5	7.5

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igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Lenze

PVC/PUR

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Lenze Servo cables					
EYP0012AxxxxA00P02					
PVC O.I.	04	MAT9751113	(4G2.5+(2x1.5)C)C	14.0	10
PVC M.I.	05	MAT9130058	(4G2.5+(2x1.5)C)C	14.5	7.5
PUR O.I.	06	MAT9851113	(4G2.5+(2x1.5)C)C	14.0	10
PUR M.I.	07	MAT9120058	(4G2.5+(2x1.5)C)C	14.5	7.5
EYP0012AxxxxM01A00					
PVC O.I.	04	MAT9751109	(4G2.5+(2x1.5)C)C	14.0	10
PVC M.I.	05	MAT9130052	(4G2.5+(2x1.5)C)C	14.5	7.5
PUR O.I.	06	MAT9851107	(4G2.5+(2x1.5)C)C	14.0	10
PUR M.I.	07	MAT9120052	(4G2.5+(2x1.5)C)C	14.5	7.5
EYP0012AxxxxM02A00					
PVC O.I.	04	MAT9751110	(4G2.5+(2x1.5)C)C	14.0	10
PVC M.I.	05	MAT9130053	(4G2.5+(2x1.5)C)C	14.5	7.5
PUR O.I.	06	MAT9851108	(4G2.5+(2x1.5)C)C	14.0	10
PUR M.I.	07	MAT9120053	(4G2.5+(2x1.5)C)C	14.5	7.5
EYP0013AxxxxA00P02					
PVC O.I.	04	MAT9751114	(4G4.0+(2x1.5)C)C	15.0	10
PVC M.I.	05	MAT9130059	(4G4.0+(2x1.5)C)C	16.0	7.5
PUR O.I.	06	MAT9851114	(4G4.0+(2x1.5)C)C	15.0	10
PUR M.I.	07	MAT9120059	(4G4.0+(2x1.5)C)C	16.0	7.5
EYP0013AxxxxM02A00					
PVC O.I.	04	MAT9751111	(4G4.0+(2x1.5)C)C	15.0	10
PVC M.I.	05	MAT9130054	(4G4.0+(2x1.5)C)C	16.0	7.5
PUR O.I.	06	MAT9851109	(4G4.0+(2x1.5)C)C	15.0	10
PUR M.I.	07	MAT9120054	(4G4.0+(2x1.5)C)C	16.0	7.5
EYP0014AxxxxA00P03					
PVC O.I.	04	MAT9751115	(4G6.0+(2x1.5)C)C	16.5	10
PVC M.I.	05	MAT9130060	(4G6.0+(2x1.5)C)C	18.0	7.5
PUR O.I.	06	MAT9851115	(4G6.0+(2x1.5)C)C	16.5	10
PUR M.I.	07	MAT9120060	(4G6.0+(2x1.5)C)C	17.5	7.5
EYP0014AxxxxM03A00					
PVC O.I.	04	MAT9751112	(4G6.0+(2x1.5)C)C	16.5	10
PVC M.I.	05	MAT9130055	(4G6.0+(2x1.5)C)C	18.0	7.5
PUR O.I.	06	MAT9851110	(4G6.0+(2x1.5)C)C	18.0	7.5
PUR M.I.	07	MAT9120055	(4G6.0+(2x1.5)C)C	17.5	7.5
EYP0015AxxxxA00P03					
PVC M.I.	05	MAT9130061	(4G10+(2x1.5)C)C	21.5	7.5
PUR O.I.	06	MAT9851116	(4G10+(2x1.5)C)C	21.0	10
PUR M.I.	07	MAT9120061	(4G10+(2x1.5)C)C	21.0	7.5
EYP0015AxxxxM03A00					
PVC M.I.	05	MAT9130056	(4G10+(2x1.5)C)C	21.5	7.5
PUR O.I.	06	MAT9851111	(4G10+(2x1.5)C)C	21.0	10
PUR M.I.	07	MAT9120056	(4G10+(2x1.5)C)C	21.0	7.5

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igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Lenze
PVC/PUR

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Lenze Servo cables					
Basic cable					
EYP0016AxxxxA00P03					
PVC M.I.	05	MAT9130062	(4G16+(2x1.5)C)C	25.0	7.5
PUR O.I.	06	MAT9851117	(4G16+(2x1.5)C)C	24.0	10
PUR M.I.	07	MAT9120062	(4G16+(2x1.5)C)C	24.0	7.5
EYP0016AxxxxM03A00					
PVC M.I.	05	MAT9130057	(4G16+(2x1.5)C)C	25.0	7.5
PUR O.I.	06	MAT9851112	(4G16+(2x1.5)C)C	24.0	10
PUR M.I.	07	MAT9120057	(4G16+(2x1.5)C)C	24.0	7.5
Linking cable					
EWLMxxxZM-015C					
PVC O.I.	04	MAT9751103	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9130006	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9851103	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9120006	(4G1.5+(2x1.5)C)	13.0	7.5
EWLMxxxZM-025					
PVC O.I.	04	MAT9751104	(4G2.5+(2x1.5)C)C	14.0	10
PVC M.I.	05	MAT9130007	(4G2.5+(2x1.5)C)C	14.5	7.5
PUR O.I.	06	MAT9851104	(4G2.5+(2x1.5)C)C	14.0	10
PUR M.I.	07	MAT9120007	(4G2.5+(2x1.5)C)C	14.5	7.5
EYP0010VxxxxM01P01					
PVC O.I.	04	MAT9751122	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9130071	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9851126	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9120071	(4G1.5+(2x1.5)C)	13.0	7.5
EYP0011VxxxxM01P01					
PVC O.I.	04	MAT9751123	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9130072	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9851127	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9120072	(4G1.5+(2x1.5)C)	13.0	7.5
EYP0012VxxxxM01P01					
PVC O.I.	04	MAT9751124	(4G2.5+(2x1.5)C)C	14.0	10
PVC M.I.	05	MAT9130073	(4G4.0+(2x1.5)C)C	16.0	7.5
PUR O.I.	06	MAT9851128	(4G2.5+(2x1.5)C)C	14.0	10
PUR M.I.	07	MAT9120073	(4G2.5+(2x1.5)C)C	14.5	7.5
EYP0012VxxxxM02P02					
PVC O.I.	04	MAT9751119	(4G2.5+(2x1.5)C)C	14.0	10
PVC M.I.	05	MAT9130066	(4G2.5+(2x1.5)C)C	14.5	7.5
PUR O.I.	06	MAT9851121	(4G2.5+(2x1.5)C)C	14.0	10
PUR M.I.	07	MAT9120066	(4G2.5+(2x1.5)C)C	14.5	7.5

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* Cable qualities: **M.I** = with inner jacket, **O.I.** = without inner jacket, **F** = flame-retardant, **H** = halogen-free **OIL** = oil-resistant
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Harnessed drive cables | Lenze
PVC/PUR/TPE

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Lenze Servo cables					
EYP0013VxxxxM02P02					
PVC O.I.	04	MAT9751120	(4G4.0+(2x1.5)C)C	15.0	10
PVC M.I.	05	MAT9130067	(4G4.0+(2x1.5)C)C	16.0	7.5
PUR O.I.	06	MAT9851122	(4G4.0+(2x1.5)C)C	15.0	10
PUR M.I.	07	MAT9120067	(4G4.0+(2x1.5)C)C	16.0	7.5
EYP0014VxxxxM03P03					
PVC O.I.	04	MAT9751121	(4G6.0+(2x1.5)C)C	16.5	10
PVC M.I.	05	MAT9130068	(4G6.0+(2x1.5)C)C	18.0	7.5
PUR O.I.	06	MAT9851123	(4G6.0+(2x1.5)C)C	16.5	10
PUR M.I.	07	MAT9120068	(4G6.0+(2x1.5)C)C	17.5	7.5
EYP0015VxxxxM03P03					
PVC M.I.	05	MAT9130069	(4G10+(2x1.5)C)C	21.5	7.5
PUR O.I.	06	MAT9851124	(4G10+(2x1.5)C)C	21.0	10
PUR M.I.	07	MAT9120069	(4G10+(2x1.5)C)C	21.0	7.5
EYP0016VxxxxM03P03					
PVC M.I.	05	MAT9130070	(4G16+(2x1.5)C)C	25.0	7.5
PUR O.I.	06	MAT9851125	(4G16+(2x1.5)C)C	24.0	10
PUR M.I.	07	MAT9120070	(4G16+(2x1.5)C)C	24.0	7.5
Lenze Fan cables					
Basic cable					
EWLLxxxGMS					
PVC	17	MAT9761101	3G1.0	6.5	7.5
PVC, oil-res.	19	MAT9130031	3G1.0	6.5	6.8
TPE H*	23	MAT9120031	3G1.0	6.0	5
TPE F	25	MAT9961101	3G1.0	6.5	5
EYL002AxxxxL01A00					
PVC, oil-res.	19	MAT9130040	5G1.0	8.0	6.8
TPE H*	23	MAT9120040	5G1.0	7.5	5
EYL002AxxxxL02A00					
PVC, oil-res.	19	MAT9130041	5G1.0	8.0	6.8
TPE H*	23	MAT9120041	5G1.0	7.5	5
Linking cable					
EWLLxxxZM					
PVC	17	MAT9761102	3G1.0	6.5	7.5
PVC, oil-res.	19	MAT9130032	3G1.0	6.5	6.8
TPE H*	23	MAT9120032	3G1.0	6.0	5
TPE F	25	MAT9961102	3G1.0	6.5	5
EYL002VxxxxL01J01					
PVC, oil-res.	19	MAT9130044	5G1.0	8.0	6.8
TPE H*	23	MAT9120044	5G1.0	7.5	5

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* Cable qualities: **M.I** = with inner jacket, **O.I.** = without inner jacket, **F** = flame-retardant, **H** = halogen-free **OIL** = oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Lenze
PVC/PUR/TPE

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Lenze Fan cables					
Linking cable					
EYL002VxxxxL02J02					
PVC, oil-res.	19	MAT9130045	5G1.0	8.0	6.8
TPE H*	23	MAT9120045	5G1.0	7.5	5
Extension cable					
EYL002VxxxxA00J01					
PVC, oil-res.	19	MAT9130042	5G1.0	8.0	6.8
TPE H*	23	MAT9120042	5G1.0	7.5	5
EYL002VxxxxA00J02					
PVC, oil-res.	19	MAT9130043	5G1.0	8.0	6.8
PUR	21	MAT9861110	5G1.0	8.0	6.8
TPE H*	23	MAT9120043	5G1.0	7.5	5
TPE F	25	MAT9961106	5G1.0	9.0	5
Lenze Decoder cables					
Linking cable					
EYD0017AxxxxW01S01					
PVC	08	MAT9130100	3x(2x0.14)C+(3x0.14)C	8.0	10
PUR M.I.	10	MAT9841107	3x(2x0.14)C+(3x0.14)C	8.5	7.5
TPE H*	11	MAT9120100	3x(2x0.14)C+(3x0.14)C	8.0	6.8
EYD0017AxxxxW01S02					
PVC	08	MAT9130101	3x(2x0.14)C+(3x0.14)C	8.0	10
PUR M.I.	10	MAT9841108	3x(2x0.14)C+(3x0.14)C	8.5	7.5
TPE H*	11	MAT9120101	3x(2x0.14)C+(3x0.14)C	8.0	6.8
EYD0017AxxxxW03S01					
PVC	08	MAT9130102	3x(2x0.14)C+(3x0.14)C	8.0	10
PUR M.I.	10	MAT9841109	3x(2x0.14)C+(3x0.14)C	8.5	7.5
TPE H*	11	MAT9120102	3x(2x0.14)C+(3x0.14)C	8.0	6.8
EYD0017AxxxxW03S02					
PVC	08	MAT9130103	3x(2x0.14)C+(3x0.14)C	8.0	10
PUR M.I.	10	MAT9841110	3x(2x0.14)C+(3x0.14)C	8.5	7.5
TPE H*	11	MAT9120103	3x(2x0.14)C+(3x0.14)C	8.0	6.8

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igus® gladly pre-harnesses the cable according to your technical guidelines. **G =** with green-yellow earth core, **x =** without earth core
* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Lenze
PVC/PUR/TPE

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Lenze Encoder cables					
Basic cable					
EWLExxxGM-T					
PVC	08	MAT9130026	(4x(2x0.25)+2x1.0)C	8.5	10
PUR M.I.	10	MAT9841104	(4x(2x0.25)+2x1.0)C	9.0	7.5
TPE H*	11	MAT9120026	(4x(2x0.25)+2x1.0)C	9.0	6.8
Linking cable					
EWLExxxZMST					
PVC	08	MAT9130027	(4x(2x0.25)+2x1.0)C	8.5	10
PUR M.I.	10	MAT9841105	(4x(2x0.25)+2x1.0)C	9.0	7.5
TPE H*	11	MAT9120027	(4x(2x0.25)+2x1.0)C	9.0	6.8
Terminal box connection cable					
EWLExxxGX-T					
PVC	08	MAT9130028	(4x(2x0.25)+2x1.0)C	8.5	10
PUR M.I.	10	MAT9841106	(4x(2x0.25)+2x1.0)C	9.0	7.5
TPE H*	11	MAT9120028	(4x(2x0.25)+2x1.0)C	9.0	6.8
Lenze Feedback cables					
Basic cable					
EYF0017AxxxxA00W02					
PUR M.I.	10	MAT9121091	4x(2x0.14)C+2x(1.0)C	9.5	7.5
Basic cable					
EYF0018AxxxxA00S03					
PVC	08	MAT9130095	4x(2x0.14)C+2x(1.0)C	9.5	10
PUR M.I.	10	MAT9121095	4x(2x0.14)C+2x(1.0)C	9.5	7.5
TPE H*	11	MAT9120095	4x(2x0.14)C+2x(1.0)C	9.5	6.8
Basic cable					
EYF0018AxxxxA00W02					
PVC	08	MAT9130091	4x(2x0.14)C+2x(1.0)C	9.5	10
TPE H*	11	MAT9120091	4x(2x0.14)C+2x(1.0)C	9.5	6.8

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Harnessed drive cables | Lenze
PVC/PUR/TPE

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Lenze Feedback cables					
Basic cable					
EYF0018AxxxxF02S03					
PVC	08	MAT9130088	4x(2x0.14)C+2x(1.0)C	9.5	10
TPE H*	11	MAT9120088	4x(2x0.14)C+2x(1.0)C	9.5	6.8
Basic cable					
EYF0018AxxxxF02W02					
PVC	08	MAT9130087	4x(2x0.14)C+2x(1.0)C	9.5	10
PUR M.I.	10	MAT9121087	4x(2x0.14)C+2x(1.0)C	9.5	7.5
TPE H*	11	MAT9120087	4x(2x0.14)C+2x(1.0)C	9.5	6.8
Basic cable					
EYF0019AxxxxF02S03					
PUR M.I.	10	MAT9121088	4x(2x0.14)C+2x(1.0)C	9.5	7.5
Basic cable					
EYF0020AxxxxA00S04					
PVC	08	MAT9130092	3x(2x0.14)C+(3x0.14)C	8.0	10
PUR M.I.	10	MAT9121092	3x(2x0.14)C+(3x0.14)C	8.5	7.5
TPE H*	11	MAT9120092	3x(2x0.14)C+(3x0.14)C	8.0	6.8
Basic cable					
EYF0020AxxxxA00S05					
PVC	08	MAT9130093	3x(2x0.14)C+(3x0.14)C	8.0	10
PUR M.I.	10	MAT9121093	3x(2x0.14)C+(3x0.14)C	8.5	7.5
TPE H*	11	MAT9120093	3x(2x0.14)C+(3x0.14)C	8.0	6.8
Basic cable					
EYF0020AxxxxF01S04					
PVC	08	MAT9130089	3x(2x0.14)C+(3x0.14)C	8.0	10
PUR M.I.	10	MAT9121089	3x(2x0.14)C+(3x0.14)C	8.5	7.5
TPE H*	11	MAT9120089	3x(2x0.14)C+(3x0.14)C	8.0	6.8

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* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

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Harnessed drive cables | Lenze
PVC/PUR/TPE

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Lenze Feedback cables					
Basic cable					
EYF0020AxxxxF01S05					
PVC	08	MAT9130090	3x(2x0.14)C+(3x0.14)C	8.0	10
PUR M.I.	10	MAT9121090	3x(2x0.14)C+(3x0.14)C	8.5	7.5
TPE H*	11	MAT9120090	3x(2x0.14)C+(3x0.14)C	8.0	6.8
Basic cable					
EYF0021AxxxxA00S03					
PUR M.I.	10	MAT9121094	3x(2x0.14)C+(4x0.14)C+2x(2x0.5)C	11.5	7.5
TPE H*	11	MAT9120094	3x(2x0.14)C+(4x0.14)C+2x(2x0.5)C	11.0	6.8
Basic cable					
EYF0021AxxxxF03S03					
PUR M.I.	10	MAT9121086	3x(2x0.14)C+(4x0.14)C+2x(2x0.5)C	11.5	7.5
TPE H*	11	MAT9120086	3x(2x0.14)C+(4x0.14)C+2x(2x0.5)C	11.0	6.8
EYF0021AxxxxF07S03					
PUR M.I.	10	MAT9841111	3x(2x0.14)C+(4x0.14)C+2x(2x0.5)C	11.5	7.5
TPE H*	11	MAT9941111	3x(2x0.14)C+(4x0.14)C+2x(2x0.5)C	11.0	6.8
Linking cable					
EYF0019VxxxxF02G02					
PVC	08	MAT9130084	4x(2x0.14)C+2x(1.0)C	9.5	10
PUR M.I.	10	MAT9121084	4x(2x0.14)C+2x(1.0)C	9.5	7.5
TPE H*	11	MAT9120084	4x(2x0.14)C+2x(1.0)C	9.5	6.8
EYF0019VxxxxF06G07					
PUR M.I.	10	MAT9121096	4x(2x0.14)C+2x(1.0)C	9.5	7.5
TPE H*	11	MAT9120096	4x(2x0.14)C+2x(1.0)C	9.5	6.8
EYF0020VxxxxF01G01					
PVC	08	MAT9130083	3x(2x0.14)C+(3x0.14)C	8.0	10
PUR M.I.	10	MAT9121083	3x(2x0.14)C+(3x0.14)C	8.5	7.5
TPE H*	11	MAT9120083	3x(2x0.14)C+(3x0.14)C	8.0	6.8
Linking cable					
EYF0022VxxxxF03G03					
PUR M.I.	10	MAT9121085	3x(2x0.14)C+(4x0.14)C+2x(2x0.5)C	11.5	7.5
TPE H*	11	MAT9120085	3x(2x0.14)C+(4x0.14)C+2x(2x0.5)C	11.0	6.8

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Harnessed drive cables | Lenze
PVC/PUR/TPE

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Lenze Feedback cables					
Extension cable					
EYF0019VxxxxA00G02					
PVC	08	MAT9130081	4x(2x0.14)C+2x(1.0)C	9.5	10
PUR M.I.	10	MAT9121081	4x(2x0.14)C+2x(1.0)C	9.5	7.5
TPE H*	11	MAT9120081	4x(2x0.14)C+2x(1.0)C	9.5	6.8
EYF0020VxxxxA00G01					
PVC	08	MAT9130080	3x(2x0.14)C+(3x0.14)C	8.0	10
PUR M.I.	10	MAT9121080	3x(2x0.14)C+(3x0.14)C	8.5	7.5
TPE H*	11	MAT9120080	3x(2x0.14)C+(3x0.14)C	8.0	6.8
EYF0022VxxxxA00G03					
PUR M.I.	10	MAT9121082	3x(2x0.14)C+(4x0.14)C+2x(2x0.5)C	11.5	7.5
TPE H*	11	MAT9120082	3x(2x0.14)C+(4x0.14)C+2x(2x0.5)C	11.0	6.8
Lenze Resolver cables					
Basic cable					
EWLRxxxGM-T					
PVC	08	MAT9130021	(3x(2x0.14)C+2x(0.5)C)C	9.5	10
PUR M.I.	10	MAT9841101	(3x(2x0.14)C+(2x0.5)C)C	10.0	7.5
TPE H*	11	MAT9120021	(3x(2x0.14)C+(2x0.5)C)C	10.0	6.8
Linking cable					
EWLRxxxZMST					
PVC	08	MAT9130022	(3x(2x0.14)C+2x(0.5)C)C	9.5	10
PUR M.I.	10	MAT9841102	(3x(2x0.14)C+(2x0.5)C)C	10.0	7.5
TPE H*	11	MAT9120022	(3x(2x0.14)C+(2x0.5)C)C	10.0	6.8
Terminal box connection cable					
EWLRxxxGX-T					
PVC	08	MAT9130023	(3x(2x0.14)C+2x(0.5)C)C	9.5	10
PUR M.I.	10	MAT9841103	(3x(2x0.14)C+(2x0.5)C)C	10.0	7.5
TPE H*	11	MAT9120023	(3x(2x0.14)C+(2x0.5)C)C	10.0	6.8

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* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
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Harnessed drive cables | LinMot
PVC/PUR

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
LinMot Motor cables					
Basic cable					
P10-70x…-D01/D02-MS					
PVC M.I.	01	MAT9762401	(4G1.5)C	10.0	7.5
PUR O.I.	06	MAT9862401	(4G1.5)C	9.0	10
PUR M.I.	07	MAT9862402	(4G1.5)C	11.0	7.5
LinMot Servo cables					
Basic cable					
P10-70x…-D03-MS					
PVC O.I.	04	MAT9752401	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9752402	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9852402	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9852401	(4G1.5+(2x1.5)C)	13.0	7.5

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igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | LTi DRiVES PVC/PUR

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
LTi DRiVES Servo cables					
Basic cable					
KM3-KSxxx					
PVC O.I.	04	MAT9020004	(4G1.5+2x(2x0.75)C)C	13.5	10
PVC M.I.	05	MAT9020003	(4G1.5+2x(2x0.75)C)C	14.5	7.5
PUR O.I.	06	MAT9020002	(4G1.5+2x(2x0.75)C)C	13.5	10
PUR M.I.	07	MAT9020001	(4G1.5+2x(2x0.75)C)C	14.5	7.5
KM3-KSxxx-24A					
PVC O.I.	04	MAT9020014	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9020013	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9020012	(4G2.5+2x(2x1.5)C)C	16.0	10
PUR M.I.	07	MAT9020011	(4G2.5+2x(2x1.5)C)C	16.0	7.5
Basic cable					
KM3-KSxxx-63A					
PVC M.I.	05	MAT9020023	(4G10+2x(2x1.5)C)C	23.0	7.5
PUR O.I.	06	MAT9020022	(4G10+2x(2x1.5)C)C	22.5	10
PUR M.I.	07	MAT9020021	(4G10+2x(2x1.5)C)C	22.5	7.5
Extension cable					
KM3-KSxxx (ext.)					
PVC O.I.	04	MAT9022004	(4G1.5+2x(2x0.75)C)C	13.5	10
PUR O.I.	06	MAT9022002	(4G1.5+2x(2x0.75)C)C	13.5	10
PUR M.I.	07	MAT9022001	(4G1.5+2x(2x0.75)C)C	14.5	7.5
KM3-KSxxx (ext.)					
PVC M.I.	05	MAT9022003	(4G1.5+2x(2x0.75)C)C	14.5	7.5
KM3-KSxxx-24A (ext.)					
PVC O.I.	04	MAT9022014	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9022013	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9022012	(4G2.5+2x(2x1.5)C)C	16.0	10
PUR M.I.	07	MAT9022011	(4G2.5+2x(2x1.5)C)C	16.0	7.5
Extension cable					
KM3-KSxxx-63A (ext.)					
PVC M.I.	05	MAT9022023	(4G10+2x(2x1.5)C)C	23.0	7.5
PUR M.I.	07	MAT9022021	(4G10+2x(2x1.5)C)C	22.5	7.5
KM3-KSxxx-63A (ext.)					
PUR O.I.	06	MAT9022022	(4G10+2x(2x1.5)C)C	22.5	10

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Harnessed drive cables | LTi DRiVES
PVC/PUR/TPE

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
LTi DRiVES Encoder cables					
Basic cable					
KGH2-KSxxx					
PVC	08	MAT9021004	(4x(2x0.25)+2x1.0)C	8.5	10
TPE H*	11	MAT9021001	(4x(2x0.25)+2x1.0)C	9.0	6.8
KGH3-KSxxx					
PVC	08	MAT9021014	(4x(2x0.25)+2x1.0)C	8.5	10
TPE H*	11	MAT9021011	(4x(2x0.25)+2x1.0)C	9.0	6.8
KGS2-KSxxx					
PUR O.I.	09	MAT9021023	(2x(2x(2x0.14))+(4x0.14)C+(4x0.5))C	10.5	10
PUR M.I.	10	MAT9021022	(2x(2x(2x0.14))+(4x0.14)C+(4x0.5))C	11.0	7.5
TPE H*	11	MAT9021021	(2x(2x(2x0.14))+(4x0.14)C+(4x0.5))C	11.0	6.8
KRY2-CDF-KSxxx					
PVC	08	MAT9021034	(4x(2x0.25)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9021032	(4x(2x0.25)+2x0.5)C	8.5	7.5
TPE H*	11	MAT9021031	(4x(2x0.25)+2x0.5)C	8.5	6.8
KRY2-KSxxx					
PVC	08	MAT9021044	(4x(2x0.25)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9021042	(4x(2x0.25)+2x0.5)C	8.5	7.5
TPE H*	11	MAT9021041	(4x(2x0.25)+2x0.5)C	8.5	6.8
Extension cable					
KGH2-KSxxx (ext.)					
PVC	08	MAT9023004	(4x(2x0.25)+2x1.0)C	8.5	10
TPE H*	11	MAT9023001	(4x(2x0.25)+2x1.0)C	9.0	6.8
KGH3-KSxxx (ext.)					
PVC	08	MAT9023014	(4x(2x0.25)+2x1.0)C	8.5	10
TPE H*	11	MAT9023011	(4x(2x0.25)+2x1.0)C	9.0	6.8
KGS2-KSxxx (ext.)					
PUR O.I.	09	MAT9023023	(2x(2x(2x0.14))+(4x0.14)C+(4x0.5))C	10.5	10
PUR M.I.	10	MAT9023022	(2x(2x(2x0.14))+(4x0.14)C+(4x0.5))C	11.0	7.5
TPE H*	11	MAT9023021	(2x(2x(2x0.14))+(4x0.14)C+(4x0.5))C	11.0	6.8
KRY2-CDF-KSxxx (ext.)					
PVC	08	MAT9023034	(4x(2x0.25)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9023032	(4x(2x0.25)+2x0.5)C	8.5	7.5
TPE H*	11	MAT9023031	(4x(2x0.25)+2x0.5)C	8.5	6.8
KRY2-KSxxx (ext.)					
PVC	08	MAT9023044	(4x(2x0.25)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9023042	(4x(2x0.25)+2x0.5)C	8.5	7.5
TPE H*	11	MAT9023041	(4x(2x0.25)+2x0.5)C	8.5	6.8

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits. Example image.
igus® gladly pre-harnesses the cable according to your technical guidelines. **G =** with green-yellow earth core, **x =** without earth core
* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Mitsubishi Electric PVC/PUR

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Mitsubishi Electric Motor cables					
Basic cable					
MR-BKS1CBL-xxx-A1-H					
PVC, oil-res.	19	MAT9712002	3G0.75	6.5	6.8
PUR	21	MAT9812002	3G0.75	6.5	6.8
MR-BKS1CBL-xxx-A2-H					
PVC, oil-res.	19	MAT9712004	3G0.75	6.5	6.8
PUR	21	MAT9812004	3G0.75	6.5	6.8
Basic cable					
MR-PWS1CBL-xxx-A1-H					
PVC, oil-res.	19	MAT9712001	4G0.75	7.0	6.8
PUR	21	MAT9812001	4G0.75	7.0	6.8
MR-PWS1CBL-xxx-A2-H					
PVC, oil-res.	19	MAT9712003	4G0.75	7.0	6.8
PUR	21	MAT9812003	4G0.75	7.0	6.8
Basic cable					
PCS015N-xxx-0-0C4					
PVC M.I.	01	MAT9752002	(4G1.5)C	10.0	7.5
PUR O.I.	06	MAT9852002	(4G1.5)C	9.0	10
PUR M.I.	07	MAT9952002	(4G1.5)C	11.0	7.5
PCS025N-xxx-0-0C5					
PVC M.I.	01	MAT9752003	(4G2.5)C	11.5	7.5
PUR O.I.	06	MAT9852003	(4G2.5)C	10.5	10
PUR M.I.	07	MAT9952003	(4G2.5)C	12.5	7.5
PCS025N-xxx-C4					
PVC O.I.	04	MAT9752001	(4G2.5+(2x1.5)C)C	14.0	10
PUR O.I.	06	MAT9852001	(4G2.5)C	10.5	10
PUR M.I.	07	MAT9952001	(4G2.5)C	12.5	7.5
PCS040N-xxx-0-0C4					
PVC M.I.	01	MAT9752004	(4G4.0)C	13.0	7.5
PUR O.I.	06	MAT9852004	(4G4.0)C	12.5	10
TPE F	02	MAT9952004	(4G4.0)C	13.0	7.5
PCS040N-xxx-0-0C5					
PVC M.I.	01	MAT9752005	(4G4.0)C	13.0	7.5
PUR O.I.	06	MAT9852005	(4G4.0)C	12.5	10
TPE F	02	MAT9952005	(4G4.0)C	13.0	7.5

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits. Example image.
igus® gladly pre-harnesses the cable according to your technical guidelines. **G =** with green-yellow earth core, **x =** without earth core
* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Mitsubishi Electric
PVC/PUR/TPE

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Mitsubishi Electric Motor cables					
PCS060N-xxx-0-0C5					
PVC M.I.	01	MAT9752006	(4G6.0)C	16.0	7.5
PUR O.I.	06	MAT9852006	(4G6.0)C	14.5	10
TPE F	02	MAT9952006	(4G6.0)C	16.0	7.5
Mitsubishi Electric Encoder cables					
Basic cable					
MR-J3ENCBL-xxx-A1-H					
PVC	14	MAT9722002	(3x(2x0.25))C	7.0	7.5
PUR	15	MAT9822002	(3x(2x0.25))C	7.0	7.5
MR-J3ENCBL-xxx-A2-H					
PVC	14	MAT9722003	(3x(2x0.25))C	7.0	7.5
PUR	15	MAT9822003	(3x(2x0.25))C	7.0	7.5
Basic cable					
MR-J3ENSCBL-xxx-H					
PVC	14	MAT9722001	(3x(2x0.25))C	7.0	7.5
PUR	15	MAT9822001	(3x(2x0.25))C	7.0	7.5

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igus® gladly pre-harnesses the cable according to your technical guidelines. **G =** with green-yellow earth core, **x =** without earth core
* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Nidec/Control Techniques

PVC/TPE

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Nidec/Control Techniques Motor cables					
Basic cable					
PS B A A A XXX					
PVC M.I.	01	MAT9560002	(4G2.5)C	11.5	7.5
TPE F	02	MAT9540002	(4G2.5)C	11.5	7.5
TPE H*	03	MAT9960502	(4G2.5)C	11.5	7.5
PS B A F A XXX					
PVC M.I.	01	MAT9560005	(4G2.5)C	11.5	7.5
TPE F	02	MAT9540005	(4G2.5)C	11.5	7.5
TPE H*	03	MAT9960505	(4G2.5)C	11.5	7.5
PS B B A A XXX					
PVC M.I.	01	MAT9560003	(4G4.0)C	13.0	7.5
TPE F	02	MAT9540003	(4G4.0)C	13.0	7.5
TPE H*	03	MAT9960503	(4G4.0)C	13.0	7.5
PS B B F A XXX					
PVC M.I.	01	MAT9560006	(4G4.0)C	13.0	7.5
TPE F	02	MAT9540006	(4G4.0)C	13.0	7.5
TPE H*	03	MAT9960506	(4G4.0)C	13.0	7.5
PS B G A A XXX					
PVC M.I.	01	MAT9560001	(4G1.5)C	10.0	7.5
TPE F	02	MAT9540001	(4G1.5)C	10.0	7.5
TPE H*	03	MAT9960501	(4G1.5)C	10.0	7.5
PS B G F A XXX					
PVC M.I.	01	MAT9560004	(4G1.5)C	10.0	7.5
TPE F	02	MAT9540004	(4G1.5)C	10.0	7.5
TPE H*	03	MAT9960504	(4G1.5)C	10.0	7.5
Basic cable					
PS B A A B XXX					
PVC M.I.	01	MAT9560008	(4G2.5)C	11.5	7.5
TPE F	02	MAT9540008	(4G2.5)C	11.5	7.5
TPE H*	03	MAT9960508	(4G2.5)C	11.5	7.5
PS B A B B XXX					
PVC M.I.	01	MAT9560020	(4G2.5)C	11.5	7.5
TPE F	02	MAT9540020	(4G2.5)C	11.5	7.5
TPE H*	03	MAT9960520	(4G2.5)C	11.5	7.5
PS B A F B XXX					
PVC M.I.	01	MAT9560014	(4G2.5)C	11.5	7.5
TPE F	02	MAT9540014	(4G2.5)C	11.5	7.5
TPE H*	03	MAT9960514	(4G2.5)C	11.5	7.5

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* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Nidec/Control Techniques

PVC/TPE

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Nidec/Control Techniques Motor cables					
PS B B A B XXX					
PVC M.I.	**01**	MAT9560009	(4G4.0)C	13.0	7.5
TPE F	**02**	MAT9540009	(4G4.0)C	13.0	7.5
TPE H*	**03**	MAT9960509	(4G4.0)C	13.0	7.5
PS B B B B XXX					
PVC M.I.	**01**	MAT9560021	(4G4.0)C	13.0	7.5
TPE F	**02**	MAT9540021	(4G4.0)C	13.0	7.5
TPE H*	**03**	MAT9960521	(4G4.0)C	13.0	7.5
PS B B F B XXX					
PVC M.I.	**01**	MAT9560015	(4G4.0)C	13.0	7.5
TPE F	**02**	MAT9540015	(4G4.0)C	13.0	7.5
TPE H*	**03**	MAT9960515	(4G4.0)C	13.0	7.5
Basic cable					
PS B C A B XXX					
PVC M.I.	**01**	MAT9560010	(4G6.0)C	16.0	7.5
TPE F	**02**	MAT9540010	(4G6.0)C	16.0	7.5
TPE H*	**03**	MAT9960510	(4G6.0)C	16.0	7.5
PS B C B B XXX					
PVC M.I.	**01**	MAT9560022	(4G6.0)C	16.0	7.5
TPE F	**02**	MAT9540022	(4G6.0)C	16.0	7.5
TPE H*	**03**	MAT9960522	(4G6.0)C	16.0	7.5
PS B C F B XXX					
PVC M.I.	**01**	MAT9560016	(4G6.0)C	16.0	7.5
TPE F	**02**	MAT9540016	(4G6.0)C	16.0	7.5
TPE H*	**03**	MAT9960516	(4G6.0)C	16.0	7.5
PS B D A B XXX					
PVC M.I.	**01**	MAT9560011	(4G10)C	18.5	7.5
TPE F	**02**	MAT9540011	(4G10)C	18.5	7.5
TPE H*	**03**	MAT9960511	(4G10)C	18.5	7.5
PS B D B B XXX					
PVC M.I.	**01**	MAT9560023	(4G10)C	18.5	7.5
TPE F	**02**	MAT9540023	(4G10)C	18.5	7.5
TPE H*	**03**	MAT9960523	(4G10)C	18.5	7.5
PS B D F B XXX					
PVC M.I.	**01**	MAT9560017	(4G10)C	18.5	7.5
TPE F	**02**	MAT9540017	(4G10)C	18.5	7.5
TPE H*	**03**	MAT9960517	(4G10)C	18.5	7.5

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igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Nidec/Control Techniques
PVC/PUR/TPE

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Nidec/Control Techniques Motor cables					
Basic cable					
PS B E A B XXX					
PVC M.I.	01	MAT9560012	(4G16)C	23.0	7.5
TPE F	02	MAT9540012	(4G16)C	23.0	7.5
TPE H*	03	MAT9960512	(4G16)C	23.0	7.5
PS B E B B XXX					
PVC M.I.	01	MAT9560024	(4G16)C	23.0	7.5
TPE F	02	MAT9540024	(4G16)C	23.0	7.5
TPE H*	03	MAT9960524	(4G16)C	23.0	7.5
PS B E F B XXX					
PVC M.I.	01	MAT9560018	(4G16)C	23.0	7.5
TPE F	02	MAT9540018	(4G16)C	23.0	7.5
TPE H*	03	MAT9960518	(4G16)C	23.0	7.5
PS B G A B XXX					
PVC M.I.	01	MAT9560007	(4G1.5)C	10.0	7.5
TPE F	02	MAT9540007	(4G1.5)C	10.0	7.5
TPE H*	03	MAT9960507	(4G1.5)C	10.0	7.5
PS B G B B XXX					
PVC M.I.	01	MAT9560019	(4G1.5)C	10.0	7.5
TPE F	02	MAT9540019	(4G1.5)C	10.0	7.5
TPE H*	03	MAT9960519	(4G1.5)C	10.0	7.5
PS B G F B XXX					
PVC M.I.	01	MAT9560013	(4G1.5)C	10.0	7.5
TPE F	02	MAT9540013	(4G1.5)C	10.0	7.5
TPE H*	03	MAT9960513	(4G1.5)C	10.0	7.5
Nidec/Control Techniques Servo cables					
Basic cable					
PB B A A A XXX					
PVC O.I.	04	MAT9750502	(4G2.5+(2x1.5)C)C	14.0	10
PVC M.I.	05	MAT9560041	(4G2.5+(2x1.5)C)C	14.5	7.5
PUR M.I.	07	MAT9540041	(4G2.5+(2x1.5)C)C	14.5	7.5
PB B A F A XXX					
PVC O.I.	04	MAT9750505	(4G2.5+(2x1.5)C)C	14.0	10
PVC M.I.	05	MAT9560044	(4G2.5+(2x1.5)C)C	14.5	7.5
PUR M.I.	07	MAT9540044	(4G2.5+(2x1.5)C)C	14.5	7.5
PB B B A A XXX					
PVC O.I.	04	MAT9750503	(4G4.0+(2x1.5)C)C	15.0	10
PVC M.I.	05	MAT9560042	(4G4.0+(2x1.5)C)C	16.0	7.5
PUR M.I.	07	MAT9540042	(4G4.0+(2x1.5)C)C	16.0	7.5

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* Cable qualities: **M.I** = with inner jacket, **O.I.** = without inner jacket, **F** = flame-retardant, **H** = halogen-free **OIL** = oil-resistant
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Harnessed drive cables | Nidec/Control Techniques

PVC/PUR

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Nidec/Control Techniques Servo cables					
PB B B F A XXX					
PVC O.I.	04	MAT9750506	(4G4.0+(2x1.5)C)C	15.0	10
PVC M.I.	05	MAT9560045	(4G4.0+(2x1.5)C)C	16.0	7.5
PUR M.I.	07	MAT9540045	(4G4.0+(2x1.5)C)C	16.0	7.5
PB B G A A XXX					
PVC O.I.	04	MAT9750501	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9560040	(4G1.5+(2x1.5)C)	13.0	7.5
PUR M.I.	07	MAT9540040	(4G1.5+(2x1.5)C)	13.0	7.5
PB B G F A XXX					
PVC O.I.	04	MAT9750504	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9560043	(4G1.5+(2x1.5)C)	13.0	7.5
PUR M.I.	07	MAT9540043	(4G1.5+(2x1.5)C)	13.0	7.5
Basic cable					
PB B A A B XXX					
PVC O.I.	04	MAT9750508	(4G2.5+(2x1.5)C)C	14.0	10
PVC M.I.	05	MAT9560047	(4G2.5+(2x1.5)C)C	14.5	7.5
PUR M.I.	07	MAT9540047	(4G2.5+(2x1.5)C)C	14.5	7.5
PB B A B B XXX					
PVC O.I.	04	MAT9750516	(4G2.5+(2x1.5)C)C	14.0	10
PVC M.I.	05	MAT9560059	(4G2.5+(2x1.5)C)C	14.5	7.5
PUR M.I.	07	MAT9540059	(4G2.5+(2x1.5)C)C	14.5	7.5
PB B A F B XXX					
PVC O.I.	04	MAT9750512	(4G2.5+(2x1.5)C)C	14.0	10
PVC M.I.	05	MAT9560053	(4G2.5+(2x1.5)C)C	14.5	7.5
PUR M.I.	07	MAT9540053	(4G2.5+(2x1.5)C)C	14.5	7.5
PB B A G B XXX					
PVC O.I.	04	MAT9750520	(4G2.5+(2x1.5)C)C	14.0	10
PVC M.I.	05	MAT9560065	(4G2.5+(2x1.5)C)C	14.5	7.5
PUR M.I.	07	MAT9540065	(4G2.5+(2x1.5)C)C	14.5	7.5
PB B B A B XXX					
PVC O.I.	04	MAT9750509	(4G4.0+(2x1.5)C)C	15.0	10
PVC M.I.	05	MAT9560048	(4G4.0+(2x1.5)C)C	16.0	7.5
PUR M.I.	07	MAT9540048	(4G4.0+(2x1.5)C)C	16.0	7.5
PB B B B B XXX					
PVC O.I.	04	MAT9750517	(4G4.0+(2x1.5)C)C	15.0	10
PVC M.I.	05	MAT9560060	(4G4.0+(2x1.5)C)C	16.0	7.5
PUR M.I.	07	MAT9540060	(4G4.0+(2x1.5)C)C	16.0	7.5
PB B B F B XXX					
PVC O.I.	04	MAT9750513	(4G4.0+(2x1.5)C)C	15.0	10
PVC M.I.	05	MAT9560054	(4G4.0+(2x1.5)C)C	16.0	7.5
PUR M.I.	07	MAT9540054	(4G4.0+(2x1.5)C)C	16.0	7.5

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* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
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Harnessed drive cables | Nidec/Control Techniques
PVC/PUR

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Nidec/Control Techniques Servo cables					
Basic cable					
PB B B G B XXX					
PVC O.I.	04	MAT9750521	(4G4.0+(2x1.5)C)C	15.0	10
PVC M.I.	05	MAT9560066	(4G4.0+(2x1.5)C)C	16.0	7.5
PUR M.I.	07	MAT9540066	(4G4.0+(2x1.5)C)C	16.0	7.5
PB B C A B XXX					
PVC O.I.	04	MAT9750510	(4G6.0+(2x1.5)C)C	16.5	10
PVC M.I.	05	MAT9560049	(4G6.0+(2x1.5)C)C	18.0	7.5
PUR M.I.	07	MAT9540049	(4G6.0+(2x1.5)C)C	17.5	7.5
PB B C B B XXX					
PVC O.I.	04	MAT9750518	(4G6.0+(2x1.5)C)C	16.5	10
PVC M.I.	05	MAT9560061	(4G6.0+(2x1.5)C)C	18.0	7.5
PUR M.I.	07	MAT9540061	(4G6.0+(2x1.5)C)C	17.5	7.5
PB B C F B XXX					
PVC O.I.	04	MAT9750514	(4G6.0+(2x1.5)C)C	16.5	10
PVC M.I.	05	MAT9560055	(4G6.0+(2x1.5)C)C	18.0	7.5
PUR M.I.	07	MAT9540055	(4G6.0+(2x1.5)C)C	17.5	7.5
PB B C G B XXX					
PVC O.I.	04	MAT9750522	(4G6.0+(2x1.5)C)C	16.5	10
PVC M.I.	05	MAT9560067	(4G6.0+(2x1.5)C)C	18.0	7.5
PUR M.I.	07	MAT9540067	(4G6.0+(2x1.5)C)C	17.5	7.5
PB B D A B XXX					
PVC M.I.	05	MAT9560050	(4G10+(2x1.5)C)C	21.5	7.5
PUR M.I.	07	MAT9540050	(4G10+(2x1.5)C)C	21.0	7.5
PB B D B B XXX					
PVC M.I.	05	MAT9560062	(4G10+(2x1.5)C)C	21.5	7.5
PUR M.I.	07	MAT9540062	(4G10+(2x1.5)C)C	21.0	7.5
PB B D F B XXX					
PVC M.I.	05	MAT9560056	(4G10+(2x1.5)C)C	21.5	7.5
PUR M.I.	07	MAT9540056	(4G10+(2x1.5)C)C	21.0	7.5
PB B D G B XXX					
PVC M.I.	05	MAT9560068	(4G10+(2x1.5)C)C	21.5	7.5
PUR M.I.	07	MAT9540068	(4G10+(2x1.5)C)C	21.0	7.5
PB B E A B XXX					
PVC M.I.	05	MAT9560051	(4G16+(2x1.5)C)C	25.0	7.5
PUR M.I.	07	MAT9540051	(4G16+(2x1.5)C)C	24.0	7.5
PB B E B B XXX					
PVC M.I.	05	MAT9560063	(4G16+(2x1.5)C)C	25.0	7.5
PUR M.I.	07	MAT9540063	(4G16+(2x1.5)C)C	24.0	7.5

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits. Example image.
igus® gladly pre-harnesses the cable according to your technical guidelines. **G =** with green-yellow earth core, **x =** without earth core
* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Nidec/Control Techniques

PVC/PUR/TPE

* Technical information on the cable quality (Code 01-31): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Nidec/Control Techniques Servo cables					
PB B E F B XXX					
PVC M.I.	05	MAT9560057	(4G16+(2x1.5)C)C	25.0	7.5
PUR M.I.	07	MAT9540057	(4G16+(2x1.5)C)C	24.0	7.5
PB B E G B XXX					
PVC M.I.	05	MAT9560069	(4G16+(2x1.5)C)C	25.0	7.5
PUR M.I.	07	MAT9540069	(4G16+(2x1.5)C)C	24.0	7.5
PB B G A B XXX					
PVC O.I.	04	MAT9750507	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9560046	(4G1.5+(2x1.5)C)	13.0	7.5
PUR M.I.	07	MAT9540046	(4G1.5+(2x1.5)C)	13.0	7.5
PB B G B B XXX					
PVC O.I.	04	MAT9750515	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9560058	(4G1.5+(2x1.5)C)	13.0	7.5
PUR M.I.	07	MAT9540058	(4G1.5+(2x1.5)C)	13.0	7.5
PB B G F B XXX					
PVC O.I.	04	MAT9750511	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9560052	(4G1.5+(2x1.5)C)	13.0	7.5
PUR M.I.	07	MAT9540052	(4G1.5+(2x1.5)C)	13.0	7.5
PB B G G B XXX					
PVC O.I.	04	MAT9750519	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9560064	(4G1.5+(2x1.5)C)	13.0	7.5
PUR M.I.	07	MAT9540064	(4G1.5+(2x1.5)C)	13.0	7.5
Nidec/Control Techniques Encoder cables					
Basic cable					
SS B A H C XXX					
PVC	08	MAT9560100	(4x(2x0.34)+4x0.5)C	9.5	10
PUR M.I.	10	MAT9840501	(4x(2x0.34)+4x0.5)C	10.0	7.5
TPE H*	11	MAT9540100	(4x(2x0.34)+4x0.5)C	10.0	6.8
SS B A H H XXX					
PVC	08	MAT9560101	(4x(2x0.34)+4x0.5)C	9.5	10
PUR M.I.	10	MAT9840502	(4x(2x0.34)+4x0.5)C	10.0	7.5
TPE H*	11	MAT9540101	(4x(2x0.34)+4x0.5)C	10.0	6.8
SS B A H N XXX					
PVC	08	MAT9560104	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	9.0	10
PUR M.I.	10	MAT9840505	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	10.0	7.5
TPE H*	11	MAT9540104	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	10.0	6.8

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits. Example image.
igus® gladly pre-harnesses the cable according to your technical guidelines. **G =** with green-yellow earth core, **x =** without earth core
* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | NUM PVC/PUR/TPE

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
NUM Power cables					
Basic cable					
AGOFRU018LMxxx					
PVC M.I.	01	MAT9280051	(4G1.5)C	10.0	7.5
TPE F	02	MAT9282051	(4G1.5)C	10.0	7.5
TPE H*	03	MAT9961201	(4G1.5)C	10.0	7.5
AGOFRU019LMxxx					
PVC M.I.	01	MAT9280052	(4G4.0)C	13.0	7.5
TPE F	02	MAT9282052	(4G4.0)C	13.0	7.5
TPE H*	03	MAT9961202	(4G4.0)C	13.0	7.5
Extension cable					
AGOFRU018LMxxx (ext.)					
PVC M.I.	01	MAT9280061	(4G1.5)C	10.0	7.5
TPE H*	03	MAT9961203	(4G1.5)C	10.0	7.5
AGOFRU018LMxxx (ext.)					
TPE F	02	MAT9282061	(4G1.5)C	10.0	7.5
AGOFRU019LMxxx (ext.)					
PVC M.I.	01	MAT9280062	(4G4.0)C	13.0	7.5
TPE F	02	MAT9282062	(4G4.0)C	13.0	7.5
TPE H*	03	MAT9961204	(4G4.0)C	13.0	7.5
NUM Servo cables					
Basic cable					
AGOFRU018Mxxx					
PVC M.I.	05	MAT9280001	(4G1.5+(2x1.5)C)	13.0	7.5
PUR M.I.	07	MAT9282001	(4G1.5+(2x1.5)C)	13.0	7.5
AGOFRU019Mxxx					
PVC M.I.	05	MAT9280002	(4G4.0+(2x1.5)C)C	16.0	7.5
PUR M.I.	07	MAT9282002	(4G4.0+(2x1.5)C)C	16.0	7.5
Basic cable					
AGOFRU020Mxxx					
PVC M.I.	05	MAT9280003	(4G10+(2x1.5)C)C	21.5	7.5
PUR M.I.	07	MAT9282003	(4G10+(2x1.5)C)C	21.0	7.5

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits. Example image.
igus® gladly pre-harnesses the cable according to your technical guidelines. **G =** with green-yellow earth core, **x =** without earth core
* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | NUM
PVC/PUR/TPE

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
NUM Servo cables					
Extension cable					
AGOFRU018Mxxx (ext.)					
PVC M.I.	05	MAT9280011	(4G1.5+(2x1.5)C)	13.0	7.5
PUR M.I.	07	MAT9282011	(4G1.5+(2x1.5)C)	13.0	7.5
AGOFRU019Mxxx (ext.)					
PVC M.I.	05	MAT9280012	(4G4.0+(2x1.5)C)C	16.0	7.5
PUR M.I.	07	MAT9282012	(4G4.0+(2x1.5)C)C	16.0	7.5
Extension cable					
AGOFRU020Mxxx (ext.)					
PVC M.I.	05	MAT9280013	(4G10+(2x1.5)C)C	21.5	7.5
PUR M.I.	07	MAT9282013	(4G10+(2x1.5)C)C	21.0	7.5
NUM Fan cables					
Basic cable					
AGOFRU012Mxxx					
PVC	17	MAT9289005	4G1.0	7.0	7.5
TPE H*	23	MAT9289007	4G1.0	6.5	5
Extension cable					
AGOFRU012Mxxx (ext.)					
PVC	17	MAT9289015	4G1.0	7.0	7.5
TPE H*	23	MAT9289017	4G1.0	6.5	5
NUM Encoder cables					
Basic cable					
AGOFRU029Mxxx					
PVC	08	MAT9284001	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	9.0	10
TPE H*	11	MAT9286001	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	10.0	6.8
Basic cable					
AGOFRU030Mxxx					
PVC	08	MAT9289001	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	9.0	10
TPE H*	11	MAT9289004	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	10.0	6.8

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits. Example image.
igus® gladly pre-harnesses the cable according to your technical guidelines. **G =** with green-yellow earth core, **x =** without earth core
* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | NUM PVC/TPE

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
NUM Encoder cables					
Extension cable					
AGOFRU029Mxxx (ext.)					
PVC	08	MAT9284011	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	9.0	10
TPE H*	11	MAT9286011	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	10.0	6.8
Extension cable					
AGOFRU030Mxxx (ext.)					
PVC	08	MAT9289011	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	9.0	10
TPE H*	11	MAT9289014	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	10.0	6.8

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* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Omron
PVC/PUR/TPE

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Omron Motor cables					
Basic cable					
R88A-CAWA-xxxS-DE					
TPE F	02	MAT9810004	(4G0.5)C	7.5	7.5
TPE H*	03	MAT9962104	(4G0.5)C	8.0	7.5
R88A-CAWCxxx					
PVC M.I.	01	MAT9710005	(4G1.5)C	10.0	7.5
TPE F	02	MAT9810005	(4G1.5)C	10.0	7.5
TPE H*	03	MAT9962105	(4G1.5)C	10.0	7.5
R88A-CAWCxxxS-E					
PVC M.I.	01	MAT9710003	(4G1.5)C	10.0	7.5
TPE F	02	MAT9810003	(4G1.5)C	10.0	7.5
TPE H*	03	MAT9962103	(4G1.5)C	10.0	7.5
R88A-CAWDxxxS					
PVC M.I.	01	MAT9710006	(4G2.5)C	11.5	7.5
TPE F	02	MAT9810006	(4G2.5)C	11.5	7.5
TPE H*	03	MAT9962106	(4G2.5)C	11.5	7.5
R88A-CAWDxxxS-E					
PVC M.I.	01	MAT9710001	(4G2.5)C	11.5	7.5
TPE F	02	MAT9810001	(4G2.5)C	11.5	7.5
TPE H*	03	MAT9962101	(4G2.5)C	11.5	7.5
R88A-CAWFxxxS-E					
PVC M.I.	01	MAT9710002	(4G4.0)C	13.0	7.5
TPE F	02	MAT9810002	(4G4.0)C	13.0	7.5
TPE H*	03	MAT9962102	(4G4.0)C	13.0	7.5
Omron Control cables					
Basic cable					
JZSP-CHM000-xx-E					
PVC M.I.	18	MAT9712103	(5G0.5)C	8.0	7.5
PVC, oil-res.	20	MAT9710015	(5G0.5)C	8.5	6.8
PUR M.I.	22	MAT9810015	(5G0.5)C	8.0	6.8
TPE H*	24	MAT9912103	(5x0.5)C	7.5	5
Basic cable					
JZSP-CHM000-xx-ME					
PVC M.I.	18	MAT9712104	(5G0.5)C	8.0	7.5
PVC, oil-res.	20	MAT9710016	(5G0.5)C	8.5	6.8
PUR M.I.	22	MAT9810016	(5G0.5)C	8.0	6.8
TPE H*	24	MAT9912104	(5x0.5)C	7.5	5

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igus® gladly pre-harnesses the cable according to your technical guidelines. **G =** with green-yellow earth core, **x =** without earth core
* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Omron
PVC/PUR/TPE

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Omron Control cables					
Basic cable					
JZSP-CHM030-xx-E					
PVC M.I.	18	MAT9712105	(7G0.75)C	10.0	7.5
PVC, oil-res.	20	MAT9710017	(7G0.5)C	10.0	6.8
PUR M.I.	22	MAT9810017	(7G0.5)C	9.5	6.8
TPE H*	24	MAT9912105	(7x0.5)C	8.5	5
Basic cable					
JZSP-CHM030-xx-ME					
PVC M.I.	18	MAT9712106	(7G0.75)C	10.0	7.5
PVC, oil-res.	20	MAT9710018	(7G0.5)C	10.0	6.8
PUR M.I.	22	MAT9810018	(7G0.5)C	9.5	6.8
TPE H*	24	MAT9912106	(7x0.5)C	8.5	5
Basic cable					
JZSP-CSM22-xx-E-G1					
PVC M.I.	18	MAT9712102	(4G0.75)C	8.5	7.5
PVC, oil-res.	20	MAT9710014	(4G0.75)C	8.5	6.8
PUR M.I.	22	MAT9810014	(4G0.75)C	8.5	6.8
TPE H*	24	MAT9912102	(4G0.75)C	7.5	5
Basic cable					
R88A-CAWCxxxB-E					
PVC	17	MAT9712101	2x0.5	5.5	7.5
PVC, oil-res.	19	MAT9710013	2x0.5	6.0	6.8
PUR	21	MAT9810013	3G0.75	6.5	6.8
TPE H*	23	MAT9912101	2x0.5	5.0	5
Basic cable					
R88A-CAWExxxB					
PVC M.I.	18	MAT9712107	(3G0.5)C	7.0	7.5
PVC, oil-res.	20	MAT9710019	(2x0.5)C	7.0	6.8
PUR M.I.	22	MAT9810019	(4G0.5)C	8.0	6.8
TPE H*	24	MAT9912107	(4x0.5)C	7.0	5

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* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Omron
PVC/PUR/TPE

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Omron Encoder cables					
Basic cable					
JZSP-CHP800-xx-E					
PVC	08	MAT9710009	(4x(2x0.25)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9842103	(4x(2x0.25)+2x0.5)C	8.5	7.5
TPE H*	11	MAT9810009	(4x(2x0.25)+2x0.5)C	8.5	6.8
Basic cable					
JZSP-CHP800-xx-ME					
PVC	08	MAT9710008	(4x(2x0.25)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9842102	(4x(2x0.25)+2x0.5)C	8.5	7.5
TPE H*	11	MAT9810008	(4x(2x0.25)+2x0.5)C	8.5	6.8
Basic cable					
JZSP-CSP21-xx-E-G1					
PVC	14	MAT9710011	(3x(2x0.25))C	7.0	7.5
PUR M.I.	10	MAT9842105	(3x(2x0.25))C	7.5	7.5
TPE H*	11	MAT9810011	(3x(2x0.25))C	7.5	6.8
Basic cable					
R88A-CRWA-xxxC-DE					
PVC	08	MAT9710012	(2x(2x0.25)+2x0.5)C	6.5	10
PUR M.I.	10	MAT9842106	(2x(2x0.25)+2x0.5)C	6.5	7.5
TPE H*	11	MAT9810012	(2x(2x0.25)+2x0.5)C	6.5	6.8
Basic cable					
R88A-CRWBxxxN					
PVC	08	MAT9710010	(4x(2x0.25)+2x1.0)C	8.5	10
PUR M.I.	10	MAT9842104	(4x(2x0.25)+2x1.0)C	9.0	7.5
TPE H*	11	MAT9810010	(4x(2x0.25)+2x1.0)C	9.0	6.8
R88A-CRWBxxxN-E					
PVC	08	MAT9710007	(4x(2x0.25)+2x1.0)C	8.5	10
PUR M.I.	10	MAT9842101	(4x(2x0.25)+2x1.0)C	9.0	7.5
TPE H*	11	MAT9810007	(4x(2x0.25)+2x1.0)C	9.0	6.8

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits. Example image.
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* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
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Harnessed drive cables | Parker PVC/PUR

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Parker Motor cables					
Basic cable					
iMOK42					
PVC O.I.	04	MAT9752255	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9752205	(4G2.5+(2x1.5)C)C	14.5	7.5
PUR O.I.	06	MAT9852255	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9852205	(4G1.5+(2x1.5)C)	13.0	7.5
iMOK43					
PVC O.I.	04	MAT9752257	(4G2.5+(2x1.5)C)C	14.0	10
PUR O.I.	06	MAT9852257	(4G2.5+(2x1.5)C)C	14.0	10
PUR O.I.	06	MAT9752207	(4G2.5+(2x1.5)C)C	14.5	7.5
PUR M.I.	07	MAT9852207	(4G2.5+(2x1.5)C)C	14.5	7.5
iMOK44					
PVC O.I.	04	MAT9752256	(4G1.5+(2x1.5)C)	12.5	10
PUR O.I.	06	MAT9852256	(4G1.5+(2x1.5)C)	12.5	10
PUR O.I.	06	MAT9752206	(4G1.5+(2x1.5)C)	13.0	7.5
PUR M.I.	07	MAT9852206	(4G1.5+(2x1.5)C)	13.0	7.5
iMOK45					
PVC O.I.	04	MAT9752258	(4G2.5+(2x1.5)C)C	14.0	10
PUR O.I.	06	MAT9852258	(4G2.5+(2x1.5)C)C	14.0	10
PUR O.I.	06	MAT9752208	(4G2.5+(2x1.5)C)C	14.5	7.5
PUR M.I.	07	MAT9852208	(4G2.5+(2x1.5)C)C	14.5	7.5
iMOK54					
PVC O.I.	04	MAT9752252	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9752202	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9852252	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9852202	(4G1.5+(2x1.5)C)	13.0	7.5
iMOK55					
PVC O.I.	04	MAT9752251	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9752201	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9852251	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9852201	(4G1.5+(2x1.5)C)	13.0	7.5
iMOK56					
PVC O.I.	04	MAT9752253	(4G2.5+(2x1.5)C)C	14.0	10
PVC M.I.	05	MAT9752203	(4G2.5+(2x1.5)C)C	14.5	7.5
PUR O.I.	06	MAT9852253	(4G2.5+(2x1.5)C)C	14.0	10
PUR M.I.	07	MAT9852203	(4G2.5+(2x1.5)C)C	14.5	7.5
iMOK57					
PVC O.I.	04	MAT9752254	(4G2.5+(2x1.5)C)C	14.0	10
PUR O.I.	06	MAT9852254	(4G2.5+(2x1.5)C)C	14.0	10
PUR O.I.	06	MAT9752204	(4G2.5+(2x1.5)C)C	14.5	7.5
PUR M.I.	07	MAT9852204	(4G2.5+(2x1.5)C)C	14.5	7.5

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits. Example image.
igus® gladly pre-harnesses the cable according to your technical guidelines. **G =** with green-yellow earth core, **x =** without earth core
* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Parker
PVC/PUR/TPE

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Parker Resolver cables					
Basic cable					
iREK32					
PVC	14	MAT9722211	(4x(2x0.25))C	7.5	7.5
PUR	15	MAT9822211	(4x(2x0.25))C	7.5	7.5
TPE H*	16	MAT9922211	(4x(2x0.25))C	8.5	6.8
iREK33					
PVC	14	MAT9722212	(4x(2x0.25))C	7.5	7.5
PUR	15	MAT9822212	(4x(2x0.25))C	7.5	7.5
TPE H*	16	MAT9922212	(4x(2x0.25))C	8.5	6.8
iREK41					
PVC	14	MAT9722210	(4x(2x0.25))C	7.5	7.5
PUR	15	MAT9822210	(4x(2x0.25))C	7.5	7.5
TPE H*	16	MAT9922210	(4x(2x0.25))C	8.5	6.8
iREK42					
PVC	14	MAT9722209	(4x(2x0.25))C	7.5	7.5
PUR	15	MAT9822209	(4x(2x0.25))C	7.5	7.5
TPE H*	16	MAT9922209	(4x(2x0.25))C	8.5	6.8

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igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | SEW
PVC/PUR/TPE

EPLAN macros available online ▶ Page 582/583

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
SEW Motor cables					
Connection cable (Amphenol)					
0199 1809					
PVC M.I.	01	MAT9410006	(4G1.5)C	10.0	7.5
PUR O.I.	06	MAT9861401	(4G1.5)C	9.0	10
TPE F	02	MAT9400006	(4G1.5)C	10.0	7.5
0199 1825					
PVC M.I.	01	MAT9410007	(4G2.5)C	11.5	7.5
PUR O.I.	06	MAT9861402	(4G2.5)C	10.5	10
TPE F	02	MAT9400007	(4G2.5)C	11.5	7.5
0199 1841					
PVC M.I.	01	MAT9410008	(4G4.0)C	13.0	7.5
PUR O.I.	06	MAT9861403	(4G4.0)C	12.5	10
TPE F	02	MAT9400008	(4G4.0)C	13.0	7.5
0199 1868					
PVC M.I.	01	MAT9410009	(4G6.0)C	16.0	7.5
PUR O.I.	06	MAT9861404	(4G6.0)C	14.5	10
TPE F	02	MAT9400009	(4G6.0)C	16.0	7.5
0199 1884					
PVC M.I.	01	MAT9410010	(4G10)C	18.5	7.5
PUR O.I.	06	MAT9861405	(4G10)C	17.0	10
TPE F	02	MAT9400010	(4G10)C	18.5	7.5
Connection cable					
0590 4773					
PVC M.I.	01	MAT9410012	(4G1.5)C	10.0	7.5
PUR O.I.	06	MAT9861406	(4G1.5)C	9.0	10
TPE F	02	MAT9400012	(4G1.5)C	10.0	7.5
0590 4803					
PVC M.I.	01	MAT9761415	(4G4.0)C	13.0	7.5
PUR O.I.	06	MAT9861415	(4G4.0)C	12.5	10
TPE F	02	MAT9961415	(4G4.0)C	13.0	7.5
0590 6245					
PVC M.I.	01	MAT9761413	(4G1.5)C	10.0	7.5
PUR O.I.	06	MAT9861413	(4G1.5)C	9.0	10
TPE F	02	MAT9961413	(4G1.5)C	10.0	7.5
0590 6253					
PVC M.I.	01	MAT9761414	(4G2.5)C	11.5	7.5
PUR O.I.	06	MAT9861414	(4G2.5)C	10.5	10
TPE F	02	MAT9961414	(4G2.5)C	11.5	7.5

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igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | SEW

PVC/PUR/TPE

EPLAN macros available online ▶ Page 582/583

* Technical information on the cable quality (Code 01-31): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
SEW Motor cables					
Connection cable					
1335 0293					
PVC M.I.	01	MAT9761416	(4G6.0)C	16.0	7.5
PUR O.I.	06	MAT9861416	(4G6.0)C	14.5	10
TPE F	02	MAT9961416	(4G6.0)C	16.0	7.5
1335 0307					
PVC M.I.	01	MAT9761417	(4G10)C	18.5	7.5
PUR O.I.	06	MAT9861417	(4G10)C	17.0	10
TPE F	02	MAT9961417	(4G10)C	18.5	7.5
1335 0315					
PVC M.I.	01	MAT9761418	(4G16)C	23.0	7.5
PUR O.I.	06	MAT9861418	(4G16)C	20.5	10
TPE F	02	MAT9961418	(4G16)C	23.0	7.5
Extension cable (Amphenol)					
0199 5502					
PVC M.I.	01	MAT9411006	(4G1.5)C	10.0	7.5
PUR O.I.	06	MAT9861407	(4G1.5)C	9.0	10
TPE F	02	MAT9401006	(4G1.5)C	10.0	7.5
0199 5529					
PVC M.I.	01	MAT9411007	(4G2.5)C	11.5	7.5
PUR O.I.	06	MAT9861408	(4G2.5)C	10.5	10
TPE F	02	MAT9401007	(4G2.5)C	11.5	7.5
0199 5545					
PVC M.I.	01	MAT9411008	(4G4.0)C	13.0	7.5
PUR O.I.	06	MAT9861409	(4G4.0)C	12.5	10
TPE F	02	MAT9401008	(4G4.0)C	13.0	7.5
0199 5561					
PVC M.I.	01	MAT9411009	(4G6.0)C	16.0	7.5
PUR O.I.	06	MAT9861410	(4G6.0)C	14.5	10
TPE F	02	MAT9401009	(4G6.0)C	16.0	7.5
0199 5588					
PVC M.I.	01	MAT9411010	(4G10)C	18.5	7.5
PUR O.I.	06	MAT9861411	(4G10)C	17.0	10
TPE F	02	MAT9401010	(4G10)C	18.5	7.5

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igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | SEW
PVC/PUR/TPE

EPLAN macros available online ▶ Page 582/583

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
SEW Motor cables					
Extension cable					
0590 3610					
PVC M.I.	01	MAT9411012	(4G1.5)C	10.0	7.5
PUR O.I.	06	MAT9861412	(4G1.5)C	9.0	10
TPE F	02	MAT9401012	(4G1.5)C	10.0	7.5
Extension cable					
1333 2457					
PVC M.I.	01	MAT9761419	(4G1.5)C	10.0	7.5
PUR O.I.	06	MAT9861419	(4G1.5)C	9.0	10
TPE F	02	MAT9961419	(4G1.5)C	10.0	7.5
1333 2465					
PVC M.I.	01	MAT9761420	(4G2.5)C	11.5	7.5
PUR O.I.	06	MAT9861420	(4G2.5)C	10.5	10
TPE F	02	MAT9961420	(4G2.5)C	11.5	7.5
1333 2473					
PVC M.I.	01	MAT9761421	(4G4.0)C	13.0	7.5
PUR O.I.	06	MAT9861421	(4G4.0)C	12.5	10
TPE F	02	MAT9961421	(4G4.0)C	13.0	7.5
1335 0021					
PVC M.I.	01	MAT9761422	(4G6.0)C	16.0	7.5
PUR O.I.	06	MAT9861422	(4G6.0)C	14.5	10
TPE F	02	MAT9961422	(4G6.0)C	16.0	7.5
1335 0048					
PVC M.I.	01	MAT9761423	(4G10)C	18.5	7.5
PUR O.I.	06	MAT9861423	(4G10)C	17.0	10
TPE F	02	MAT9961423	(4G10)C	18.5	7.5
1335 0056					
PVC M.I.	01	MAT9761424	(4G16)C	23.0	7.5
PUR O.I.	06	MAT9861424	(4G16)C	20.5	10
TPE F	02	MAT9961424	(4G16)C	23.0	7.5

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igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | SEW

PVC/PUR

EPLAN macros available online ▶ Page 582/583

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
SEW Servo cables					
Connection cable (Amphenol)					
0199 1906					
PVC O.I.	04	MAT9751401	(4G1.5+2x(2x0.75)C)C	13.5	10
PVC M.I.	05	MAT9410001	(4G1.5+2x(2x0.75)C)C	14.5	7.5
PUR O.I.	06	MAT9851401	(4G1.5+2x(2x0.75)C)C	13.5	10
PUR M.I.	07	MAT9400001	(4G1.5+2x(2x0.75)C)C	14.5	7.5
0199 1922					
PVC O.I.	04	MAT9751402	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9410002	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9851402	(4G2.5+2x(2x1.5)C)C	16.0	10
PUR M.I.	07	MAT9400002	(4G2.5+2x(2x1.5)C)C	16.0	7.5
0199 1949					
PVC O.I.	04	MAT9751403	(4G4.0+2x(2x1.5)C)C	17.0	10
PVC M.I.	05	MAT9410003	(4G4.0+2x(2x1.5)C)C	18.0	7.5
PUR O.I.	06	MAT9851403	(4G4.0+2x(2x1.5)C)C	17.0	10
PUR M.I.	07	MAT9400003	(4G4.0+2x(2x1.5)C)C	17.5	7.5
0199 1965					
PVC O.I.	04	MAT9751404	(4G6.0+2x(2x1.5)C)C	19.0	10
PVC M.I.	05	MAT9410004	(4G6.0+2x(2x1.5)C)C	21.0	7.5
PUR O.I.	06	MAT9851404	(4G6.0+2x(2x1.5)C)C	19.0	10
PUR M.I.	07	MAT9400004	(4G6.0+2x(2x1.5)C)C	19.5	7.5
0199 1981					
PVC M.I.	05	MAT9410005	(4G10+2x(2x1.5)C)C	23.0	7.5
PUR O.I.	06	MAT9851405	(4G10+2x(2x1.5)C)C	22.5	10
PUR M.I.	07	MAT9400005	(4G10+2x(2x1.5)C)C	22.5	7.5
Connection cable					
1332 4861					
PVC O.I.	04	MAT9751405	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9410011	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9851406	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9400011	(4G1.5+(2x1.5)C)	13.0	7.5

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igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | SEW
PVC/PUR/TPE

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* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
SEW Servo cables					
Connection cable					
1333 1221					
PVC O.I.	04	MAT9751473	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9751474	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9851473	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9851474	(4G1.5+(2x1.5)C)	13.0	7.5
TPE H*	31	MAT9951473	(4G1.5+(2x1.5)C)	13.0	6.8
1333 2155					
PVC O.I.	04	MAT9751471	(4G2.5+(2x1.5)C)C	14.0	10
PVC M.I.	05	MAT9751472	(4G2.5+(2x1.5)C)C	14.5	7.5
PUR O.I.	06	MAT9851471	(4G2.5+(2x1.5)C)C	14.0	10
PUR M.I.	07	MAT9851472	(4G2.5+(2x1.5)C)C	14.5	7.5
TPE H*	31	MAT9951471	(4G2.5+(2x1.5)C)C	14.0	6.8
Connection cable					
1335 0153					
PVC O.I.	04	MAT9751422	(4G6.0+2x(2x1.5)C)C	19.0	10
PVC M.I.	05	MAT9751440	(4G6.0+2x(2x1.5)C)C	21.0	7.5
PUR O.I.	06	MAT9851422	(4G6.0+2x(2x1.5)C)C	19.0	10
PUR M.I.	07	MAT9851440	(4G6.0+2x(2x1.5)C)C	19.5	7.5
1335 0161					
PVC M.I.	05	MAT9751441	(4G10+2x(2x1.5)C)C	23.0	7.5
PUR O.I.	06	MAT9851423	(4G10+2x(2x1.5)C)C	22.5	10
PUR M.I.	07	MAT9851441	(4G10+2x(2x1.5)C)C	22.5	7.5
1335 0188					
PVC M.I.	05	MAT9751442	(4G16+2x(2x1.5)C)C	26.5	7.5
PUR O.I.	06	MAT9851424	(4G16+2x(2x1.5)C)C	26.0	10
PUR M.I.	07	MAT9851442	(4G16+2x(2x1.5)C)C	26.0	7.5
1335 0234					
PVC O.I.	04	MAT9751416	(4G6.0+(2x1.5)C)C	16.5	10
PVC M.I.	05	MAT9751434	(4G6.0+(2x1.5)C)C	18.0	7.5
PUR O.I.	06	MAT9851416	(4G6.0+(2x1.5)C)C	16.5	10
PUR M.I.	07	MAT9851434	(4G6.0+(2x1.5)C)C	17.5	7.5
1335 0242					
PVC M.I.	05	MAT9751435	(4G10+(2x1.5)C)C	21.5	7.5
PUR O.I.	06	MAT9851417	(4G10+(2x1.5)C)C	21.0	10
PUR M.I.	07	MAT9851435	(4G10+(2x1.5)C)C	21.0	7.5

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Harnessed drive cables | SEW

PVC/PUR

EPLAN macros available online ▶ Page 582/583

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
SEW Servo cables					
1335 0250					
PVC M.I.	05	MAT9751436	(4G16+2x(2x1.5)C)C	26.5	7.5
PUR O.I.	06	MAT9851418	(4G16+2x(2x1.5)C)C	26.0	10
PUR M.I.	07	MAT9851436	(4G16+(2x1.5)C)C	24.0	7.5
1335 4302					
PUR O.I.	27	MAT9851419	(4G1.5+(3x1.0)C)C	12.0	10
1335 4310					
PVC O.I.	04	MAT9751420	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9751438	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9851420	(4G2.5+2x(2x1.5)C)C	16.0	10
PUR M.I.	07	MAT9851438	(4G2.5+2x(2x1.5)C)C	16.0	7.5
1335 4329					
PVC O.I.	04	MAT9751421	(4G4.0+2x(2x1.5)C)C	17.0	10
PVC M.I.	05	MAT9751439	(4G4.0+2x(2x1.5)C)C	18.0	7.5
PUR O.I.	06	MAT9851421	(4G4.0+2x(2x1.5)C)C	17.0	10
PUR M.I.	07	MAT9851439	(4G4.0+2x(2x1.5)C)C	17.5	7.5
1335 4388					
PUR O.I.	27	MAT9851413	(4G1.5+(3x1.0)C)C	12.0	10
1335 4396					
PUR O.I.	27	MAT9851479	(4G2.5+(3x1.0)C)C	13.5	10

Extension cable (Amphenol)



0199 2007					
PVC O.I.	04	MAT9751406	(4G1.5+2x(2x0.75)C)C	13.5	10
PVC M.I.	05	MAT9411001	(4G1.5+2x(2x0.75)C)C	14.5	7.5
PUR O.I.	06	MAT9851407	(4G1.5+2x(2x0.75)C)C	13.5	10
PUR M.I.	07	MAT9401001	(4G1.5+2x(2x0.75)C)C	14.5	7.5
0199 2023					
PVC O.I.	04	MAT9751407	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9411002	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9851408	(4G2.5+2x(2x1.5)C)C	16.0	10
PUR M.I.	07	MAT9401002	(4G2.5+2x(2x1.5)C)C	16.0	7.5
0199 204X					
PVC O.I.	04	MAT9751408	(4G4.0+2x(2x1.5)C)C	17.0	10
PVC M.I.	05	MAT9411003	(4G4.0+2x(2x1.5)C)C	18.0	7.5
PUR O.I.	06	MAT9851409	(4G4.0+2x(2x1.5)C)C	17.0	10
PUR M.I.	07	MAT9401003	(4G4.0+2x(2x1.5)C)C	17.5	7.5
0199 2066					
PVC O.I.	04	MAT9751409	(4G6.0+2x(2x1.5)C)C	19.0	10
PVC M.I.	05	MAT9411004	(4G6.0+2x(2x1.5)C)C	21.0	7.5
PUR O.I.	06	MAT9851410	(4G6.0+2x(2x1.5)C)C	19.0	10
PUR M.I.	07	MAT9401004	(4G6.0+2x(2x1.5)C)C	19.5	7.5

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits. Example image.
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* Cable qualities: **M.I** = with inner jacket, **O.I.** = without inner jacket, **F** = flame-retardant, **H** = halogen-free **OIL** = oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | SEW
PVC/PUR

EPLAN macros available online ▶ Page 582/583

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
SEW Servo cables					
Extension cable (Amphenol)					
0199 2082					
PVC M.I.	05	MAT9411005	(4G10+2x(2x1.5)C)C	23.0	7.5
PUR O.I.	06	MAT9851411	(4G10+2x(2x1.5)C)C	22.5	10
PUR M.I.	07	MAT9401005	(4G10+2x(2x1.5)C)C	22.5	7.5
Extension cable					
0593 6500					
PVC O.I.	04	MAT9751410	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9411011	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9851412	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9401011	(4G1.5+(2x1.5)C)	13.0	7.5
Extension cable					
1333 1205					
PUR O.I.	27	MAT9851480	(4G1.5+(3x1.0)C)C	12.0	10

ePLAN data portal

EPLAN macros suitable for SEW available online

Can be used directly in CAE planning.

Learn more about it on page 582/583 and online: www.igus-asean.com/eplan-macro

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igus® gladly pre-harnesses the cable according to your technical guidelines. **G** = with green-yellow earth core, **x** = without earth core
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Harnessed drive cables | SEW

PVC/PUR/TPE

EPLAN macros available online ▶ Page 582/583

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
SEW Servo cables					
Extension cable					
1333 2481					
PVC O.I.	04	MAT9751475	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9751476	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9851475	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9851476	(4G1.5+(2x1.5)C)	13.0	7.5
TPE H*	31	MAT9951475	(4G1.5+(2x1.5)C)	13.0	6.8
1333 2503					
PVC O.I.	04	MAT9751477	(4G2.5+(2x1.5)C)C	14.0	10
PVC M.I.	05	MAT9751478	(4G2.5+(2x1.5)C)C	14.5	7.5
PUR O.I.	06	MAT9851477	(4G2.5+(2x1.5)C)C	14.0	10
PUR M.I.	07	MAT9851478	(4G2.5+(2x1.5)C)C	14.5	7.5
TPE H*	31	MAT9951477	(4G2.5+(2x1.5)C)C	14.0	6.8
1335 0099					
PVC M.I.	05	MAT9751446	(4G6.0+2x(2x1.5)C)C	21.0	7.5
PUR O.I.	06	MAT9851428	(4G6.0+2x(2x1.5)C)C	19.0	10
PUR M.I.	07	MAT9851446	(4G6.0+2x(2x1.5)C)C	19.5	7.5
1335 0102					
PVC M.I.	05	MAT9751447	(4G10+2x(2x1.5)C)C	23.0	7.5
PUR O.I.	06	MAT9851429	(4G10+2x(2x1.5)C)C	22.5	10
PUR M.I.	07	MAT9851447	(4G10+2x(2x1.5)C)C	22.5	7.5
1335 0110					
PVC M.I.	05	MAT9751448	(4G16+2x(2x1.5)C)C	26.5	7.5
PUR O.I.	06	MAT9851430	(4G16+2x(2x1.5)C)C	26.0	10
PUR M.I.	07	MAT9851448	(4G16+2x(2x1.5)C)C	26.0	7.5
1335 4221					
PUR O.I.	27	MAT9851425	(4G1.5+(3x1.0)C)C	12.0	10
1335 4248					
PVC M.I.	05	MAT9751444	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9851426	(4G2.5+2x(2x1.5)C)C	16.0	10
PUR M.I.	07	MAT9851444	(4G2.5+2x(2x1.5)C)C	16.0	7.5
1335 4337					
PVC M.I.	05	MAT9751445	(4G4.0+2x(2x1.5)C)C	18.0	7.5
PUR O.I.	06	MAT9851427	(4G4.0+2x(2x1.5)C)C	17.0	10
PUR M.I.	07	MAT9851445	(4G4.0+2x(2x1.5)C)C	17.5	7.5

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Harnessed drive cables | SEW
PVC/PUR/TPE

EPLAN macros available online ▶ Page 582/583

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality			Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
SEW Hybrid servo cables						
Basic cable						
0186 725 3						
PUR O.I.	27		MAT9851443	4G1.5+(2x0.75)C+(3x0.75)C	14.0	10
0187 889 5						
PUR O.I.	27		MAT9851456	(7x2.5+(2x0.75)C)C	20.0	10
0593 278 5						
PUR O.I.	27		MAT9851449	(7x2.5+(2x0.75)C)C	20.0	10
0593 755 8						
PUR O.I.	27		MAT9851451	(7x2.5+(2x0.75)C)C	20.0	10
0816 208 5						
PUR O.I.	27		MAT9851454	(7x2.5+(2x0.75)C)C	20.0	10
0816 325 1						
PUR O.I.	27		MAT9851450	(7x2.5+(2x0.75)C)C	20.0	10
0816 326 X						
PUR O.I.	27		MAT9851452	(7x2.5+(2x0.75)C)C	20.0	10
0817 886 0						
PUR O.I.	27		MAT9851457	(7x2.5+(2x0.75)C)C	20.0	10
0817 887 9						
PUR O.I.	27		MAT9851455	(7x2.5+(2x0.75)C)C	20.0	10
0817 888 7						
PUR O.I.	27		MAT9851458	(7x2.5+(2x0.75)C)C	20.0	10
0817 948 4						
PUR O.I.	27		MAT9851453	(7x2.5+(2x0.75)C)C	20.0	10
Connection cable						
2812 3743						
PUR O.I.	28	New	MAT9851482	(4G1.5+2x(2x1.0)C+HF50-0.9/2.95)C	15.5	10
2812 3751						
PUR O.I.	28	New	MAT9851484	(4G2.5+2x(2x1.0)C+HF50-0.9/2.95)C	16.5	10
Extension cable						
2812 3859						
PUR O.I.	28	New	MAT9851483	(4G1.5+2x(2x1.0)C+HF50-0.9/2.95)C	15.5	10
2812 3867						
PUR O.I.	28	New	MAT9851485	(4G2.5+2x(2x1.0)C+HF50-0.9/2.95)C	16.5	10
Connection cable						
1811 8119						
PUR O.I.	27		MAT9851464	(7x1.5+(2x0.75)C)C	16.0	10

Harnessed drive cables | SEW

PVC/PUR/TPE

EPLAN macros available online ▶ Page 582/583

* Technical information on the cable quality (Code 01-31): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
SEW Control cables					
Connection cable					
0199 560x					
PVC, oil-res.	19	MAT9711401	3G1.0	6.5	6.8
PUR	21	MAT9811401	3G1.0	6.5	6.8
TPE F	25	MAT9911401	3G1.0	6.5	5
SEW Encoder cables					
Connection cable					
0198 9308					
PUR M.I.	10	MAT9841404	(3x(2x0.25))C	7.5	7.5
0199 3194					
PUR M.I.	10	MAT9841401	(5x(2x0.25))C	8.5	7.5
0199 4875					
PVC	08	MAT9741401	(5x(2x0.25))C	8.0	10
0595 1518					
PVC	08	MAT9741408	(6x(2x0.25))C	8.5	10
PUR M.I.	10	MAT9841408	(6x(2x0.25))C	9.0	7.5
TPE H*	16	MAT9941408	(6x(2x0.25))C	10.0	6.8
1332 4551					
PVC	08	MAT9741403	(6x(2x0.25))C	8.5	10
PUR M.I.	10	MAT9841403	(6x(2x0.25))C	9.0	7.5
1332 7437					
PVC	08	MAT9741402	(5x(2x0.25))C	8.0	10
PUR M.I.	10	MAT9841402	(5x(2x0.25))C	8.5	7.5
Extension cable					
0199 5405					
PVC	08	MAT9741406	(6x(2x0.25))C	8.5	10
PUR M.I.	10	MAT9841406	(6x(2x0.25))C	9.0	7.5
0199 5413					
PVC	08	MAT9741405	(5x(2x0.25))C	8.0	10
PUR M.I.	10	MAT9841405	(5x(2x0.25))C	8.5	7.5
0593 9682					
PVC	08	MAT9741407	(5x(2x0.25))C	8.0	10
PUR M.I.	10	MAT9841407	(5x(2x0.25))C	8.5	7.5

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Harnessed drive cables | Siemens

PVC/PUR/TPE

EPLAN macros available online ▶ Page 582/583

* Technical information on the cable quality (Code 01-31): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Siemens Power cables					
Basic cable					
6FX8002-5CN06					
PVC M.I.	01	MAT9761554	(4G1.5)C	10.0	7.5
PUR O.I.	06	MAT98615122	(4G1.5)C	9.0	10
PUR M.I.	07	MAT98615123	(4G1.5)C	11.0	7.5
TPE F	02	MAT9961560	(4G1.5)C	10.0	7.5
6FX8002-5CN16					
PVC M.I.	01	MAT9761559	(4G2.5)C	11.5	7.5
PUR O.I.	06	MAT98615108	(4G2.5)C	10.5	10
PUR M.I.	07	MAT98615107	(4G2.5)C	12.5	7.5
TPE F	02	MAT9961554	(4G2.5)C	11.5	7.5
Basic cable					
6FX8002-5CN26					
PVC M.I.	01	MAT97515111	(4G1.5)C	10.0	7.5
PUR O.I.	06	MAT98515130	(4G1.5)C	9.0	10
TPE F	02	MAT98515131	(4G1.5)C	10.0	7.5
6FX8002-5CN36					
PVC M.I.	01	MAT9761556	(4G2.5)C	11.5	7.5
PUR O.I.	06	MAT98615102	(4G2.5)C	10.5	10
PUR M.I.	07	MAT98615103	(4G2.5)C	12.5	7.5
TPE F	02	MAT9961552	(4G2.5)C	11.5	7.5
6FX8002-5CN46					
PVC M.I.	01	MAT9761557	(4G4.0)C	13.0	7.5
PUR O.I.	06	MAT98615105	(4G4.0)C	12.5	10
TPE F	02	MAT9961553	(4G4.0)C	13.0	7.5
6FX8002-5CN56					
PVC M.I.	01	MAT9761561	(4G6.0)C	16.0	7.5
PUR O.I.	06	MAT98615110	(4G6.0)C	14.5	10
TPE F	02	MAT9961555	(4G6.0)C	16.0	7.5
Basic cable					
6FX8002-5CS06					
PVC M.I.	01	MAT9761568	(4G1.5)C	10.0	7.5
PUR O.I.	06	MAT98615120	(4G1.5)C	9.0	10
PUR M.I.	07	MAT98615121	(4G1.5)C	11.0	7.5
TPE F	02	MAT9961559	(4G1.5)C	10.0	7.5

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Harnessed drive cables | Siemens

PVC/PUR/TPE

EPLAN macros available online ▶ Page 582/583

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Siemens Power cables					
Basic cable					
6FX_002-5CA01					
PVC M.I.	01	MAT9150001	(4G1.5)C	10.0	7.5
PUR O.I.	06	MAT9861504	(4G1.5)C	9.0	10
TPE F	02	MAT9050001	(4G1.5)C	10.0	7.5
6FX_002-5CA11					
PVC M.I.	01	MAT9150002	(4G2.5)C	11.5	7.5
PUR O.I.	06	MAT9861505	(4G2.5)C	10.5	10
TPE F	02	MAT9050002	(4G2.5)C	11.5	7.5
Basic cable					
6FX_002-5CA13					
PVC M.I.	01	MAT9150009	(4G10)C	18.5	7.5
PUR O.I.	06	MAT9861524	(4G10)C	17.0	10
TPE F	02	MAT9050009	(4G10)C	18.5	7.5
Basic cable					
6FX_002-5CA21					
PVC M.I.	01	MAT9150003	(4G1.5)C	10.0	7.5
PUR O.I.	06	MAT9861506	(4G1.5)C	9.0	10
TPE F	02	MAT9050003	(4G1.5)C	10.0	7.5
Basic cable					
6FX_002-5CA23					
PVC M.I.	01	MAT9150008	(4G16)C	23.0	7.5
PUR O.I.	06	MAT9861511	(4G16)C	20.5	10
TPE F	02	MAT9050008	(4G16)C	23.0	7.5
Basic cable					
6FX_002-5CA31					
PVC M.I.	01	MAT9150004	(4G2.5)C	11.5	7.5
PUR O.I.	06	MAT9861507	(4G2.5)C	10.5	10
TPE F	02	MAT9050004	(4G2.5)C	11.5	7.5
6FX_002-5CA41					
PVC M.I.	01	MAT9150005	(4G4.0)C	13.0	7.5
PUR O.I.	06	MAT9861508	(4G4.0)C	12.5	10
TPE F	02	MAT9050005	(4G4.0)C	13.0	7.5

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Harnessed drive cables | Siemens
PVC/PUR/TPE

EPLAN macros available online ▶ Page 582/583

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Siemens Power cables					
Basic cable					
6FX_002-5CA51					
PVC M.I.	**01**	MAT9150006	(4G6.0)C	16.0	7.5
PUR O.I.	**06**	MAT9861509	(4G6.0)C	14.5	10
TPE F	**02**	MAT9050006	(4G6.0)C	16.0	7.5
6FX_002-5CA61					
PVC M.I.	**01**	MAT9150007	(4G10)C	18.5	7.5
PUR O.I.	**06**	MAT9861510	(4G10)C	17.0	10
TPE F	**02**	MAT9050007	(4G10)C	18.5	7.5
Basic cable					
6FX_002-5CG01					
PVC M.I.	**01**	MAT9761512	(4G1.5)C	10.0	7.5
PUR O.I.	**06**	MAT9861542	(4G1.5)C	9.0	10
PUR M.I.	**07**	MAT9861541	(4G1.5)C	11.0	7.5
TPE F	**02**	MAT9961512	(4G1.5)C	10.0	7.5
Basic cable					
6FX_002-5CG11					
PVC M.I.	**01**	MAT9761514	(4G2.5)C	11.5	7.5
PUR O.I.	**06**	MAT9861546	(4G2.5)C	10.5	10
PUR M.I.	**07**	MAT9861545	(4G2.5)C	12.5	7.5
TPE F	**02**	MAT9961514	(4G2.5)C	11.5	7.5
Basic cable					
6FX_002-5CG13					
PVC M.I.	**01**	MAT9761520	(4G10)C	18.5	7.5
PUR O.I.	**06**	MAT9861553	(4G10)C	17.0	10
TPE F	**02**	MAT9961520	(4G10)C	18.5	7.5
6FX_002-5CG21					
PVC M.I.	**01**	MAT9761513	(4G1.5)C	10.0	7.5
PUR O.I.	**06**	MAT9861544	(4G1.5)C	9.0	10
PUR M.I.	**07**	MAT9861543	(4G1.5)C	11.0	7.5
TPE F	**02**	MAT9961513	(4G1.5)C	10.0	7.5

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Harnessed drive cables | Siemens

PVC/PUR/TPE

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* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Siemens Power cables					
Basic cable					
6FX_002-5CG23					
PVC M.I.	01	MAT9761521	(4G16)C	23.0	7.5
PUR O.I.	06	MAT9861554	(4G16)C	20.5	10
TPE F	02	MAT9961521	(4G16)C	23.0	7.5
6FX_002-5CG31					
PVC M.I.	01	MAT9761516	(4G2.5)C	11.5	7.5
PUR O.I.	06	MAT9861549	(4G2.5)C	10.5	10
PUR M.I.	07	MAT9861548	(4G2.5)C	12.5	7.5
TPE F	02	MAT9961516	(4G2.5)C	11.5	7.5
6FX_002-5CG41					
PVC M.I.	01	MAT9761517	(4G4.0)C	13.0	7.5
PUR O.I.	06	MAT9861550	(4G4.0)C	12.5	10
TPE F	02	MAT9961517	(4G4.0)C	13.0	7.5
6FX_002-5CG51					
PVC M.I.	01	MAT9761518	(4G6.0)C	16.0	7.5
PUR O.I.	06	MAT9861551	(4G6.0)C	14.5	10
TPE F	02	MAT9961518	(4G6.0)C	16.0	7.5
6FX_002-5CG61					
PVC M.I.	01	MAT9761519	(4G10)C	18.5	7.5
PUR O.I.	06	MAT9861552	(4G10)C	17.0	10
TPE F	02	MAT9961519	(4G10)C	18.5	7.5
Basic cable					
6FX_002-5CK01					
PUR M.I.	07	MAT98615112	(4G0.75)C	9.5	7.5
TPE F	02	MAT9961556	(4G0.75)C	8.0	7.5
Basic cable					
6FX_002-5CL01					
PVC M.I.	01	MAT9761563	(4G1.5)C	10.0	7.5
PUR O.I.	06	MAT98615114	(4G1.5)C	9.0	10
PUR M.I.	07	MAT98615115	(4G1.5)C	11.0	7.5
TPE F	02	MAT9961557	(4G1.5)C	10.0	7.5

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits. Example image.
igus® gladly pre-harnesses the cable according to your technical guidelines. **G =** with green-yellow earth core, **x =** without earth core
* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Siemens

PVC/PUR/TPE

EPLAN macros available online ▶ Page 582/583

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Siemens Power cables					
Basic cable					
6FX_002-5CL02					
PVC M.I.	**01**	MAT9761572	(4G1.5)C	10.0	7.5
PUR O.I.	**06**	MAT98615126	(4G1.5)C	9.0	10
PUR M.I.	**07**	MAT98615127	(4G1.5)C	11.0	7.5
TPE F	**02**	MAT9961563	(4G1.5)C	10.0	7.5
6FX_002-5CL12					
PVC M.I.	**01**	MAT9761573	(4G2.5)C	11.5	7.5
PUR O.I.	**06**	MAT98615128	(4G2.5)C	10.5	10
PUR M.I.	**07**	MAT98615129	(4G2.5)C	12.5	7.5
TPE F	**02**	MAT9961564	(4G2.5)C	11.5	7.5
Basic cable					
6FX_002-5CS01					
PVC M.I.	**01**	MAT9150020	(4G1.5)C	10.0	7.5
PUR O.I.	**06**	MAT9861512	(4G1.5)C	10.0	10
PUR M.I.	**07**	MAT9861501	(4G1.5)C	11.0	7.5
TPE F	**02**	MAT9050020	(4G1.5)C	10.0	7.5
Basic cable					
6FX_002-5CS02					
PVC M.I.	**01**	MAT9761501	(4G1.5)C	10.0	7.5
PUR O.I.	**06**	MAT9861526	(4G1.5)C	9.0	10
PUR M.I.	**07**	MAT9861525	(4G1.5)C	11.0	7.5
TPE F	**02**	MAT9961501	(4G1.5)C	10.0	7.5
Basic cable					
6FX_002-5CS11					
PVC M.I.	**01**	MAT9761502	(4G2.5)C	11.5	7.5
PUR O.I.	**06**	MAT9861528	(4G2.5)C	10.5	10
PUR M.I.	**07**	MAT9861527	(4G2.5)C	12.5	7.5
TPE F	**02**	MAT9961502	(4G2.5)C	11.5	7.5

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits. Example image.
igus® gladly pre-harnesses the cable according to your technical guidelines. **G =** with green-yellow earth core, **x =** without earth core
* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
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Harnessed drive cables | Siemens

PVC/PUR/TPE

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* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Siemens Power cables					
Basic cable					
6FX_002-5CS12					
PVC M.I.	01	MAT9761503	(4G2.5)C	11.5	7.5
PUR O.I.	06	MAT9861530	(4G2.5)C	10.5	10
PUR M.I.	07	MAT9861529	(4G2.5)C	12.5	7.5
TPE F	02	MAT9961503	(4G2.5)C	11.5	7.5
Basic cable					
6FX_002-5CS13					
PVC M.I.	01	MAT9761504	(4G10)C	18.5	7.5
PUR O.I.	06	MAT9861531	(4G10)C	17.0	10
TPE F	02	MAT9961504	(4G10)C	18.5	7.5
6FX_002-5CS21					
PVC M.I.	01	MAT9150021	(4G1.5)C	10.0	7.5
PUR O.I.	06	MAT9861513	(4G1.5)C	9.0	10
PUR M.I.	07	MAT9861502	(4G1.5)C	11.0	7.5
TPE F	02	MAT9050021	(4G1.5)C	10.0	7.5
Basic cable					
6FX_002-5CS23					
PVC M.I.	01	MAT9761515	(4G16)C	23.0	7.5
PUR O.I.	06	MAT9861547	(4G16)C	20.5	10
TPE F	02	MAT9961515	(4G16)C	23.0	7.5
6FX_002-5CS24					
PVC M.I.	01	MAT9761570	(4G16)C	23.0	7.5
PUR O.I.	06	MAT98615125	(4G16)C	20.5	10
TPE F	02	MAT9961561	(4G16)C	23.0	7.5
TPE H*	03	MAT9961562	(4G16)C	23.0	7.5
Basic cable					
6FX_002-5CS31					
PVC M.I.	01	MAT9150022	(4G2.5)C	11.5	7.5
PUR O.I.	06	MAT9861514	(4G2.5)C	10.5	10
PUR M.I.	07	MAT9861503	(4G2.5)C	12.5	7.5
TPE F	02	MAT9050022	(4G2.5)C	11.5	7.5

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits. Example image.
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Harnessed drive cables | Siemens
PVC/PUR/TPE

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* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Siemens Power cables					
Basic cable					
6FX_002-5CS41					
PVC M.I.	**01**	MAT9150023	(4G4.0)C	13.0	7.5
PUR O.I.	**06**	MAT9861533	(4G4.0)C	12.5	10
TPE F	**02**	MAT9050023	(4G4.0)C	13.0	7.5
Basic cable					
6FX_002-5CS42					
PVC M.I.	**01**	MAT9761506	(4G4.0)C	13.0	7.5
PUR O.I.	**06**	MAT9861534	(4G4.0)C	12.5	10
TPE F	**02**	MAT9961506	(4G4.0)C	13.0	7.5
Basic cable					
6FX_002-5CS51					
PVC M.I.	**01**	MAT9150024	(4G6.0)C	16.0	7.5
PUR O.I.	**06**	MAT9861535	(4G6.0)C	14.5	10
TPE F	**02**	MAT9050024	(4G6.0)C	16.0	7.5
Basic cable					
6FX_002-5CS52					
PVC M.I.	**01**	MAT9761507	(4G6.0)C	16.0	7.5
PUR O.I.	**06**	MAT9861536	(4G6.0)C	14.5	10
TPE F	**02**	MAT9961507	(4G6.0)C	16.0	7.5
Basic cable					
6FX_002-5CS54					
PVC M.I.	**01**	MAT9761508	(4G6.0)C	16.0	7.5
PUR O.I.	**06**	MAT9861537	(4G6.0)C	14.5	10
TPE F	**02**	MAT9961508	(4G6.0)C	16.0	7.5
Basic cable					
6FX_002-5CS61					
PVC M.I.	**01**	MAT9761509	(4G10)C	18.5	7.5
PUR O.I.	**06**	MAT9861538	(4G10)C	17.0	10
TPE F	**02**	MAT9961509	(4G10)C	18.5	7.5

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igus® gladly pre-harnesses the cable according to your technical guidelines. **G =** with green-yellow earth core, **x =** without earth core
* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Siemens

PVC/PUR/TPE

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* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Siemens Power cables					
Basic cable					
6FX_002-5CS62					
PVC M.I.	01	MAT9761510	(4G10)C	18.5	7.5
PUR O.I.	06	MAT9861539	(4G10)C	17.0	10
TPE F	02	MAT9961510	(4G10)C	18.5	7.5
Basic cable					
6FX_002-5CS64					
PVC M.I.	01	MAT9761511	(4G10)C	18.5	7.5
PUR O.I.	06	MAT9861540	(4G10)C	17.0	10
TPE F	02	MAT9961511	(4G10)C	18.5	7.5
Extension cable					
6FX_002-5CA05					
PVC M.I.	01	MAT9151001	(4G1.5)C	10.0	7.5
PUR O.I.	06	MAT9861515	(4G1.5)C	9.0	10
TPE F	02	MAT9051001	(4G1.5)C	10.0	7.5
6FX_002-5CA15					
PVC M.I.	01	MAT9151002	(4G2.5)C	11.5	7.5
PUR O.I.	06	MAT9861516	(4G2.5)C	10.5	10
TPE F	02	MAT9051002	(4G2.5)C	11.5	7.5
Extension cable					
6FX_002-5CA28					
PVC M.I.	01	MAT9151003	(4G1.5)C	10.0	7.5
PUR O.I.	06	MAT9861517	(4G1.5)C	9.0	10
TPE F	02	MAT9051003	(4G1.5)C	10.0	7.5
6FX_002-5CA38					
PVC M.I.	01	MAT9151004	(4G2.5)C	11.5	7.5
PUR O.I.	06	MAT9861518	(4G2.5)C	10.5	10
TPE F	02	MAT9051004	(4G2.5)C	11.5	7.5
6FX_002-5CA48					
PVC M.I.	01	MAT9151005	(4G4.0)C	13.0	7.5
PUR O.I.	06	MAT9861519	(4G4.0)C	12.5	10
TPE F	02	MAT9051005	(4G4.0)C	13.0	7.5

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* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Siemens
PVC/PUR/TPE

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* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Siemens Power cables					
Extension cable					
6FX_002-5CA58					
PVC M.I.	01	MAT9151006	(4G6.0)C	16.0	7.5
PUR O.I.	06	MAT9861520	(4G6.0)C	14.5	10
TPE F	02	MAT9051006	(4G6.0)C	16.0	7.5
6FX_002-5CA68					
PVC M.I.	01	MAT9151007	(4G10)C	18.5	7.5
PUR O.I.	06	MAT9861521	(4G10)C	17.0	10
TPE F	02	MAT9051007	(4G10)C	18.5	7.5
Extension cable					
6FX_002-5CX18					
PVC M.I.	01	MAT9151009	(4G10)C	18.5	7.5
PUR O.I.	06	MAT9861522	(4G10)C	17.0	10
TPE F	02	MAT9051009	(4G10)C	18.5	7.5
6FX_002-5CX28					
PVC M.I.	01	MAT9151008	(4G16)C	23.0	7.5
PUR O.I.	06	MAT9861523	(4G16)C	20.5	10
TPE F	02	MAT9051008	(4G16)C	23.0	7.5
Siemens Servo cables					
Basic cable					
6FX_002-5DA01					
PVC O.I.	04	MAT9751501	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9160001	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9851501	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9060001	(4G1.5+(2x1.5)C)	13.0	7.5
6FX_002-5DA11					
PVC O.I.	04	MAT9751502	(4G2.5+(2x1.5)C)C	14.0	10
PVC M.I.	05	MAT9160002	(4G2.5+(2x1.5)C)C	14.5	7.5
PUR O.I.	06	MAT9851502	(4G2.5+(2x1.5)C)C	14.0	10
PUR M.I.	07	MAT9060002	(4G2.5+(2x1.5)C)C	14.5	7.5

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits. Example image.
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Harnessed drive cables | Siemens

PVC/PUR/TPE

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* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Siemens Servo cables					
Basic cable					
6FX_002-5DA21					
PVC O.I.	04	MAT9751503	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9160003	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9851503	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9060003	(4G1.5+(2x1.5)C)	13.0	7.5
Basic cable					
6FX_002-5DA23					
PVC M.I.	05	MAT9160008	(4G16+(2x1.5)C)C	25.0	7.5
PUR O.I.	06	MAT9851508	(4G16+(2x1.5)C)C	24.0	10
PUR M.I.	07	MAT9060008	(4G16+(2x1.5)C)C	24.0	7.5
Basic cable					
6FX_002-5DA30					
PVC O.I.	04	MAT97515127	(4G1.5+(2x1.5)C)	12.5	10
PUR O.I.	06	MAT98515151	(4G1.5+(2x1.5)C)	12.5	10
Basic cable					
6FX_002-5DA31					
PVC O.I.	04	MAT9751504	(4G2.5+(2x1.5)C)C	14.0	10
PVC M.I.	05	MAT9160004	(4G2.5+(2x1.5)C)C	14.5	7.5
PUR O.I.	06	MAT9851504	(4G2.5+(2x1.5)C)C	14.0	10
PUR M.I.	07	MAT9060004	(4G2.5+(2x1.5)C)C	14.5	7.5
Basic cable					
6FX_002-5DA33					
PVC M.I.	05	MAT9160009	(4G25+(2x1.5)C)C	30.0	7.5
PUR M.I.	07	MAT9060009	(4G25+(2x1.5)C)C	28.0	7.5
Basic cable					
6FX_002-5DA41					
PVC O.I.	04	MAT9751505	(4G4.0+(2x1.5)C)C	15.0	10
PVC M.I.	05	MAT9160005	(4G4.0+(2x1.5)C)C	16.0	7.5
PUR O.I.	06	MAT9851505	(4G4.0+(2x1.5)C)C	15.0	10
PUR M.I.	07	MAT9060005	(4G4.0+(2x1.5)C)C	16.0	7.5

Harnessed drive cables | Siemens

PVC/PUR/TPE

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* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Siemens Servo cables					
Basic cable					
6FX_002-5DA43					
PVC M.I.	05	MAT9160010	(4G35+(2x1.5)C)C	33.5	7.5
PUR M.I.	07	MAT9060010	(4G35+(2x1.5)C)C	32.0	7.5
Basic cable					
6FX_002-5DA51					
PVC O.I.	04	MAT9751506	(4G6.0+(2x1.5)C)C	16.5	10
PVC M.I.	05	MAT9160006	(4G6.0+(2x1.5)C)C	18.0	7.5
PUR O.I.	06	MAT9851506	(4G6.0+(2x1.5)C)C	16.5	10
PUR M.I.	07	MAT9060006	(4G6.0+(2x1.5)C)C	17.5	7.5
6FX_002-5DA61					
PVC M.I.	05	MAT9160007	(4G10+(2x1.5)C)C	21.5	7.5
PUR O.I.	06	MAT9851507	(4G10+(2x1.5)C)C	21.0	10
PUR M.I.	07	MAT9060007	(4G10+(2x1.5)C)C	21.0	7.5
Basic cable					
6FX_002-5DG01					
PVC O.I.	04	MAT9751529	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9751528	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9851541	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9851540	(4G1.5+(2x1.5)C)	13.0	7.5
Basic cable					
6FX_002-5DG11					
PVC O.I.	04	MAT9751533	(4G2.5+(2x1.5)C)C	14.0	10
PVC M.I.	05	MAT9751532	(4G2.5+(2x1.5)C)C	14.5	7.5
PUR O.I.	06	MAT9851545	(4G2.5+(2x1.5)C)C	14.0	10
PUR M.I.	07	MAT9851544	(4G2.5+(2x1.5)C)C	14.5	7.5
Basic cable					
6FX_002-5DG13					
PVC M.I.	05	MAT9751541	(4G10+(2x1.5)C)C	21.5	7.5
PUR O.I.	06	MAT9851555	(4G10+(2x1.5)C)C	21.0	10
PUR M.I.	07	MAT9851554	(4G10+(2x1.5)C)C	21.0	7.5

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igus® gladly pre-harnesses the cable according to your technical guidelines. **G** = with green-yellow earth core, **x** = without earth core
* Cable qualities: **M.I** = with inner jacket, **O.I.** = without inner jacket, **F** = flame-retardant, **H** = halogen-free **OIL** = oil-resistant
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Harnessed drive cables | Siemens

PVC/PUR/TPE

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* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Siemens Servo cables					
6FX_002-5DG21					
PVC O.I.	04	MAT9751531	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9751530	(4G1.5+(2x1.5)C)	13.0	7.5
Basic cable					
PUR O.I.	06	MAT9851543	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9851542	(4G1.5+(2x1.5)C)	13.0	7.5
Basic cable					
6FX_002-5DG23					
PUR O.I.	06	MAT9851557	(4G16+(2x1.5)C)C	24.0	10
PUR M.I.	07	MAT9851556	(4G16+(2x1.5)C)C	24.0	7.5
6FX_002-5DG31					
PVC O.I.	04	MAT9751535	(4G2.5+(2x1.5)C)C	14.0	10
PVC M.I.	05	MAT9751534	(4G2.5+(2x1.5)C)C	14.5	7.5
PUR O.I.	06	MAT9851547	(4G2.5+(2x1.5)C)C	14.0	10
PUR M.I.	07	MAT9851546	(4G2.5+(2x1.5)C)C	14.5	7.5
Basic cable					
6FX_002-5DG33					
PUR M.I.	07	MAT9851558	(4G25+(2x1.5)C)C	28.0	7.5
6FX_002-5DG41					
PVC O.I.	04	MAT9751537	(4G4.0+(2x1.5)C)C	15.0	10
PVC M.I.	05	MAT9751536	(4G4.0+(2x1.5)C)C	16.0	7.5
PUR O.I.	06	MAT9851549	(4G4.0+(2x1.5)C)C	15.0	10
PUR M.I.	07	MAT9851548	(4G4.0+(2x1.5)C)C	16.0	7.5
Basic cable					
6FX_002-5DG43					
PUR M.I.	07	MAT9851559	(4G35+(2x1.5)C)C	32.0	7.5
6FX_002-5DG51					
PVC O.I.	04	MAT9751539	(4G6.0+(2x1.5)C)C	16.5	10
PVC M.I.	05	MAT9751538	(4G6.0+(2x1.5)C)C	18.0	7.5
PUR O.I.	06	MAT9851551	(4G6.0+(2x1.5)C)C	16.5	10
PUR M.I.	07	MAT9851550	(4G6.0+(2x1.5)C)C	17.5	7.5

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits. Example image.
igus® gladly pre-harnesses the cable according to your technical guidelines. **G =** with green-yellow earth core, **x =** without earth core
* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Siemens
PVC/PUR/TPE

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* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Siemens Servo cables					
Basic cable					
6FX_002-5DG61					
PVC M.I.	05	MAT9751540	(4G10+(2x1.5)C)C	21.5	7.5
PUR O.I.	06	MAT9851553	(4G10+(2x1.5)C)C	21.0	10
PUR M.I.	07	MAT9851552	(4G10+(2x1.5)C)C	21.0	7.5
Basic cable					
6FX_002-5DN06					
PVC O.I.	04	MAT97515103	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT97515102	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT98515122	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT98515123	(4G1.5+(2x1.5)C)	13.0	7.5
Basic cable					
6FX_002-5DN16					
PVC O.I.	04	MAT97515108	(4G2.5+(2x1.5)C)C	14.0	10
PVC M.I.	05	MAT97515109	(4G2.5+(2x1.5)C)C	14.5	7.5
PUR O.I.	06	MAT98515129	(4G2.5+(2x1.5)C)C	14.0	10
PUR M.I.	07	MAT98515128	(4G2.5+(2x1.5)C)C	14.5	7.5
Basic cable					
6FX_002-5DN26					
PVC O.I.	04	MAT97515125	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT97515126	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT98515145	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT98515146	(4G1.5+(2x1.5)C)	13.0	7.5
Basic cable					
6FX_002-5DN30					
PVC O.I.	04	MAT9761566	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT98615117	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9761565	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT98615116	(4G1.5+(2x1.5)C)	13.0	7.5

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits. Example image.
igus® gladly pre-harnesses the cable according to your technical guidelines. **G =** with green-yellow earth core, **x =** without earth core
* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Siemens

PVC/PUR

EPLAN macros available online ▶ Page 582/583

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Siemens Servo cables					
Basic cable					
6FX_002-5DN46					
PVC O.I.	04	MAT97515113	(4G4.0+(2x1.5)C)C	15.0	10
PVC M.I.	05	MAT97515114	(4G4.0+(2x1.5)C)C	16.0	7.5
PUR O.I.	06	MAT98515133	(4G4.0+(2x1.5)C)C	15.0	10
PUR M.I.	07	MAT98515134	(4G4.0+(2x1.5)C)C	16.0	7.5
Basic cable					
6FX_002-5DN56					
PVC O.I.	04	MAT97515119	(4G6.0+(2x1.5)C)C	16.5	10
PVC M.I.	05	MAT97515120	(4G6.0+(2x1.5)C)C	18.0	7.5
PUR O.I.	06	MAT98515139	(4G6.0+(2x1.5)C)C	16.5	10
PUR M.I.	07	MAT98515140	(4G6.0+(2x1.5)C)C	17.5	7.5
Basic cable					
6FX_002-5DS01					
PVC O.I.	04	MAT9751507	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9160020	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9851509	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9060020	(4G1.5+(2x1.5)C)	13.0	7.5
Basic cable					
6FX_002-5DS06					
PVC O.I.	04	MAT97515105	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT97515104	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT98515124	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT98515125	(4G1.5+(2x1.5)C)	13.0	7.5
Basic cable					
6FX_002-5DS11					
PVC O.I.	04	MAT9751516	(4G2.5+(2x1.5)C)C	14.0	10
PVC M.I.	05	MAT9751515	(4G2.5+(2x1.5)C)C	14.5	7.5
PUR O.I.	06	MAT9851523	(4G2.5+(2x1.5)C)C	14.0	10
PUR M.I.	07	MAT9851522	(4G2.5+(2x1.5)C)C	14.5	7.5

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits. Example image.
igus® gladly pre-harnesses the cable according to your technical guidelines. **G =** with green-yellow earth core, **x =** without earth core
* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Siemens

PVC/PUR

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* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Siemens Servo cables					
Basic cable					
6FX_002-5DS13					
PVC M.I.	05	MAT9751517	(4G10+(2x1.5)C)C	21.5	7.5
PUR O.I.	06	MAT9851525	(4G10+(2x1.5)C)C	21.0	10
PUR M.I.	07	MAT9851524	(4G10+(2x1.5)C)C	21.0	7.5
6FX_002-5DS21					
PVC O.I.	04	MAT9751508	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9160021	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9851510	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9060021	(4G1.5+(2x1.5)C)	13.0	7.5
Basic cable					
6FX_002-5DS23					
PUR O.I.	06	MAT9851527	(4G16+(2x1.5)C)C	24.0	10
PUR M.I.	07	MAT9851526	(4G16+(2x1.5)C)C	24.0	7.5
6FX_002-5DS33					
PUR M.I.	07	MAT9851532	(4G25+(2x1.5)C)C	28.0	7.5
Basic cable					
6FX_002-5DS36					
PVC O.I.	04	MAT97515107	(4G2.5+(2x1.5)C)C	14.0	10
PVC M.I.	05	MAT97515106	(4G2.5+(2x1.5)C)C	14.5	7.5
PUR O.I.	06	MAT98515127	(4G2.5+(2x1.5)C)C	14.0	10
PUR M.I.	07	MAT98515126	(4G2.5+(2x1.5)C)C	14.5	7.5
Basic cable					
6FX_002-5DS41					
PVC O.I.	04	MAT9751522	(4G4.0+(2x1.5)C)C	15.0	10
PVC M.I.	05	MAT9751521	(4G4.0+(2x1.5)C)C	16.0	7.5
PUR O.I.	06	MAT9851531	(4G4.0+(2x1.5)C)C	15.0	10
PUR M.I.	07	MAT9851530	(4G4.0+(2x1.5)C)C	16.0	7.5
Basic cable					
6FX_002-5DS43					
PUR M.I.	07	MAT9851533	(4G35+(2x1.5)C)C	32.0	7.5

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits. Example image.
igus® gladly pre-harnesses the cable according to your technical guidelines. **G** = with green-yellow earth core, **x** = without earth core
* Cable qualities: **M.I** = with inner jacket, **O.I.** = without inner jacket, **F** = flame-retardant, **H** = halogen-free **OIL** = oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Siemens

PVC/PUR

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* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Siemens Servo cables					
Basic cable					
6FX_002-5DS51					
PVC O.I.	04	MAT9751524	(4G6.0+(2x1.5)C)C	16.5	10
PVC M.I.	05	MAT9751523	(4G6.0+(2x1.5)C)C	18.0	7.5
PUR O.I.	06	MAT9851535	(4G6.0+(2x1.5)C)C	16.5	10
PUR M.I.	07	MAT9851534	(4G6.0+(2x1.5)C)C	17.5	7.5
Basic cable					
6FX_002-5DS54					
PVC O.I.	04	MAT9751526	(4G6.0+(2x1.5)C)C	16.5	10
PVC M.I.	05	MAT9751525	(4G6.0+(2x1.5)C)C	18.0	7.5
PUR O.I.	06	MAT9851537	(4G6.0+(2x1.5)C)C	16.5	10
PUR M.I.	07	MAT9851536	(4G6.0+(2x1.5)C)C	17.5	7.5
Basic cable					
6FX_002-5DS61					
PVC M.I.	05	MAT9160022	(4G10+(2x1.5)C)C	21.5	7.5
PUR O.I.	06	MAT9851511	(4G10+(2x1.5)C)C	21.0	10
PUR M.I.	07	MAT9060022	(4G10+(2x1.5)C)C	21.0	7.5
Basic cable					
6FX_002-5DS64					
PVC M.I.	05	MAT9751527	(4G10+(2x1.5)C)C	21.5	7.5
PUR O.I.	06	MAT9851539	(4G10+(2x1.5)C)C	21.0	10
PUR M.I.	07	MAT9851538	(4G10+(2x1.5)C)C	21.0	7.5
Extension cable					
6FX_002-5DA05					
PVC O.I.	04	MAT9751509	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9161001	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9851512	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9061001	(4G1.5+(2x1.5)C)	13.0	7.5
6FX_002-5DA15					
PVC O.I.	04	MAT9751510	(4G2.5+(2x1.5)C)C	14.0	10
PVC M.I.	05	MAT9161002	(4G2.5+(2x1.5)C)C	14.5	7.5
PUR O.I.	06	MAT9851513	(4G2.5+(2x1.5)C)C	14.0	10
PUR M.I.	07	MAT9061002	(4G2.5+(2x1.5)C)C	14.5	7.5

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits. Example image.
igus® gladly pre-harnesses the cable according to your technical guidelines. **G =** with green-yellow earth core, **x =** without earth core
* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

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PVC/PUR

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* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Siemens Servo cables					
Extension cable					
6FX_002-5DA28					
PVC O.I.	04	MAT9751511	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9161003	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9851514	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9061003	(4G1.5+(2x1.5)C)	13.0	7.5
6FX_002-5DA38					
PVC O.I.	04	MAT9751512	(4G2.5+(2x1.5)C)C	14.0	10
PVC M.I.	05	MAT9161004	(4G2.5+(2x1.5)C)C	14.5	7.5
PUR O.I.	06	MAT9851515	(4G2.5+(2x1.5)C)C	14.0	10
PUR M.I.	07	MAT9061004	(4G2.5+(2x1.5)C)C	14.5	7.5
6FX_002-5DA48					
PVC O.I.	04	MAT9751513	(4G4.0+(2x1.5)C)C	15.0	10
PVC M.I.	05	MAT9161005	(4G4.0+(2x1.5)C)C	16.0	7.5
PUR O.I.	06	MAT9851516	(4G4.0+(2x1.5)C)C	15.0	10
PUR M.I.	07	MAT9061005	(4G4.0+(2x1.5)C)C	16.0	7.5
Extension cable					
6FX_002-5DA58					
PVC O.I.	04	MAT9751514	(4G6.0+(2x1.5)C)C	16.5	10
PVC M.I.	05	MAT9161006	(4G6.0+(2x1.5)C)C	18.0	7.5
PUR O.I.	06	MAT9851517	(4G6.0+(2x1.5)C)C	16.5	10
PUR M.I.	07	MAT9061006	(4G6.0+(2x1.5)C)C	17.5	7.5
6FX_002-5DA68					
PVC M.I.	05	MAT9161007	(4G10+(2x1.5)C)C	21.5	7.5
PUR O.I.	06	MAT9851518	(4G10+(2x1.5)C)C	21.0	10
PUR M.I.	07	MAT9061007	(4G10+(2x1.5)C)C	21.0	7.5
Extension cable					
6FX_002-5DX18					
PVC M.I.	05	MAT9161011	(4G10+(2x1.5)C)C	21.5	7.5
PUR O.I.	06	MAT9851520	(4G10+(2x1.5)C)C	21.0	10
PUR M.I.	07	MAT9061011	(4G10+(2x1.5)C)C	21.0	7.5
6FX_002-5DX28					
PVC M.I.	05	MAT9161008	(4G16+(2x1.5)C)C	25.0	7.5
PUR O.I.	06	MAT9851519	(4G16+(2x1.5)C)C	24.0	10
PUR M.I.	07	MAT9061008	(4G16+(2x1.5)C)C	24.0	7.5
6FX_002-5DX38					
PVC M.I.	05	MAT9161009	(4G25+(2x1.5)C)C	30.0	7.5
PUR M.I.	07	MAT9061009	(4G25+(2x1.5)C)C	28.0	7.5
6FX_002-5DX48					
PVC M.I.	05	MAT9161010	(4G35+(2x1.5)C)C	33.5	7.5
PUR M.I.	07	MAT9061010	(4G35+(2x1.5)C)C	32.0	7.5

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PVC/PUR

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* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality			Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Siemens Hybrid servo cables						
Basic cable						
6FX_002-8QN04						
PVC O.I.	26	New	MAT97515129	(4G0,34+(2x0,34)C+(4xAWG26)C)C	10.0	10
PUR O.I.	27		MAT98515147	(4G0,34+(2x0,34)C+(4xAWG26)C)C	10.0	10
Basic cable						
6FX_002-8QN08						
PVC O.I.	26	New	MAT97515130	(4G0,75+(2x0,5)C+(4xAWG26)C)C	11.0	10
PUR O.I.	27		MAT98515148	(4G0,75+(2x0,5)C+(4xAWG26)C)C	11.0	10
Basic cable						
6FX_002-8QN11						
PUR O.I.	27		MAT98515153	(4G1,5+(2x1,5)C+(4xAWG26)C)C	13.0	10
6FX_002-8QN21						
PUR O.I.	27		MAT98515154	(4G2,5+(2x1,5)C+(4xAWG26)C)C	14.5	10
Extension cable						
6FX_002-8QE04						
PVC O.I.	26	New	MAT97515131	(4G0,34+(2x0,34)C+(4xAWG26)C)C	10.0	10
PUR O.I.	27		MAT98515149	(4G0,34+(2x0,34)C+(4xAWG26)C)C	10.0	10
Extension cable						
6FX_002-8QE08						
PVC O.I.	26	New	MAT97515132	(4G0,75+(2x0,5)C+(4xAWG26)C)C	11.0	10
PUR O.I.	27		MAT98515150	(4G0,75+(2x0,5)C+(4xAWG26)C)C	11.0	10
Extension cable						
6FX_002-8QE11						
PUR O.I.	27		MAT98515155	(4G1,5+(2x1,5)C+(4xAWG26)C)C	13.0	10
6FX_002-8QE21						
PUR O.I.	27		MAT98515156	(4G2,5+(2x1,5)C+(4xAWG26)C)C	14.5	10

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igus® gladly pre-harnesses the cable according to your technical guidelines. **G =** with green-yellow earth core, **x =** without earth core
* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
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Harnessed drive cables | Siemens

PVC/PUR

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* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Siemens Signal cables					
Basic cable					
6FX8002-2CF20					
PVC	08	MAT9741518	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	9.0	10
PUR O.I.	09	MAT9841563	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	9.5	10
PUR M.I.	10	MAT9841564	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	10.0	7.5
TPE H*	11	MAT9941505	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	10.0	6.8
Basic cable					
6FX8002-2CQ31					
PVC	08	MAT9741514	(3x(2x0.14)C+(4x0.14)+(4x0.25)+(2x0.5))C	10.0	10
PUR O.I.	09	MAT9841557	(3x(2x0.14)C+(4x0.14)+(4x0.25)+(2x0.5))C	10.0	10
PUR M.I.	10	MAT9841558	(3x(2x0.14)C+(4x0.14)+(4x0.25)+(2x0.5))C	11.0	7.5
TPE H*	11	MAT9941503	(3x(2x0.14)C+(4x0.14)+(4x0.25)+(2x0.5))C	10.5	6.8
Basic cable					
6FX8002-2DC40					
PVC	08	MAT9741520	(2x(2x0.15)+(2x0.38))C	7.5	10
PUR O.I.	09	MAT9841566	(2x(2x0.15)+(2x0.38))C	7.5	10
PUR M.I.	10	MAT9841567	(2x(2x0.20)+(2x0.38))C	7.5	7.5
Basic cable					
6FX8002-2DC42					
PVC	08	MAT9741522	(2x(2x0.15)+(2x0.38))C	7.5	10
PUR O.I.	09	MAT9841569	(2x(2x0.15)+(2x0.38))C	7.5	10
PUR M.I.	10	MAT9841570	(2x(2x0.20)+(2x0.38))C	7.5	7.5
Basic cable					
6FX_002-1DC00					
PVC	08	MAT9741506	(2x(2x0.15)+(2x0.38))C	7.5	10
PUR O.I.	09	MAT9841532	(2x(2x0.15)+(2x0.38))C	7.5	10
PUR M.I.	10	MAT9070032	(2x(2x0.20)+(2x0.38))C	7.5	7.5
Basic cable					
6FX_002-2AD00					
PVC	08	MAT9170001	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	9.0	10
PUR M.I.	10	MAT9841501	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	10.0	7.5
TPE H*	11	MAT9070001	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	10.0	6.8

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits. Example image.
igus® gladly pre-harnesses the cable according to your technical guidelines. **G** = with green-yellow earth core, **x** = without earth core
* Cable qualities: **M.I** = with inner jacket, **O.I.** = without inner jacket, **F** = flame-retardant, **H** = halogen-free **OIL** = oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Siemens

PVC/PUR

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* Technical information on the cable quality (Code 01-31): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Siemens Signal cables					
Basic cable					
6FX_002-2AH00					
PVC	08	MAT9170018	(4x(2x0.34)+4x0.5)C	9.5	10
PUR M.I.	10	MAT9841518	(4x(2x0.34)+4x0.5)C	10.0	7.5
TPE H*	11	MAT9070018	(4x(2x0.34)+4x0.5)C	10.0	6.8
Basic cable					
6FX_002-2AH11					
PVC	08	MAT9741526	(4x(2x0.34)+4x0.5)C	9.5	10
PUR O.I.	09	MAT98415104	(4x(2x0.34)+4x0.5)C	9.5	10
PUR M.I.	10	MAT98415105	(4x(2x0.34)+4x0.5)C	10.0	7.5
TPE H*	11	MAT9941507	(4x(2x0.34)+4x0.5)C	10.0	6.8
Basic cable					
6FX_002-2CA11					
PVC	08	MAT9170002	(4x(2x0.34)+4x0.5)C	9.5	10
PUR M.I.	10	MAT9841502	(4x(2x0.34)+4x0.5)C	10.0	7.5
TPE H*	11	MAT9070002	(4x(2x0.34)+4x0.5)C	10.0	6.8
Basic cable					
6FX_002-2CA15					
PVC	08	MAT9170003	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	9.0	10
PUR M.I.	10	MAT9841503	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	10.0	7.5
TPE H*	11	MAT9070003	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	10.0	6.8
Basic cable					
6FX_002-2CA31					
PVC	08	MAT9170004	(3x(2x0.14)C+(4x0.14)+(4x0.25)+(2x0.5))C	10.0	10
PUR M.I.	10	MAT9841504	(3x(2x0.14)C+(4x0.14)+(4x0.25)+(2x0.5))C	11.0	7.5
TPE H*	11	MAT9070004	(3x(2x0.14)C+(4x0.14)+(4x0.25)+(2x0.5))C	10.5	6.8
Basic cable					
6FX_002-2CA51					
PVC	08	MAT9170005	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	9.0	10
PUR M.I.	10	MAT9841505	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	10.0	7.5
TPE H*	11	MAT9070005	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	10.0	6.8

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* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

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PVC/PUR

EPLAN macros available online ▶ Page 582/583

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Siemens Signal cables					
Basic cable					
6FX_002-2CA71					
PVC	**08**	MAT9170006	(4x(2x0.34)+4x0.5)C	9.5	10
PUR M.I.	**10**	MAT9841506	(4x(2x0.34)+4x0.5)C	10.0	7.5
TPE H*	**11**	MAT9070006	(4x(2x0.34)+4x0.5)C	10.0	6.8
Basic cable					
6FX_002-2CB31					
PUR	**13**	MAT9841507	(14x0.25)C	8.0	10
TPE H*	**24**	MAT9070007	(12x0.25)C	9.5	5
6FX_002-2CB51					
PVC	**08**	MAT9170008	(4x(2x0.34)+4x0.5)C	9.5	10
PUR M.I.	**10**	MAT9841508	(4x(2x0.34)+4x0.5)C	10.0	7.5
TPE H*	**11**	MAT9070008	(4x(2x0.34)+4x0.5)C	10.0	6.8
6FX_002-2CC11					
PVC	**08**	MAT9170009	(4x(2x0.34)+4x0.5)C	9.5	10
PUR M.I.	**10**	MAT9841509	(4x(2x0.34)+4x0.5)C	10.0	7.5
TPE H*	**11**	MAT9070009	(4x(2x0.34)+4x0.5)C	10.0	6.8
6FX_002-2CD01					
PVC	**08**	MAT9170010	(4x(2x0.34)+4x0.5)C	9.5	10
PUR M.I.	**10**	MAT9841510	(4x(2x0.34)+4x0.5)C	10.0	7.5
TPE H*	**11**	MAT9070010	(4x(2x0.34)+4x0.5)C	10.0	6.8
Basic cable					
6FX_002-2CF01					
PVC	**08**	MAT9170021	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	9.0	10
PUR M.I.	**10**	MAT9841519	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	10.0	7.5
TPE H*	**11**	MAT9070021	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	10.0	6.8
6FX_002-2CF02					
PVC	**08**	MAT9170011	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	9.0	10
PUR M.I.	**10**	MAT9841511	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	10.0	7.5
TPE H*	**11**	MAT9070011	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	10.0	6.8
6FX_002-2CG00					
PVC	**08**	MAT9170012	(4x(2x0.34)+4x0.5)C	9.5	10
PUR M.I.	**10**	MAT9841512	(4x(2x0.34)+4x0.5)C	10.0	7.5
TPE H*	**11**	MAT9070012	(4x(2x0.34)+4x0.5)C	10.0	6.8

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* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

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EPLAN macros available online ▶ Page 582/583

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Siemens Signal cables					
Basic cable					
6FX_002-2CH00					
PVC	08	MAT9170013	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	9.0	10
PUR M.I.	10	MAT9841513	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	10.0	7.5
TPE H*	11	MAT9070013	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	10.0	6.8
Basic cable					
6FX_002-2CK00					
PVC	08	MAT9170014	(3x(2x0.14)C+2x(0.5)C)C	9.5	10
PUR M.I.	10	MAT9841514	(3x(2x0.14)C+2x(0.5)C)C	10.0	7.5
TPE H*	11	MAT9070014	(3x(2x0.14)C+2x(0.5)C)C	10.0	6.8
6FX_002-2CL00					
PVC	08	MAT9170015	(3x(2x0.14)C+2x(0.5)C)C	9.5	10
PUR M.I.	10	MAT9841515	(3x(2x0.14)C+2x(0.5)C)C	10.0	7.5
TPE H*	11	MAT9070015	(3x(2x0.14)C+2x(0.5)C)C	10.0	6.8
Basic cable					
6FX_002-2CR00					
PVC	08	MAT9741524	(4x(2x0.34)+4x0.5)C	9.5	10
PUR O.I.	09	MAT98415101	(4x(2x0.34)+4x0.5)C	9.5	10
PUR M.I.	10	MAT98415102	(4x(2x0.34)+4x0.5)C	10.0	7.5
TPE H*	11	MAT9941506	(4x(2x0.34)+4x0.5)C	10.0	6.8
Basic cable					
6FX_002-2CT12					
PVC	08	MAT9741531	(4x(2x0.34)+4x0.5)C	9.5	10
PUR O.I.	09	MAT98415111	(4x(2x0.34)+4x0.5)C	9.5	10
PUR M.I.	10	MAT98415112	(4x(2x0.34)+4x0.5)C	10.0	7.5
TPE H*	11	MAT9941509	(4x(2x0.34)+4x0.5)C	10.0	6.8
Basic cable					
6FX_002-2DB10					
PUR		MAT9821501	(4x(2x0.25)C)C	11.0	10

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* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

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EPLAN macros available online ▶ Page 582/583

* Technical information on the cable quality (Code 01-31): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Siemens Signal cables					
Basic cable					
6FX_002-2DC10					
PVC	08	MAT9741504	(2x(2x0.15)+(2x0.38))C	7.5	10
PUR O.I.	09	MAT9841530	(2x(2x0.15)+(2x0.38))C	7.5	10
PUR M.I.	10	MAT9070030	(2x(2x0.20)+(2x0.38))C	7.5	7.5
Extension cable					
6FX_002-2DC34					
PVC	08	MAT9741509	(2x(2x0.15)+(2x0.38))C	7.5	10
PUR O.I.	09	MAT9841551	(2x(2x0.15)+(2x0.38))C	7.5	10
PUR M.I.	10	MAT9841571	(2x(2x0.20)+(2x0.38))C	7.5	7.5
Basic cable					
6FX_002-2DC36					
PVC	08	MAT9741528	(2x(2x0.15)+(2x0.38))C	7.5	10
PUR O.I.	09	MAT98415107	(2x(2x0.15)+(2x0.38))C	7.5	10
PUR M.I.	10	MAT98415108	(2x(2x0.20)+(2x0.38))C	7.5	7.5
Basic cable					
6FX_002-2EQ00					
PVC	08	MAT9170016	(3x(2x0.14)C+(4x0.14)+(4x0.25)+(2x0.5))C	10.0	10
PUR M.I.	10	MAT9841516	(3x(2x0.14)C+(4x0.14)+(4x0.25)+(2x0.5))C	11.0	7.5
TPE H*	11	MAT9070016	(3x(2x0.14)C+(4x0.14)+(4x0.25)+(2x0.5))C	10.5	6.8
Basic cable					
6FX_002-2EQ10					
PVC	08	MAT9170017	(3x(2x0.14)C+(4x0.14)+(4x0.25)+(2x0.5))C	10.0	10
PUR M.I.	10	MAT9841517	(3x(2x0.14)C+(4x0.14)+(4x0.25)+(2x0.5))C	11.0	7.5
TPE H*	11	MAT9070017	(3x(2x0.14)C+(4x0.14)+(4x0.25)+(2x0.5))C	10.5	6.8
6FX_002-2EQ20					
PVC	08	MAT9741530	(3x(2x0.14)C+(4x0.14)+(4x0.25)+(2x0.5))C	10.0	10
PUR O.I.	09	MAT98415109	(3x(2x0.14)C+(4x0.14)+(4x0.25)+(2x0.5))C	10.0	10
PUR M.I.	10	MAT98415110	(3x(2x0.14)C+(4x0.14)+(4x0.25)+(2x0.5))C	11.0	7.5
TPE H*	11	MAT9941508	(3x(2x0.14)C+(4x0.14)+(4x0.25)+(2x0.5))C	10.5	6.8
6FX_002-2EQ31					
PVC	08	MAT9741512	(3x(2x0.14)C+(4x0.14)+(4x0.25)+(2x0.5))C	10.0	10
PUR O.I.	09	MAT9841554	(3x(2x0.14)C+(4x0.14)+(4x0.25)+(2x0.5))C	10.0	10
PUR M.I.	10	MAT9841555	(3x(2x0.14)C+(4x0.14)+(4x0.25)+(2x0.5))C	11.0	7.5
TPE H*	11	MAT9941502	(3x(2x0.14)C+(4x0.14)+(4x0.25)+(2x0.5))C	10.5	6.8

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* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Siemens Signal cables					
Basic cable					
6FX_002-5BL03					
PVC M.I.	18	MAT9711502	(3G0.75)C	8.0	7.5
PUR M.I.	22	MAT9811501	(3G0.75)C	8.0	6.8
Basic cable					
6fx3002-2CT10					
PVC	08	MAT9741507	(4x(2x0.34)+4x0.5)C	9.5	10
PUR O.I.	09	MAT9841548	(4x(2x0.34)+4x0.5)C	9.5	10
PUR M.I.	10	MAT9841549	(4x(2x0.34)+4x0.5)C	10.0	7.5
TPE H*	11	MAT9941501	(4x(2x0.34)+4x0.5)C	10.0	6.8
Extension cable					
6FX8002-2CQ34					
PVC	08	MAT9741516	(3x(2x0.14)C+(4x0.14)+(4x0.25)+(2x0.5))C	10.0	10
PUR O.I.	09	MAT9841560	(3x(2x0.14)C+(4x0.14)+(4x0.25)+(2x0.5))C	10.0	10
PUR M.I.	10	MAT9841561	(3x(2x0.14)C+(4x0.14)+(4x0.25)+(2x0.5))C	11.0	7.5
TPE H*	11	MAT9941504	(3x(2x0.14)C+(4x0.14)+(4x0.25)+(2x0.5))C	10.5	6.8
Extension cable					
6FX_002-2AD04					
PVC	08	MAT9171001	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	9.0	10
PUR M.I.	10	MAT9841520	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	10.0	7.5
TPE H*	11	MAT9071001	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	10.0	6.8
6FX_002-2AH04					
PVC	08	MAT9171018	(4x(2x0.34)+4x0.5)C	9.5	10
PUR M.I.	10	MAT9841529	(4x(2x0.34)+4x0.5)C	10.0	7.5
TPE H*	11	MAT9071018	(4x(2x0.34)+4x0.5)C	10.0	6.8
6FX_002-2CA34					
PVC	08	MAT9171004	(3x(2x0.14)C+(4x0.14)+(4x0.25)+(2x0.5))C	10.0	10
PUR M.I.	10	MAT9841523	(3x(2x0.14)C+(4x0.14)+(4x0.25)+(2x0.5))C	11.0	7.5
TPE H*	11	MAT9071004	(3x(2x0.14)C+(4x0.14)+(4x0.25)+(2x0.5))C	10.5	6.8
6FX_002-2CA54					
PVC	08	MAT9171003	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	9.0	10
PUR M.I.	10	MAT9841522	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	10.0	7.5
TPE H*	11	MAT9071003	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	10.0	6.8

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EPLAN macros available online ▶ Page 582/583

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Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Siemens Signal cables					
Extension cable					
6FX_002-2CB34					
PUR	13	MAT9841525	(14x0.25)C	8.0	10
TPE H*	24	MAT9071007	(12x0.25)C	9.5	5
6FX_002-2CB54					
PVC	08	MAT9171002	(4x(2x0.34)+4x0.5)C	9.5	10
PUR M.I.	10	MAT9841521	(4x(2x0.34)+4x0.5)C	10.0	7.5
TPE H*	11	MAT9071002	(4x(2x0.34)+4x0.5)C	10.0	6.8
Extension cable					
6FX_002-2CC14					
PVC	08	MAT9171009	(4x(2x0.34)+4x0.5)C	9.5	10
PUR M.I.	10	MAT9841526	(4x(2x0.34)+4x0.5)C	10.0	7.5
TPE H*	11	MAT9071009	(4x(2x0.34)+4x0.5)C	10.0	6.8
6FX_002-2CF04					
PVC	08	MAT9171011	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	9.0	10
PUR M.I.	10	MAT9841527	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	10.0	7.5
TPE H*	11	MAT9071011	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	10.0	6.8
Extension cable					
6FX_002-2DC20					
PVC	08	MAT9741505	(2x(2x0.15)+(2x0.38))C	7.5	10
PUR O.I.	09	MAT9841531	(2x(2x0.15)+(2x0.38))C	7.5	10
PUR M.I.	10	MAT9070031	(2x(2x0.20)+(2x0.38))C	7.5	7.5
Extension cable					
6FX_002-2EQ14					
PVC	08	MAT9171017	(3x(2x0.14)C+(4x0.14)+(4x0.25)+(2x0.5))C	10.0	10
PUR M.I.	10	MAT9841528	(3x(2x0.14)C+(4x0.14)+(4x0.25)+(2x0.5))C	11.0	7.5
TPE H*	11	MAT9071017	(3x(2x0.14)C+(4x0.14)+(4x0.25)+(2x0.5))C	10.5	6.8

ePLAN data portal

EPLAN macros suitable for Siemens available online

Can be used directly in CAE planning.

Learn more about it on page 582/583 and online: www.igus-asean.com/eplan-macro

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PVC/PUR

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* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Siemens Signal cables DriveCliq					
Basic cable					
6FX8002-2DC30-1AD0(3m)					
PUR M.I.	**10**	MAT9841534	(2x(2x0.20)+(2x0.38))C	7.5	7.5
6FX8002-2DC30-1AF0(5m)					
PUR M.I.	**10**	MAT9841535	(2x(2x0.20)+(2x0.38))C	7.5	7.5
6FX8002-2DC30-1BA0(10m)					
PUR M.I.	**10**	MAT9841536	(2x(2x0.20)+(2x0.38))C	7.5	7.5
6FX8002-2DC30-1BF0(15m)					
PUR M.I.	**10**	MAT9841537	(2x(2x0.20)+(2x0.38))C	7.5	7.5
6FX8002-2DC30-1CA0(20m)					
PUR M.I.	**10**	MAT9841538	(2x(2x0.20)+(2x0.38))C	7.5	7.5
6FX8002-2DC30-1CF0(25m)					
PUR M.I.	**10**	MAT9841539	(2x(2x0.20)+(2x0.38))C	7.5	7.5
6FX8002-2DC30-1DA0(30m)					
PUR M.I.	**10**	MAT9841540	(2x(2x0.20)+(2x0.38))C	7.5	7.5
Extension cable					
6FX8002-2DC34-1AD0(3m)					
PUR M.I.	**10**	MAT9841541	(2x(2x0.20)+(2x0.38))C	7.5	7.5
6FX8002-2DC34-1AF0(5m)					
PUR M.I.	**10**	MAT9841542	(2x(2x0.20)+(2x0.38))C	7.5	7.5
6FX8002-2DC34-1BA0(10m)					
PUR M.I.	**10**	MAT9841543	(2x(2x0.20)+(2x0.38))C	7.5	7.5
6FX8002-2DC34-1BF0(15m)					
PUR M.I.	**10**	MAT9841544	(2x(2x0.20)+(2x0.38))C	7.5	7.5
6FX8002-2DC34-1CA0(20m)					
PUR M.I.	**10**	MAT9841545	(2x(2x0.20)+(2x0.38))C	7.5	7.5
6FX8002-2DC34-1CF0(25m)					
PUR M.I.	**10**	MAT9841546	(2x(2x0.20)+(2x0.38))C	7.5	7.5
6FX8002-2DC34-1DA0(30m)					
PUR M.I.	**10**	MAT9841547	(2x(2x0.20)+(2x0.38))C	7.5	7.5

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits. Example image.
igus® gladly pre-harnesses the cable according to your technical guidelines. **G =** with green-yellow earth core, **x =** without earth core
* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Siemens, SpeedTec

PVC/PUR/TPE

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* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Siemens Power cables, SpeedTec					
Basic cable, SpeedTec					
6FX_002-5CG10					
PVC M.I.	**01**	MAT9761540	(4G1.5)C	10.0	7.5
PUR O.I.	**06**	MAT9861584	(4G1.5)C	9.0	10
PUR M.I.	**07**	MAT9861583	(4G1.5)C	11.0	7.5
TPE F	**02**	MAT9961540	(4G1.5)C	10.0	7.5
6FX_002-5CG12					
PVC M.I.	**01**	MAT9761541	(4G2.5)C	11.5	7.5
PUR O.I.	**06**	MAT9861586	(4G2.5)C	10.5	10
PUR M.I.	**07**	MAT9861585	(4G2.5)C	12.5	7.5
TPE F	**02**	MAT9961541	(4G2.5)C	11.5	7.5
6FX_002-5CG22					
PVC M.I.	**01**	MAT9761542	(4G1.5)C	10.0	7.5
PUR O.I.	**06**	MAT9861588	(4G1.5)C	9.0	10
PUR M.I.	**07**	MAT9861587	(4G1.5)C	11.0	7.5
TPE F	**02**	MAT9961542	(4G1.5)C	10.0	7.5
6FX_002-5CG32					
PVC M.I.	**01**	MAT9761543	(4G2.5)C	11.5	7.5
PUR O.I.	**06**	MAT9861590	(4G2.5)C	10.5	10
PUR M.I.	**07**	MAT9861589	(4G2.5)C	12.5	7.5
TPE F	**02**	MAT9961543	(4G2.5)C	11.5	7.5
6FX_002-5CG42					
PVC M.I.	**01**	MAT9761544	(4G4.0)C	13.0	7.5
PUR O.I.	**06**	MAT9861591	(4G4.0)C	12.5	10
TPE F	**02**	MAT9961544	(4G4.0)C	13.0	7.5
6FX_002-5CG52					
PVC M.I.	**01**	MAT9761545	(4G6.0)C	16.0	7.5
PUR O.I.	**06**	MAT9861592	(4G6.0)C	14.5	10
TPE F	**02**	MAT9961545	(4G6.0)C	16.0	7.5
6FX_002-5CG62					
PVC M.I.	**01**	MAT9761546	(4G10)C	18.5	7.5
PUR O.I.	**06**	MAT9861593	(4G10)C	170	10
TPE F	**02**	MAT9961546	(4G10)C	18.5	7.5

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* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
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Harnessed drive cables | Siemens, SpeedTec

PVC/PUR/TPE

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* Technical information on the cable quality (Code 01-31): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Siemens Power cables, SpeedTec					
Basic cable, SpeedTec					
6FX_002-5CN01					
PVC M.I.	01	MAT9761531	(4G1.5)C	10.0	7.5
PUR O.I.	06	MAT9861571	(4G1.5)C	9.0	10
PUR M.I.	07	MAT9861570	(4G1.5)C	11.0	7.5
TPE F	02	MAT9961531	(4G1.5)C	10.0	7.5
6FX_002-5CN11					
PVC M.I.	01	MAT9761532	(4G2.5)C	11.5	7.5
PUR O.I.	06	MAT9861573	(4G2.5)C	10.5	10
PUR M.I.	07	MAT9861572	(4G2.5)C	12.5	7.5
TPE F	02	MAT9961532	(4G2.5)C	11.5	7.5
6FX_002-5CN21					
PVC M.I.	01	MAT9761533	(4G1.5)C	10.0	7.5
PUR O.I.	06	MAT9861575	(4G1.5)C	9.0	10
PUR M.I.	07	MAT9861574	(4G1.5)C	11.0	7.5
TPE F	02	MAT9961533	(4G1.5)C	10.0	7.5
6FX_002-5CN31					
PVC M.I.	01	MAT9761534	(4G2.5)C	11.5	7.5
PUR O.I.	06	MAT9861577	(4G2.5)C	10.5	10
PUR M.I.	07	MAT9861576	(4G2.5)C	12.5	7.5
TPE F	02	MAT9961534	(4G2.5)C	11.5	7.5
6FX_002-5CN41					
PVC M.I.	01	MAT9761535	(4G4.0)C	13.0	7.5
PUR O.I.	06	MAT9861578	(4G4.0)C	12.5	10
TPE F	02	MAT9961535	(4G4.0)C	13.0	7.5
6FX_002-5CN51					
PVC M.I.	01	MAT9761536	(4G6.0)C	16.0	7.5
PUR O.I.	06	MAT9861579	(4G6.0)C	14.5	10
TPE F	02	MAT9961536	(4G6.0)C	16.0	7.5
Basic cable, SpeedTec					
6FX_002-5CN54					
PVC M.I.	01	MAT9761537	(4G6.0)C	16.0	7.5
PUR O.I.	06	MAT9861580	(4G6.0)C	14.5	10
TPE F	02	MAT9961537	(4G6.0)C	16.0	7.5

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igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Siemens, SpeedTec

PVC/PUR/TPE

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* Technical information on the cable quality (Code 01-31): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Siemens Power cables, SpeedTec					
Basic cable, SpeedTec					
6FX_002-5CN61					
PVC M.I.	01	MAT9761538	(4G10)C	18.5	7.5
PUR O.I.	06	MAT9861581	(4G10)C	17.0	10
TPE F	02	MAT9961538	(4G10)C	18.5	7.5
Basic cable, SpeedTec					
6FX_002-5CN64					
PVC M.I.	01	MAT9761539	(4G10)C	18.5	7.5
PUR O.I.	06	MAT9861582	(4G10)C	17.0	10
TPE F	02	MAT9961539	(4G10)C	18.5	7.5
Basic cable, SpeedTec					
6FX_002-5CQ01					
PVC M.I.	01	MAT9761524	(4G1.5)C	10.0	7.5
PUR O.I.	06	MAT9861560	(4G1.5)C	9.0	10
PUR M.I.	07	MAT9861559	(4G1.5)C	11.0	7.5
TPE F	02	MAT9961524	(4G1.5)C	10.0	7.5
6FX_002-5CQ11					
PVC M.I.	01	MAT9761525	(4G2.5)C	11.5	7.5
PUR O.I.	06	MAT9861562	(4G2.5)C	10.5	10
PUR M.I.	07	MAT9861561	(4G2.5)C	12.5	7.5
TPE F	02	MAT9961525	(4G2.5)C	11.5	7.5
6FX_002-5CQ21					
PVC M.I.	01	MAT9761526	(4G1.5)C	10.0	7.5
PUR O.I.	06	MAT9861564	(4G1.5)C	9.0	10
PUR M.I.	07	MAT9861563	(4G1.5)C	11.0	7.5
TPE F	02	MAT9961526	(4G1.5)C	10.0	7.5
6FX_002-5CQ31					
PVC M.I.	01	MAT9761527	(4G2.5)C	11.5	7.5
PUR O.I.	06	MAT9861566	(4G2.5)C	10.5	10
PUR M.I.	07	MAT9861565	(4G2.5)C	12.5	7.5
TPE F	02	MAT9961527	(4G2.5)C	11.5	7.5
6FX_002-5CQ41					
PVC M.I.	01	MAT9761528	(4G4.0)C	13.0	7.5
PUR O.I.	06	MAT9861567	(4G4.0)C	12.5	10
TPE F	02	MAT9961528	(4G4.0)C	13.0	7.5

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PVC/PUR/TPE

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* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Siemens Power cables, SpeedTec					
6FX_002-5CQ51					
PVC M.I.	01	MAT9761529	(4G6.0)C	16.0	7.5
PUR O.I.	06	MAT9861568	(4G6.0)C	14.5	10
TPE F	02	MAT9961529	(4G6.0)C	16.0	7.5
6FX_002-5CQ61					
PVC M.I.	01	MAT9761530	(4G10)C	18.5	7.5
PUR O.I.	06	MAT9861569	(4G10)C	17.0	10
TPE F	02	MAT9961530	(4G10)C	18.5	7.5
Extension cable, SpeedTec					
6FX_002-5CN05					
PVC M.I.	01	MAT9761522	(4G1.5)C	10.0	7.5
PUR O.I.	06	MAT9861556	(4G1.5)C	9.0	10
PUR M.I.	07	MAT9861555	(4G1.5)C	11.0	7.5
TPE F	02	MAT9961522	(4G1.5)C	10.0	7.5
6FX_002-5CQ15					
PVC M.I.	01	MAT9761523	(4G2.5)C	11.5	7.5
PUR O.I.	06	MAT9861558	(4G2.5)C	10.5	10
PUR M.I.	07	MAT9861557	(4G2.5)C	12.5	7.5
TPE F	02	MAT9961523	(4G2.5)C	11.5	7.5
6FX_002-5CQ28					
PVC M.I.	01	MAT9761547	(4G1.5)C	10.0	7.5
PUR O.I.	06	MAT9861595	(4G1.5)C	9.0	10
PUR M.I.	07	MAT9861594	(4G1.5)C	11.0	7.5
TPE F	02	MAT9961547	(4G1.5)C	10.0	7.5
6FX_002-5CQ38					
PVC M.I.	01	MAT9761548	(4G2.5)C	11.5	7.5
PUR O.I.	06	MAT9861597	(4G2.5)C	10.5	10
PUR M.I.	07	MAT9861596	(4G2.5)C	12.5	7.5
TPE F	02	MAT9961548	(4G2.5)C	11.5	7.5
6FX_002-5CQ48					
PVC M.I.	01	MAT9761549	(4G4.0)C	13.0	7.5
PUR O.I.	06	MAT9861598	(4G4.0)C	12.5	10
TPE F	02	MAT9961549	(4G4.0)C	13.0	7.5
6FX_002-5CQ58					
PVC M.I.	01	MAT9761550	(4G6.0)C	16.0	7.5
PUR O.I.	06	MAT9861599	(4G6.0)C	14.5	10
TPE F	02	MAT9961550	(4G6.0)C	16.0	7.5
6FX_002-5CQ68					
PVC M.I.	01	MAT9761551	(4G10)C	18.5	7.5
PUR O.I.	06	MAT98615100	(4G10)C	17.0	10
TPE F	02	MAT9961551	(4G10)C	18.5	7.5

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* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Siemens Servo cables, SpeedTec					
Basic cable, SpeedTec					
6FX_002-5DG10					
PVC O.I.	04	MAT9751589	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9751588	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT98515107	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT98515106	(4G1.5+(2x1.5)C)	13.0	7.5
6FX_002-5DG12					
PVC O.I.	04	MAT9751593	(4G2.5+(2x1.5)C)C	14.0	10
PVC M.I.	05	MAT9751592	(4G2.5+(2x1.5)C)C	14.5	7.5
PUR O.I.	06	MAT98515111	(4G2.5+(2x1.5)C)C	14.0	10
PUR M.I.	07	MAT98515110	(4G2.5+(2x1.5)C)C	14.5	7.5
6FX_002-5DG22					
PVC O.I.	04	MAT9751591	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9751590	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT98515109	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT98515108	(4G1.5+(2x1.5)C)	13.0	7.5
6FX_002-5DG32					
PVC O.I.	04	MAT9751595	(4G2.5+(2x1.5)C)C	14.0	10
PVC M.I.	05	MAT9751594	(4G2.5+(2x1.5)C)C	14.5	7.5
PUR O.I.	06	MAT98515113	(4G2.5+(2x1.5)C)C	14.0	10
PUR M.I.	07	MAT98515112	(4G2.5+(2x1.5)C)C	14.5	7.5
6FX_002-5DG42					
PVC O.I.	04	MAT9751597	(4G4.0+(2x1.5)C)C	15.0	10
PVC M.I.	05	MAT9751596	(4G4.0+(2x1.5)C)C	16.0	7.5
PUR O.I.	06	MAT98515115	(4G4.0+(2x1.5)C)C	15.0	10
PUR M.I.	07	MAT98515114	(4G4.0+(2x1.5)C)C	16.0	7.5
6FX_002-5DG52					
PVC O.I.	04	MAT9751599	(4G6.0+(2x1.5)C)C	16.5	10
PVC M.I.	05	MAT9751598	(4G6.0+(2x1.5)C)C	18.0	7.5
PUR O.I.	06	MAT98515117	(4G6.0+(2x1.5)C)C	16.5	10
PUR M.I.	07	MAT98515116	(4G6.0+(2x1.5)C)C	17.5	7.5
6FX_002-5DG62					
PVC M.I.	05	MAT97515100	(4G10+(2x1.5)C)C	21.5	7.5
PUR O.I.	06	MAT98515119	(4G10+(2x1.5)C)C	21.0	10
PUR M.I.	07	MAT98515118	(4G10+(2x1.5)C)C	21.0	7.5

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PVC/PUR/TPE

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Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Siemens Servo cables, SpeedTec					
Basic cable, SpeedTec					
6FX_002-5DN01					
PVC O.I.	04	MAT9751571	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9751570	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9851589	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9851588	(4G1.5+(2x1.5)C)	13.0	7.5
6FX_002-5DN11					
PVC O.I.	04	MAT9751573	(4G2.5+(2x1.5)C)C	14.0	10
PVC M.I.	05	MAT9751572	(4G2.5+(2x1.5)C)C	14.5	7.5
PUR O.I.	06	MAT9851591	(4G2.5+(2x1.5)C)C	14.0	10
PUR M.I.	07	MAT9851590	(4G2.5+(2x1.5)C)C	14.5	7.5
6FX_002-5DN21					
PVC O.I.	04	MAT9751575	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9751574	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9851593	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9851592	(4G1.5+(2x1.5)C)	13.0	7.5
Basic cable, SpeedTec					
6FX_002-5DN27					
PVC O.I.	04	MAT97515128	(4G1.5+(2x1.5)C)	12.5	10
PUR O.I.	06	MAT98515152	(4G1.5+(2x1.5)C)	12.5	10
Basic cable, SpeedTec					
6FX_002-5DN31					
PVC O.I.	04	MAT9751577	(4G2.5+(2x1.5)C)C	14.0	10
PVC M.I.	05	MAT9751576	(4G2.5+(2x1.5)C)C	14.5	7.5
PUR O.I.	06	MAT9851595	(4G2.5+(2x1.5)C)C	14.0	10
PUR M.I.	07	MAT9851594	(4G2.5+(2x1.5)C)C	14.5	7.5
6FX_002-5DN41					
PVC O.I.	04	MAT9751579	(4G4.0+(2x1.5)C)C	15.0	10
PVC M.I.	05	MAT9751578	(4G4.0+(2x1.5)C)C	16.0	7.5
PUR O.I.	06	MAT9851597	(4G4.0+(2x1.5)C)C	15.0	10
PUR M.I.	07	MAT9851596	(4G4.0+(2x1.5)C)C	16.0	7.5

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits. Example image.
igus® gladly pre-harnesses the cable according to your technical guidelines. **G =** with green-yellow earth core, **x =** without earth core
* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Siemens, SpeedTec

PVC/PUR/TPE

EPLAN macros available online ▶ Page 582/583

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Siemens Servo cables, SpeedTec					
Basic cable, SpeedTec					
6FX_002-5DN51					
PVC O.I.	04	MAT9751581	(4G6.0+(2x1.5)C)C	16.5	10
PVC M.I.	05	MAT9751580	(4G6.0+(2x1.5)C)C	18.0	7.5
PUR O.I.	06	MAT9851599	(4G6.0+(2x1.5)C)C	16.5	10
PUR M.I.	07	MAT9851598	(4G6.0+(2x1.5)C)C	17.5	7.5
Basic cable, SpeedTec					
6FX_002-5DN54					
PVC O.I.	04	MAT9751583	(4G6.0+(2x1.5)C)C	16.5	10
PVC M.I.	05	MAT9751582	(4G6.0+(2x1.5)C)C	18.0	7.5
PUR O.I.	06	MAT98515101	(4G6.0+(2x1.5)C)C	16.5	10
PUR M.I.	07	MAT98515100	(4G6.0+(2x1.5)C)C	17.5	7.5
Basic cable, SpeedTec					
6FX_002-5DN61					
PVC M.I.	05	MAT9751584	(4G10+(2x1.5)C)C	21.5	7.5
PUR O.I.	06	MAT98515103	(4G10+(2x1.5)C)C	21.0	10
PUR M.I.	07	MAT98515102	(4G10+(2x1.5)C)C	21.0	7.5
Basic cable, SpeedTec					
6FX_002-5DN64					
PVC M.I.	05	MAT9751586	(4G10+(2x1.5)C)C	21.5	7.5
PUR O.I.	06	MAT98515105	(4G10+(2x1.5)C)C	21.0	10
PUR M.I.	07	MAT98515104	(4G10+(2x1.5)C)C	21.0	7.5

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igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Siemens, SpeedTec

PVC/PUR/TPE

EPLAN macros available online ▶ Page 582/583

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Siemens Servo cables, SpeedTec					
Basic cable, SpeedTec					
6FX_002-5DQ01					
PVC O.I.	04	MAT9751557	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9751556	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9851575	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9851574	(4G1.5+(2x1.5)C)	13.0	7.5
6FX_002-5DQ11					
PVC O.I.	04	MAT9751559	(4G2.5+(2x1.5)C)C	14.0	10
PVC M.I.	05	MAT9751558	(4G2.5+(2x1.5)C)C	14.5	7.5
PUR O.I.	06	MAT9851577	(4G2.5+(2x1.5)C)C	14.0	10
PUR M.I.	07	MAT9851576	(4G2.5+(2x1.5)C)C	14.5	7.5
6FX_002-5DQ21					
PVC O.I.	04	MAT9751561	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9751560	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9851579	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9851578	(4G1.5+(2x1.5)C)	13.0	7.5
6FX_002-5DQ31					
PVC O.I.	04	MAT9751563	(4G2.5+(2x1.5)C)C	14.0	10
PVC M.I.	05	MAT9751562	(4G2.5+(2x1.5)C)C	14.5	7.5
PUR O.I.	06	MAT9851581	(4G2.5+(2x1.5)C)C	14.0	10
PUR M.I.	07	MAT9851580	(4G2.5+(2x1.5)C)C	14.5	7.5
6FX_002-5DQ41					
PVC O.I.	04	MAT9751565	(4G4.0+(2x1.5)C)C	15.0	10
PVC M.I.	05	MAT9751564	(4G4.0+(2x1.5)C)C	16.0	7.5
PUR O.I.	06	MAT9851583	(4G4.0+(2x1.5)C)C	15.0	10
PUR M.I.	07	MAT9851582	(4G4.0+(2x1.5)C)C	16.0	7.5
6FX_002-5DQ51					
PVC O.I.	04	MAT9751567	(4G6.0+(2x1.5)C)C	16.5	10
PVC M.I.	05	MAT9751566	(4G6.0+(2x1.5)C)C	18.0	7.5
PUR O.I.	06	MAT9851585	(4G6.0+(2x1.5)C)C	16.5	10
PUR M.I.	07	MAT9851584	(4G6.0+(2x1.5)C)C	17.5	7.5
6FX_002-5DQ61					
PVC M.I.	05	MAT9751568	(4G10+(2x1.5)C)C	21.5	7.5
PUR O.I.	06	MAT9851587	(4G10+(2x1.5)C)C	21.0	10
PUR M.I.	07	MAT9851586	(4G10+(2x1.5)C)C	21.0	7.5

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* Cable qualities: **M.I =** with inner jacket, **O.I. =** without inner jacket, **F =** flame-retardant, **H =** halogen-free **OIL =** oil-resistant
igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Siemens, SpeedTec

PVC/PUR/TPE

EPLAN macros available online ▶ Page 582/583

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Siemens Servo cables, SpeedTec					
Extension cable, SpeedTec					
6FX_002-5DN05					
PVC O.I.	04	MAT9751544	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9751543	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9851561	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9851560	(4G1.5+(2x1.5)C)	13.0	7.5
6FX_002-5DN15					
PVC O.I.	04	MAT9751546	(4G2.5+(2x1.5)C)C	14.0	10
PVC M.I.	05	MAT9751545	(4G2.5+(2x1.5)C)C	14.5	7.5
PUR O.I.	06	MAT9851563	(4G2.5+(2x1.5)C)C	14.0	10
PUR M.I.	07	MAT9851562	(4G2.5+(2x1.5)C)C	14.5	7.5
6FX_002-5DQ15					
PVC O.I.	04	MAT97515122	(4G2.5+(2x1.5)C)C	14.0	10
PVC M.I.	05	MAT97515123	(4G2.5+(2x1.5)C)C	14.5	7.5
PUR O.I.	06	MAT98515142	(4G2.5+(2x1.5)C)C	14.0	10
PUR M.I.	07	MAT98515143	(4G2.5+(2x1.5)C)C	14.5	7.5
6FX_002-5DQ28					
PVC O.I.	04	MAT9751548	(4G1.5+(2x1.5)C)	12.5	10
PVC M.I.	05	MAT9751547	(4G1.5+(2x1.5)C)	13.0	7.5
PUR O.I.	06	MAT9851565	(4G1.5+(2x1.5)C)	12.5	10
PUR M.I.	07	MAT9851564	(4G1.5+(2x1.5)C)	13.0	7.5
6FX_002-5DQ38					
PVC O.I.	04	MAT9751550	(4G2.5+(2x1.5)C)C	14.0	10
PVC M.I.	05	MAT9751549	(4G2.5+(2x1.5)C)C	14.5	7.5
PUR O.I.	06	MAT9851567	(4G2.5+(2x1.5)C)C	14.0	10
PUR M.I.	07	MAT9851566	(4G2.5+(2x1.5)C)C	14.5	7.5
6FX_002-5DQ48					
PVC O.I.	04	MAT9751552	(4G4.0+(2x1.5)C)C	15.0	10
PVC M.I.	05	MAT9751551	(4G4.0+(2x1.5)C)C	16.0	7.5
PUR O.I.	06	MAT9851569	(4G4.0+(2x1.5)C)C	15.0	10
PUR M.I.	07	MAT9851568	(4G4.0+(2x1.5)C)C	16.0	7.5
6FX_002-5DQ58					
PVC O.I.	04	MAT9751554	(4G6.0+(2x1.5)C)C	16.5	10
PVC M.I.	05	MAT9751553	(4G6.0+(2x1.5)C)C	18.0	7.5
PUR O.I.	06	MAT9851571	(4G6.0+(2x1.5)C)C	16.5	10
PUR M.I.	07	MAT9851570	(4G6.0+(2x1.5)C)C	17.5	7.5
6FX_002-5DQ68					
PVC M.I.	05	MAT9751555	(4G10+(2x1.5)C)C	21.5	7.5
PUR O.I.	06	MAT9851573	(4G10+(2x1.5)C)C	21.0	10
PUR M.I.	07	MAT9851572	(4G10+(2x1.5)C)C	21.0	7.5

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igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Stöber

PVC/PUR/TPE

EPLAN macros available online ▶ Page 582/583

* Technical information on the cable quality (Code 01-31): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Stöber Servo cables					
Basic cable					
Gr.1-Motor-1,0mm²					
PVC O.I.	04	MAT9751601	(4G1.5+2x(2x0.75)C)C	13.5	10
PVC M.I.	05	MAT9430001	(4G1.0+2x(2x0.75)C)	13.5	7.5
PUR O.I.	06	MAT9851601	(4G1.0+2x(2x0.75)C)	13.0	10
PUR M.I.	07	MAT9420001	(4G1.0+2x(2x0.75)C)	13.5	7.5
Gr.1-Motor-1,5mm²					
PVC O.I.	04	MAT9751602	(4G1.5+2x(2x0.75)C)C	13.5	10
PVC M.I.	05	MAT9430002	(4G1.5+2x(2x0.75)C)C	14.5	7.5
PUR O.I.	06	MAT9851602	(4G1.5+2x(2x0.75)C)C	13.5	10
PUR M.I.	07	MAT9420002	(4G1.5+2x(2x0.75)C)C	14.5	7.5
Gr.1-Motor-2,5mm²					
PVC O.I.	04	MAT9751603	(4G2.5+2x(2x1.5)C)C	16.0	10
PVC M.I.	05	MAT9430003	(4G2.5+2x(2x1.5)C)C	17.0	7.5
PUR O.I.	06	MAT9851603	(4G2.5+2x(2x1.5)C)C	16.0	10
PUR M.I.	07	MAT9420003	(4G2.5+2x(2x1.5)C)C	16.0	7.5
Gr.1-Motor-4,0mm²					
PVC O.I.	04	MAT9751604	(4G4.0+2x(2x1.5)C)C	17.0	10
PVC M.I.	05	MAT9430004	(4G4.0+2x(2x1.5)C)C	18.0	7.5
PUR O.I.	06	MAT9851604	(4G4.0+2x(2x1.5)C)C	17.0	10
PUR M.I.	07	MAT9420004	(4G4.0+2x(2x1.5)C)C	17.5	7.5
Basic cable					
Gr.1,5-Motor-4,0mm²					
PVC O.I.	04	MAT9751605	(4G4.0+2x(2x1.5)C)C	17.0	10
PVC M.I.	05	MAT9430005	(4G4.0+2x(2x1.5)C)C	18.0	7.5
PUR O.I.	06	MAT9851605	(4G4.0+2x(2x1.5)C)C	17.0	10
PUR M.I.	07	MAT9420005	(4G4.0+2x(2x1.5)C)C	17.5	7.5
Gr.1,5-Motor-6,0mm²					
PVC O.I.	04	MAT9751606	(4G6.0+2x(2x1.5)C)C	19.0	10
PVC M.I.	05	MAT9430006	(4G6.0+2x(2x1.5)C)C	21.0	7.5
PUR O.I.	06	MAT9851606	(4G6.0+2x(2x1.5)C)C	19.0	10
PUR M.I.	07	MAT9420006	(4G6.0+2x(2x1.5)C)C	19.5	7.5
Gr.1,5-Motor-10,0mm²					
PVC M.I.	05	MAT9430007	(4G10+2x(2x1.5)C)C	23.0	7.5
PUR O.I.	06	MAT9851607	(4G10+2x(2x1.5)C)C	22.5	10
PUR M.I.	07	MAT9420007	(4G10+2x(2x1.5)C)C	22.5	7.5

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igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

Harnessed drive cables | Stöber PVC/PUR

* Technical information on the cable quality (Code **01-31**): ▶ Page 578-581

Cable quality		Part No.	Number of cores and conductor nominal cross section [mm²]	Ø [mm]	R min. [x d]
Stöber Encoder cables					
iSDS4000 Basic cable					
Encoder ED/EK iSDS4000					
PVC	08	MAT9431001	(4x(2x0.34)+4x0.5)C	9.5	10
PUR O.I.	09	MAT9941601	(4x(2x0.34)+4x0.5)C	9.5	10
PUR M.I.	10	MAT9841601	(4x(2x0.34)+4x0.5)C	10.0	7.5
TPE H*	11	MAT9421001	(4x(2x0.34)+4x0.5)C	10.0	6.8
iSDS4000 Basic cable					
Encoder ES iSDS4000					
PUR O.I.	09	MAT9941602	((4x0.25)+3x(2x0.25+2x0.5))C	9.5	10
PUR M.I.	10	MAT9841602	((4x0.25)+3x(2x0.25+2x0.5))C	11.0	7.5
TPE H*	11	MAT9421002	((4x0.25)+3x(2x0.25+2x0.5))C	10.0	6.8
iHTL Basic cable					
Encoder HTL					
PVC	08	MAT9431006	(4x(2x0.25)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9841606	(4x(2x0.25)+2x0.5)C	8.5	7.5
TPE H*	11	MAT9421006	(4x(2x0.25)+2x0.5)C	8.5	6.8
iMDS5000 Basic cable					
Encoder iMDS5000					
PVC	08	MAT9431004	(4x(2x0.25)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9841604	(4x(2x0.25)+2x0.5)C	8.5	7.5
TPE H*	11	MAT9421004	(4x(2x0.25)+2x0.5)C	8.5	6.8
iMDS5000 Basic cable					
Resolver iMDS5000					
PVC	08	MAT9431005	(3x(2x0.25)C)C	9.0	10
PUR M.I.	10	MAT9841605	(3x(2x0.25))C	7.5	7.5
TPE H*	11	MAT9421005	(3x(2x0.25))C	7.5	6.8
iSDS4000 Basic cable					
Resolver iSDS4000					
PVC	08	MAT9431003	(4x(2x0.25)+2x0.5)C	8.0	10
PUR M.I.	10	MAT9841603	(4x(2x0.25)+2x0.5)C	8.5	7.5
TPE H*	11	MAT9421003	(4x(2x0.25)+2x0.5)C	8.5	6.8

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igus® GmbH defines cable length as entire length including connectors or open harnessing. ▶ Page 961

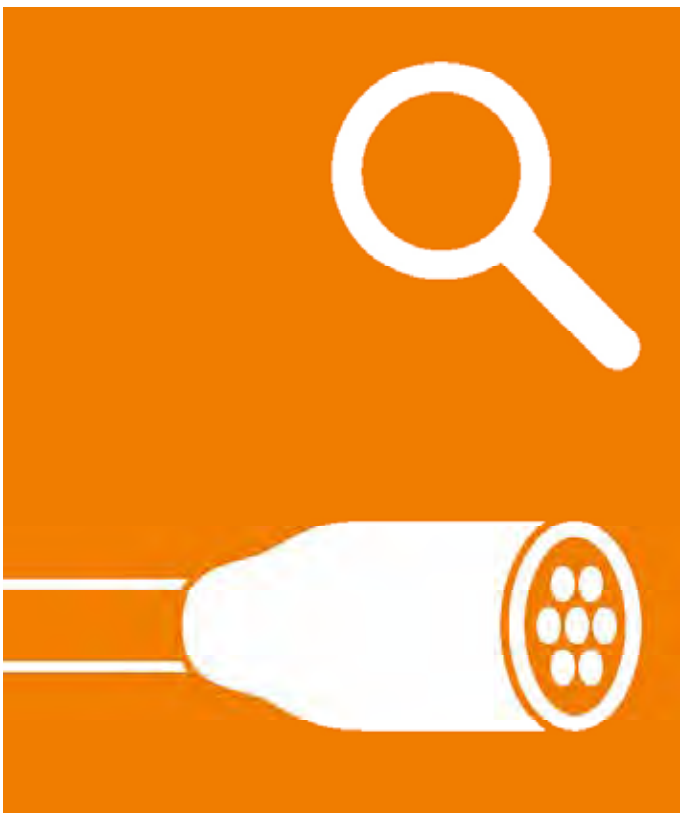
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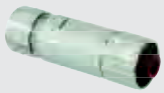
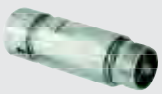
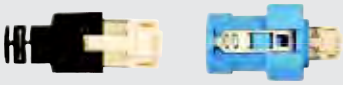


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2. Compare cables with different jacket materials
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igus® Connectors



	igus® connectors	Type	Page
Connectors			
 	SERIES A 623	Signal connector M23 standard [6 to 19-pole] standard/Speedtec	788
 	SERIES B 923	Power connector Size 1 [6, 8 and 9-pole] standard/Speedtec	793
 	SERIES C 940	Power connector Size 1.5 [6, 8 and 9-pole] standard/Speedtec	798
 	SERIES D 958	Power connector Size 3 [6 and 8-pole] standard	801
 	SERIES 615/915	Signal and power connector Signal [12-pole] and power connector [9-pole] plastic/metal clamping ring	803
 	SERIES M17 617/917	Signal and power connector M17 signal [17-pole] and power connector [4 to 9-pole] standard/Speedtec	811
 	SERIES S 623	Power connector [1-pole] standard	816
		Tools/accessories and connector packs Individual connector sets from quantity 1	818
	igus® ibow	Angle adapter for power connector 923 and signal connector 623	821
		Torque Master New! Connector assembly with precise torque	822
	Module Connect	Connector system Connect your energy supply with just ONE connector	824
	SUB-D	Signal connector SUB-D standard [9 to 44-pole]	830
	Yamaichi Y-CONKIT		834
	HARTING	Connector sets Standard and Premium	836
	Binder	**Connectors** series 768, 820, 825, 713	839
		Glands	844

Test igus®!
The connectors from the igus® Connectors product range as well as 3,500 other connector components are available from stock. We will gladly procure others for you! Everything from one source! Give us a call!
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Signal connectors Series A, M23 standard [9 to 19-pole]

Types

- Connector, standard and push-pull version, angular connector
- Lead-through
- Coupling, standard or with central attachment
- PG 13.5 installation box
- Straight installation box with flange
- Installation box angled and angled rotatable with flange

Number of poles in insulation body

- 6, 7, [8+1], 9, 10, 12, 16, 17, [16+3]

Electrical information

Design	**Signal 6 to 12-pole**	**Signal 16 to 19-pole**
Max. continuous nominal current	10A	9A
Nominal voltage (AC/DC)	160V	125V
Testing voltage	2500V	2500V
Contact resistance	< 5mΩ	< 5mΩ
Insertion cycles	> 50	> 50

Technical data

Locking	Thread M23
Temperature range	-20°C up to +130°C
Cable clamp	Crown clamp
Protection class	IP 66/67 [plugged]

Data according to VDE 0110/EN 61984, Clause 6.19.2.2

Pollution degree	3
Over-voltage category	III
Max. installation height	2000m

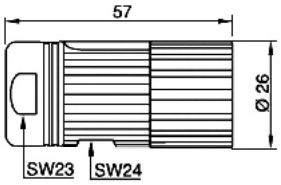
Connector materials

Housing	Zinc die-casting/brass, nickel-plated
Coupling nut	Brass, nickel-plated
Insulation body (material)	PA 6.6/PBT, UL 94/V0
Contacts	Brass, gold-plated
Seals	FPM/HNBR
Clamping ring	Brass, nickel-plated





Example image

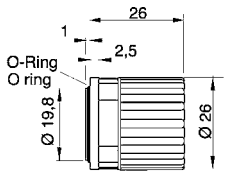




Signal connector [9 to 19-pole] (Metal construction, EMC shielding)							
Part No.	Insulation body (material)		Contact type	Dimensions crimping insert [mm]		Crimping range [mm²]	Clamping range [mm]	Crimping tool + insert
MAT0179600	P type [8+1]-pole 3 coding slots		Female crimp, slotted	8x1.0		0.14-1	9.0-13.2	C 1 4
			Female crimp, slotted	1x2.0		0.35-2.5		
MAT0179601	E type 12-pole 3 coding slots		Female crimp, slotted	12x1.0		0.14-1	9.0-13.2	A
MAT0179602	P type 16-pole 1 coding slot		Female crimp, slotted	16x1.0		0.14-1	9.0-13.2	A
MAT0179603	P type 17 pole 3 coding slots		Female crimp, slotted	17x1.0		0.14-1	9.0-13.2	A
MAT0179604	P type [16+3]-pole 1 coding slot		Female crimp, slotted	16x1.0		0.14-1	9.0-13.2	C 1 5
			Female crimp, slotted	3x1.5		0.14-1		



Example image



Bulkhead connector with union nut		
Part No.	Number of poles	Crimping tool + insert
MAT0179605	[8+1]-pole	C 1 4
MAT0179606	12-pole	A
MAT0179607	16-pole	A
MAT0179608	17 pole	A
MAT0179609	[16+3]-pole	C 1 5



Example image

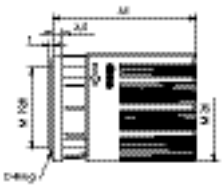




Signal connector [9 to 19-pole] (Metal construction, EMC shielding)							
Part No.	Insulation body (material)		Contact type	Dimensions crimping insert [mm]		Crimping range [mm²]	Clamping range [mm]	Crimping tool + insert
MAT01723461	P type [8+1]-pole 3 coding slots		Female crimp, slotted	8x1.0		0.14-1	9.0-13.2	C 1 4
			Female crimp, slotted	1x2.0		0.35-2.5		
MAT01723462	E type 12-pole 3 coding slots		Female crimp, slotted	12x1.0		0.14-1	9.0-13.2	A
MAT01723463	P type 16-pole 1 coding slot		Female crimp, slotted	16x1.0		0.14-1	9.0-13.2	A
MAT01723464	P type 17 pole 3 coding slots		Female crimp, slotted	17x1.0		0.14-1	9.0-13.2	A
MAT01723465	P type [16+3]-pole 1 coding slot		Female crimp, slotted	16x1.0		0.14-1	9.0-13.2	C 1 5
			Female crimp, slotted	3x1.5		0.14-1		



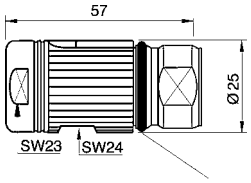
Example image



Bulkhead connector with union nut		
Part No.	Number of poles	Crimping tool + insert
MAT01723466	[8+1]-pole	C 1 4
MAT01723467	12-pole	A
MAT01723468	16-pole	A
MAT01723469	17 pole	A
MAT01723470	[16+3]-pole	C 1 5



Example image

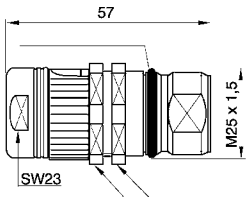




Signal connector [9 to 19-pole] (Metal construction, EMC shielding)							
Part No.	Insulation body (material)	Contact type	Dimensions crimping insert [mm]		Crimping range [mm²]	Clamping range [mm]	Crimping tool + insert
MAT0179610	E type [8+1]-pole 3 coding slots	Male crimp	8x1.0		0.14-1	9.0-13.2	C 1 4
		Male crimp	1x2.0		0.35-2.5		
MAT0179611	P type 12-pole 3 coding slots	Male crimp	12x1.0		0.14-1	9.0-13.2	A
MAT0179612	E type 16-pole 1 coding slot	Male crimp	16x1.0		0.14-1	9.0-13.2	A
MAT0179613	E type 17 pole 3 coding slots	Male crimp	17x1.0		0.14-1	9.0-13.2	A
MAT0179614	E type [16+3]-pole 1 coding slot	Male crimp	16x1.0		0.14-1	9.0-13.2	C 1 5
		Male crimp	3x1.5		0.14-1		



Example image

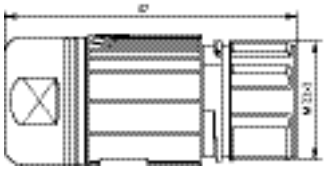


Coupling with central attachment		
Part No.	Number of poles	Crimping tool + insert
MAT0179615	[8+1]-pole	C 1 4
MAT0179616	12-pole	A
MAT0179617	16-pole	A
MAT0179618	17 pole	A
MAT0179619	[16+3]-pole	C 1 5

Crimping tools and inserts ▶ Page 818



Example image

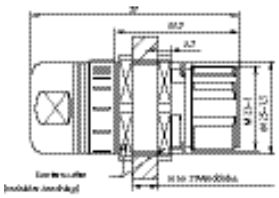




Signal connector [9 to 19-pole] (Metal construction, EMC shielding)							
Part No.	Insulation body (material)	Contact type	Dimensions crimping insert [mm]		Crimping range [mm²]	Clamping range [mm]	Crimping tool + insert
MAT01723471	E type [8+1]-pole 3 coding slots	Male crimp	8x1.0		0.14-1	9.0-13.2	C 1 4
		Male crimp	1x2.0		0.35-2.5		
MAT01723472	P type 12-pole 3 coding slots	Male crimp	12x1.0		0.14-1	9.0-13.2	A
MAT01723473	E type 16-pole 1 coding slot	Male crimp	16x1.0		0.14-1	9.0-13.2	A
MAT01723474	E type 17 pole 3 coding slots	Male crimp	17x1.0		0.14-1	9.0-13.2	A
MAT01723475	E type [16+3]-pole 1 coding slot	Male crimp	16x1.0		0.14-1	9.0-13.2	C 1 5
		Male crimp	3x1.5		0.14-1		



Example image



Coupling with central attachment		
Part No.	Number of poles	Crimping tool + insert
MAT01723476	[8+1]-pole	C 1 4
MAT01723477	12-pole	A
MAT01723478	16-pole	A
MAT01723479	17 pole	A
MAT01723480	[16+3]-pole	C 1 5

Crimping tools and inserts ▶ Page 818



Power connectors series B, M23, size 1 [6, 8 and 9-pole]

Types

- Connector, short and long, push-pull version, angular connector
- Coupling, standard or with central attachment
- Lead-through
- Installation box straight with flange
- Installation box angled and angled rotatable with flange

Number of poles in insulation body

- 6, 8, 9

Electrical information

Design	**Power 6-pole**	**Power 8 and 9-pole**
Max. continuous nominal current	28A	30A
Nominal voltage (AC/DC)	630V	630V
Testing voltage	6,000V	6,000V
Contact resistance	< 3mΩ	< 3mΩ
Insertion cycles	> 50	> 50

Technical data

Locking	Thread M23
Temperature range	-20°C up to +130°C
Cable clamp	Crown clamp
Protection class	IP 66/67 [plugged]

Data according to VDE 0110/EN 61984, Clause 6.19.2.2

Pollution degree	3
Over-voltage category	III
Max. installation height	2000m

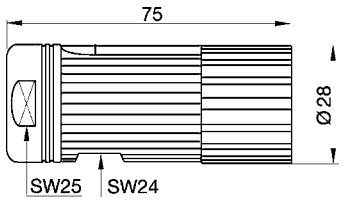
Connector materials

Housing	Zinc die-casting/brass, nickel-plated (optional: stainless steel)
Coupling nut	Brass, nickel-plated
Insulation body (material)	PA 6.6/PBT, UL 94/V0
Contacts	Brass, gold-plated
Seals	FPM/HNBR
Clamping ring	Brass, nickel-plated

Crimping tools and inserts ▶ Page 818



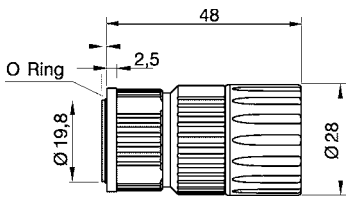
Example image



Power connector [6 to 9-pole], nickel-plated (metal construction, EMC shielding)							
Part No.	Insulation body (material)		Contact type	Dimensions crimping insert [mm]		Crimping range [mm²]	Clamping range [mm]	Crimping tool + insert
MAT0179620	P type 6-pole		HC female crimp	6x2.0		0.35-2.5	9.5-14.5	C 2
MAT0179621	P type 8-pole		HC female crimp	4x2.0		0.35-2.5	9.5-14.5	C 2 1
			HC female crimp	4x1.0		0.14-1		
MAT0179622	P type 9-pole		HC female crimp	4x2.0		0.35-2.5	9.5-14.5	C 2 1
			HC female crimp	5x1.0		0.14-1		



Example image



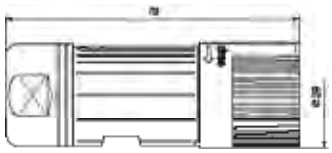
Bulkhead connector with union nut		
Part No.	Number of poles	Crimping tool + insert
MAT0178406	6-pole	C 2
MAT0175661	8-pole	C 2 1
MAT0179033	9-pole	C 2 1

Crimping tools and inserts ▶ Page 818





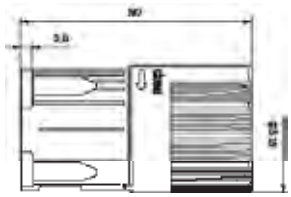
Example image



Power connector [6 to 9-pole], nickel-plated (metal construction, EMC shielding)								
Part No.	Insulation body (material)		Contact type	Dimensions crimping insert [mm]		Crimping range [mm²]	Clamping range [mm]	Crimping tool + insert
MAT01723481	P type 6-pole		HC female crimp	6x2.0		0.35-2.5	9.5-14.5	C 2
MAT01723482	P type 8-pole		HC female crimp	4x2.0		0.35-2.5	9.5-14.5	C 2 1
			HC female crimp	4x1.0		0.14-1		
MAT01723483	P type 9-pole		HC female crimp	4x2.0		0.35-2.5	9.5-14.5	C 2 1
			HC female crimp	5x1.0		0.14-1		



Example image

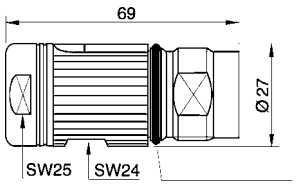


Bulkhead connector with union nut		
Part No.	Number of poles	Crimping tool + insert
MAT01723484	6-pole	C 2
MAT01723485	8-pole	C 2 1
MAT01723486	9-pole	C 2 1

Crimping tools and inserts ▶ Page 818



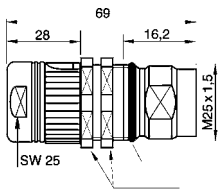
Example image



Power connector [6 to 9-pole], nickel-plated (metal construction, EMC shielding)							
Part No.	Insulation body (material)		Contact type	Dimensions crimping insert [mm]		Crimping range [mm²]	Clamping range [mm]	Crimping tool + insert
MAT0179623	E type 6-pole		Male crimp	6x2.0		0.35-2.5	9.5-14.5	C3
MAT0179624	E type 8-pole		Male crimp	4x2.0		0.35-2.5	9.5-14.5	C3
			Male crimp	4x1.0		0.14-1		
MAT0179625	E type 9-pole		Male crimp	6x2.0		0.35-2.5	9.5-14.5	C3
			Male crimp	4x1.0		0.14-1		



Example image



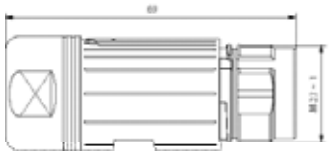
Coupling with central attachment		
Part No.	Number of poles	Crimping tool + insert
MAT0179626	6-pole	C3
MAT0179627	8-pole	C3
MAT0179628	9-pole	C3

Crimping tools and inserts ▶ Page 818





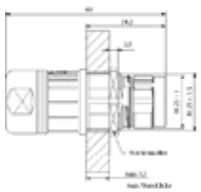
Example image



Power connector [6 to 9-pole], nickel-plated (metal construction, EMC shielding)								
Part No.	Insulation body (material)		Contact type	Dimensions crimping insert [mm]		Crimping range [mm²]	Clamping range [mm]	Crimping tool + insert
MAT01723487	E type 6-pole		Male crimp	6x2.0		0.35-2.5	9.5-14.5	C3
MAT01723488	E type 8-pole		Male crimp	4x2.0		0.35-2.5	9.5-14.5	C3
			Male crimp	4x1.0		0.14-1		
MAT01723489	E type 9-pole		Male crimp	4x2.0		0.35-2.5	9.5-14.5	C3
			Male crimp	5x1.0		0.14-1		



Example image



Coupling with central attachment		
Part No.	Number of poles	Crimping tool + insert
MAT01723490	6-pole	C3
MAT01723491	8-pole	C3
MAT01723492	9-pole	C3

Crimping tools and inserts ▶ Page 818

Power connectors series C, M40, size 1.5 [6, 8 and 9-pole]

Types

- Connector, angular connector
- Coupling
- Lead-through
- Straight installation box with flange
- Installation box angled and angled rotatable with flange

Number of poles in insulation body

- 6, 8, 9

Electrical information

Design	**Power 6 to 19-pole**
Max. continuous nominal current	75A
Nominal voltage (AC/DC)	630V
Testing voltage	6,000V
Contact resistance	< 1mΩ
Insertion cycles	> 50

Technical data

Locking	Thread M40
Temperature range	-20°C up to +130°C
Cable clamp	Crown clamp
Protection class	IP 66/67 [plugged]

Data according to VDE 0110/EN 61984, Clause 6.19.2.2

Pollution degree	3
Over-voltage category	III
Max. installation height	2000m

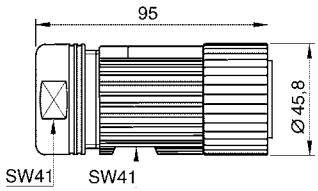
Connector materials

Housing	Magnesium die-casting/aluminium
Coupling nut	Brass, nickel-plated
Insulation body (material)	PA 6.6/PBT, UL 94/V0
Contacts	Brass, gold-plated
Seals	FPM/HNBR
Clamping ring	Brass, nickel-plated





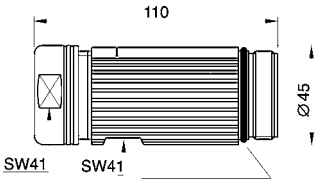
Example image



Power connector [6 to 9-pole], nickel-plated (metal construction, EMC shielding)								
Part No.	Insulation body (material)		Contact type	Dimensions crimping insert [mm]		Crimping range [mm²]	Clamping range [mm]	Crimping tool + insert
MAT0179629	P type 6-pole		HC female crimp	4x3.6		1.5-10	9.0-16.5	DD 92C
			HC female crimp	2x2.0		0.5-2.5		
MAT0179630	P type 8-pole		HC female crimp	4x3.6		1.5-10	9.0-16.5	DD 92C
			HC female crimp	4x2.0		0.5-2.5		
MAT0179631	P type 9-pole		HC female crimp	4x3.6		1.5-10	9.0-16.5	DD 92C
			HC female crimp	5x2.0		0.5-2.5		



Example image



Power connector [6 to 9-pole], nickel-plated (metal construction, EMC shielding)								
Part No.	Insulation body (material)		Contact type	Dimensions crimping insert [mm]		Crimping range [mm²]	Clamping range [mm]	Crimping tool + insert
MAT0179632	E type 6-pole		Male crimp	4x3.6		1.5-10	9.0-16.5	DD 9C3
			Male crimp	2x2.0		0.5-2.5		
MAT0179633	E type 8-pole		Male crimp	4x3.6		1.5-10	9.0-16.5	DD 9C3
			Male crimp	4x2.0		0.5-2.5		
MAT0179634	E type 9-pole		Male crimp	4x3.6		1.5-10	9.0-16.5	DD 9C3
			Male crimp	5x2.0		0.5-2.5		

Crimping tools and inserts ▶ Page 818



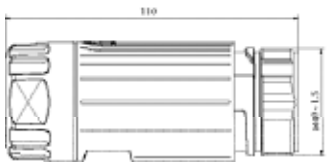
Example image



Power connector [6 to 9-pole], nickel-plated (metal construction, EMC shielding)								
Part No.	Insulation body (material)		Contact type	Dimensions crimping insert [mm]		Crimping range [mm²]	Clamping range [mm]	Crimping tool + insert
MAT01723501	P type 6-pole		HC female crimp	4x3.6		1.5-10	9.0-16.5	DD 92C
			HC female crimp	2x2.0		0.5-2.5		
MAT01723502	P type 8-pole		HC female crimp	4x3.6		1.5-10	9.0-16.5	DD 92C
			HC female crimp	4x2.0		0.5-2.5		
MAT01723503	P type 9-pole		HC female crimp	4x3.6		1.5-10	9.0-16.5	DD 92C
			HC female crimp	5x2.0		0.5-2.5		



Example image



Power connector [6 to 9-pole], nickel-plated (metal construction, EMC shielding)								
Part No.	Insulation body (material)		Contact type	Dimensions crimping insert [mm]		Crimping range [mm²]	Clamping range [mm]	Crimping tool + insert
MAT01723504	E type 6-pole		Male crimp	4x3.6		1.5-10	9.0-16.5	DD 9C3
			Male crimp	2x2.0		0.5-2.5		
MAT01723505	E type 8-pole		Male crimp	4x3.6		1.5-10	9.0-16.5	DD 9C3
			Male crimp	4x2.0		0.5-2.5		
MAT01723506	E type 9-pole		Male crimp	4x3.6		1.5-10	9.0-16.5	DD 9C3
			Male crimp	5x2.0		0.5-2.5		

Crimping tools and inserts ▶ Page 818



Power connectors series D, M58, size 3 [6 and 8-pole]

Types

- Connector
- Coupling
- Straight installation box with flange
- Angled installation box with flange

Number of poles in insulation body

- 6, 8

Electrical information

Design	**Power 6 and 8-pole**	**Signal contacts**
Max. continuous nominal current	150A	12A
Nominal voltage (AC/DC)	630V	250V
Testing voltage	6,000V	4,000V
Contact resistance	< 90mΩ	< 5mΩ
Insertion cycles	> 50	> 50

Technical data

Locking	Thread M58
Temperature range	-20°C up to +130°C
Cable clamp	Crown clamp
Protection class	IP 66/67 [plugged]

Data according to VDE 0110/EN 61984, Clause 6.19.2.2

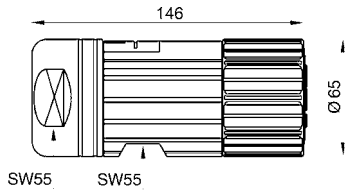
Pollution degree	3
Over-voltage category	III
Max. installation height	2000m

Connector materials

Housing	Zinc die-casting, nickel-plated
Coupling nut	Brass, nickel-plated
Insulation body (material)	PA 6.6/PBT, UL 94/V0
Contacts	Brass, silver/gold-plated
Seals	FPM
Clamping ring	Aluminium, nickel-plated



Example image

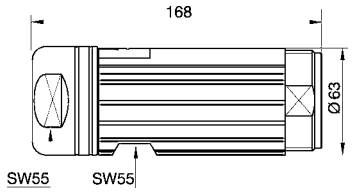


Power connector [6 and 8-pole] nickel-plated (metal construction, EMC shielding)

Part No.	Insulation body (material)		Contact type	Dimensions crimping insert [mm]		Crimping range [mm²]	Clamping range [mm]	Crimping tool + insert
MAT0179635	P type 6-pole		Female crimp (power)	4x10		10-10	-	E 10 C 7
			Female crimp (signal)	2x1.6		1.5-1.5		
MAT0179636	P type 8-pole		Female crimp (power)	4x10		10-10	-	E 10 C 7
			Female crimp (signal)	4x1.6		1.5-1.5		



Example image



Power coupling [6 and 8-pole] nickel-plated (metal construction, EMC shielding)

Part No.	Insulation body (material)		Contact type	Dimensions crimping insert [mm]		Crimping range [mm²]	Clamping range [mm]	Crimping tool + insert
MAT0179637	E type 6-pole		Male crimp (power)	4x10		10-10	-	E 10 C 8
			Male crimp (signal)	2x1.6		1.5-1.5		
MAT0179638	E type 8-pole		Male crimp (power)	4x10		10-10	-	E 10 C 8
			Male crimp (signal)	4x1.6		1.5-1.5		

Crimping tools and inserts ▶ Page 818



Signal connectors series 615, plastic/metal clamping ring [12-pole]

Types

- Connector, plastic or metal clamping ring
- Coupling, plastic or metal clamping ring

Number of poles in insulation body

- 12

Electrical information

Design	**Signal 12-pole**
Max. continuous nominal current	3.6A
Nominal voltage (AC/DC)	63V
Testing voltage	1,500V
Contact resistance	< 15mΩ
Insertion cycles	> 50

Technical data

Locking	Quick-lock fastener
Temperature range	-20°C up to +130°C
Cable clamp	Lamella clamp
Protection class	IP 66/67 [plugged]

Data according to VDE 0110/EN 61984, Clause 6.19.2.2

Pollution degree	3
Over-voltage category	III
Max. installation height	2000m

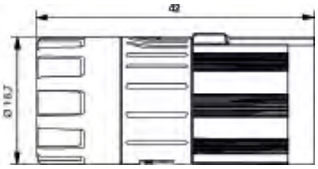
Connector materials

Housing	Zinc die-casting,/brass, nickel-plated and plastic-coated
Coupling nut	PA modif., 30% Gf.
Insulation body (material)	PA/PBT, UL 94/V0
Contacts	Brass, gold-plated
Seals	FPM/EPDM
Clamping ring	Brass, nickel-plated / PA modif., 30% Gf.

TE/INTERCONTEC | Series 615



Example image



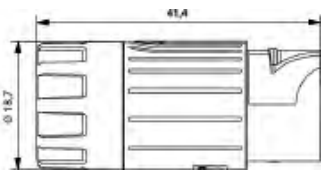


Signal connector [12-pole] (plastic clamping ring, EMC shielding)

Part No.	Insulation body (material)		Contact type	Dimensions crimping insert [mm]		Crimping range [mm²]	Clamping range [mm]	Crimping tool + insert
MAT01730633	P type 12-pole		Female crimp, slotted	12x1		0.1-0.75	4.5-6.5	C14
MAT01730634	P type 12-pole		Female crimp, slotted	12x1		0.1-0.75	6.5-8.5	C14
MAT01730635	P type 12-pole		Female crimp, slotted	12x1		0.1-0.75	8.5-10.5	C14



Example image





Signal coupling [12-pole] (plastic clamping ring, EMC shielding)

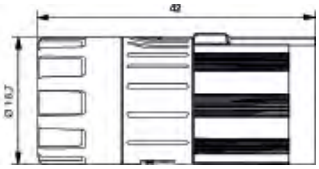
Part No.	Insulation body (material)		Contact type	Dimensions crimping insert [mm]		Crimping range [mm²]	Clamping range [mm]	Crimping tool + insert
MAT01730640	E type 12-pole		Male crimp	12x1		0.1-0.75	4.5-6.5	C14
MAT01730641	E type 12-pole		Male crimp	12x1		0.1-0.75	6.5-8.5	C14
MAT01730642	E type 12-pole		Male crimp	12x1		0.1-0.75	8.5-10.5	C14

Crimping tools and inserts ▶ Page 818





Example image

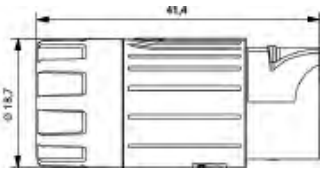




Signal connector [12-pole], nickel-plated (metal clamping ring, EMC shielding)								
Part No.	Insulation body (material)		Contact type	Dimensions crimping insert [mm]		Crimping range [mm²]	Clamping range [mm]	Crimping tool + insert
MAT01730636	P type 12-pole		Female crimp, slotted	12x1		0.1-0.75	4.5-6.5	C14
MAT01730637	P type 12-pole		Female crimp, slotted	12x1		0.1-0.75	6.5-8.5	C14
MAT01730638	P type 12-pole		Female crimp, slotted	12x1		0.1-0.75	8.5-10.5	C14



Example image





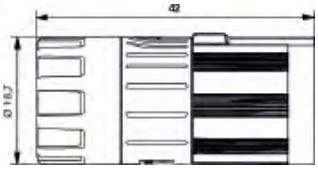
Signal coupling [12-pole], nickel-plated (metal clamping ring, EMC shielding)								
Part No.	Insulation body (material)		Contact type	Dimensions crimping insert [mm]		Crimping range [mm²]	Clamping range [mm]	Crimping tool + insert
MAT01730643	E type 12-pole		Male crimp	12x1		0.1-0.75	4.5-6.5	C14
MAT01730644	E type 12-pole		Male crimp	12x1		0.1-0.75	6.5-8.5	C14
MAT01730645	E type 12-pole		Male crimp	12x1		0.1-0.75	8.5-10.5	C14

Crimping tools and inserts ▶ Page 818

TE/INTERCONTEC | Series 615



Example image

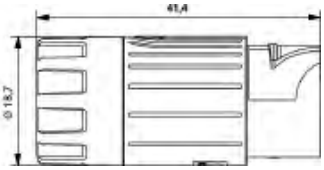




Signal connector [12-pole], nickel-plated (metal clamping ring, EMC shielding)							
Part No.	Insulation body (material)		Contact type	Dimensions crimping insert [mm]		Crimping range [mm²]	Clamping range [mm]	Crimping tool + insert
MAT01730639	P type 12-pole		Female crimp, slotted	12x1		0.1-0.75	10.5-12.5	C14



Example image





Signal coupling [12-pole], nickel-plated (metal clamping ring, EMC shielding)							
Part No.	Insulation body (material)		Contact type	Dimensions crimping insert [mm]		Crimping range [mm²]	Clamping range [mm]	Crimping tool + insert
MAT01730646	E type 12-pole		Male crimp	12x1		0.1-0.75	10.5-12.5	C14

Crimping tools and inserts ▶ Page 818



Power connectors series 915, plastic/ metal clamping ring [9-pole]

Types

- Connector, plastic or metal clamping ring
- Coupling, plastic or metal clamping ring

Number of poles in insulation body

- 9

Electrical information

Design	**Power 9-pole**
Max. continuous nominal current	20A
Nominal voltage (AC/DC)	630V
Testing voltage	6,000V
Contact resistance	< 5mΩ
Insertion cycles	> 50

Technical data

Locking	Quick-lock fastener
Temperature range	-20°C up to +130°C
Cable clamp	Lamella clamp
Protection class	IP 66/67 [plugged]

Data according to VDE 0110/EN 61984, Clause 6.19.2.2

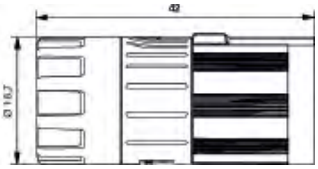
Pollution degree	3
Over-voltage category	III
Max. installation height	2000m

Connector materials

Housing	Zinc die-casting,/brass, nickel-plated and plastic-coated
Coupling nut	PA modif., 30% Gf.
Insulation body (material)	PA/PBT, UL 94/V0
Contacts	Brass, gold-plated
Seals	FPM/EPDM
Clamping ring	Brass, nickel-plated / PA modif., 30% Gf.



Example image

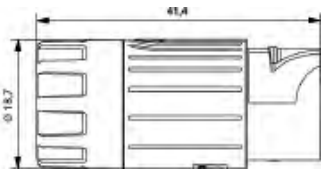




Power connector [9-pole], nickel-plated (plastic clamping ring, EMC shielding)								
Part No.	Insulation body (material)		Contact type	Dimensions crimping insert [mm]		Crimping range [mm²]	Clamping range [mm]	Crimping tool + insert
MAT01730647	P type 9-pole		Female crimp, slotted	4x1		0.5-1.5	4.5-6.5	C14
			Female crimp, slotted	5x1		0.1-0.75		
MAT01730648	P type 9-pole		Female crimp, slotted	4x1		0.5-1.5	6.5-8.5	C14
			Female crimp, slotted	5x1		0.1-0.75		
MAT01730649	P type 9-pole		Female crimp, slotted	4x1		0.5-1.5	8.5-10.5	C14
			Female crimp, slotted	5x1		0.1-0.75		



Example image





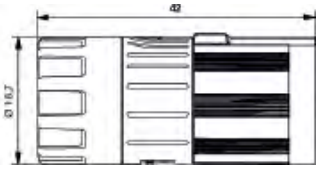
Power coupling [9-pole], (plastic clamping ring, EMC shielding)								
Part No.	Insulation body (material)		Contact type	Dimensions crimping insert [mm]		Crimping range [mm²]	Clamping range [mm]	Crimping tool + insert
MAT01730654	E type 9-pole		Male crimp	4x1		0.5-1.5	4.5-6.5	C14
			Male crimp	5x1		0.1-0.75		
MAT01730655	E type 9-pole		Male crimp	4x1		0.5-1.5	6.5-8.5	C14
			Male crimp	5x1		0.1-0.75		
MAT01730656	E type 9-pole		Male crimp	4x1		0.5-1.5	8.5-10.5	C14
			Male crimp	5x1		0.1-0.75		

Crimping tools and inserts ▶ Page 818





Example image

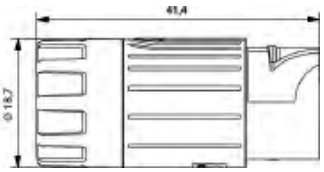




Power connector [9-pole], nickel-plated (metal clamping ring, EMC shielding)							
Part No.	Insulation body (material)	Contact type	Dimensions crimping insert [mm]		Crimping range [mm²]	Clamping range [mm]	Crimping tool + insert
MAT01730650	P type 9-pole	Female crimp, slotted	4x1		0.5-1.5	4.5-6.5	C14
		Female crimp, slotted	5x1		0.1-0.75		
MAT01730651	P type 9-pole	Female crimp, slotted	4x1		0.5-1.5	6.5-8.5	C14
		Female crimp, slotted	5x1		0.1-0.75		
MAT01730652	P type 9-pole	Female crimp, slotted	4x1		0.5-1.5	8.5-10.5	C14
		Female crimp, slotted	5x1		0.1-0.75		



Example image



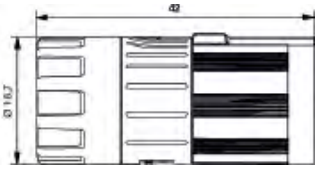


Power coupling [9-pole], nickel-plated (metal clamping ring, EMC shielding)							
Part No.	Insulation body (material)	Contact type	Dimensions crimping insert [mm]		Crimping range [mm²]	Clamping range [mm]	Crimping tool + insert
MAT01730657	E type 9-pole	Male crimp	4x1		0.5-1.5	4.5-6.5	C14
		Male crimp	5x1		0.1-0.75		
MAT01730658	E type 9-pole	Male crimp	4x1		0.5-1.5	6.5-8.5	C14
		Male crimp	5x1		0.1-0.75		
MAT01730659	E type 9-pole	Male crimp	4x1		0.5-1.5	8.5-10.5	C14
		Male crimp	5x1		0.1-0.75		

TE/INTERCONTEC | Series 915



Example image

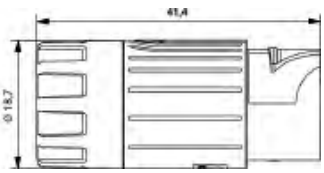




Power connector [9-pole], nickel-plated (metal clamping ring, EMC shielding)							
Part No.	Insulation body (material)	Contact type	Dimensions crimping insert [mm]		Crimping range [mm²]	Clamping range [mm]	Crimping tool + insert
MAT01730653	P type 9-pole	Female crimp, slotted	4x1		0.5-1.5	10.5-12.5	C14
		Female crimp, slotted	5x1		0.1-0.75		



Example image





Power coupling [9-pole], nickel-plated (metal clamping ring, EMC shielding)							
Part No.	Insulation body (material)	Contact type	Dimensions crimping insert [mm]		Crimping range [mm²]	Clamping range [mm]	Crimping tool + insert
MAT01730660	E type 9-pole	Male crimp	4x1		0.5-1.5	10.5-12.5	C14
		Male crimp	5x1		0.1-0.75		

Crimping tools and inserts ▶ Page 818



Signal [17-pole] and power connectors [4 to 9-pole], M17

Types

- Connector, standard and push-pull version
- Coupling, standard or with central attachment
- Straight installation box with flange
- box straight, connecting thread M17 x 0.75
- Installation box angled, turnable with flange
- Installation box angled and angled rotatable with flange

Number of poles in insulation body

- Signal: 17
- Power: 4, 7, 9

Electrical information

Design	**Signal 17-pole**	**Power 4-pole**	**Power 7-pole**	**Power 9-pole**	**Signal 9-pole**
Max. continuous nominal current	3.6A	20A	10A	14A	3.6A
Nominal voltage (AC/DC)	63V	630V	630V	630V	63V
Testing voltage	1,500V	6,000V	6,000V	6,000V	1,500V
Contact resistance	< 15mΩ	< 5mΩ	< 5mΩ	< 5mΩ	< 15mΩ
Insertion cycles	> 50	> 50	> 50	> 50	> 50

Technical data

Locking	Thread M17
Temperature range	-20°C up to +130°C
Cable clamp	Crown clamp
Protection class	IP 66/67 [plugged]

Data according to VDE 0110/EN 61984, Clause 6.19.2.2

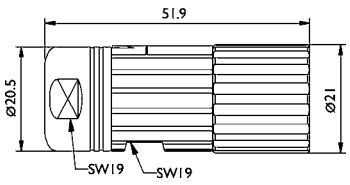
Pollution degree	3
Over-voltage category	III
Max. installation height	2000m

Connector materials

Housing	Zinc die-casting/brass, nickel-plated
Coupling nut	Brass, nickel-plated
Insulation body (material)	PBT, UL 94/V0
Contacts	Brass, gold-plated
Seals	FPM
Clamping ring	Brass, nickel-plated



Example image



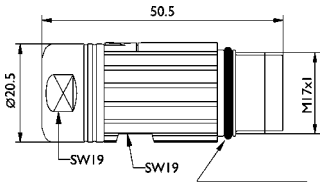


Signal connector [17-pole], nickel-plated (metal construction, EMC shielding)

Part No.	Insulation body (material)		Contact type	Dimensions crimping insert [mm]		Crimping range [mm²]	Clamping range [mm]	Crimping tool + insert
MAT0179639	P type 17 pole		Female crimp, slotted	17x0.6		0.14-0.5	9.5-12.0	B



Example image





Signal coupling [17-pole], nickel-plated (metal construction, EMC shielding)

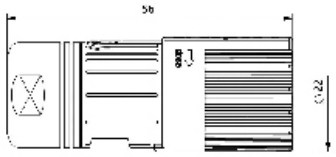
Part No.	Insulation body (material)		Contact type	Dimensions crimping insert [mm]		Crimping range [mm²]	Clamping range [mm]	Crimping tool + insert
MAT0179640	E type 17 pole		Male crimp	17x0.6		0.14-0.5	9.5-12.0	B

Crimping tools and inserts ▶ Page 818





Example image

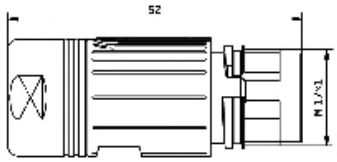




Signal connector [17-pole], nickel-plated (metal construction, EMC shielding)								
Part No.	Insulation body (material)		Contact type	Dimensions crimping insert [mm]		Crimping range [mm²]	Clamping range [mm]	Crimping tool + insert
MAT01723493	P type 17 pole		Female crimp, slotted	17x0.6		0.14-0.5	9.5-12.0	B



Example image



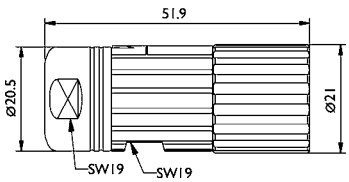


Signal coupling [17-pole], nickel-plated (metal construction, EMC shielding)								
Part No.	Insulation body (material)		Contact type	Dimensions crimping insert [mm]		Crimping range [mm²]	Clamping range [mm]	Crimping tool + insert
MAT01723494	E type 17 pole		Male crimp	17x0.6		0.14-0.5	9.5-12.0	B

Crimping tools and inserts ▶ Page 818



Example image



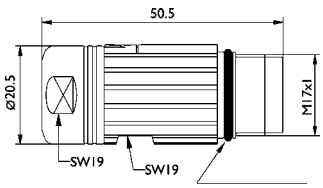


Signal connector [17-pole], nickel-plated (metal construction, EMC shielding)

Part No.	Insulation body (material)		Contact type	Dimensions crimping insert [mm]		Crimping range [mm²]	Clamping range [mm]	Crimping tool + insert
MAT0179641	P type 4-pole		Female crimp, slotted	4x1.5		0.35-2.5	9.5-12.0	C 1
MAT0179643	P type 7-pole		Female crimp, slotted	7x1.0		0.5-1.5	9.5-12.0	A
MAT0179645	P type 9-pole		Female crimp, slotted	4x1.0		0.5-1.5	9.5-12.0	A B
			Female crimp, slotted	5x0.6		0.14-0.5		



Example image





Power connector [4 to 9-pole], nickel-plated (metal construction, EMC shielding)

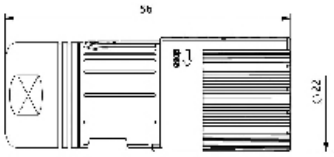
Part No.	Insulation body (material)		Contact type	Dimensions crimping insert [mm]		Crimping range [mm²]	Clamping range [mm]	Crimping tool + insert
MAT0179642	E type 4-pole		Male crimp	4x1.5		0.35-2.5	9.5-12.0	C 6
MAT0179644	E type 7-pole		Male crimp	7x1.0		0.5-1.5	9.5-12.0	A
MAT0179646	E type 9-pole		Male crimp	4x1.0		0.5-0.5	9.5-12.0	A B
			Male crimp	5x0.6		0.14-0.5		

Crimping tools and inserts ▶ Page 818





Example image

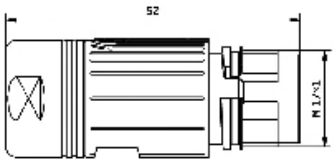




Signal connector [17-pole], nickel-plated (metal construction, EMC shielding)								
Part No.	Insulation body (material)		Contact type	Dimensions crimping insert [mm]		Crimping range [mm²]	Clamping range [mm]	Crimping tool + insert
MAT01723495	P type 4-pole		Female crimp, slotted	4x1.5		0.35-2.5	9.5-12.0	C 1
MAT01723497	P type 7-pole		Female crimp, slotted	7x1.0		0.5-1.5	9.5-12.0	A
MAT01723499	P type 9-pole		Female crimp, slotted	4x1.0		0.5-1.5	9.5-12.0	A B
			Female crimp, slotted	5x0.6		0.14-0.5		



Example image





Power connector [4 to 9-pole], nickel-plated (metal construction, EMC shielding)								
Part No.	Insulation body (material)		Contact type	Dimensions crimping insert [mm]		Crimping range [mm²]	Clamping range [mm]	Crimping tool + insert
MAT01723496	E type 4-pole		Male crimp	4x1.5		0.35-2.5	9.5-12.0	C 6
MAT01723498	E type 7-pole		Male crimp	7x1.0		0.5-1.5	9.5-12.0	A
MAT01723500	E type 9-pole		Male crimp	4x1.0		0.5-1.5	9.5-12.0	A B
			Male crimp	5x0.6		0.14-0.5		

Crimping tools and inserts ▶ Page 818

Power connectors series S, M23 [1-pole]

Types
- Connector
- Coupling
- Straight installation box with flange

Number of poles in insulation body
- 1

Electrical information

Design	Power
Max. continuous nominal current	80A
Nominal voltage (AC/DC)	630V
Testing voltage	8,000V
Contact resistance	< 110mΩ
Insertion cycles	> 50

Technical data

Locking	Thread M23
Temperature range	-20°C up to +130°C
Cable clamp	Crown clamp
Protection class	IP 66/67 [plugged]

Data according to VDE 0110/EN 61984, Clause 6.19.2.2

Pollution degree	3 [2]
Over-voltage category	IV
Max. installation height	2000m

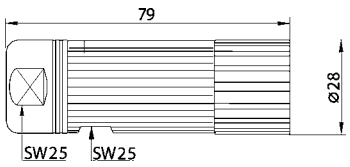
Connector materials

Housing	Zinc die-casting/brass, nickel-plated
Coupling nut	Brass, nickel-plated
Insulation body (material)	PA 6.6 mod., UL 94/V0
Contacts	Brass, silver-plated
Seals	FPM
Clamping ring	Brass, nickel-plated





Example image



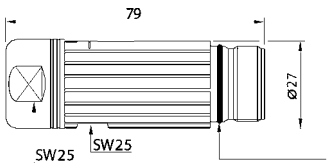


Power connector [1-pole], nickel-plated (metal construction, EMC shielding)

Part No.	Insulation body (material)		Contact type	Dimensions crimping insert [mm]		Crimping range [mm²]	Clamping range [mm]	Crimping tool + insert
MAT0179669	P type 1-pole		Female crimp	1x8.0		10-10	9.5-14.5	E10



Example image





Power coupling [1-pole], nickel-plated (metal construction, EMC shielding)

Part No.	Insulation body (material)		Contact type	Dimensions crimping insert [mm]		Crimping range [mm²]	Clamping range [mm]	Crimping tool + insert
MAT0179670	E type 1-pole		Female crimp	2x1.6		10	9.5-14.5	E10

Crimping tools and inserts ▶ Page 818

TE/INTERCONTEC | Tools and accessories

Crimping tool for SERIES A and B



Hand crimping tool
for Ø 1mm contacts
up to core cross section 1mm²
includes positioning insert

MAT01710294



Positioning insert
for Ø 1.0mm
contacts

MAT01712938

Crimping tool for SERIES M17



Hand crimping tool
for Ø 0.6mm contacts
up to core cross section 0.5mm²
includes positioning insert

MAT0178919



Positioning insert
for Ø 0.6mm
contacts

MAT0179467

Crimping tool for series A, B, C, D and M17



Hand crimping tool
for Ø 1mm and Ø 2mm contacts
up to core cross section 4mm²
includes positioning carrier

MAT0175736



Positioning insert
for Ø 1mm contacts

MAT0178195



Positioning insert
for Ø 2mm contacts

MAT0178196



Positioning insert
for Ø 1mm and Ø
2mm contacts

MAT0177855



Positioning insert
for Ø 2mm contacts

MAT01714573



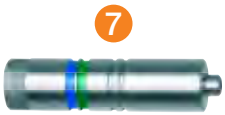
Positioning insert
for Ø 1.5mm contacts

MAT01714574



Positioning insert
for Ø 0.5mm and Ø 2.5mm
contacts

MAT0178920



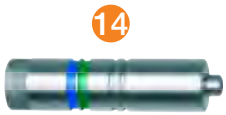
Positioning insert
for Ø 1.6mm contacts

MAT0177853



Positioning insert
for Ø 1.6mm contacts

MAT01714575



Positioning insert
for Ø 1.0mm contacts
Y-Tec

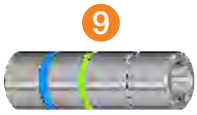
MAT01724301

Crimping tool for SERIES C



D

Hand crimping tool
for Ø 3.6mm contacts
up to core cross section 16mm²
includes positioning carrier



9

Positioning insert
for Ø 3.6mm contacts

MAT0179194	MAT0179195

Crimping tool for SERIES C



Pneumatic crimping tool
for Ø 3.6mm and
Ø 2.0mm contacts
Core cross section 1.5 - 16mm²

MAT01721441

Crimping insert for pneumatic crimping tool



Contact	**Pin** Ø 2.0mm **Socket** Ø 2.0mm	**Pin** Ø 3.6mm **Socket** Ø 3.6mm	**Pin** Ø 3.6mm **Socket** Ø 3.6mm	**Pin** Ø 3.6mm **Socket** Ø 3.6mm
Crimp area	1.5/2.5mm²	4.0/6.0mm²	10.0mm²	16.0mm²
	MAT01727426	MAT01727428	MAT01721442	MAT01721444

Locator for pneumatic crimping tool



Contact	**Pin** Ø 2.0mm **Socket** Ø 2.0mm	**Pin** Ø 3.6mm **Socket** Ø 3.6mm	**Pin** Ø 3.6mm **Socket** Ø 3.6mm
Crimp area	1.5/2.5mm² 1.5/2.5mm²	1.5 - 10.0mm²	1.5 - 16.0mm²
	MAT01727429	MAT01721443	MAT01721445

Crimping insert for series S and D

E



10



11



12



13



Battery-powered crimping tool, B131-C	**Crimping jaws** up to 10mm², 16mm²	**Crimping jaws** up to 25mm²	**Crimping jaws** up to 35mm²	**Crimping jaws** up to 50mm²
MAT0177854	MAT01713679	MAT01713678	MAT01713677	MAT01713676

igus® | Custom connector service packs

... is the connector you are looking for not included in this catalogue?

Whether for your production or for spares, or a mating half for an existing connector; we can help!



Circular connectors e.g. in size M23



Sub-D signal connectors



Rectangular connectors, C148, Y-Tec® or connectors for network and bus systems

Connector service packs consisting of housing, insulation, strain relief, crimp/ solder contact, in any quantity completely picked and packed for you.

Your benefits at a glance:

- More than 3,500 connectors components from stock
- Manufacturer independent, world-wide procurement, thanks to the igus® network
- Custom article numbers/labelling possible on each package
- Price: benefit from the consolidated demand of our customers
- Purchasing: only 1 order number, everything from one source
- QA: only one incoming inspection
- Internal logistics: only one storage location, fast identification

Talk to us! We can help!





Safe …
Easy retrofit assembly without opening the connector

Flexible …
Freely selectable angle of rotation

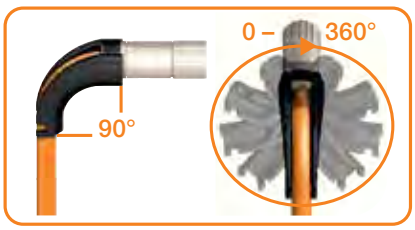
Cost-efficient…
1 connector type gives straight and angled versions

Customised…
Colour coded and, upon request, with labelling

Push connector on …



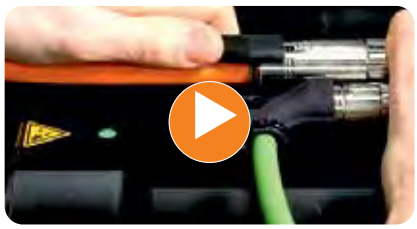
bend the cable …



fix the cable …



and ready to use!



Assembly video and information:
www.igus-asean.com/ibow

Suitable for **923 power connectors** und also for **623 signal connectors**.
Can be retrofitted for an angle of 90° ... or supplied ready-made as a harnessed igus® readycable®

Angle adapter igus® ibow	
Part No.	
MAT904104175	for 923 power connector
MAT904104176	for 623 signal connector



igus® | Torque Master automatic connector driver

New

... 50% faster ... connector assembled automatically and safely ...

Faster, more precise and cost-effective. For automatic connector assembly. Easy to use, reliable result, with defined torque.



50% time saving



100% ergonomic and error-free



One machine for all connectors (interchangeable inserts)

Tech up

- Torque-controlled connector assembly for consistent results
- Automatic assembly reduces throughput times
- Production optimised with igus® experience

Cost down

- 50% less time per connector
- Quick and easy to use
- Ergonomics in the industrial workplace

Proof

- Connector driving with precise torque (target/actual display)

Sustainability

- No damage to the connectors and/or cable
- With interchangeable inserts for different connectors
- In-house connector assembly avoids external transport



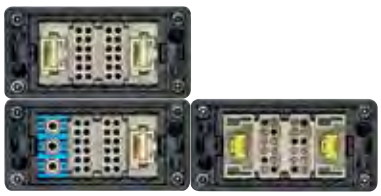
Video:

Plug in your energy supply with just ONE connector

Like this ...



or this ...



or this ...





Flexible ...

Mounting bracket for wall and floor installation as well as inline connection



Lighter ... Space-saving design ...

Fibre-reinforced, high-performance polymer. **Weight saving** compared to conventional rectangular connectors



Tightly sealed ...

Various sealing elements adapt individually to different cable diameters:
three or four cable outlets



Connected in seconds ...

Individual housing configurations by combining several assembled connectors:
Connected in seconds



Safer strain relief ...

Strong and easy to handle due to the one-piece, screw-on **clamping jaw**



Tried and tested inserts ...

Up to 4 HARTING Han Modular inserts per housing, e.g. pneumatics, power, bus, signal: **over 100 inserts to choose from**



1 housing ...

... with a choice of three or four cable inlets ...



+ more than 100 freely combinable industrial connector types...

... for electric cables, fibre optic cables and pneumatic hoses ...

Power and signal modules – with field assembly capability ... data transfer modules ... power and signal modules – crimp connection ... modules for media ...



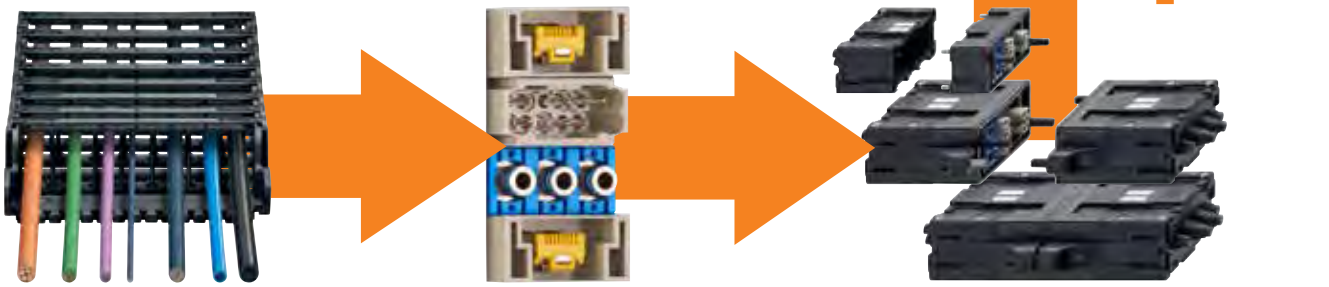
= infinite options

... for your tailor-made interface ...

Easily configured ...

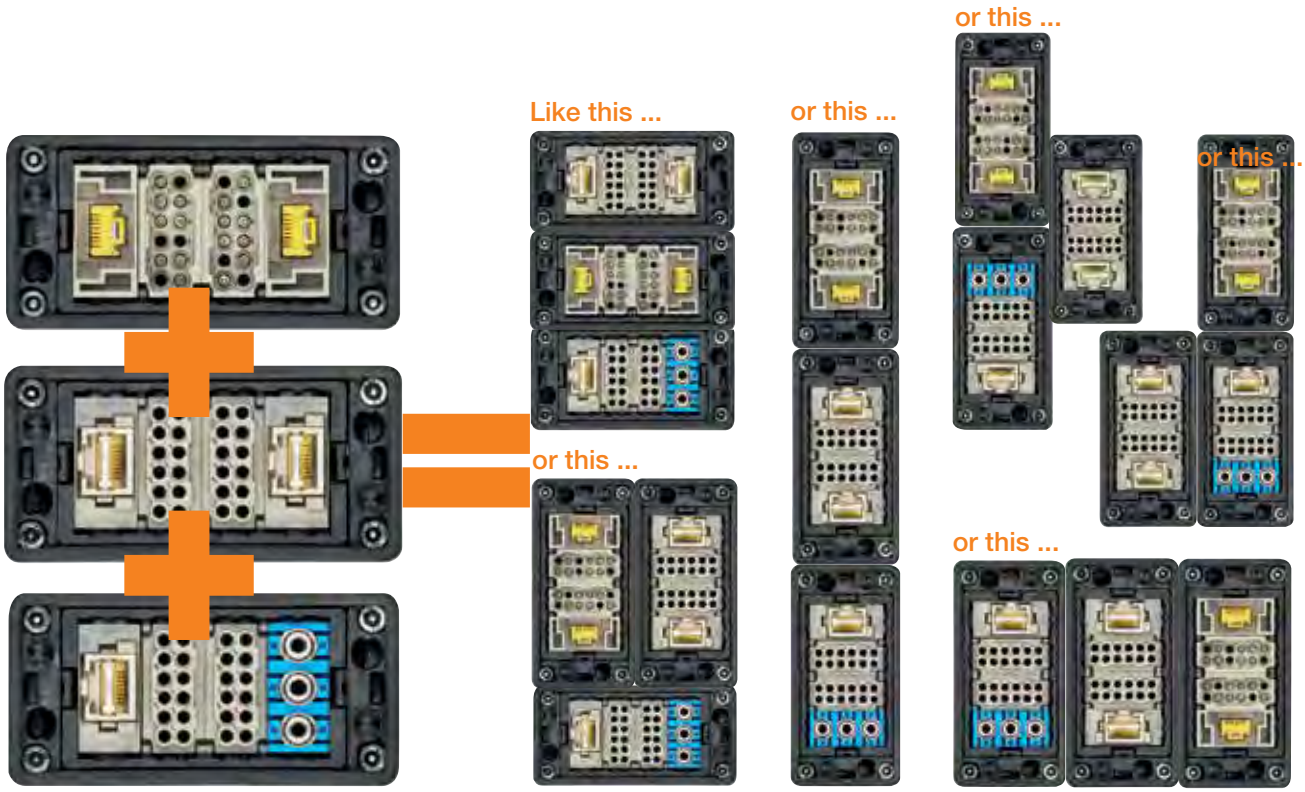
... match to your application in four steps ...





Easily combined ...

... flexible housing combinations ...



ASEAN2023

Easily fitted ...

... application examples ...

Example 1:
Module Connect ensures fast commissioning of the energy supply system in the wood-working industry



Source: NowyStyl Group

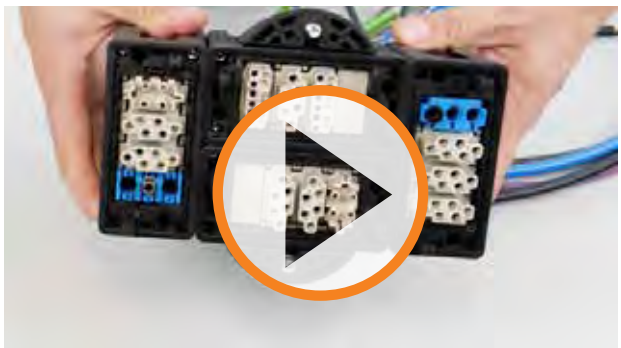
Example 2:
Module Connect interface in an automatic packaging machine



Source: GHD Georg Hartmann Maschinenbau GmbH

Easily explained ...

www.igus-asean.com/moduleconnect

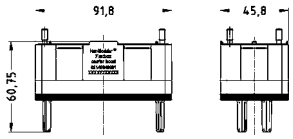
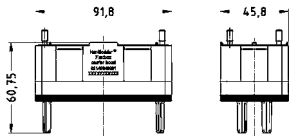
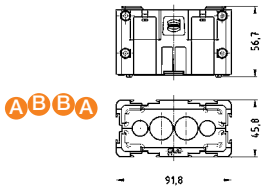
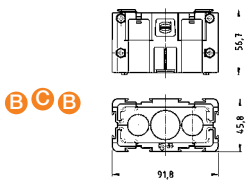


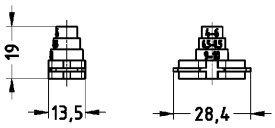
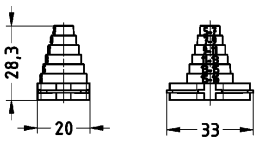
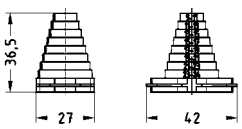
Watch videos ... order a sample box ...



Your energy supply system - fitted within seconds ... request a sample



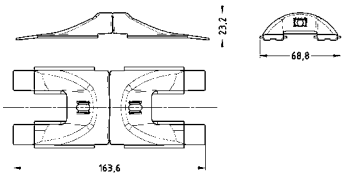
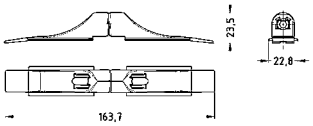
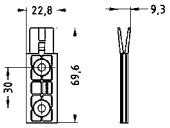
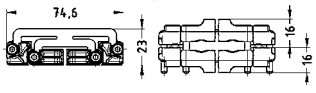
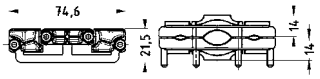
Module Connect connector housing			
ID	**Part No.**	Image	Drawing
Module Connect housing a ... d	**MAT01745430**		
Module Connect housing A ... D	**MAT01745928**		
Module Connect connector housing, 4 cable entries	**MAT01745431**		
Module Connect connector housing, 3 cable entries	**MAT01745432**		

Module Connect sealing inserts				
ID	**Part No.**	Clamping range [mm]	Image	Drawing
Bellows sealing insert, small, for housing with 4 cable entries	**MAT01745438**	4.0-1.00		
Bellows sealing insert, medium for housing with 3 or 4 cable entries	**MAT01745439**	5.0-16.0		
Bellows sealing insert, large, for housing with 3 cable entries	**MAT01745440**	7.0-24.0		

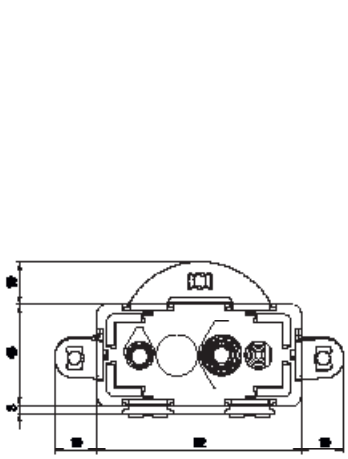
Just order online ...

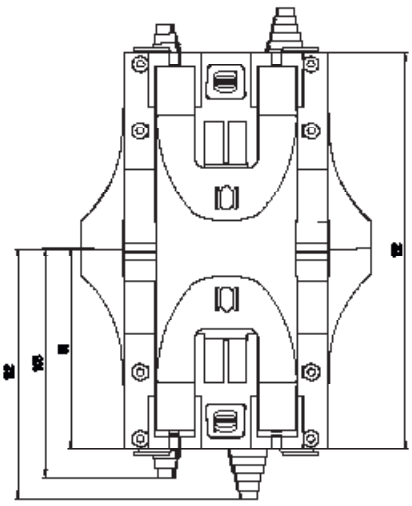
Complete assemblies and individual parts

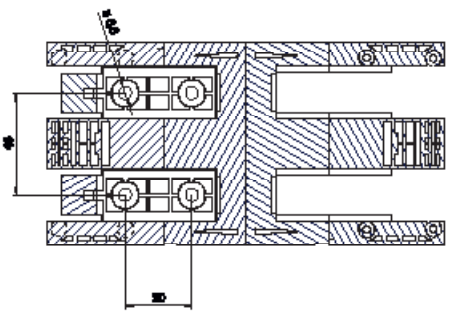
www.igus-asean.com/readychain/module-connect

Module Connect accessories			
ID	**Part No.**	Image	Drawing
Double locking	MAT01745433		
Single locking	MAT01745434		
Fastening element	MAT01745435		
Strain relief Module Connect connector housing, 4 cable entries	MAT01745437		
Strain relief Module Connect connector housing, 3 cable entries	MAT01745436		

Dimensional drawing







Signal connectors SUB-D Standard [9 to 44-pole]

Types

- Connector, standard and angular connector

Number of poles in insulation body

- Standard 9, 15, 25
- High Density 15, 26, 44

Electrical information

Max. continuous nominal current	5A
Testing voltage	1,200V
Contact resistance	$10^{16}\Omega$/cm
Insertion cycles	50





Metal hood, straight		
Part No.	Solder contact pin	
MAT01716504	Pin, standard 9-pole	
MAT01716505	Socket, standard 9-pole	
MAT01716506	Pin, HighDensity 15-pole	
MAT01716507	Socket, HighDensity 15-pole	



Metal hood, angled		
Part No.	Solder contact pin	
MAT01716508	Pin, standard 9-pole	
MAT01716509	Socket, standard 9-pole	
MAT01716510	Pin, HighDensity 15-pole	
MAT01716511	Socket, HighDensity 15-pole	

Crimping tools and inserts ▶ Page 818



Metal hood, straight		
Part No.	Solder contact pin	
MAT01716512	Pin, standard 15-pole	
MAT01716513	Socket, standard 15-pole	
MAT01716514	Pin, HighDensity 26-pole	
MAT01716515	Socket, HighDensity 26-pole	



Metal hood, angled		
Part No.	Solder contact pin	
MAT01716516	Pin, standard 15-pole	
MAT01716517	Socket, standard 15-pole	
MAT01716518	Pin, HighDensity 26-pole	
MAT01716519	Socket, HighDensity 26-pole	

Crimping tools and inserts ▶ Page 818





Metal hood, straight		
Part No.	Solder contact pin	
MAT01716520	Pin, standard 25-pole	
MAT01716521	Socket, standard 25-pole	
MAT01716522	Pin, HighDensity 44-pole	
MAT01716523	Socket, HighDensity 44-pole	

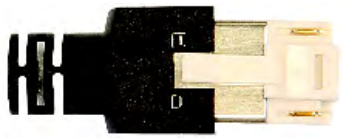


Metal hood, angled		
Part No.	Solder contact pin	
MAT01716524	Pin, standard 25-pole	
MAT01716525	Socket, standard 25-pole	
MAT01716526	Pin, HighDensity 44-pole	
MAT01716527	Socket, HighDensity 44-pole	

Crimping tools and inserts ▶ Page 818

Electrical information

Max. continuous nominal current	2.1A
Insertion cycles	1,000
Temperature range	-20°C up to +120°C



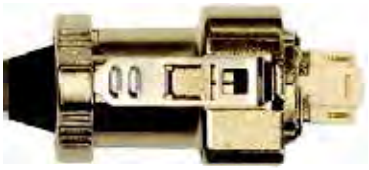
Housing PA66		
Manufacturer Part No.	Part No.	Number of poles
Y-CONKIT-10	MAT01719769	4 (Ethernet)
Y-CONKIT-11	MAT0176641	4 (Ethernet) + 2 (Power)



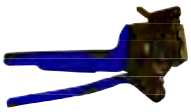
Zinc die-casting housing		
Manufacturer Part No.	Part No.	Number of poles
Y-CONKIT-15	MAT01719236	4 (Ethernet) + 2 (Power)
Y-CONKIT-17	MAT01719770	4 (Ethernet)



Housing Plastic PBT, UL94V-0		
Manufacturer Part No.	Part No.	Number of poles
Y-CONKIT-20	MAT01719771	4 (Ethernet)
Y-CONKIT-21	MAT0176759	4 (Ethernet) + 2 (Power)



Zinc die-casting housing		
Manufacturer Part No.	Part No.	Number of poles
Y-CONKIT-40	MAT01719772	4 (Ethernet)
Y-CONKIT-40-E	MAT01719773	4 (Ethernet)
Y-CONKIT-41	MAT01717218	4 (Ethernet) + 2 (Power)
Y-CONKIT-41-E	MAT01718801	4 (Ethernet) + 2 (Power)

Manufacturer Part No.	Part No.
Cable dismantle tool	
	MAT01719767 
Crimping tool	
Y-CONTOOL-11	MAT0176447 
Assembly tool	
Y-CONTOOL-30	MAT01717349 

HARTING | Connector sets with pin inserts

HARTING Connectors sets, pin				
Part No.	Cable entry	Insert	Pin insert - manufacturer Part No.	Connector housing - manufacturer Part No.
Han 6B connector housing, straight cable entry				
MAT90489802.U	M20	6+PE	09330062601	19300061440
Han 6B connector housing, angled cable entry				
MAT90489804.U	M20	6+PE	09330062601	19300061540
Han 10B connector housing, straight cable entry				
MAT90489806.U	M25	10+PE	09330102601	19300101441
Han 10B connector housing, angled cable entry				
MAT90489808.U	M25	10+PE	09330102601	19300101541
Han 16B connector housing, straight cable entry				
MAT90489810.U	M25	16+PE	09330162601	19300161441
Han 6B connector housing, angled cable entry				
MAT90489812.U	M25	16+PE	09330162601	19300161541
Han 24B connector housing, straight cable entry				
MAT90489814.U	M32	24+PE	09330242601	19300241442
Han 24B connector housing, angled cable entry				
MAT90489816.U	M32	24+PE	09330242601	19300241542

HARTING | Connector sets with socket inserts

HARTING connector sets, socket				
Part No.	Cable entry	Insert	Socket insert - manufacturer Part No.	Connector housing - manufacturer Part No.
Han 6B connector housing, straight cable entry				
MAT90489803.U	M20	6+PE	09330062701	19300061440
Han 6B connector housing, angled cable entry				
MAT90489805.U	M20	6+PE	09330062701	19300061540
Han 10B connector housing, straight cable entry				
MAT90489807.U	M25	10+PE	09330102701	19300101441
Han 10B connector housing, angled cable entry				
MAT90489809.U	M25	10+PE	09330102701	19300101541
Han 16B connector housing, straight cable entry				
MAT90489811.U	M25	16+PE	09330162701	19300161441
Han 6B connector housing, angled cable entry				
MAT90489813.U	M25	16+PE	09330162701	19300161541
Han 24B connector housing, straight cable entry				
MAT90489815.U	M32	24+PE	09330242701	19300241442
Han 24B connector housing, angled cable entry				
MAT90489817.U	M32	24+PE	09330242701	19300241542

HARTING | Connector sets Premium (pin + socket)

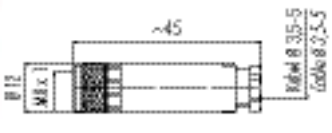
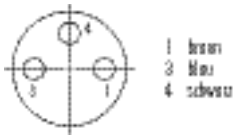
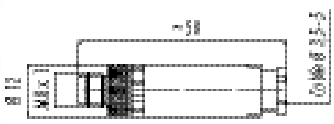
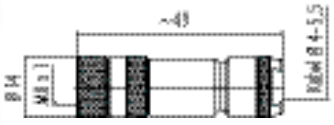
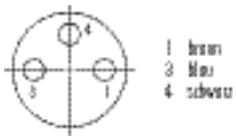
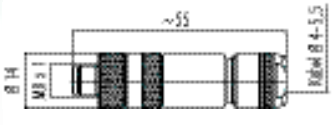
HARTING Connector sets Premium, pin + socket						
Part No.	Cable entry	Insert	Pin insert - manufacturer Part No.	Socket insert - manufacturer Part No.	Connector housing - manufacturer Part No.	Connector base - manufacturer Part No.
Han 6B connector housing and base, straight cable entry						
MAT90489818.U	M20	6+PE	09330062601	09330062701	19300061440	19300061250
Han 6B connector housing and base, angled cable entry						
MAT90489819.U	M20	6+PE	09330062601	09330062701	19300061540	19300061250
Han 10B connector housing and base, straight cable entry						
MAT90489820.U	M25	10+PE	09330102601	09330102701	19300101441	19300101250
Han 10B connector housing and base, angled cable entry						
MAT90489821.U	M25	10+PE	09330102601	09330102701	19300101541	19300101250
Han 16B connector housing and base, straight cable entry						
MAT90489822.U	M25	16+PE	09330162601	09330162701	19300161441	19300161251
Han 16B connector housing and base, angled cable entry						
MAT90489823.U	M25	16+PE	09330162601	09330162701	19300161541	19300161251
Han 24B connector housing and base, straight cable entry						
MAT90489824.U	M32	24+PE	09330242601	09330242701	19300241442	19300241251
Han 24B connector housing and base, angled cable entry						
MAT90489825.U	M32	24+PE	09330242601	09330242701	19300241542	19300241251

BINDER | Series 768

Electrical information series 768

Number of poles	3	4
Terminal cross section	0.14mm² – 0.5mm² (AWG26–AWG20)	
Mechanical service life	> 100 insertion cycles	
Temperature limit	–40°C up to +80°C	
Rated voltage	60V (30V UL)	
Pollution degree	3	
Rated current (40°C)	4A	
Contact surface	Au (gold)	
Housing material	PBT/PA/CuZn (brass)	

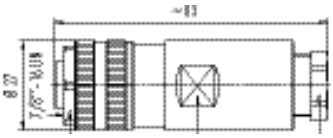
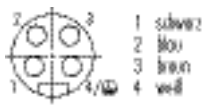
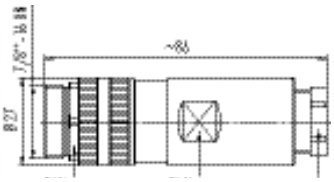
Binder connector M8 – A-coded, screw connection

Part No.	Manufacturer Part No.	Number of poles	Contact type	Clamping range [mm]
   				
Binder M8 cable socket				
MAT0174945	99 3400 100 03	3-pole	Socket	3.5-5.0
MAT0174989	99 3376 100 04	4-pole	Socket	3.5-5.0
   				
Binder M8 cable connector				
MAT01712009	99 3379 100 03	3-pole	Pin	3.5-5.0
MAT0173041	99 3383 100 04	4-pole	Pin	3.5-5.0
   				
Binder M8 cable socket, shielded				
MAT01747828	99 3360 100 03	3-pole	Socket	4.0-5.5
MAT01743277	99 3362 100 04	4-pole	Socket	4.0-5.5
MAT01733873	99 3360 300 03	3-pole	Socket	6.0-8.0
MAT01731011	99 3362 300 04	4-pole	Socket	6.0-8.0
   				
Binder M8 cable connector, shielded				
MAT01715998	99 3361 100 03	3-pole	Pin	4.0-5.5
MAT01717508	99 3363 100 04	4-pole	Pin	4.0-5.5
MAT01733874	99 3361 300 03	3-pole	Pin	6.0-8.0
MAT01730059	99 3363 300 04	4-pole	Pin	6.0-8.0

BINDER | Series 820

Electrical information series 820

Number of poles	3+PE	4+PE
Terminal cross section	max. 1.5mm² (AWG 16)	max. 2.5mm² (AWG14)
Mechanical service life	> 100 insertion cycles	> 50 insertion cycles
Temperature limit	–25°C up to +80°C	–25°C up to +85°C
Rated voltage	300V (600V UL)	
Pollution degree	3	
Rated current (40°C)	9A	
Contact surface	Au (gold)	
Housing material	PUR, PBT	

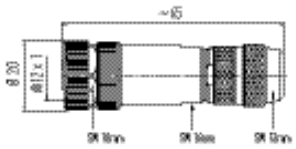
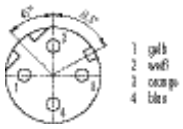
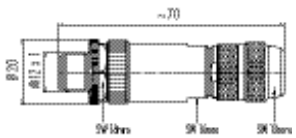
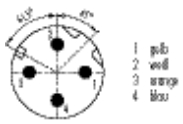
Binder connector 7/8“, screw connection				
Part No.	Part No.	Number of poles	Contact type	Clamping range [mm]
   				
Binder 7/8" cable socket				
MAT01723423	99 2442 21 04	3+PE	Socket	8.0-10.0
MAT01718734	99 2444 21 05	4+PE	Socket	8.0-10.0
   				
Binder 7/8“ cable connector shielded				
MAT01732663	99 2443 21 04	3+PE	Pin	8.0-10.0
MAT01722513	99 2445 21 05	4+PE	Pin	8.0-10.0

BINDER | Series 825

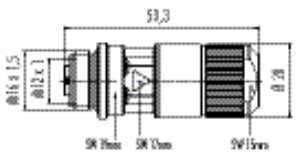
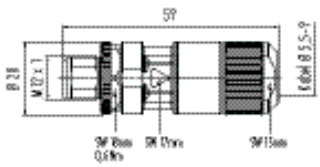
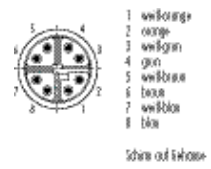
Electrical information series 825

Number of poles	4
Terminal cross section	max. 0.75mm² (AWG 20)
Mechanical service life	> 100 insertion cycles
Temperature limit	-40°C up to +85°C
Rated voltage	250V
Pollution degree	3
Rated current (40°C)	4A
Contact surface	Au (gold)
Housing material	Zinc die-casting nickel-plated, PUR

Binder connector M12 – D-coded, screw connection

Part No.	Part No.	Number of poles	Contact type	Clamping range [mm]
				
Binder M12 cable socket				
MAT01749274	99 3728 810 04	4-pole	Socket	5.0-8.0
				
Binder M12 cable connector, shielded				
MAT01738281	99 3727 810 04	4-pole	Pin	5.0-8.0

Binder connector M12 – X-coded, insulation displacement connection

Part No.	Part No.	Number of poles	Contact type	Clamping range [mm]
				
Binder M12 cable socket				
MAT01746538	99 3788 810 08	8-pole	Socket	5.0-8.0
				
Binder M12 cable connector, shielded				
MAT01742976	99 3787 810 08	8-pole	Pin	5.0-8.0

BINDER | Series 713

Electrical information series 713 plastic

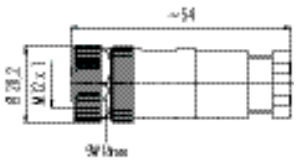
Number of poles	3	4	5	8
Terminal cross section	max. 0.75mm² (AWG 20)			max. 0.5mm² (AWG 20)
Mechanical service life	> 50 insertion cycles			> 100 insertion cycles
Temperature limit	-40°C up to +85°C, outdoor -40°C up to +100°C			
Rated voltage	250V		60V	30V
Pollution degree	3			
Rated current (40°C)	4A			2A
Contact surface	CuSnZn (Optalloy)			Au (gold)
Housing material	PA			

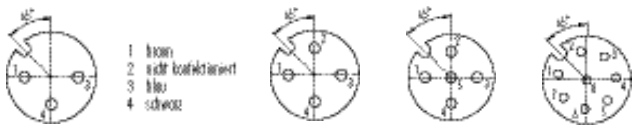
Electrical information series 713 metal

Number of poles	4	5	8
Terminal cross section	max. 0.75mm² (AWG 20)		max. 0.5mm² (AWG 20)
Mechanical service life	> 100 insertion cycles		
Temperature limit	-40°C up to +85°C		
Rated voltage	250V	60V	30V
Pollution degree	3		
Rated current (40°C)	4A		2A
Contact surface	Au (gold)		
Housing material	straight: CuZn (brass, nickel-plated), angled: zinc die-casting, nickel-plated		

Binder connector M12 – A-coded, screw connection				
Part No.	Part No.	Number of poles	Contact type	Clamping range [mm]



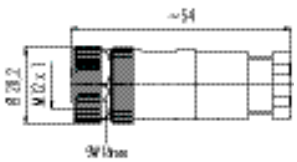


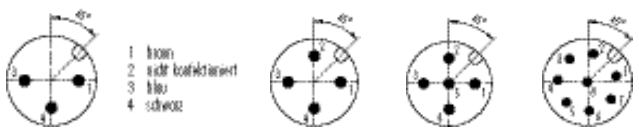


Binder M12 cable socket

MAT01717316	99 0430 07 04	3-pole	Socket	4.0-6.0
MAT01715145	99 0430 12 04	4-pole	Socket	6.0-8.0
MAT0175659	99 0436 12 05	5-pole	Socket	6.0-8.0
MAT0178575	99 0486 12 08	8-pole	Socket	6.0-8.0







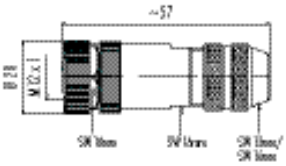
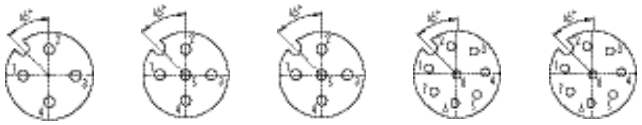
Binder M12 connector

MAT0173490	99 0429 07 04	3-pole	Pin	4.0-6.0
MAT01710555	99 0429 12 04	4-pole	Pin	6.0-8.0
MAT01718305	99 0437 12 05	5-pole	Pin	6.0-8.0
MAT01710219	99 0487 12 08	8-pole	Pin	6.0-8.0

BINDER | Series 713

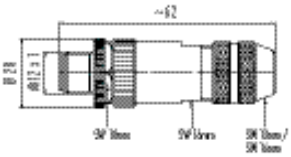
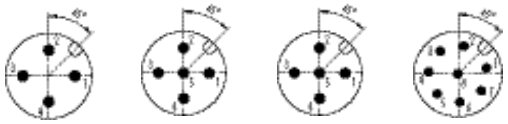
Binder connector M12 – A-coded, screw connection

Part No.	Part No.	Number of poles	Contact type	Clamping range [mm]

Binder M12 cables socket, shielded

MAT0171842	99 1430 812 04	4-pole	Socket	4.0-6.0
MAT0173023	99 1436 812 05	5-pole	Socket	6.0-8.0
MAT01749490	99 1436 914 05	5-pole	Socket	8.0-10.0
MAT0176266	99 1486 812 08	8-pole	Socket	6.0-8.0
MAT01724437	99 1486 914 08	8-pole	Socket	8.0-10.0

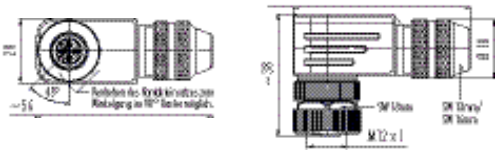
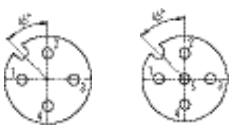




Binder M12 cable connector, shielded

MAT0171841	99 1429 812 04	4-pole	Pin	4.0-6.0
MAT0170880	99 1437 812 05	5-pole	Pin	6.0-8.0
MAT01749489	99 1437 914 05	5-pole	Pin	8.0-10.0
MAT0176267	99 1487 812 08	8-pole	Pin	6.0-8.0
MAT01729497	99 1487 914 08	8-pole	Pin	8.0-10.0

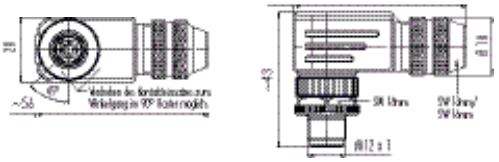
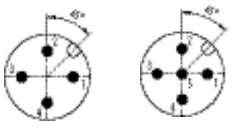
Binder connector M12 – A-coded, angled sockets, screw connection

Part No.	Part No.	Number of poles	Contact type	Clamping range [mm]

Binder M12 angled socket

MAT0172523	99 1430 822 04	4-pole	Socket	6.0-8.0
MAT01717529	99 1436 822 05	5-pole	Socket	6.0-8.0

Binder M12 angled connector shielded

MAT01725700	99 1429 822 04	4-pole	Pin	6.0-8.0
MAT01727838	99 1437 822 05	5-pole	Pin	6.0-8.0

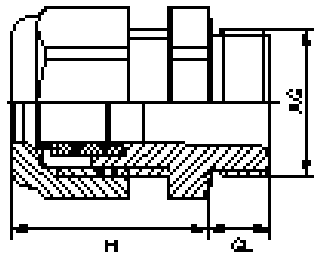
HUMMEL | Cable glands HSK-K

Material	PA V0 according to UL 94
Moulded seal	NBR
Protection class	IP 68 – 10 bar / IP 69K within the specified clamping range only with optional O-ring* (* not included in delivery)
Continuous operating temperature	-40°C – 100°C
Colour	grey (RAL 7035)



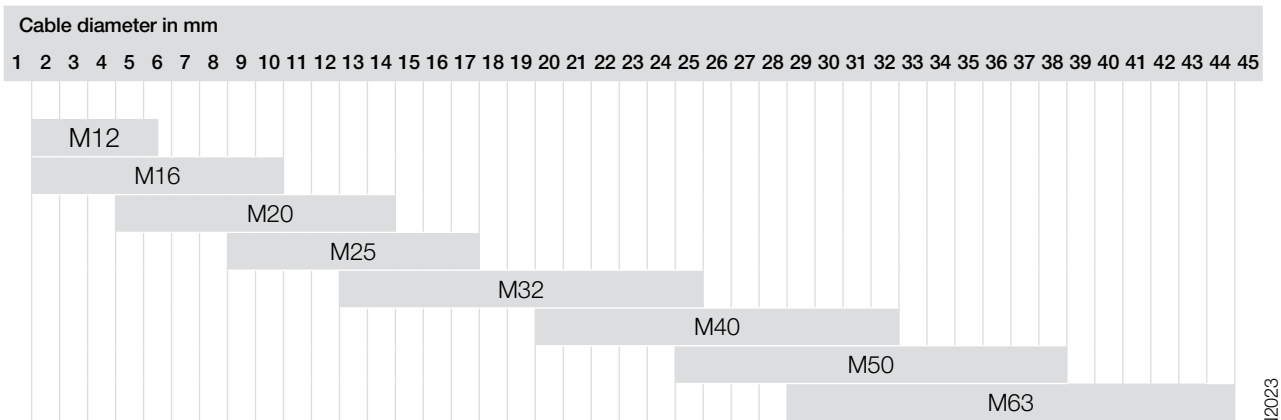






AG	⌀ mm	GL mm	H mm	mm	Pack size	Part No. grey	igus® Part No.
M12 x 1.5	3 - 6.5	8	21	15	5	1.209.1200.50	MAT0179492
M12 x 1.5	2 - 5	8	21	15	5	1.209.1200.51	MAT01712319
M16 x 1.5	4 - 8	8	22	19	5	1.209.1600.50	MAT0179493
M16 x 1.5	2 - 6	8	22	19	5	1.209.1600.51	MAT01712320
M16 x 1.5	5 - 10	8	25	22	5	1.219.1600.50	MAT01712321
M20 x 1.5	6 - 12	9	27	24	5	1.209.2000.50	MAT0179494
M20 x 1.5	5 - 9	9	27	24	5	1.209.2000.51	MAT01712322
M20 x 1.5	10 - 14	9	28	27	5	1.219.2000.50	MAT0179563
M25 x 1.5	13 - 18	11	31	33	5	1.209.2500.50	MAT0179495
M25 x 1.5	9 - 16	11	31	33	5	1.209.2500.51	MAT01712323
M32 x 1.5	18 - 25	11	39	42	5	1.209.3200.50	MAT0179496
M32 x 1.5	13 - 20	11	39	42	5	1.209.3200.51	MAT01712324
M40 x 1.5	22 - 32	13	48	53	5	1.209.4000.50	MAT0179497
M40 x 1.5	20 - 26	13	48	53	5	1.209.4000.51	MAT01712325
M50 x 1.5	32 - 38	13	49	60	5	1.209.5000.50	MAT0179498
M50 x 1.5	25 - 31	13	49	60	5	1.209.5000.51	MAT01712326
M63 x 1.5	37 - 44	14	49	65 / 68	5	1.209.6300.50	MAT0179499
M63 x 1.5	29 - 35	14	49	65 / 68	5	1.209.6300.51	MAT01712327

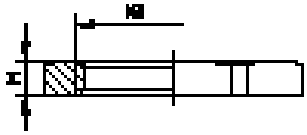
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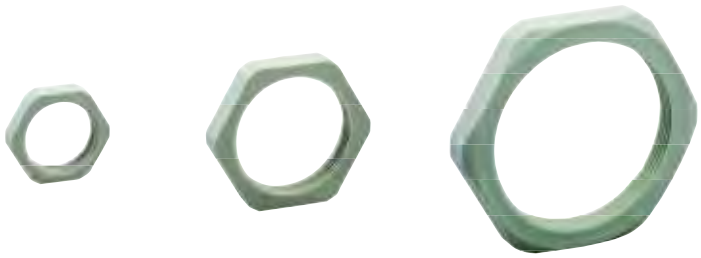


ASEAN2023

HUMMEL | K counter nuts

Material	SB / PA	
Continuous operating temperature	-20°C – 40°C	(SB)
	-40°C – 100°C	(PA)
Colour	grey (RAL 7035)	





IG	H mm	 mm	Pack size	Part No.	igus® Part No.
M12 x 1.5	5	17	5	1.262.1200.50	MAT0179500
M16 x 1.5	5	22	5	1.262.1600.50	MAT0179501
M20 x 1.5	6	27	5	1.262.2000.50	MAT0179502
M25 x 1.5	7	36	5	1.262.2500.50	MAT0179503
M32 x 1.5	7	41	5	1.262.3200.50	MAT0179504
M40 x 1.5	7	50	5	1.262.4000.50	MAT0179505
M50 x 1.5	8	60	5	1.262.5000.50	MAT0179506
M63 x 1.5	8	75	5	1.262.6300.50	MAT0179507

Larger quantities, small prices?
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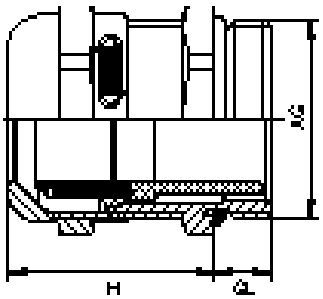
HUMMEL | Cable glands HSK-M

Material	Brass, nickel-plated
Clamping insert	PA
Moulded seal	NBR
O ring	NBR
Protection class	IP 68 – 10 bar / IP 69K within the specified clamping range only
Continuous operating temperature	-40°C – 100°C





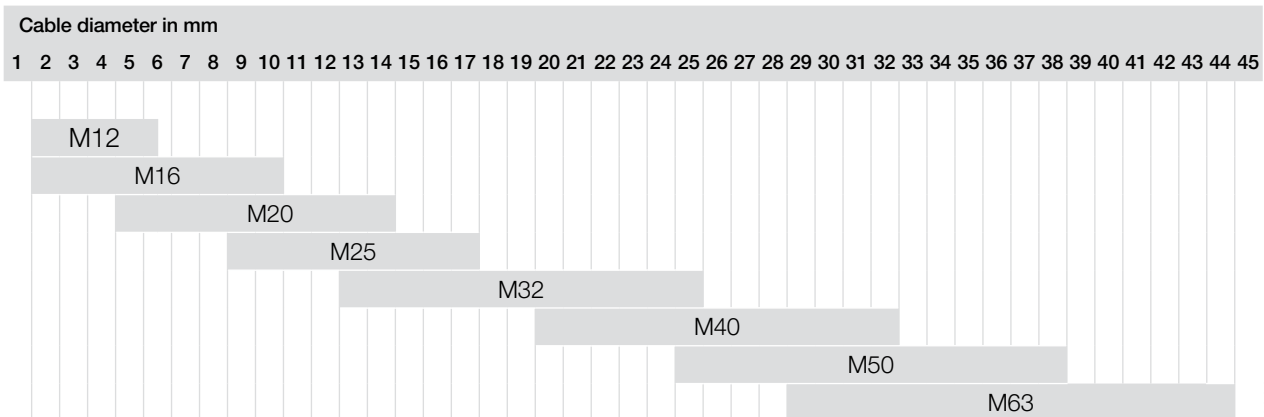




AG	⌀ mm	GL mm	H mm	mm	Pack size	Part No. grey	igus® Part No.
M12 x 1.5	3 - 6.5	6.5	19	14	5	1.609.1200.50	MAT0179476
M12 x 1.5	2 - 5	6.5	19	14	5	1.609.1200.51	MAT01712328
M16 x 1.5	4 - 8	6	21	17 / 19	5	1.609.1600.50	MAT0179477
M16 x 1.5	2 - 6	6	21	17 / 19	5	1.609.1600.51	MAT01712329
M16 x 1.5	5 - 10	6	22	20	5	1.609.1611.50	MAT01712330
M20 x 1.5	6 - 12	6	23	22	5	1.609.2000.50	MAT0179478
M20 x 1.5	5 - 9	6	23	22	5	1.609.2000.51	MAT01712331
M20 x 1.5	10 - 14	6	24	24	5	1.609.2016.50	MAT0179562
M25 x 1.5	13 - 18	7	26	30	5	1.609.2500.50	MAT0179479
M25 x 1.5	9 - 16	7	26	30	5	1.609.2500.51	MAT01711769
M32 x 1.5	18 - 25	8	31	40	5	1.609.3200.50	MAT0179480
M32 x 1.5	13 - 20	8	31	40	5	1.609.3200.51	MAT01712332
M40 x 1.5	22 - 32	8	37	50	5	1.609.4000.50	MAT0179481
M40 x 1.5	20 - 26	8	37	50	5	1.609.4000.51	MAT01712333
M50 x 1.5	32 - 38	9	37	57	5	1.609.5000.50	MAT0179482
M50 x 1.5	25 - 31	9	37	57	5	1.609.5000.51	MAT01712334
M63 x 1.5	37 - 44	10	38	64 / 68	5	1.609.6300.50	MAT0179483
M63 x 1.5	29 - 35	10	38	64 / 68	5	1.609.6300.51	MAT01712335

Material surcharge included.

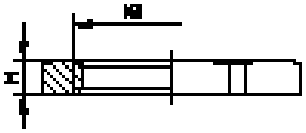
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HUMMEL | M counter nuts

Material Brass, nickel-plated





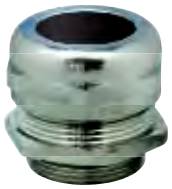
IG	H mm	 mm	Pack size	Part No.	igus® Part No.
M12 x 1.5	2.8	15	5	1.161.1200.50	MAT0179484
M16 x 1.5	2.8	19	5	1.161.1600.50	MAT0179485
M20 x 1.5	3.0	23	5	1.161.2000.50	MAT0179486
M25 x 1.5	3.5	29	5	1.161.2500.50	MAT017948
M32 x 1.5	4.0	36	5	1.161.3200.50	MAT0179488
M40 x 1.5	4.5	45	5	1.161.4000.50	MAT0179489
M50 x 1.5	5.5	55	5	1.161.5000.50	MAT0179490
M63 x 1.5	6.0	70	5	1.161.6300.50	MAT0179491

Material surcharge included.

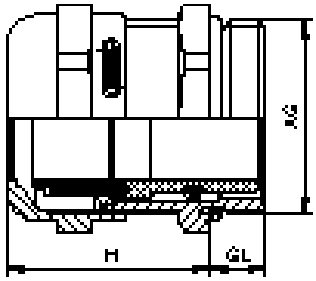
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HUMMEL | Cable glands HSK-M-EMV

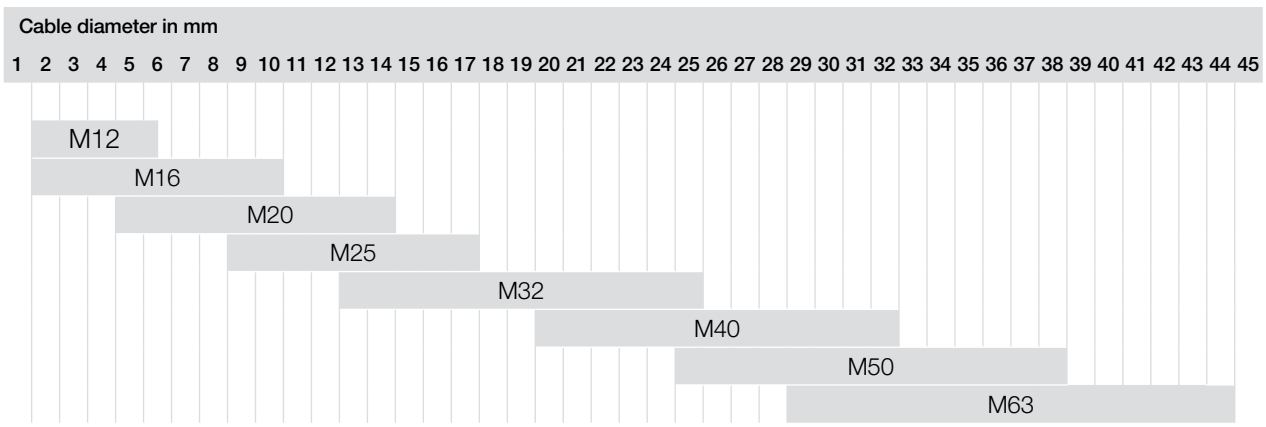
Material	Brass, nickel-plated
Clamping insert	PA
Moulded seal	NBR
O ring	NBR
Protection class	IP 68 – 10 bar / IP 69K within the specified clamping range only
Continuous operating temperature	-40°C – 100°C







AG	⌀ mm	GL mm	H mm	mm	Pack size	Part No. grey	igus® Part No.
M12 x 1.5	3 - 6.5	6.5	19	14	5	1.691.1200.50	MAT0179508
M12 x 1.5	2 - 5	6.5	19	14	5	1.691.1200.51	MAT01712336
M16 x 1.5	5 - 10	6	22	20	5	1.691.1600.50	MAT0179509
M16 x 1.5	3 - 7	6	22	20	5	1.691.1600.51	MAT01712337
M20 x 1.5	10 - 14	6	23	24	5	1.691.2000.50	MAT0179510
M20 x 1.5	7 - 12	6	23	24	5	1.691.2000.51	MAT01712338
M25 x 1.5	13 - 18	7	24	30	5	1.691.2500.50	MAT0179511
M25 x 1.5	9 - 16	7	24	30	5	1.691.2500.51	MAT01712339
M32 x 1.5	18 - 25	8	31	40	5	1.691.3200.50	MAT0179512
M32 x 1.5	13 - 20	8	31	40	5	1.691.3200.51	MAT01712340
M40 x 1.5	22 - 32	8	37	50	5	1.691.4000.50	MAT0179513
M40 x 1.5	20 - 26	8	37	50	5	1.691.4000.51	MAT01712341
M50 x 1.5	32 - 38	9	37	57	5	1.691.5000.50	MAT0179514
M50 x 1.5	25 - 31	9	37	57	5	1.691.5000.51	MAT01712342
M63 x 1.5	37 - 44	10	38	64 / 68	5	1.691.6300.50	MAT0179515
M63 x 1.5	29 - 35	10	38	64 / 68	5	1.691.6300.51	MAT01712343

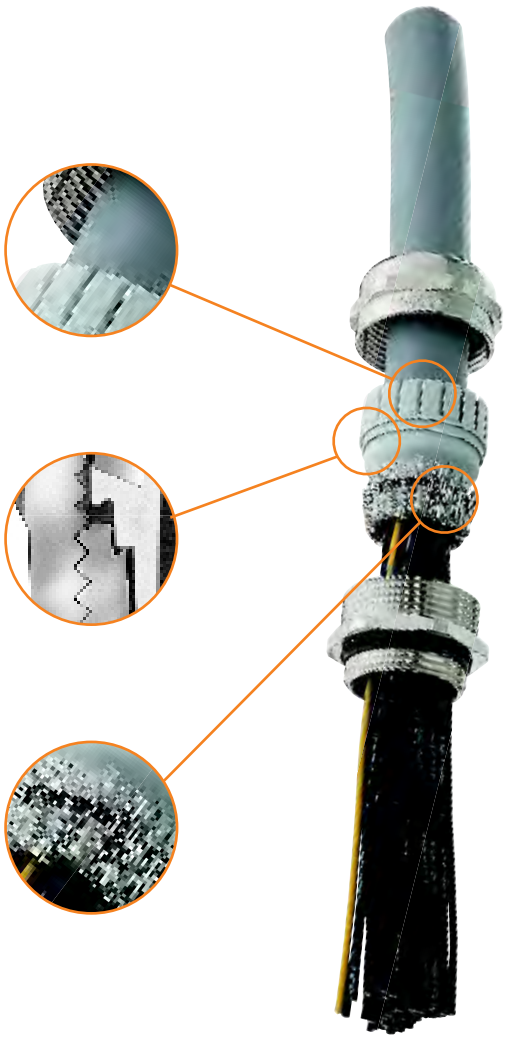


HSK-M-EMV

Flexible overlapping clamping splines prevent the form seal from being pulled out of the fitting

The internal sealing edge results in a superior seal between the splined Nylon clamping insert and the nickel-plated brass body

Patented 360° grounding. The internal O-Ring, which results in a perfect contact between braided shield of cable and fitting.

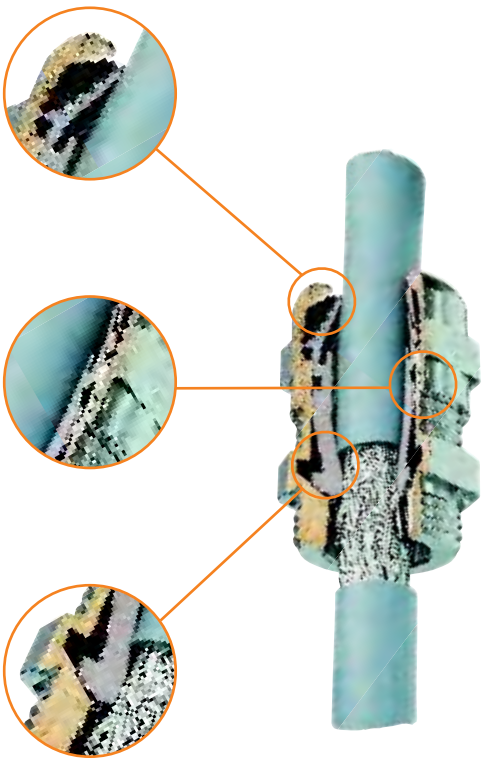


HSK-M-EMV-D

Flexible overlapping clamping splines prevent the form seal from being pulled out of the fitting

Metallised spline insert provides electrical conductivity.

Flexible contact points allow contact with variable braid diameters.

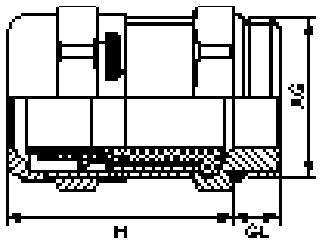


HUMMEL | Cable glands HSK-M-EMV-D

Material	Brass, nickel-plated
Clamping insert	Metal-coated PA
Moulded seal	NBR
O ring	NBR
Protection class	IP 68 – 10 bar / IP 69K within the specified clamping range only
Continuous operating temperature	-40°C – 100°C



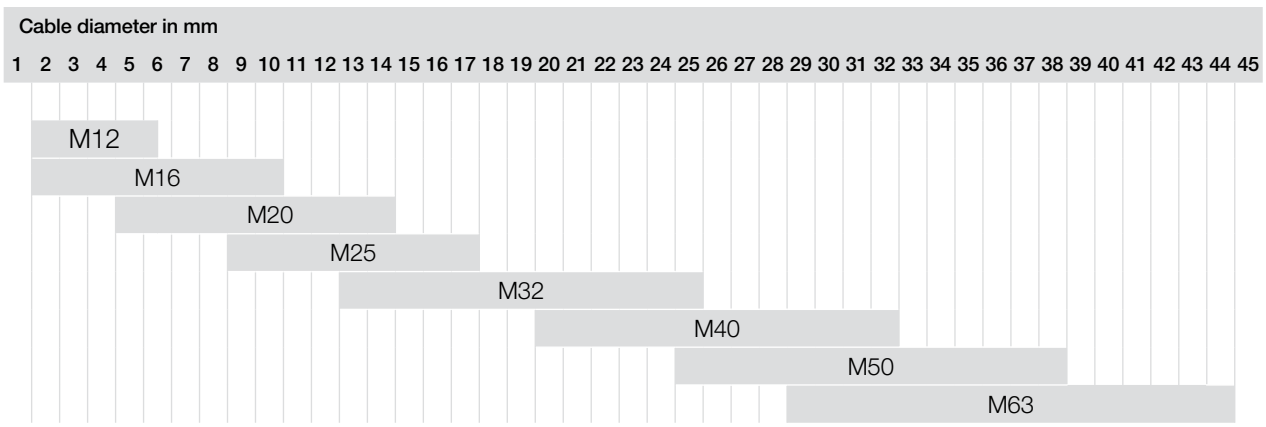




AG	⌀ mm	GL mm	H mm	mm	Pack size	Part No. grey	igus® Part No.
M12 x 1.5	3 - 6.5	6.5	25	14	5	1.631.1200.50	MAT0179524
M16 x 1.5	5 - 10	6	32	20	5	1.631.1600.50	MAT0179525
M20 x 1.5	10 - 14	6	33	24	5	1.631.2000.50	MAT0179526
M25 x 1.5	13 - 18	7	39	30	5	1.631.2500.50	MAT0179527
M32 x 1.5	18 - 25	8	45	40	5	1.631.3200.50	MAT0179528
M40 x 1.5	24 - 32	8	51	50	5	1.631.4000.50	MAT0179529
M50 x 1.5	32 - 38	9	57.5	57	5	1.631.5000.50	MAT0179530
M63 x 1.5	37 - 44	10	52	64 / 68	5	1.631.6300.50	MAT0179531

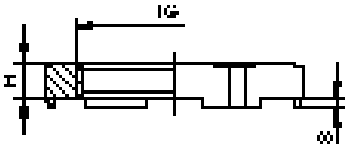
Material surcharge included.

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HUMMEL | EMV counter nuts

Material Brass, nickel-plated





IG	H mm	 mm	S mm	Pack size	Part No.	igus® Part No.
M12 x 1.5	2.8	15	0.7	5	1.167.1200.50	MAT0179516
M16 x 1.5	2.8	19	0.7	5	1.167.1600.50	MAT0179517
M20 x 1.5	3.0	24	0.7	5	1.167.2000.50	MAT0179518
M25 x 1.5	3.5	30	0.7	5	1.167.2500.50	MAT0179519
M32 x 1.5	4.5	36	0.7	5	1.167.3200.50	MAT0179520
M40 x 1.5	5.0	46	0.7	5	1.167.4000.50	MAT0179521
M50 x 1.5	5.0	60	0.7	5	1.167.5000.50	MAT0179522
M63 x 1.5	6.0	70	0.7	5	1.167.6300.50	MAT0179523

Material surcharge included.

Larger quantities, small prices?
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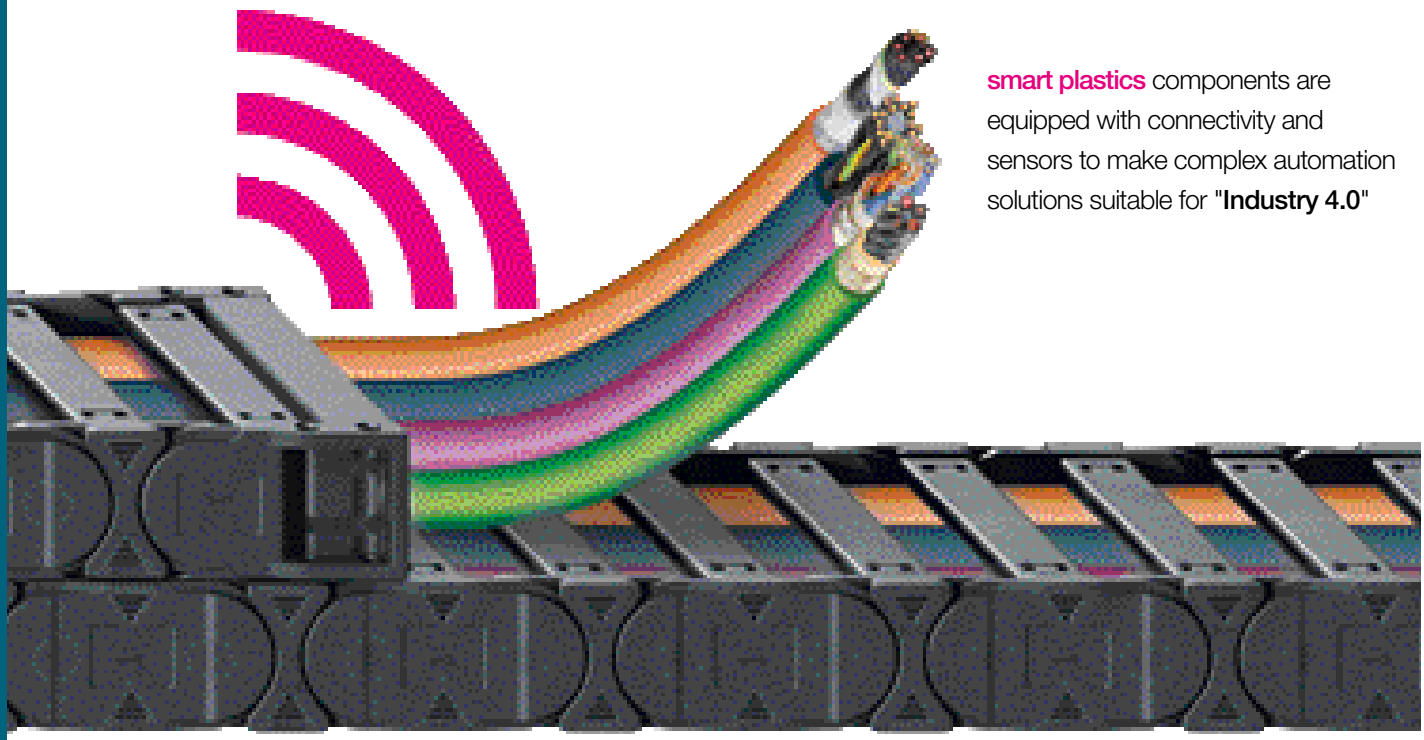
Solutions for predictive maintenance and condition monitoring



smart plastics
for Industry 4.0 energy supply

- **smart plastics** components are equipped with connectivity and sensors to make complex automation solutions capable of "Industry 4.0"
- **smart plastics** offer two options:
  i.Sense - condition monitoring and
  i.Cee - predictive maintenance
- Make maintenance and repair of your machines more efficient and cost-effective with **smart plastics**
- **smart plastics** reduce failures





smart plastics components are equipped with connectivity and sensors to make complex automation solutions suitable for "**Industry 4.0**"

smart plastics
Industry 4.0 energy supply

In the future, automation solutions across different industries will all have digitalisation. If you want to entirely network the machines in your manufacturing plant with the internet of things (**IoT**) in order to be **Industry 4.0**-compatible and optimise such items as maintenance, you will need time and money. A digitalisation strategy that begins by connecting and networking individual assemblies and components is faster and costs much less. Plant operators benefit immediately from the connectivity of smart components: status monitoring for automated plant can be implemented in real time without additional personnel, and maintenance can be organised predictively. smart plastics offer two options: the simple and rather analogue condition monitoring **i.Sense** (sense = perception), for integration with maximum safety. For the complete networking of the machines with the internet (**IoT**), the predictive maintenance **i.Cee** (Cee, derived from "see") is just right.

i.Sense - condition monitoring

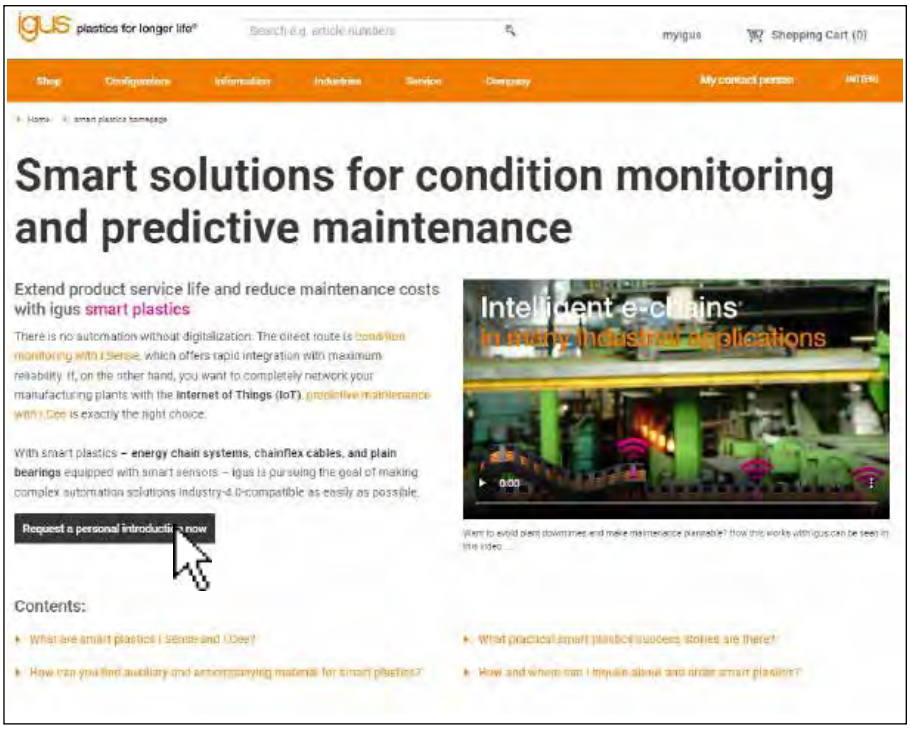
- Simplest, fastest way for a self-monitoring smart plastics product, by attachment of sensors
- Alarm or message when a previously defined limit value is exceeded
- Values outside defined limits can directly trigger a system shut-down

i.Cee - predictive maintenance

- Sensors and software help to create a system for dynamic service life calculation and optimal maintenance times
- Wide variety of designs, offering a high degree of individuality
- Maximum system and user safety and product service life

Typical industries and applications

● Harbour installations ● Cranes ● Automotive production ● Bulk Handling ● Logistics ● Semi conductor industry



smart plastics Website

Always stay up to date. New products, new techniques, new applications

▶ **www.igus-asean.com/smartplastics**

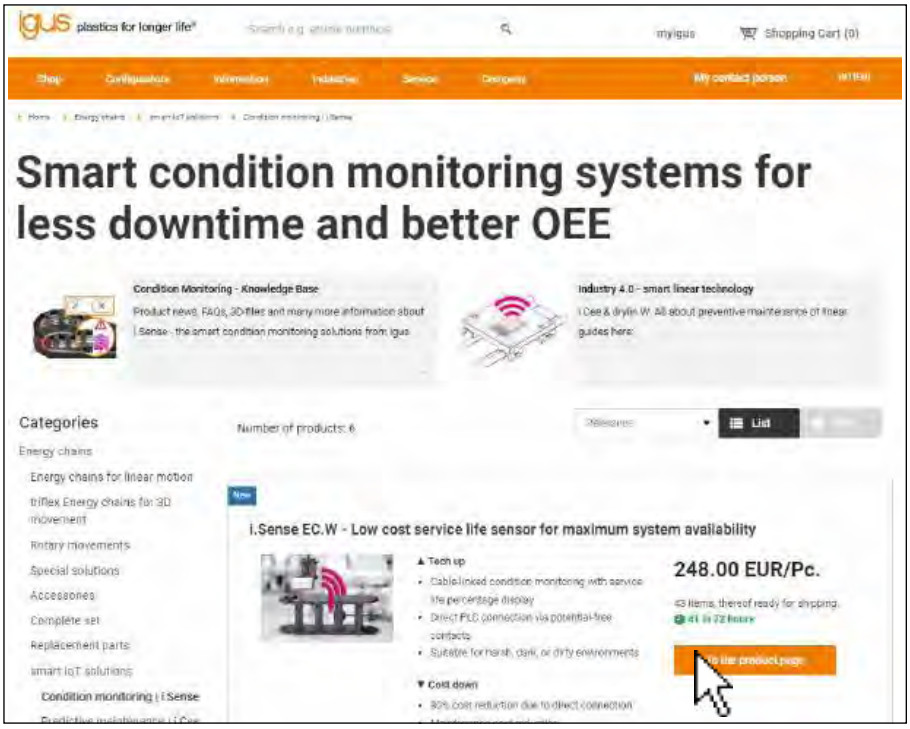


smart plastics brochure

Overview with the following topics:

- Condition monitoring (**i.Sense**)
- Condition monitoring products
- Condition monitoring application examples
- Predictive maintenance (**i.Cee**)
- Application examples for predictive maintenance
- Predictive maintenance data flows

▶ **www.igus-asean.com/smartplastics**



smart plastics online shop

Order systems with push/pull force monitoring and breakage detection online as a complete package ▶ **www.igus-asean.com/smart-plastics-shop**



The igus® white paper on predictive maintenance

Clarifies the distinction between condition monitoring and predictive maintenance

- What igus® condition monitoring (**i.Sense**) means
- What igus® predictive maintenance (**i.Cee**) means
- What technology is behind both systems
- What the two systems offer industrial energy supply

▶ **www.igus-asean.com/smartplastics**

Condition monitoring - i.Sense

- igus® products for condition monitoring
- Detects machine status regularly or continuously
- Uses fast switch-off to avoid crashes

If smart plastics are used for condition monitoring, they immediately report any unexpected operating state, switch off the system, or sound an alarm. Industrial manufacturers use this function to minimise system failures and downtime. ► www.igus-asean.com/condition-monitoring

Control cabinet

- Simple module installation on top-hat (DIN) rail
- Integration into the existing plant control system via NC contacts
- 24V DC voltage supply

i.Sense:module

- Evaluate all sensor data based on igus® algorithms
- Inform the plant controls in real time of any mechanical faults that occur

Sensor units

- **IS.CF.P** tensile force monitoring for cables
- **IS.CF.Q** cable quality monitoring
- **IS.CF.D** data transmission monitoring

i.Sense
Condition monitoring





Condition Monitoring

The concept of condition monitoring is based on a regular or constant recording of the machine condition by measuring and analysing physical parameters, e.g. vibration, temperature, position/ proximity. Condition monitoring pursues two goals: safety and machine efficiency. (Source: Wikipedia)



i.Sense:module

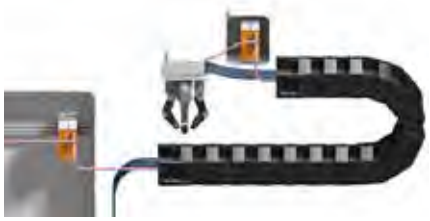
Sensor units



CF.P



CF.Q



CF.D



i.Sense cable monitoring systems:

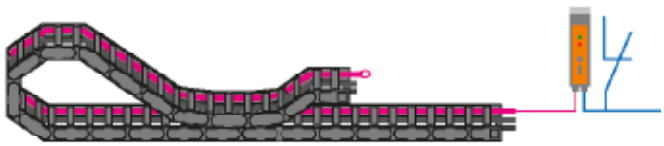
Tensile force monitoring for cables with i.Sense CF.P

- Measures the forces directly at the strain relief element
- Triggers a shutdown by means of the NC contact if forces are excessive
- Cable damage caused by jacket abrasion is reliably avoided



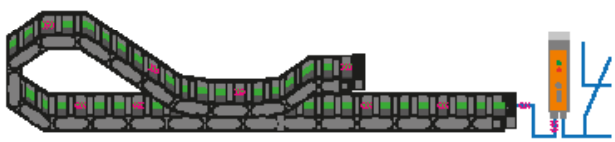
Cable quality monitoring with i.Sense CF.Q

- Measures the quality of the cable cores
- Early notification via contact if core rupture star



Data transmission monitoring with i.Sense CF.D

- The measuring is carried out on the actual used cores; no extra cores or sensor elements needed
- Identification of the alleged damaged cable area
- Early notification via contact, network or visual status display





CF.D

System components of i.Sense CF.D

Acquire data - Evaluate data - Visualise data







- **Sensors:** A new measuring method determines the data transmission characteristics of the cables during operation. This means that no extra cores are needed.
- **Evaluation module:** Every sensor data is processed by the CF.D module during operation. If the transmission properties begin to deteriorate, this can immediately indicate the need for a cable replacement in good time avoiding plant downtime.
- **Dashboard:** The dashboard provides detailed information on the detected deterioration in transmission properties and shows the distance in meters of the affected cable section. In this way, maintenance work can be carried out specifically, promptly and quickly.

i.Sense protects a modern packaging machine ...





Challenge

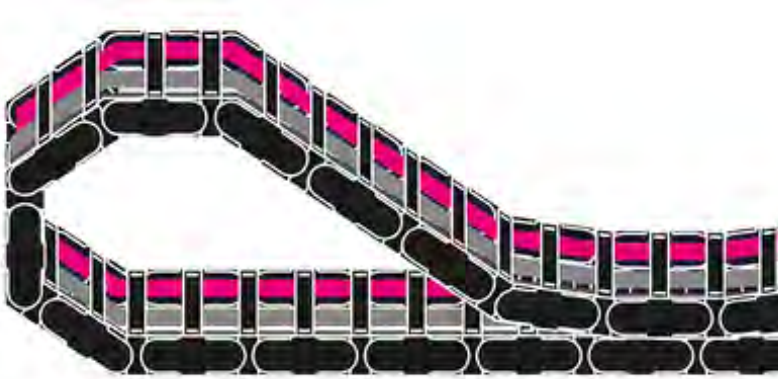
Sliced, packaged bread is an everyday product for many households. But it takes rather complex technology to make it that way. The bread must be carefully cut and securely packaged and sealed. GHD Georg Hartmann Maschinenbau is one of the world's leading manufacturers of systems for slicing and packaging foodstuffs. These operations require speed as well as precision.

Cutting-edge machines, such as the GBK 440, package up to 80 pieces of sliced bread per minute – less than a second for each. So it works with high strokes in a relatively small installation space. In particular, the energy chains with cables for energy supply, control and measurement are heavily stressed by the rapid movements. So all cables must be optimised for a minimum bend radius of just 63 millimetres. This places high demands on cable quality. Unfortunately, cable damage cannot be avoided entirely. They result in costly downtime, since the high throughput quickly adds up to large production backlogs.

So GHD wanted a warning system that would detect failures in advance so that they could be prevented. It commissioned igus® GmbH, a manufacturer of lubrication-free high-performance plastics and fail-safe energy supply systems, to implement the system.

CF.Q - cable quality monitoring

- Measures the push/pull forces acting on the e-chain®
- Recommends shutdown of the equipment if a force limit is exceeded
- Prevents failure

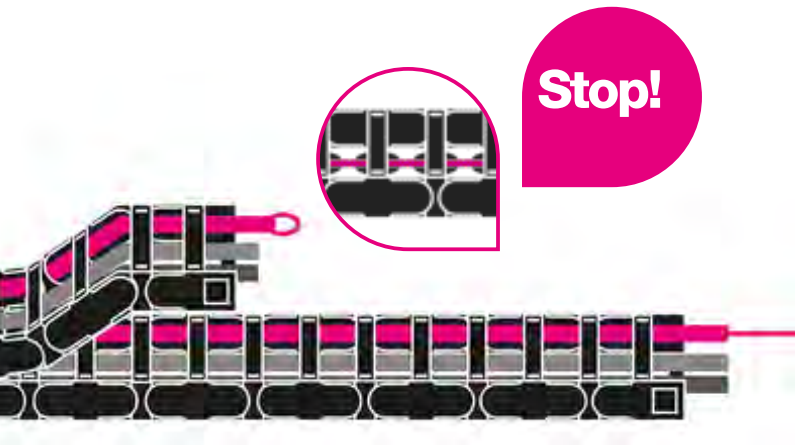


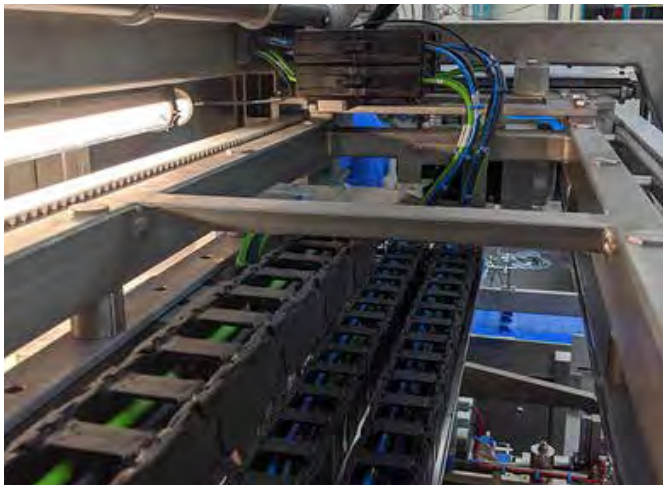
The solution

For energy chains, cables and plain bearing products, igus® has developed a product family in which sensors make plastic components intelligent. It is called smart plastics. The principle is simple: intelligent sensors record the status of the components involved and report it to the i.Cee module, which passes the data on – to the cloud, for example. igus® uses the CF.Q module for cable monitoring to avoid cable damage in such applications like the GHD Hartmann bread packaging machine.

The principle of the monitoring system is as follows: it assumes that two cables from a production batch behave in the same way when stressed and should therefore also approach their breaking point at the same time. So a second, identical cable is added to the measuring cable. The system continuously monitors the two additional cores. The device measures push/pull forces and detects the beginning of a damage very early by the changes in the electrical properties.

For this, igus® has collected a large amount of data from load tests and historical data from various application scenarios which are used to generate a comparative value for forecasting. The software can therefore predict just how many more work cycles a chain can handle without failure. The process data collected at the same time makes it possible to predict the remaining number of working days the chain has, so that companies can precisely plan maintenance and replacement.







The result

The igus® CF.Q system is an integral part of the GBK 440 packaging machine. It allows the interval between maintenance sessions to be greatly extended. All data is evaluated in the customer control system and output as notifications on the Human Machine Interface (HMI).

This concept allows cables to operate far beyond the igus® guarantee period. The user company thus saves several thousand euros in maintenance costs each year. The i.Sense CF.Q's modern technology detects core ruptures before they occur, saving the user high downtime costs.

... and other exciting challenges

... sewage treatment plants...



Challenge

As the plant runs around the clock, and some of the time without any human presence, faults sometimes remain undetected for hours. Although the plant runs at a very slow speed, in the event of a failure it can lead to a total breakdown. This total breakdown of the energy supply system leads to significantly higher costs than a standstill for several hours, where the system can be put back into operation after a short maintenance period.



The solution with smart plastics

In this case the solution is the push/pull force monitoring system EC.P. This sensor continuously measures the force which the plant requires to move the energy supply system. If these forces change due to external influences such as ice, an animal or a tool forgotten during maintenance, the sensor detects this change and switches the system off immediately. This prevents expensive total damage to the sewage treatment plant.





... car plants

"A high price can be avoided."

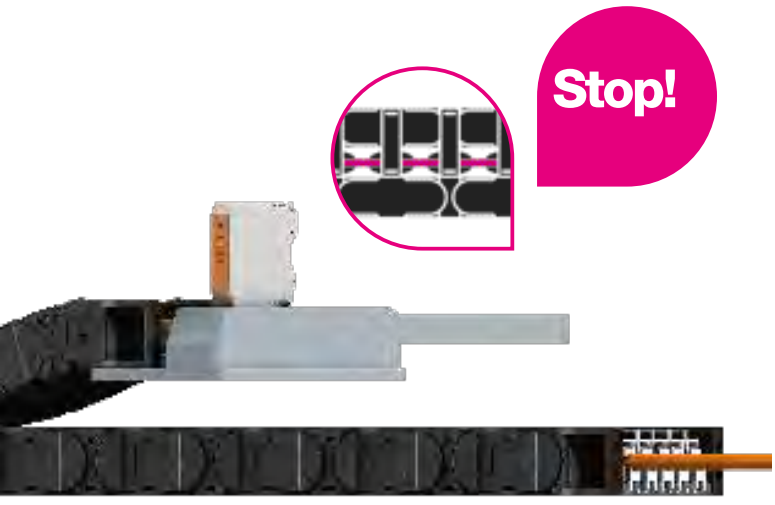
To avoid unplanned breakdowns and plant shutdown, smart plastics from igus® are used on indoor gantry cranes for the automated handling of engine blocks at an Austrian automotive supplier. EC.B modules monitor the status of the e-chain®. In the event of a chain breakage, the machine is stopped automatically to prevent subsequent damage. Additional EC.W modules signal advanced wear of the e-chain®. The measurement of wear data means that a chain's remaining service life can be predicted and replacement can be planned at an early stage.

Read more about this application at

▶ **www.igus-asean.com/smartplastics**



The i.Sense system has been the standard in container cranes for many years.



EC.P - push/pull force detection for e-chains®

- Measures the push/pull forces acting on the e-chain®
- Recommends shutdown of the equipment if a force limit is exceeded
- Prevents failure

Predictive maintenance - i.Cee

- **Precisely predicts maintenance**
- **Prevents downtime or loss of quality**
- **Two options for data transmission: i.Cee:local / i.Cee:cloud**

Both the service life calculation sensors mentioned above and the i.Sense sensor units for condition information provide data from which, in many cases, indicators of maintenance necessary to minimise the risk of product failure can be detected at a very early stage. Based on the experience gained in the 3,800m^2 test laboratory for plain bearings and energy transmission solutions, in combination with self-developed algorithms, the system alerts and notifies the user at an early stage about possible failure risks and/or the next maintenance date.

Offline: i.Cee:local / Online: i.Cee:cloud

i.Cee hardware

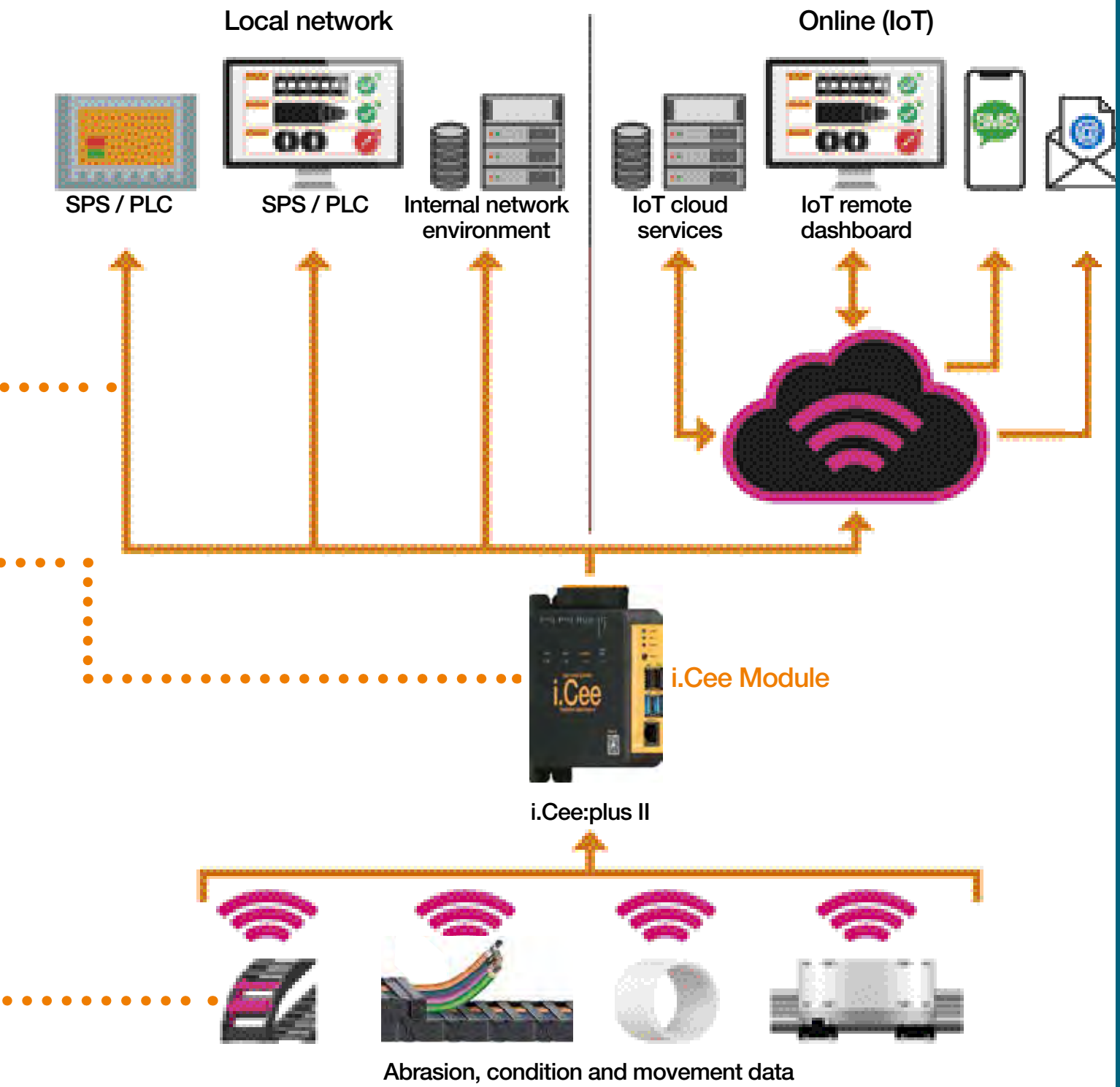
Standard: i.Cee:plus II module

- Installation on top-hat (DIN) rail in control cabinet
- Storage and processing of sensor data
- Constant calculation of the product's service life
- Additional connection of i.Sense modules via USB possible
- Can be integrated into existing Industry 4.0 cloud solutions via IoT

Sensors

- Provide abrasion, condition and movement data

i.Cee
Predictive maintenance



i.Cee ... ... in use at train washing station in Luxembourg ...



Challenge

The previous energy chain systems of a competitor caused disruptions in the operation of the plant, as they were often failing. This was particularly problematic because the washing plant is operated autonomously and a failure of an energy chain system could bring the entire washing process to a halt. The necessary repair measures were therefore time-consuming and partly necessary at night and on weekends. Failure would mean the confinement of a rail vehicle in the wash hall, which could result in the cancellation of several train runs.

The solution with smart plastics

The aim was to find a product that not only safely supplies the washing trolleys with data, voltage, compressed air, water and cleaning agents, but also fulfils CFL's requirement to operate Europe's most modern train washing plant. For this purpose, a system was required that allows the operator to monitor each individual energy chain and to avoid a breakdown of the plant. Besides an igus® energy chain designed for long travels, igus® smart plastics components were installed. Sensors monitor the status of every igus® energy chain during operation with regard to the application of force but also with regard to wear and tear, and inform in good time as soon as a repair or replacement is required. In the course of the modernisation of the energy chain systems, the entire cleaning system was also renewed, so that in addition to particularly environmentally friendly cleaning agents, the used washing water was also reused again and again through reprocessing.



EC.P/EC.W/EC.M

- EC.P sensor measures the tensile forces acting on the e-chain®
- EC.W Sensor measures the e-chain® wear
- EC.M sensor measures all dynamic parameters of the energy supply

... and many other exciting projects



"If the containers stop ..."

A big German crane manufacturer relies on the **i.Sense** online system to ensure optimum production. Here, using "machine learning" and AI algorithms, a calculation of the service life is performed and displayed in a Web dashboard on any Internet-enabled device as a statement of "days until the next recommended maintenance".

Read more about this application at

▶ www.igus-asean.com/smartplastics





I would be happy to answer your questions.

Richard Habering

smart plastics | You define the data flow

... Input options

Motion profile

... Siemens PLC connection

... integrated acceleration sensors EC.W/EC.IM

... OPC UA customer application server

... GPS position data

... igus® positioning system EC.PP

... Standard positioning systems, e.g. 4-20mA

... Output options

i.Cee:output

... Siemens S7

... OPC-UA-Server

... IoT-Cloud-Dashboard

... HTTP Dashboard via private IP address

... MES/SCADA

... JSON-File via MQTT Broker

... REST via HTTP

... Text or .CSV file

... Text messages via SMS

... Sensor raw data management via SMB protocol

... Sensor raw data management via FTP

... FANUC Field System Integration



i.Cee Module

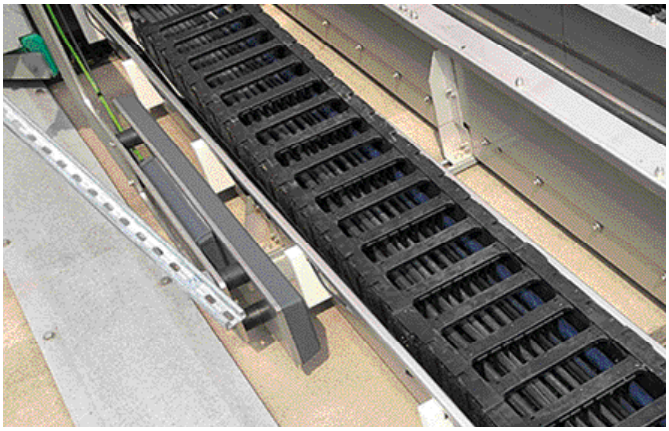


i.Sense Module

ASEAN2023

Anyone who can make reliable and useful predictions about maintenance work is one step ahead of the competition. In the age of digitisation, more than Big Data is required for such predictions. In order to be able to use the sensor data to derive the correct recommendations for maintenance to be accurately scheduled, long term empirical values from the igus® test database are used.

- 3,800m² test area
- 4,100 energy chain system tests annually at 180 test stations: climate chamber, outdoor tests, noise chamber, travel lengths up to 130m, robot systems, etc.
- 2 billion test cycles a year for highly flexible cables
- 1 million electrical measurements recorded annually
- 15,000 tribological tests (friction and wear) in 300 test set-ups
- 140 trillion test movements in the bearings business unit
- Sensors on the test machines provide permanent measurement data, processing in the central database



P4.1 e-chain® with EC.PP in the igus® outdoor test

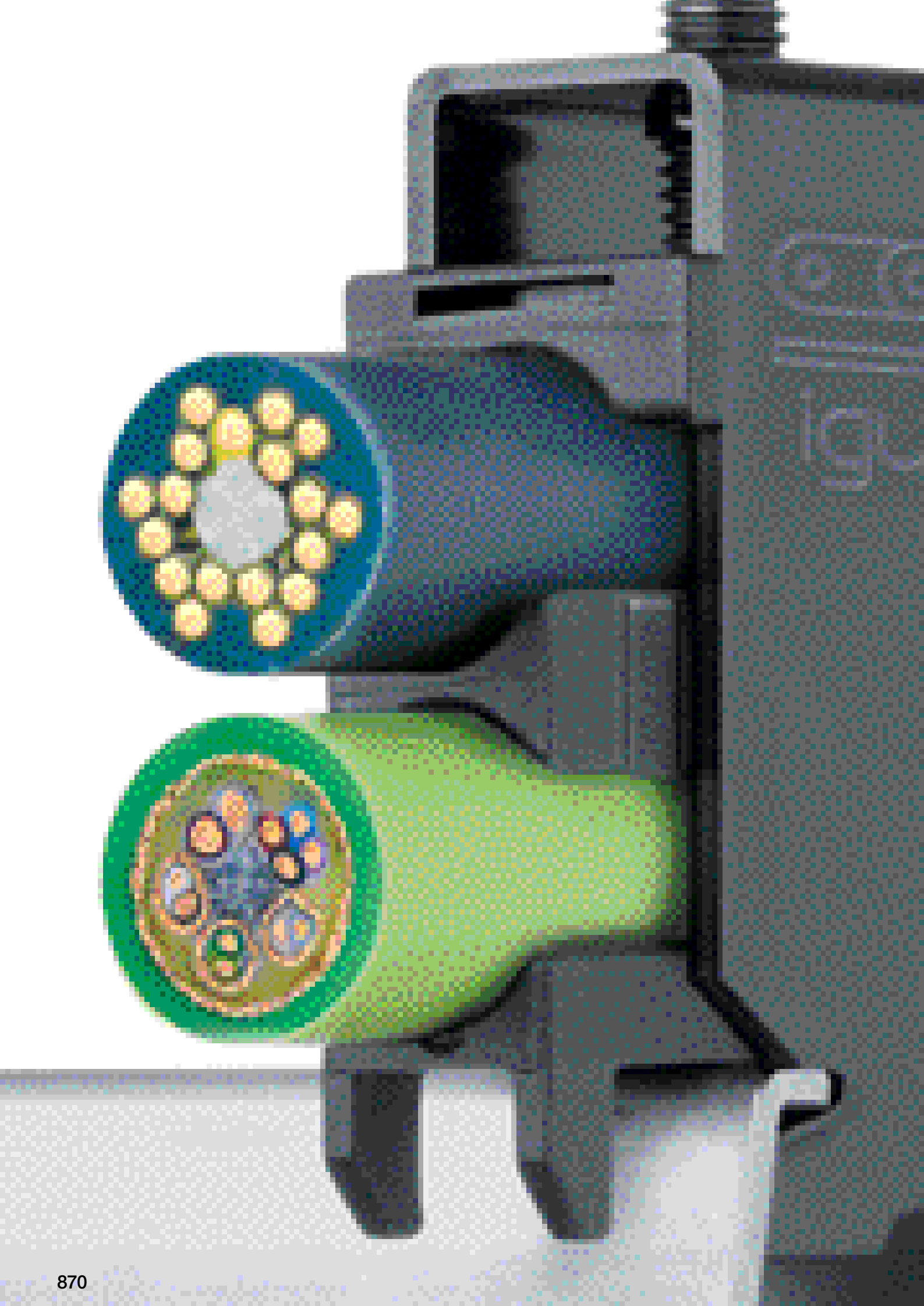


Switch cabinet with **smart plastics** modules

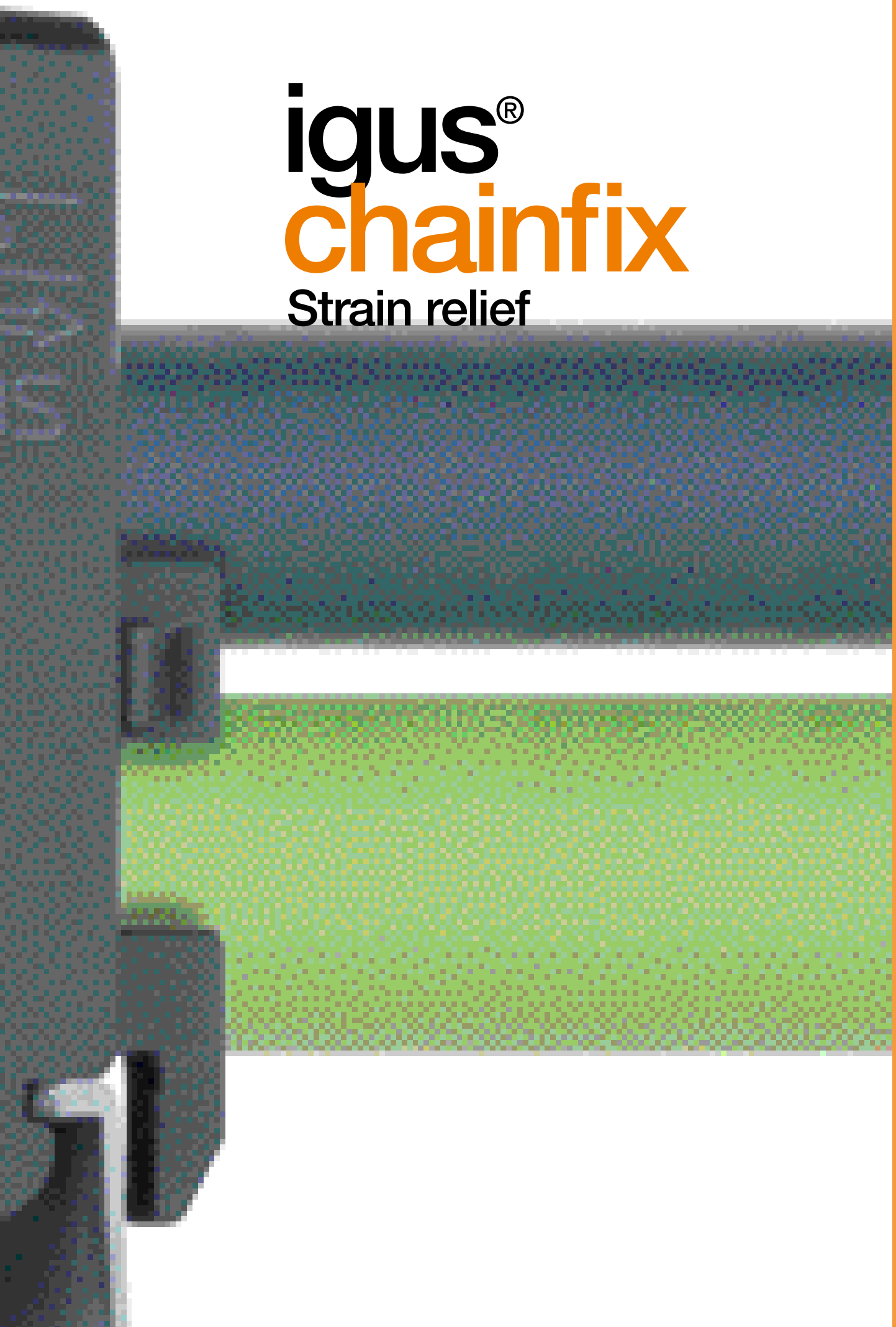
Calculate service life online and get a 36-month guarantee!

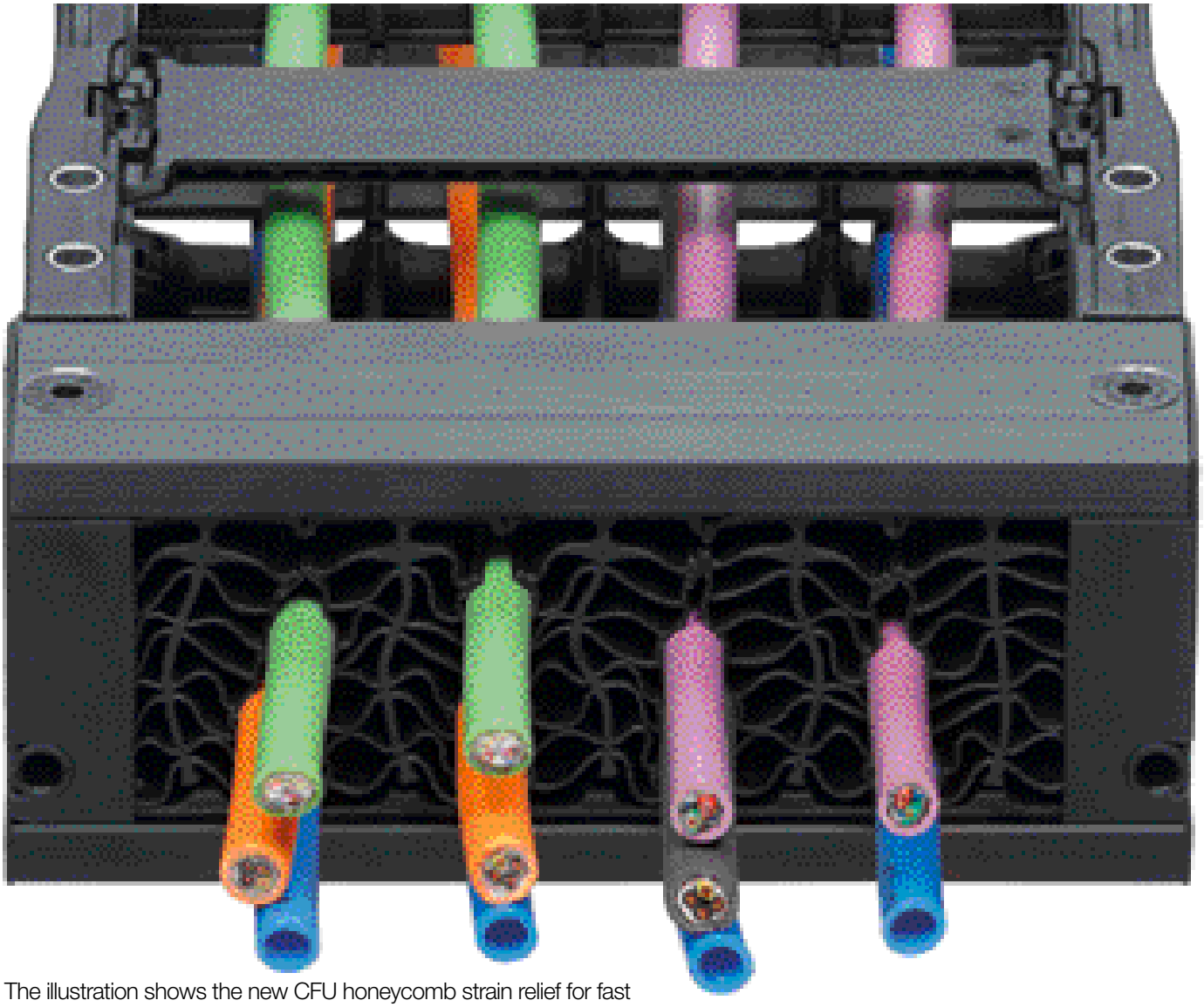


igus® lab, Cologne. A section of the motion plastics® test laboratory spread over 3,800m²



igus®
chainfix
Strain relief





The illustration shows the new CFU honeycomb strain relief for fast assembly. Simply insert cables and hoses into the honeycomb and close.

igus® chainfix strain relief. Flexible, secure and fast.

Strain relief from igus® is specifically developed for use in e-chains® and dynamic applications. The combination of polymer strain relief components and chainflex® cable materials offers maximum holding force and very high service life for the cables. For a wide variety of applications, igus® offers the best solution with respect to cost and benefits; from the CFXL strain relief for long travels in harsh environments, or the new CFU honeycomb strain relief for fast assembly to the CFN chainfix nuggets for simple and inexpensive strain relief. igus® chainfix strain relief components have been successfully used in thousands of applications around the world for years.

Available from stock. Ready to ship in 24 - 48hrs.*

*The delivery times indicated correspond to the average time until the ordered goods are dispatched.

chainfix strain relief systems | Selection table

C-profile - standard and for heavy-duty applications



- **Standard C-profile Part No. 92.42** (can be integrated into KMA) — 884
- **C-profile Part No. 92.52** for increased holding force (mounting in front of e-chain®) — 884

Steel and stainless steel clamps - for maximum holding force



- **CFX*** single, double, triple clamps with standard base — 888
- **CFXL*** single, double, triple clamps with wide base for increased holding force — 889
- chainfix multi-clamps CFX12* — 891
- chainfix multi-clamps CFX16* — 892

chainfix tiewrap plates - universal, bolted or clip-on



- **Option 1A:** tiewrap plates as individual parts "series 2000" + cable tiewraps — 894
- **Option 1B:** tiewrap plates as individual parts "series 3000" + cable tiewraps — 895

chainfix tiewrap plates - optional variants



- **Option 1:** tiewrap plates with clip-on connection to C-profile — 896
- **Option 2:** integrated strain relief for R series E2 e-tubes — 897
- **Option 3:** tiewrap plates for fixed crossbars — 898
- **Option 4:** tiewrap plates for openable crossbars — 899

CFU.V - strain relief with innovative honeycomb design for fast assembly



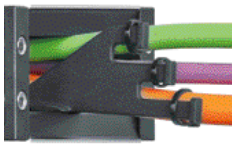
- 80% faster filling (compared to CFX strain relief), openable from both sides for assembly in seconds — 900

Strain relief separators - separators with integrated strain relief teeth



- For easy strain relief with cable tiewraps — 902

CFV strain relief element - stepped strain relief



- Relieve cable strain easily, for use outside of the e-chain® section. With stepped strain relief teeth, even for fully enclosed e-tubes — 906

CFN - chainfix nuggets for C-profile and top-hat (DIN) rail 35



- **Option 1:** simple and universal cable fixation (for cable diameters of Ø 20mm and Ø 30mm) — 907
- **Option 2:** fastening through clipping onto standard top-hat (DIN) rail 35 — 907

CFB - strain relief connector system, modular and customised



- **CFB** polymer strain relief connector system, for many cables in a very confined space — 908

*Standard material: galvanised steel. Also available as stainless steel version (stainless steel material: 1.4301/AISI 304)

chainfix | Select your strain relief system

e-chain® Series/system	CFX Clamp, standard	CFXL Clamp, for increased holding force	CFU honeycomb strain relief	CFN chainfix nugget	Strain relief separator	CFV Stepped strain relief	Strain relief can be clipped onto mounting brackets/KMA	
E1								
E1.17.021.	–	–	–	–	–	–	–	
easy chain®								
E03	–	–	–	–	–	–	–	
E04	–	–	–	–	–	–	–	
E045/Z045	–	–	–	–	–	–	–	
E06/Z06	–	–	–	–	–	–	–	
E065/Z065	–	–	–	–	–	–	–	
E08/Z08	–	–	–	–	–	–	–	
E14/Z14	–	–	–	–	–	–	–	
E200/Z200	X [1]	–	–	–	–	–	–	
E16/Z16	–	–	–	–	–	–	–	
E26/Z26	X [1]	–	–	–	–	–	–	
E300/Z300	X [1]	–	–	–	–	–	–	
zipper								
047	–	–	–	–	–	–	–	
07/R07	–	–	–	–	–	–	–	
09/R09	–	–	–	–	–	–	–	
15/R15	–	–	–	–	–	–	–	
17/R17	–	–	–	–	–	–	–	
E2 micro								
03	–	–	–	–	–	–	–	
04	–	–	–	–	–	–	–	
045	–	–	–	–	–	–	–	
B07	–	–	–	–	–	–	–	
06	–	–	–	–	–	–	–	
074	–	–	–	–	–	–	–	
094	–	–	–	–	–	–	–	
B09	–	–	–	–	–	–	–	
08	–	–	–	–	–	–	–	
E2 mini								
10	–	–	–	–	–	–	–	
11.031	–	–	–	–	–	–	–	
11.080	–	–	–	–	–	–	–	
11.1/11.2	–	–	–	–	–	–	–	
14	–	–	–	–	–	–	–	
B15/B15i	–	–	–	–	–	–	–	
B17/B17i	–	–	–	–	–	–	–	
F17	–	–	–	–	–	–	–	

1) Assembled in front of the mounting bracket. (CFXL clamps are always assembled before the mounting bracket in a separate C-profile 92.52.XX)
2) Can be found on the product page of each e-chain® series
3) Half e-tube only
4) For KMA mounting bracket only
= recommended strain relief for selected e-chain®

	Tiewrap plate Series 2000	Tiewrap plate Series 3000	Tiewrap plate with clip-on connection to C-profile	Tiewrap plate for fixed crossbars	Tiewrap plate for openable crossbars	Tiewrap plate for triflex® R and triflex® 2)	Tiewrap plate for E2 e-tubes	Tiewrap plate/ teeth directly moulded on the mounting bracket	CFB strain relief connector system
	–	–	–	E1.021.Z	–	–	–	–	–
	–	–	–	–	–	–	–	X	–
	–	–	–	–	–	–	–	X	–
	–	–	–	–	–	–	–	X	–
	–	–	–	–	–	–	–	X	–
	–	–	–	–	–	–	–	X	–
	–	–	–	–	–	–	–	X	–
	–	–	–	–	–	–	–	X	–
	2XXX.ZB	–	–	2050.Z	–	–	–	–	–
	–	–	–	–	–	–	–	X	–
	–	3XXX.ZB	–	–	–	–	–	–	–
	–	3XXX.ZB	–	–	–	–	–	–	–
	–	–	–	–	–	–	–	X	–
	–	–	–	–	–	–	–	X	–
	–	–	–	–	–	–	–	X	–
	–	–	–	–	–	–	–	X	–
	–	–	–	–	–	–	–	X	–
	–	–	–	–	–	–	–	X	–
	–	–	–	–	–	–	–	X	–
	–	–	–	–	–	–	–	X	–
	–	–	–	–	–	–	–	X	–
	–	–	–	–	–	–	–	X	–
	–	–	–	–	–	–	–	X	–
	–	–	–	–	–	–	–	X	–
	–	–	–	–	–	–	–	X	–
	–	–	–	–	–	–	–	X	–
	–	–	–	–	–	–	–	X	–
	–	–	–	–	–	–	–	X	–
	–	–	–	–	–	–	–	X	–

chainfix | Select your strain relief system

e-chain® Series/system	CFX Clamp, standard	CFXL Clamp, for increased holding force	CFU honeycomb strain relief	CFN chainfix nugget	Strain relief separator	CFV Stepped strain relief	Strain relief can be clipped onto mounting brackets/KMA
E2.1 micro							
E2.10	–	–	–	–	–	–	–
E2.15	–	–	–	–	–	–	–
E2.1							
E2.26	X [1]	X [1]	–	–	26.Z [4]	–	–
E2.38	X [1]	X [1]	–	X	–	CFV.42.C	–
E2.48	X [1]	X [1]	X [1]	X	–	CFV.42.C	–
E2/000							
1400/1500	X [1]	X [1]	–	–	21.1.Z	–	–
1450/1480	X [1]	X [1]	–	–	21.1.Z	–	–
2400/2500	X [1]	X [1]	–	–	2020.Z	–	–
2450/2480	X [1]	X [1]	–	–	2020.ZR	–	–
2600/2700	X	X [1]	–	X	262.Z	CFV.42.C	–
2650/2680	X	X [1]	–	X	–	CFV.42.C	–
3400/3500	X	X [1]	X [1]	X	301.Z	CFV.42.C	–
3450/3480	X	X [1]	X [1]	X	34501.Z	CFV.42.C	–
255	–	–	–	–	–	–	–
E2 R100							
R117/118	X [1]	X [1]	–	–	–	–	–
R157/158	X [1]	X [1]	–	–	1585.01.Z	–	–
R167/168	X [1]	X [1]	X [1]	–	1685.01.Z	–	–
E2 R							
R48	X [1]	X [1]	–	–	481.ZR	–	–
R58	X [1]	X [1]	–	–	–	–	–
R68	X [1]	X [1]	X [1]	–	–	–	–
R2.1							
R2.26	X [1]	X [1]	–	–	R2.26.Z	CFV.R2.26.Z	–
R2.40	X [1]	X [1]	–	–	R2.40.Z	CFV.R2.40.Z	–
R2.48	X [1]	X [1]	X [1]	–	–	CFV.R2.48.Z	–
R2.75	X [1]	X [1]	–	–	–	CFV.80.C	–
RX							
RX32	–	–	–	–	–	–	X
RX40	–	–	–	–	–	–	X
RX48	–	–	–	–	–	–	X
RX56	–	–	–	–	–	–	Upon request

1) Assembled in front of the mounting bracket. (CFXL clamps are always assembled before the mounting bracket in a separate C-profile 92.52.XX)
2) Can be found on the product page of each e-chain® series
3) Half e-tube only
4) For KMA mounting bracket only
= recommended strain relief for selected e-chain®

	Tiewrap plate Series 2000	Tiewrap plate Series 3000	Tiewrap plate with clip-on connection to C-profile	Tiewrap plate for fixed crossbars	Tiewrap plate for openable crossbars	Tiewrap plate for triflex® R and triflex® 2)	Tiewrap plate for E2 e-tubes	Tiewrap plate/ teeth directly moulded on the mounting bracket	CFB strain relief connector system
	–	–	–	–	–	–	–	X	–
	–	–	–	–	–	–	–	X	–
	2XXX.ZB	–	–	–	–	–	–	–	–
	2XXX.ZB	3XXX.ZB	–	C.2.522.XXX.ZS	–	–	–	–	–
	–	3XXX.ZB	–	C.2.522.XXX.ZS	–	–	–	–	–
	2XXX.ZB	–	–	–	–	–	–	X	–
	2XXX.ZB	–	–	–	–	–	–	X	–
	2XXX.ZB	–	–	2050.Z	–	–	–	–	–
	2XXX.ZB	–	–	–	–	–	–	–	–
	2XXX.ZB	3XXX.ZB	30XX.ZC	2050.Z	2050.Z	–	–	–	Upon request
	–	3XXX.ZB	30XX.ZC	–	2050.Z 3)	–	–	–	Upon request
	–	3XXX.ZB	30XX.ZC	30XX.Z	30XX.ZS	–	–	–	Upon request
	–	3XXX.ZB	30XX.ZC	–	30XX.ZS 3)	–	–	–	Upon request
	2XXX.ZB	–	–	–	–	–	–	–	–
	2XXX.ZB	–	–	–	–	–	–	–	–
	–	–	–	–	–	–	–	–	–
	–	–	–	–	–	–	–	–	–
	2XXX.ZB	–	–	–	–	–	–	–	–
	–	–	–	–	–	–	5850.Z	–	–
	–	–	–	–	–	–	30XX.Z	–	–
	–	–	–	–	–	–	–	–	–
	–	–	–	–	–	–	–	–	–
	–	3XXX.ZB	30XX.ZC	–	–	–	–	–	–
	–	3XXX.ZB	30XX.ZC	–	–	–	–	–	–
	–	–	–	–	–	–	–	–	X
	–	–	–	–	–	–	–	–	X
	–	–	–	–	–	–	–	–	X
	–	–	–	–	–	–	–	–	X

chainfix | Select your strain relief system

e-chain® Series/system	CFX Clamp, standard	CFXL Clamp, for increased holding force	CFU honeycomb strain relief	CFN chainfix nugget	Strain relief separator	CFV Stepped strain relief	Strain relief can be clipped onto mounting brackets/KMA
E4.1L							
E4.31L/R4.31L	X [1]	X [1]	–	–	31.Z	CFV.31.N15	–
E4.38L/R4.38L	X	X [1]	–	X	38.Z	CFV.42.C	–
E4.48L/R4.48L	X	X [1]	X [1]	X	48.Z / 48.ZS	CFV.42.C	–
E4.64L	X	X [1]	–	X	–	CFV.42.C	–
E4Q							
E4Q.34/E4Q.34 New	X	X [1]	–	X	–	CFV.42.C	–
E4Q.44/E4Q.44 New	X	X [1]	X [1]	X	–	CFV.42.C	–
E4Q.58/E4Q.58 New	X	X [1]	–	X	–	CFV.80.C	–
E4Q.82/E4Q.82 New	X	X [1]	–	X	–	CFV.80.C	–
E4.1							
E4.21	X [1]	X [1]	–	–	T2103.Z	–	–
E4.28/R4.28	X [1]	X [1]	–	–	28.Z / 28.ZT	–	–
E4.32/H4.32/R4.32	X	X [1]	–	X	–	CFV.42.C	–
E4.42/H4.42/R4.42	X	X [1]	X [1]	X	–	CFV.42.C	–
E4.56/H4.56/R4.56	X	X [1]	–	X	–	CFV.80.C	–
E4.80/H4.80/R4.80	X	X [1]	–	X	–	CFV.80.C	–
E4.112	X [1]	X [1]	–	–	–	–	–
E4.162	X [1]	X [1]	–	–	–	–	–
800	X [1]	X [1]	–	–	–	–	–
840	X [1]	–	–	–	–	–	–
E4/light							
14040/14140/18840	X	X [1]	–	X	–	–	–
14240/14340	X	X [1]	–	X	–	–	–
14550/14650/19050	X	X [1]	–	X	–	–	–
15050/15150/19850	X	X [1]	–	–	–	–	–
15250/15350	X	X [1]	–	–	–	–	Upon request
1640/R1608	X	X [1]	–	–	–	–	Upon request
YE							
YE.42 New	X [1]	X [1]	–	–	–	–	–
YE.56 New	X [1]	X [1]	–	–	–	–	–

1) Assembled in front of the mounting bracket. (CFXL clamps are always assembled before the mounting bracket in a separate C-profile 92.52.XX)
2) Can be found on the product page of each e-chain® series
3) Half e-tube only
4) For KMA mounting bracket only
= recommended strain relief for selected e-chain®

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	Tiewrap plate Series 2000	Tiewrap plate Series 3000	Tiewrap plate with clip-on connection to C-profile	Tiewrap plate for fixed crossbars	Tiewrap plate for openable crossbars	Tiewrap plate for triflex® R and triflex® 2)	Tiewrap plate for E2 e-tubes	Tiewrap plate/ teeth directly moulded on the mounting bracket	CFB strain relief connector system
	–	–	–	–	–	–	–	–	–
	–	3XXX.ZB	30XX.ZC	–	C622.100.ZS	–	–	–	X
	–	3XXX.ZB	30XX.ZC	–	C622.100.ZS	–	–	–	X
	–	3XXX.ZB	30XX.ZC	–	–	–	–	–	X
	–	3XXX.ZB	30XX.ZC	–	–	–	–	–	–
	–	3XXX.ZB	30XX.ZC	–	–	–	–	–	X
	–	3XXX.ZB	30XX.ZC	–	–	–	–	–	X
	–	3XXX.ZB	30XX.ZC	–	–	–	–	–	X
	2XXX.ZB	–	–	–	–	–	–	–	–
	2XXX.ZB	–	–	–	2050.Z	–	–	–	–
	–	3XXX.ZB	30XX.ZC	–	3850.ZS	–	–	–	X
	–	3XXX.ZB	30XX.ZC	–	3850.ZS	–	–	–	X
	–	3XXX.ZB	30XX.ZC	–	45XX.ZS	–	–	–	X
	–	3XXX.ZB	30XX.ZC	–	45XX.ZS	–	–	–	X
	–	3XXX.ZB	–	–	45XX.ZS	–	–	–	X
	–	3XXX.ZB	–	–	–	–	–	–	X
	–	3XXX.ZB	–	–	–	–	–	–	–
	–	–	–	–	–	–	–	–	–
	–	3XXX.ZB	30XX.ZC	–	45XX.ZS	–	–	–	X
	–	3XXX.ZB	30XX.ZC	–	3850.ZS	–	–	–	X
	–	3XXX.ZB	30XX.ZC	–	45XX.ZS	–	–	–	X
	–	3XXX.ZB	30XX.ZC	–	45XX.ZS	–	–	–	X
	–	3XXX.ZB	30XX.ZC	–	3850.ZS	–	–	–	X
	–	3XXX.ZB	–	–	45XX.ZS	–	–	–	–
	–	–	–	–	3850.ZS	–	–	–	–
	–	–	–	–	45XX.ZS	–	–	–	–

chainfix | Select your strain relief system

e-chain® Series/system	CFX Clamp, standard	CFXL Clamp, for increased holding force	CFU honeycomb strain relief	CFN chainfix nugget	Strain relief separator	CFV Stepped strain relief	Strain relief can be clipped onto mounting brackets/KMA
T3							
T3.29	–	–	–	–	E6.29.02.Z	–	20XX.ZB
E3							
E3.10	–	–	–	–	–	–	E3.00.020
E3.15	–	–	–	–	–	–	E3.00.020
E3.22	–	–	–	–	–	–	E3.00.020
E6.1							
E61.29/EF61.29	X 1)	X 1)	–	–	E6.29.02.Z	–	–
E61.35	X 1)	X 1)	–	–	E6.35.02.Z	–	–
E61.40	X	X 1)	–	X	E6.40.02.Z	–	–
E61.52	X	X 1)	–	X	–	–	–
E61.62	X	X 1)	–	X	–	–	–
E61.80	X	X 1)	–	X	–	–	–
E6							
E6.29	X 1)	X 1)	–	–	E6.29.02.Z	–	–
R6.29	X 1)	X 1)	–	–	–	–	–
E6.35	X 1)	X 1)	–	–	E6.35.02.Z	–	–
E6.40	X	X 1)	–	X	E6.40.02.Z	–	–
E6.52	X	X 1)	–	X	–	–	–
R6.52	X	X 1)	–	X	–	–	–
E6.62	X	X 1)	–	X	–	–	–
E6.80L	X	X 1)	–	X	–	–	–
e-skin®							
SK28	–	–	–	–	–	–	2000.077.ZB
SK40	–	–	–	–	–	–	2000.077.ZB
triflex® R							
TRC	X 1)	X 1)	–	–	–	–	–
TRC	X 1)	X 1)	–	–	–	–	–
TRCF	X 1)	X 1)	–	–	–	–	–
TRL	X 1)	X 1)	–	–	–	–	–
TRLF	X 1)	X 1)	–	–	–	–	–
triflex®							
easy triflex®	X 1)	–	–	–	–	–	–
triflex®	X 1)	–	–	–	–	–	–

1) Assembled in front of the mounting bracket. (CFXL clamps are always assembled before the mounting bracket in a separate C-profile 92.52.XX)
2) Can be found on the product page of each e-chain® series
3) Half e-tube only
4) For KMA mounting bracket only
= recommended strain relief for selected e-chain®

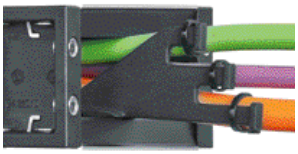
igus
EU2023

	Tiewrap plate Series 2000	Tiewrap plate Series 3000	Tiewrap plate with clip-on connection to C-profile	Tiewrap plate for fixed crossbars	Tiewrap plate for openable crossbars	Tiewrap plate for triflex® R and triflex® 2)	Tiewrap plate for E2 e-tubes	Tiewrap plate/ teeth directly moulded on the mounting bracket	CFB strain relief connector system
	–	–	–	–	–	–	–	–	–
	–	–	–	–	–	–	–	–	–
	–	–	–	–	–	–	–	–	–
	–	–	–	–	–	–	–	–	–
	2XXX.ZB	–	–	–	–	–	–	–	–
	2XXX.ZB	–	–	–	–	–	–	–	X
	2XXX.ZB	–	–	–	–	–	–	–	X
	–	3XXX.ZB	30XX.ZC	–	2050.Z	–	–	–	X
	–	3XXX.ZB	30XX.ZC	–	3850.ZS	–	–	–	X
	–	3XXX.ZB	30XX.ZC	–	45XX.ZS	–	–	–	X
	2XXX.ZB	–	–	–	–	–	–	–	–
	2XXX.ZB	–	–	–	–	–	–	–	–
	2XXX.ZB	–	–	–	–	–	–	–	X
	2XXX.ZB	–	–	–	–	–	–	–	X
	–	3XXX.ZB	30XX.ZC	–	2050.Z	–	–	–	X
	–	3XXX.ZB	30XX.ZC	–	–	–	–	–	X
	–	3XXX.ZB	30XX.ZC	–	3850.ZS	–	–	–	X
	–	3XXX.ZB	30XX.ZC	–	45XX.ZS	–	–	–	X
	–	–	–	–	–	–	–	–	–
	–	–	–	–	–	–	–	–	–
	–	–	–	–	–	X	–	–	–
	–	–	–	–	–	X	–	–	–
	–	–	–	–	–	X	–	–	–
	–	–	–	–	–	X	–	–	–
	–	–	–	–	–	X	–	–	–
	–	–	–	–	–	E33X.XX.2	–	–	
	–	–	–	–	–	33X.XX	–	–	

igus® chainfix strain relief			
	CFX - clamps	**Tiewrap plates - bolted, clip-on**	**CFU.V - with innovative honeycomb design**
Recommended standard for the following e-chains®:	**E4, E6, for all KMA* with C-profile** *Polymer metal mounting bracket	**easy chain®, E2/000, E2 e-tubes, E4, E6**	**E2.48, 3400/3500, 3450/3480, R68, R167/168, R2.48, E4.48L/R4.48L, E4.42/H4.42/R4.42, E61.52, E6.52/R6.52**
When to use this strain relief?	Standard for high accelerations, loads and demanding applications. For many cables, large cable diameters and stacked cables. For long travels, cranes, offshore, machine tools, high speeds and hydraulic cables.	Standard for many applications at medium and low accelerations. For unsupported, gliding, hanging and standing applications in general machinery and machine tools. Also available as an individual part, for example in control cabinets.	CFU.V strain relief with innovative honeycomb design for fast assembly and high holding force. Openable from both sides. Easy positioning of cables for a variable filling. Cables with different diameters can be strain-relieved easily in one layer. Different attachment options in front of the e-chain®, strain relief can be screwed in from above and below.
When not to use it?	No limitation	For large cable diameters	For high loads and large cable diameters
Properties			
Assembly time index	+	+	+ + +
Adjustable tensile strength	+ +	–	+
Price index	●●◐	●○○	●●●
Modularity	yes	yes	yes
Dynamics	high to very high	high	medium

Price index
- ●○○ low price category
- ●◐○ medium price category
- ●●● highest price category

+++ = best suitability
\+ = good suitability
+ – = suitable
– = limited suitability

				
	CFN nuggets	**Strain relief separators**	**CFV - strain relief element**	**CFB - strain relief connector system**
	For all KMA* with C-profile or top-hat (DIN) rail 35 *Polymer metal mounting bracket	**E2/000, E2 e-tubes, E6, T3**	**E2/000, R2.1, E4.1L, E4.1**	**E4, E6, for all KMA* with C-profile** *Polymer metal mounting bracket
	Cost-effective, fast strain relief for simple application with small spaces and medium accelerations. Also available as individual parts for fixed applications, such as in cabinets, etc.	Combination of separator and strain relief, ideal for small spaces. For applications with medium accelerations. For small cable diameters. Ideal for e-tubes. For machine tools and automation.	For both in e-chains® and e-tubes. Stepped strain relief for use outside of the e-chain® cross section - even with different connectors. Easy to retrofit. Simple installation into top-hat rail 15 (TS92.31) or C-profile on KMA mounting brackets.	Space-saving, modular strain relief with many cables in confined spaces. For applications with high accelerations and loads, e.g. in machine tools.
	For high loads	For high loads	For high loads	No limitation
	+ –	+	+ +	+ –
	–	–	–	+
	●○○	●○○	●○○	●●●
	yes	yes	yes	yes (special fabrication)
	high	high	medium	high to very high

chainfix strain relief | C-profile

Standard C-profile Part No. 92.42.XXX

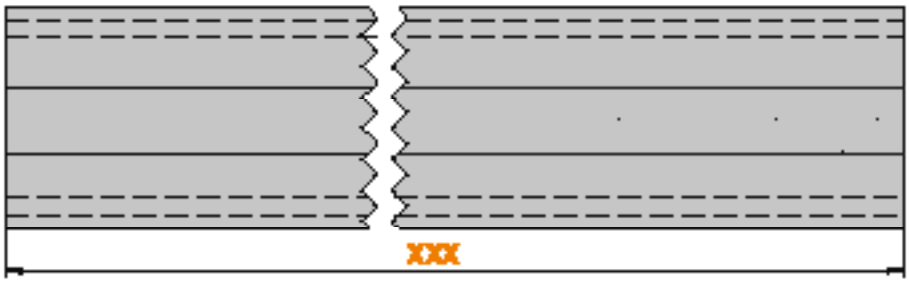
- For all igus® CFX clamps and KMA mounting brackets with C-profile option
- Standard material galvanised steel
- Also available as stainless steel* version
- Length tolerances for C-profiles of ±1mm possible!

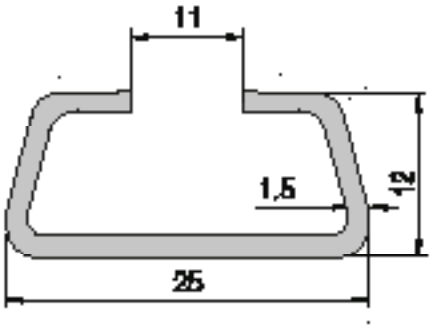
Complete Part No. with the required length **XXX** in mm. Example:**92.42.075** for 75mm. *For stainless steel material AISI 304, please add index **.E.** Example:**92.42.075.E**



Standard C-profile Part No. 92.42. | For standard applications

Can be integrated into KMA with C-profile option!



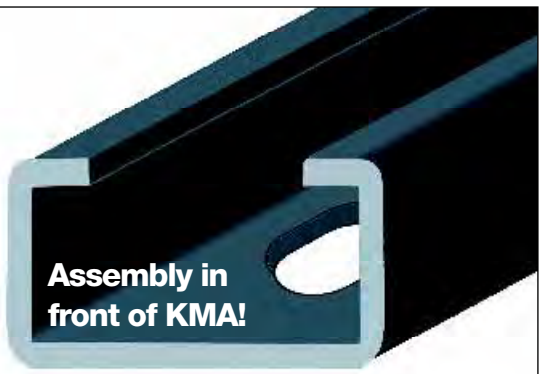


Optional | For heavy-duty applications

C-profile Part No. 92.52.XXX

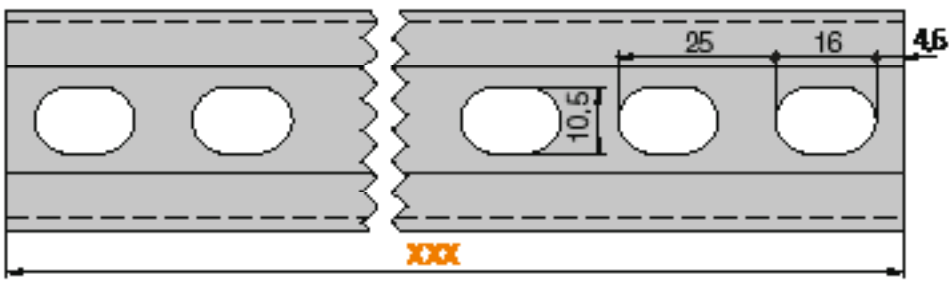
- For all igus® **CFXL** clamps
- With increased holding force - even for harsh applications
- Standard material galvanised steel
- Also available as stainless steel* version
- Length tolerances for C-profiles of ±5mm possible!

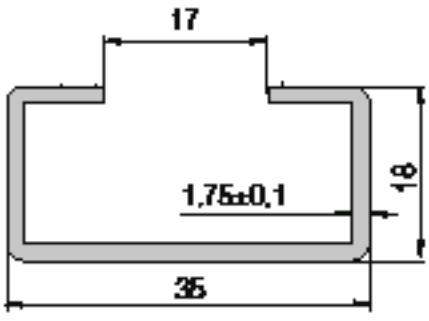
Complete Part No. with the required length **XXX** in mm. Example:**92.52.075** for 75mm. *For stainless steel material AISI 304, please add index **.E.** Example:**92.52.075.E**



C-profile Part No. 92.52 | For increased holding force for harsh applications

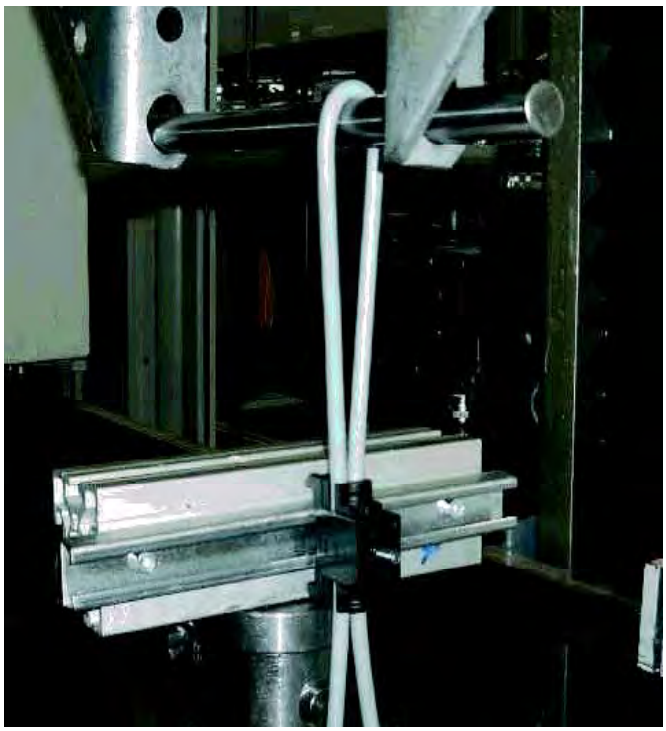
Always assembled in front of the e-chain®. Cannot be integrated into KMA!



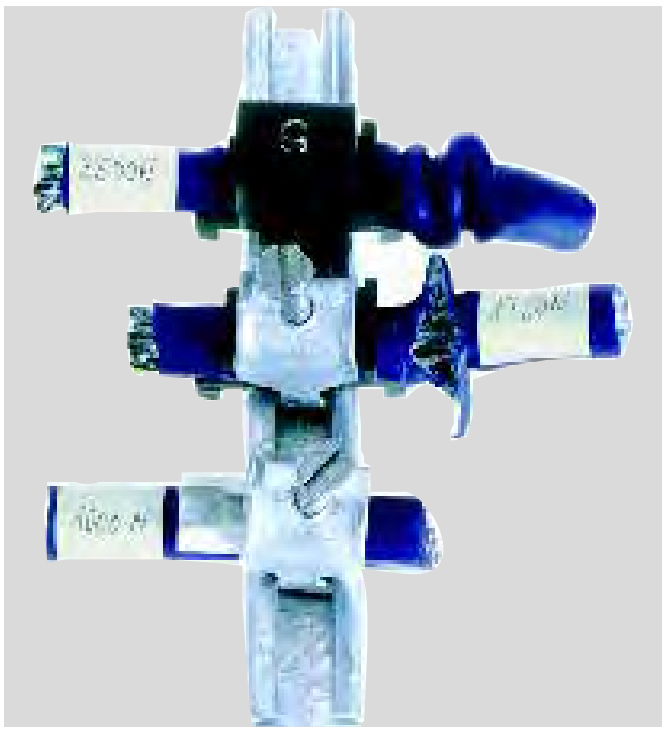


igus® chainfix strain relief devices are tested in the in-house igus® laboratory under real-world conditions, taking many parameters into account

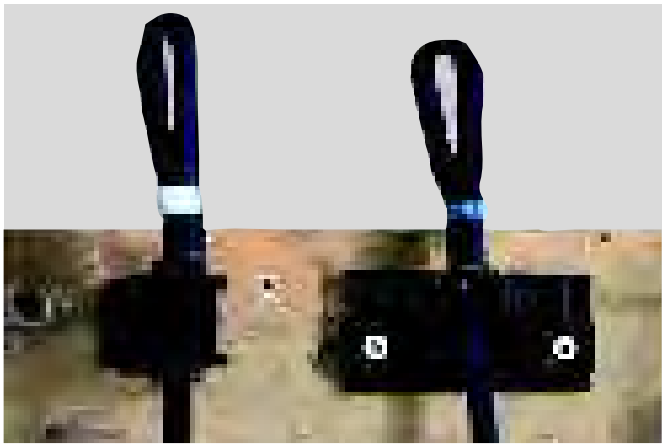
Whether under the influence of fluids like water or oil, or at different ambient temperatures. The interaction of chainfix systems with different jacket materials of cables and hoses plays a big role in the in-house test program.



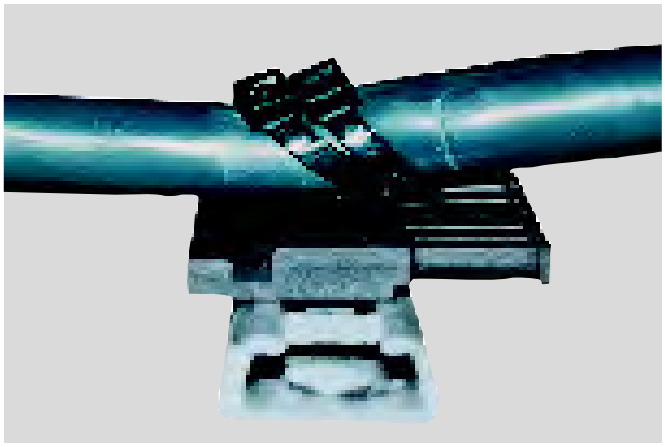
igus® tensile strength test CFX clamps with stacker saddle. **Conclusion**: the tensile strength of igus® chainfix clamps is three times higher when compared with conventional strain relief



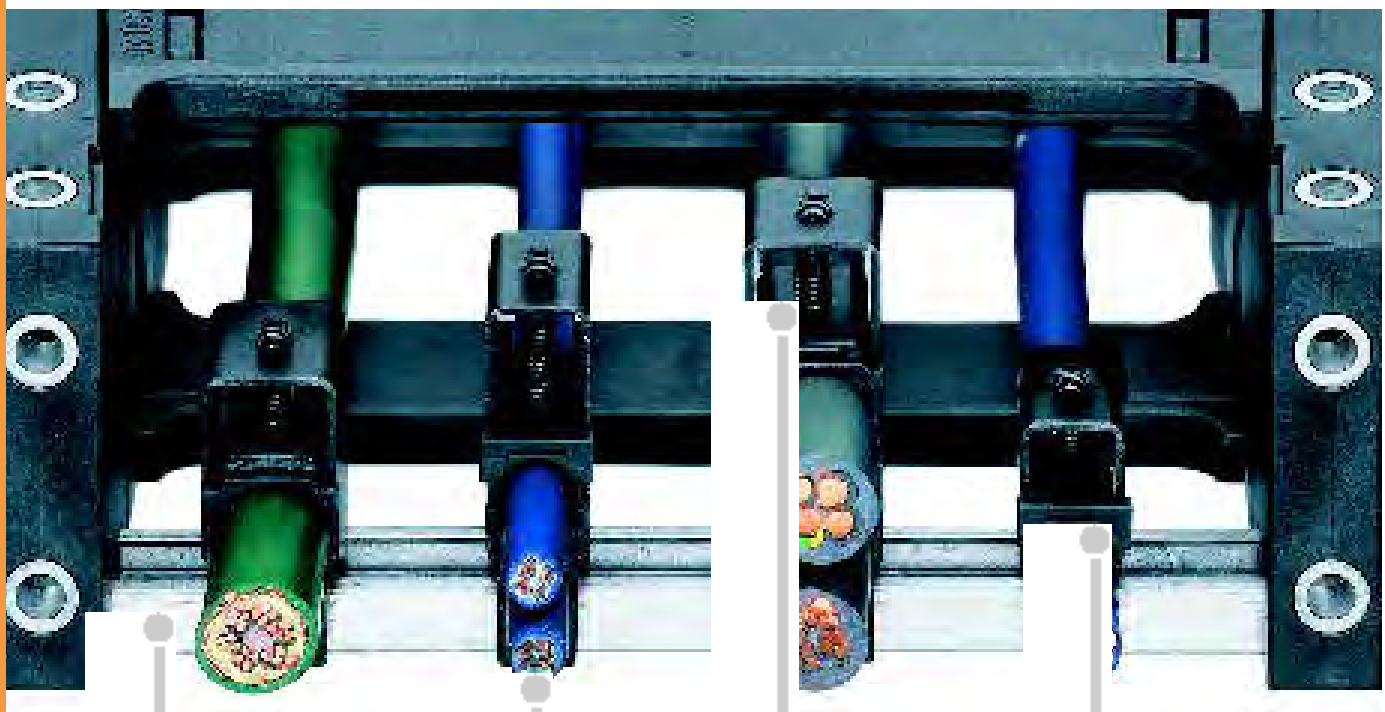
Test: comparison of three different strain reliefs. **Conclusion**: triple tensile strength of igus® chainfix clamps when compared with conventional products



Tensile strength tests with chainflex® cables.



Tensile strength tests of igus® chainfix tiewrap plate with cable tiewraps.



Can be integrated into igus® KMA mounting bracket

For up to three cables stacked above one another

Reduced installation height, space-saving

High strength for dynamic applications

chainfix clamps - fitted quickly and securely

- New: now also cost-effective strain relief for large hose and cable diameters - new sizes for cable diameters 42mm - 46mm and 46mm - 50mm are available
- chainfix clamps with up to 15mm reduced installation height compared to conventional clamps due to optimised housing height
- Tested in the igus® laboratory - up to 3.5 times higher force absorption compared to conventional clamps
- Easy to read the part number and mark indicating the correct installation direction
- Space and time-saving assembly
- Delivery options for complete systems with cables and preassembled strain relief
- Improved base for easier fit into the C-profile
- Simple assembly with hex head set screw
- High strength for dynamic applications with improved stacker elements
- Built-in ribs on the stacker elements give secure grip on the cables
- Optional: CFXL clamps for increased holding force for heavy-duty applications (**Note:** CFXL clamps are always assembled in front of the e-chain®. They cannot be integrated into KMA mounting brackets with C-profile option!)

Available from stock. Ready to ship in 24 - 48hrs.*

*The delivery times indicated correspond to the average time until the ordered goods are dispatched.

Product range and materials

- Steel clamp: clamp and screw black painted steel
- Stainless steel clamp: clamp and screw: blank (material AISI 304)
- Stacker elements: bottom saddle and stacker saddle (igumid G material)
- Steel C-profile available (material galvanised steel)
- Stainless steel C-profile available (material AISI 304)

Installation height

If the e-chain® glides on itself for long travels, the screw heads of the strain relief at the fixed end of the e-chain® must have a distance of at least 10mm from the top of the e-chain®. As a result, many strain relief elements described here may not be suitable for use at the fixed end on long gliding e-chains®. For unsupported e-chains® strain relief elements can always be safely used.

Please note

- Ideally, the cables should be secured at both ends of the e-chain® with strain relief. **As a minimum they need to be attached at the moving end of the e-chain®!**
- When using chainfix clamps on C-profiles in the mounting bracket for series E4.38L/R4.38L, E4Q.34/H4Q.34, E4.32/H4.32/R4.32 (also for the classic series 280/290/R770, 2828/2928/R7728) a shortened bottom saddle must be used. For shortened bottom saddles supplement Part No. with index "**K**". Example: **CFX12.1K**



CFX - chainfix housing with reduced height



Save both time and space during installation with igus® chainfix clamps

For the following igus® series

E2.1
- E2.38
- E2.48

E2/000
- 2600/2700/2650/2680
- 3400/3500/3450/3480

E4.1L
- E4.38L/R4.38L
- E4.48L/R4.48L
- E4.64L

E4Q
- E4Q.34/H4Q.34
- E4Q.44/H4Q.44
- E4Q.58/H4Q.58
- E4Q.82/H4Q.82

E4.1
- E4.32/H4.32/R4.32
- E4.42/H4.42/R4.42
- E4.56/H4.56/R4.56
- E4.80/H4.80/R4.80
- E4.112/R4.112
- E4.162

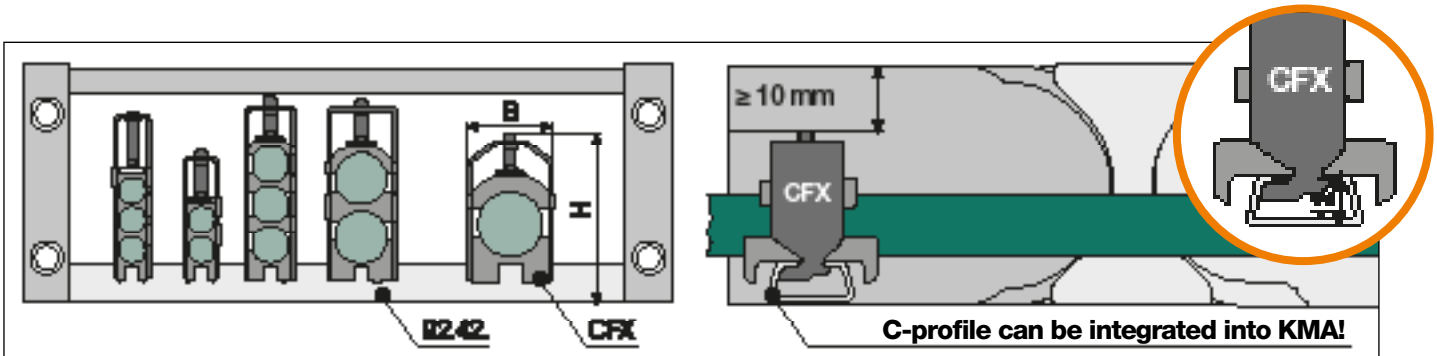
E4/light
- 14040/14140/18840
- 14240/14340
- 14550/14650/19050
- 15050/15150/19850
- 15250/15350

E6.1
- E61.40
- E61.52
- E61.62
- E61.80

E6
- E6.40
- E6.52/R6.52
- E6.62
- E6.80L
- E6.80

chainfix strain relief | CFX clamps

Now even for larger hose and cable diameters New



The **H** dimension in the tables is based on the maximum cable diameter. Cables with smaller diameters may result in a lower overall clamp housing heights. Tightening torque for CFX clamps 1.5Nm.

CFX | Standard clamps with standard base

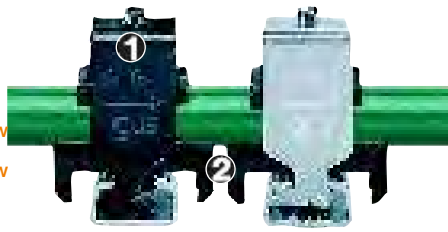
(suitable for C-profile **92.42.XXX**, can be integrated into KMA with C-profile option)

Single clamp housing, incl. bottom saddle

Part No. Steel	Part No. Stainless steel*	≤ Ø [mm]	B+2 [mm]	H [mm]	Part No. Steel	Part No. Stainless steel*	≤ Ø [mm]	B+2 [mm]	H [mm]
CFX12.1	CFX12.1.E	06 - 12	16	54	CFX30.1	CFX30.1.E	26 - 30	34	71
CFX14.1	CFX14.1.E	12 - 14	18	50	CFX34.1	CFX34.1.E	30 - 34	38	75
CFX16.1	CFX16.1.E	14 - 16	20	52	CFX38.1	CFX38.1.E	34 - 38	42	79
CFX18.1	CFX18.1.E	16 - 18	22	54	CFX42.1	CFX42.1.E	38 - 42	46	83
CFX20.1	CFX20.1.E	18 - 20	24	56	CFX46.1	CFX46.1.E	42 - 46	51	115 New
CFX22.1	CFX22.1.E	20 - 22	26	58	CFX50.1	CFX50.1.E	46 - 50	55	121 New
CFX26.1	CFX26.1.E	22 - 26	30	67					

*Stainless steel material: AISI 304

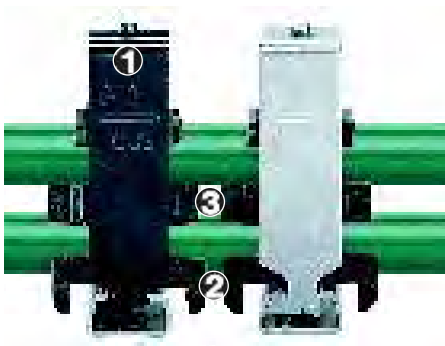
❶ Clamp
❷ Bottom saddle
❸ Stacker saddle



Double clamp housing, incl. bottom and stacker saddles

Part No. Steel	Part No. Stainless steel*	≤ Ø [mm]	B+2 [mm]	H [mm]	Part No. Steel	Part No. Stainless steel*	≤ Ø [mm]	B+2 [mm]	H [mm]
CFX12.2	CFX12.2.E	06 - 12	16	72	CFX22.2	CFX22.2.E	20 - 22	26	90
CFX14.2	CFX14.2.E	12 - 14	18	74	CFX26.2	CFX26.2.E	22 - 26	30	109
CFX16.2	CFX16.2.E	14 - 16	20	78	CFX30.2	CFX30.2.E	26 - 30	34	117
CFX18.2	CFX18.2.E	16 - 18	22	82	CFX34.2	CFX34.2.E	30 - 34	38	125
CFX20.2	CFX20.2.E	18 - 20	24	86					

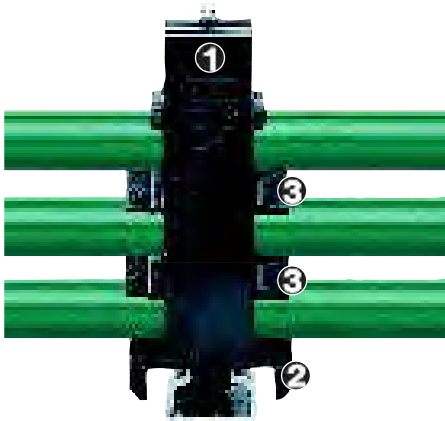
*Stainless steel material: AISI 304



Triple clamp housing, incl. bottom and stacker saddles

Part No. Steel	Part No. Stainless steel*	≤ Ø [mm]	B+2 [mm]	H [mm]	Part No. Steel	Part No. Stainless steel*	≤ Ø [mm]	B+2 [mm]	H [mm]
CFX12.3	CFX12.3.E	06 - 12	16	100	CFX18.3	CFX18.3.E	16 - 18	22	108
CFX14.3	CFX14.3.E	12 - 14	18	96	CFX20.3	CFX20.3.E	18 - 20	24	114
CFX16.3	CFX16.3.E	14 - 16	20	102	CFX22.3	CFX22.3.E	20 - 22	26	120

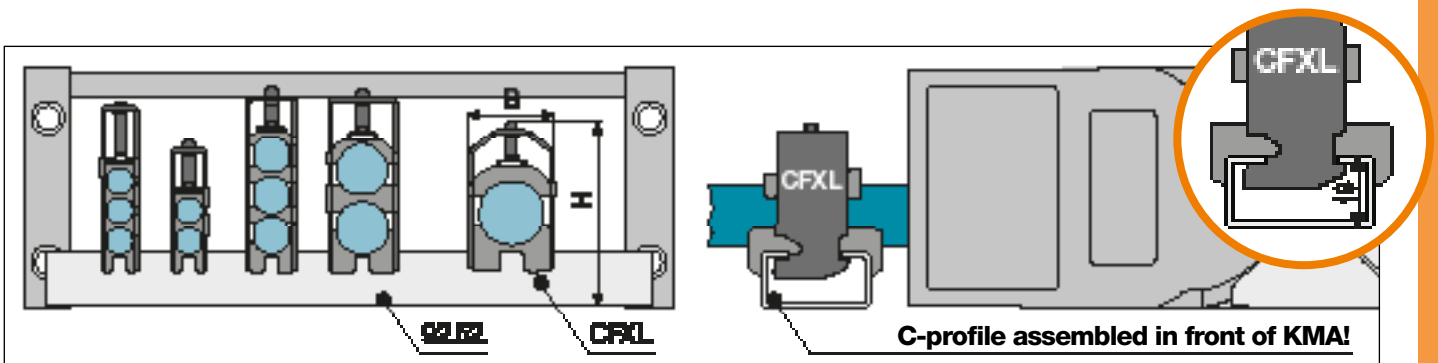
*Stainless steel material: AISI 304



Suitable C-profile for CFX clamps ▶ Page 884

chainfix strain relief | Optional CFXL clamps

Now even for larger hose and cable diameters New



The **H** dimension in the tables is based on the maximum cable diameter. Cables with smaller diameters may result in a lower overall clamp housing heights. Tightening torque for CFX clamps 1.5Nm.

CFXL | Clamps with wide base for increased holding force

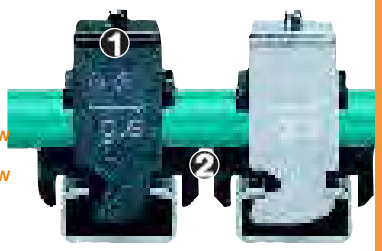
Suitable for C-profile **92.52.XXX**, C-profile always assembled in front of the e-chain®. Cannot be integrated into KMA)

Single clamp housing, incl. bottom saddle

Part No. Steel	Part No. Stainless steel*	≤ Ø [mm]	B+2 [mm]	H [mm]	Part No. Steel	Part No. Stainless steel*	≤ Ø [mm]	B+2 [mm]	H [mm]
CFXL12.1	CFXL12.1.E	06 - 12	16	60	CFXL30.1	CFXL30.1.E	26 - 30	34	77
CFXL14.1	CFXL14.1.E	12 - 14	18	56	CFXL34.1	CFXL34.1.E	30 - 34	38	81
CFXL16.1	CFXL16.1.E	14 - 16	20	58	CFXL38.1	CFXL38.1.E	34 - 38	42	85
CFXL18.1	CFXL18.1.E	16 - 18	22	60	CFXL42.1	CFXL42.1.E	38 - 42	46	89
CFXL20.1	CFXL20.1.E	18 - 20	24	62	CFX46.1	CFX46.1.E	42 - 46	51	122 New
CFXL22.1	CFXL22.1.E	20 - 22	26	64	CFX50.1	CFX50.1.E	46 - 50	55	125 New
CFXL26.1	CFXL26.1.E	22 - 26	30	73					

*Stainless steel material: AISI 304

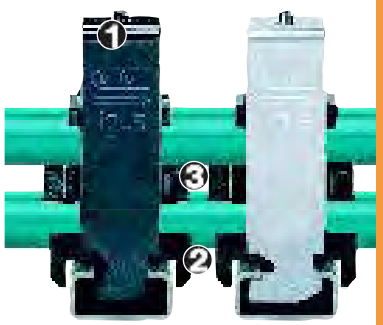
❶ Clamp
❷ Bottom saddle
❸ Stacker saddle



Double clamp housing, incl. bottom and stacker saddles

Part No. Steel	Part No. Stainless steel*	≤ Ø [mm]	B+2 [mm]	H [mm]	Part No. Steel	Part No. Stainless steel*	≤ Ø [mm]	B+2 [mm]	H [mm]
CFXL12.2	CFXL12.2.E	06 - 12	16	78	CFXL22.2	CFXL22.2.E	20 - 22	26	86
CFXL14.2	CFXL14.2.E	12 - 14	18	80	CFXL26.2	CFXL26.2.E	22 - 26	30	115
CFXL16.2	CFXL16.2.E	14 - 16	20	84	CFXL30.2	CFXL30.2.E	26 - 30	34	123
CFXL18.2	CFXL18.2.E	16 - 18	22	86	CFXL34.2	CFXL34.2.E	30 - 34	38	131
CFXL20.2	CFXL20.2.E	18 - 20	24	92					

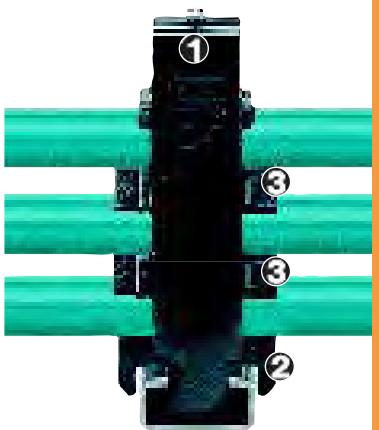
*Stainless steel material: AISI 304



Triple clamp housing, incl. bottom and stacker saddles

Part No. Steel	Part No. Stainless steel*	≤ Ø [mm]	B+2 [mm]	H [mm]	Part No. Steel	Part No. Stainless steel*	≤ Ø [mm]	B+2 [mm]	H [mm]
CFXL12.3	–	06 - 12	16	106	CFXL18.3	–	16 - 18	22	114
CFXL14.3	–	12 - 14	18	102	CFXL20.3	–	18 - 20	24	120
CFXL16.3	–	14 - 16	20	108	CFXL22.3	–	20 - 22	26	126

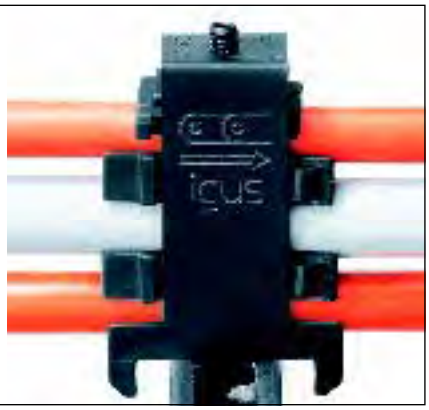
*Stainless steel material: AISI 304



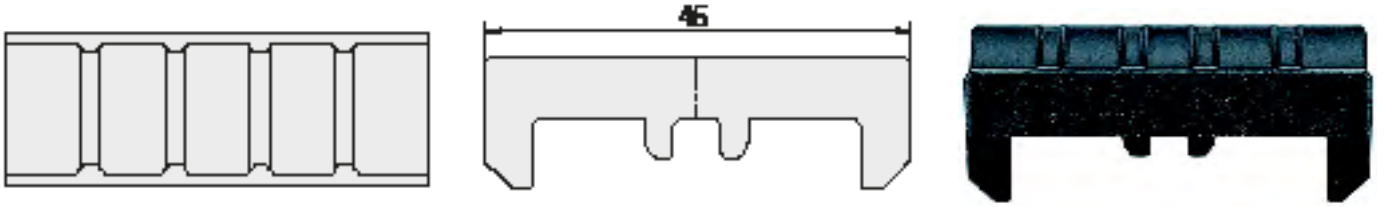
Suitable C-profile for CFXL clamps ▶ Page 884

Stacker elements for CFX and CFXL clamps

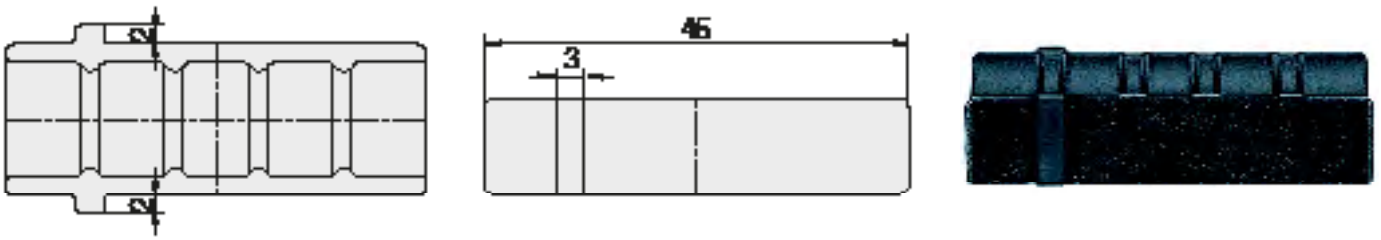
- Built-in ribs for secure grip on cables
- Optimised stacker saddle, captive due to ❶ locking spring and with ❷ spring groove for an easy and precise installation
- Conventional stacker saddle
- Long contact surface improves the clamp's stability
- More secure due to high strength



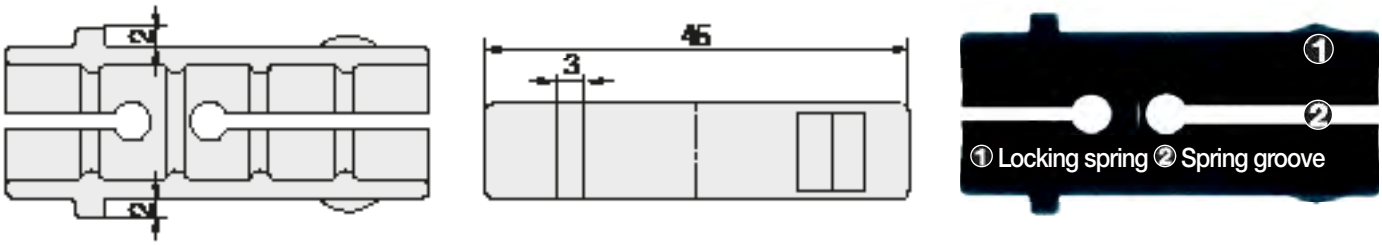
CGXX | Bottom saddle to fit into the clamp housing as an individual part



CDXX | Conventional stacker saddles for all double and triple clamps as an individual part



CD.XX.C | Optimised stacker saddles for all double and triple clamps as an individual part



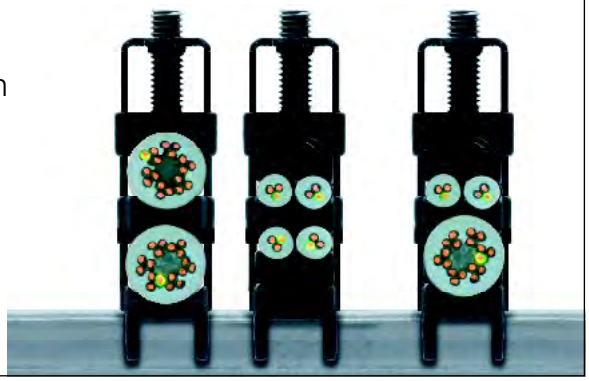
CGXX Bottom saddle	CDXX Stacker saddle	CDXX.C Stacker saddle	For clamp	≤ Ø [mm]
CG12	CD12	CD.12.C	CFX/CFXL12.X	06 - 12
CG14	CD14	CD.14.C	CFX/CFXL14.X	12 - 14
CG16	CD16	CD.16.C	CFX/CFXL16.X	14 - 16
CG18	CD18	CD.18.C	CFX/CFXL18.X	16 - 18
CG20	CD20	CD.20.C	CFX/CFXL20.X	18 - 20
CG22	CD22	CD.22.C	CFX/CFXL22.X	20 - 22

CGXX Bottom saddle	CDXX Stacker saddle	CDXX.C Stacker saddle	For clamp	≤ Ø [mm]
CG26	CD26	CD.26.C	CFX/CFXL26.X	22 - 26
CG30	CD30	CD.30.C	CFX/CFXL30.X	26 - 30
CG34	CD34	CD.34.C	CFX/CFXL34.X	30 - 34
CG38	–	–	CFX/CFXL38.X	34 - 38
CG42	–	–	CFX/CFXL42.X	38 - 42

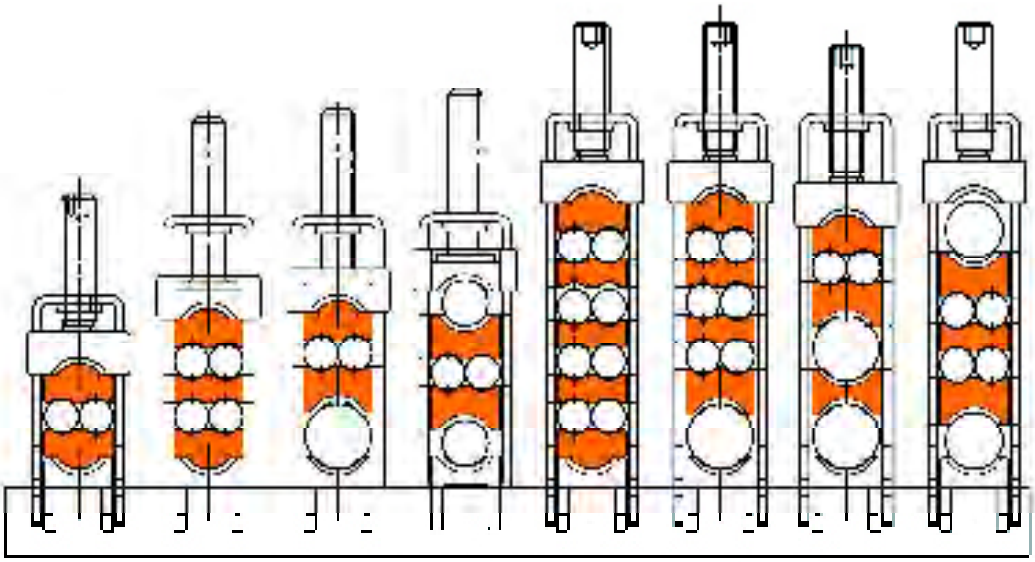
Please note: When using chainfix clamps on C-profile in the mounting bracket for series E4.38L/R4.38L, E4Q.34/H4Q.34, E4.32/H4.32/R4.32 a shortened bottom saddle has to be used. For shortened bottom saddles supplement Part No. with index "K". Example: **CFX12.1K**

CFX12 - multi-clamps

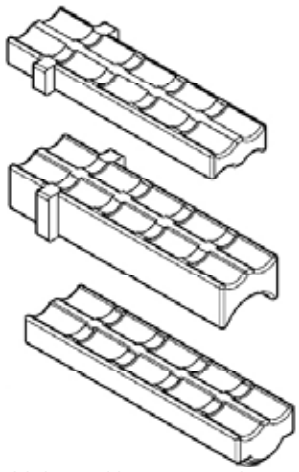
- More modular options of the proven igus® chainfix strain system
- Universal strain relief for various assembly options
- Save both time and space during installation
- Cost-effective, compact and modular
- For cable diameters from 6mm to 12mm



CFX12 | Multi-clamps, universal strain relief



CFX12.1.Z1 CFXL12.1.Z1 | CFX12.2.Z1 CFXL12.2.Z1 | CFX12.2.Z2 CFXL12.2.Z2 | CFX12.2.Z3 CFXL12.2.Z3 | CFX12.3.Z1 CFXL12.3.Z1 | CFX12.3.Z2 CFXL12.3.Z2 | CFX12.3.Z3 CFXL12.3.Z3 | CFX12.3.Z4 CFXL12.3.Z4



Universal bottom and stacker saddles

CFX12 | Multi-clamps, universal strain relief

Part No.Type					≤ Ø [mm]
CFX12.1.Z1 / CFXL12.1.Z1	2 x	–	–	–	6
CFX12.2.Z1 / CFXL12.2.Z1	2 x	1 x	–	–	6
CFX12.2.Z2 / CFXL12.2.Z2	1 x	–	1 x	–	6 + 12
CFX12.2.Z3 / CFXL12.2.Z3	–	–	2 x	–	6 + 8
CFX12.3.Z1 / CFXL12.3.Z1	2 x	3 x	–	–	6
CFX12.3.Z2 / CFXL12.3.Z2	1 x	2 x	1 x	–	6 + 12
CFX12.3.Z3 / CFXL12.3.Z3	1 x	–	1 x	1 x	6 + 12
CFX12.3.Z4 / CFXL12.3.Z4	–	1 x	2 x	–	6 + 10

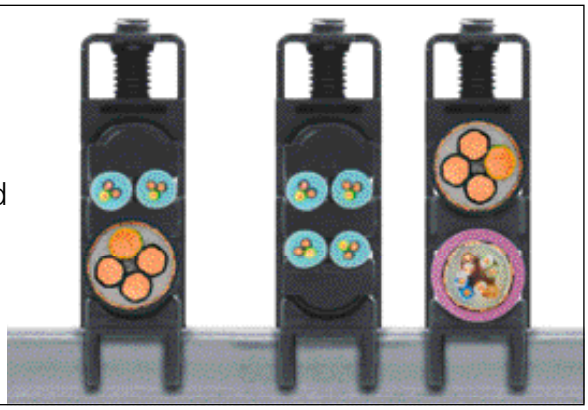
Standard material: galvanised steel. For the stainless steel version (material 1.4301/AISI 304), please add the part number with index .E. Example: **Part No. CFX.12.3.Z1.E**

Suitable C-profiles for CFX clamps ▶ Page 884

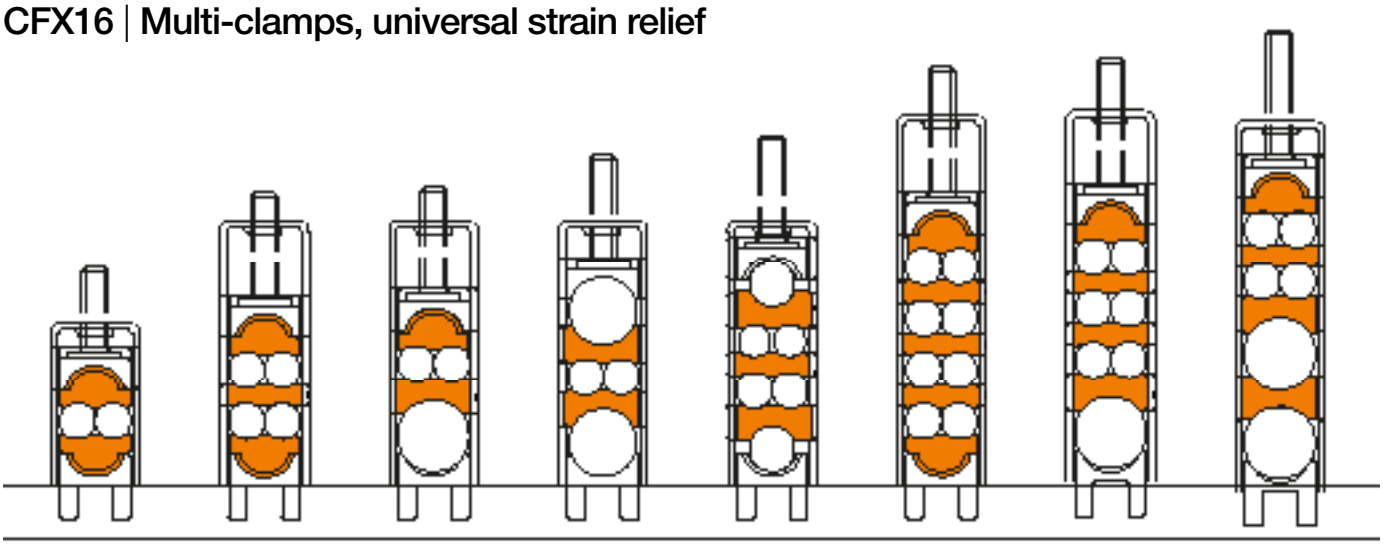
chainfix strain relief | Multi-clamps

CFX16 - multi-clamps

- Very versatile, infinite assembly options
- **CFX** clamps with standard base
- Optional **CFXL** clamps with wide base for increased holding force available
- Save both time and space during installation
- Cost-effective, compact and modular
- Maximum cable or hose diameters: 8 to 16mm



CFX16 | Multi-clamps, universal strain relief



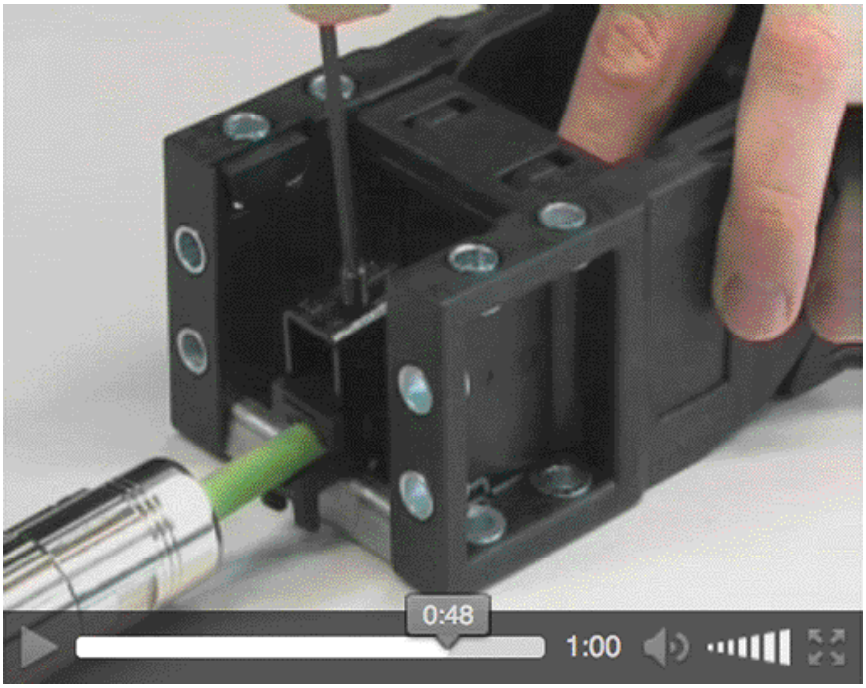
CFX16.1.Z1 CFXL16.1.Z1 | CFX16.2.Z1 CFXL16.2.Z1 | CFX16.2.Z2 CFXL16.2.Z2 | CFX16.2.Z3 CFXL16.2.Z3 | CFX16.2.Z4 CFXL16.2.Z4 | CFX16.3.Z1 CFXL16.3.Z1 | CFX16.3.Z2 CFXL16.3.Z2 | CFX16.3.Z3 CFXL16.3.Z3

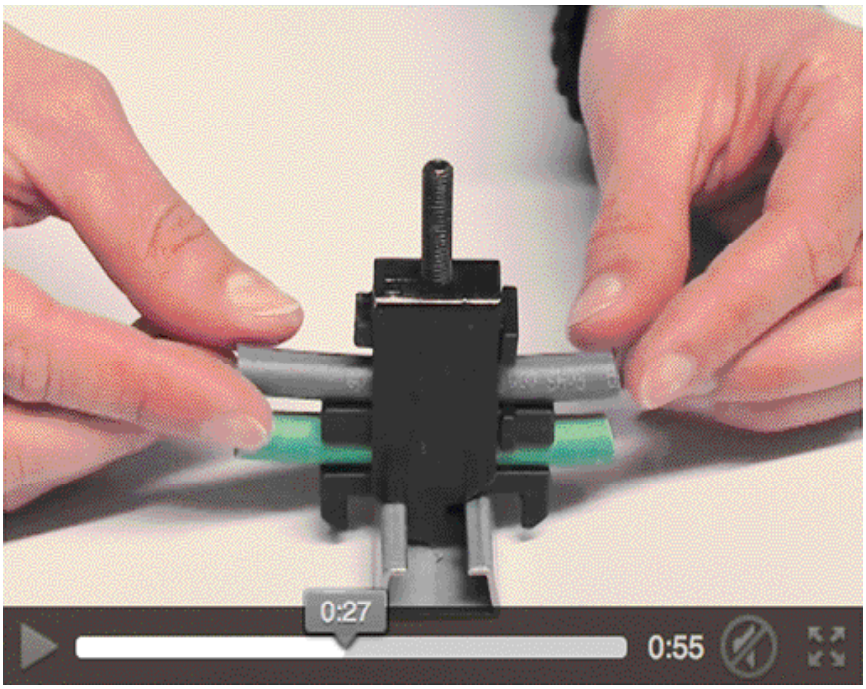
Stacker saddles - individual parts | Maximum cable or hose diameter

Part No.Type					≤ Ø [mm]
CFX16.1.Z1 / CFXL16.1.Z1	2 x	–	–	–	8
CFX16.2.Z1 / CFXL16.2.Z1	2 x	1 x	–	–	8
CFX16.2.Z2 / CFXL16.2.Z2	1 x	–	1 x	–	8 + 16
CFX16.2.Z3 / CFXL16.2.Z3	–	–	2 x	–	8 + 15
CFX16.2.Z4 / CFXL16.2.Z4	–	1 x	2 x	–	8 + 10
CFX16.3.Z1 / CFXL16.3.Z1	2 x	3 x	–	–	8
CFX16.3.Z2 / CFXL16.3.Z2	1 x	3 x	1 x	–	8 + 16
CFX16.3.Z3 / CFXL16.3.Z3	1 x	1 x	2 x	1 x	8 + 16

Suitable C-profiles for CFX clamps ▶ Page 884

ASEAN2023



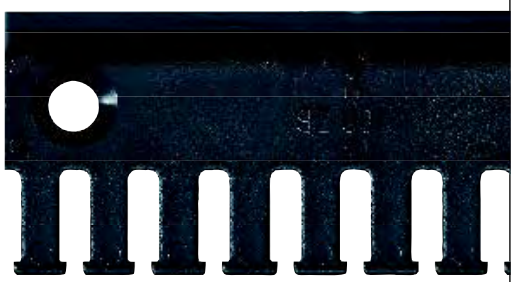


You can find assembly videos for chainfix clamps online at ▶ www.igus-asean.com/chainfix

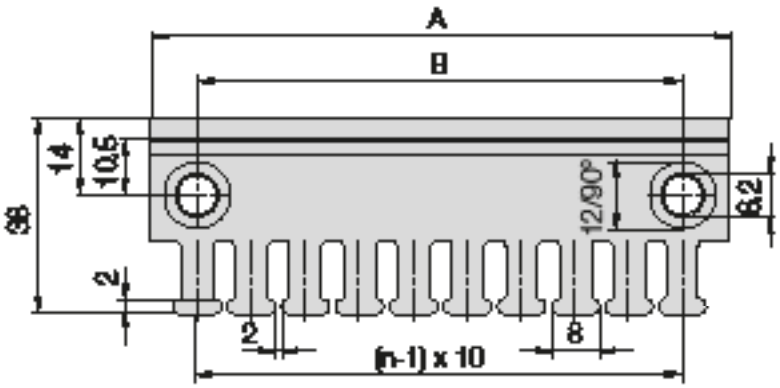
chainfix strain relief | Tiewrap plates | Universal

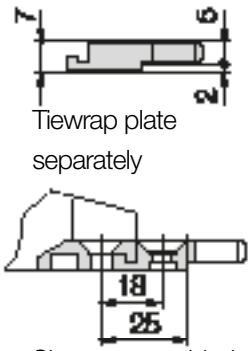
Option 1A: chainfix tiewrap plate series 2000
Available as an individual component

- Screwed on KMA with C-profile
  (KMA = polymer metal mounting bracket)
- Can be clipped onto some mounting brackets
- Can be used as an individual part in switchgear cabinets or in the assembly of machines



Series 2000 | Tiewrap plate as an individual part





Tiewrap plate separately

Shown assembled

Part No.Tiewrap plate	Number of teeth [n]	A [mm]	B [mm]	C [mm]	Centre bore – = no / + = yes
2020.ZB*	3	30	15	–	–
2030.ZB	4	40	20	–	–
2040.ZB	5	50	30	–	–
2050.ZB	6	58	40	–	–
2070.ZB	8	80	60	–	–
2090.ZB (= 2030.ZB + 2040.ZB)**	9	90	–	–	–
2100.ZB	10	100	80	–	–
2125.ZB (= 2050.ZB + 2050.ZB)**	12	120	–	–	–

***Not suitable for E4.21.030.** series **Strain relief consisting of 2 tiewrap plates

Cable tiewraps as individual parts

Part No. cable tiewraps 100-piece bag	Width x length [mm]	≤ Ø [mm]	Holding force [N]
CFB.001	4.8 x 150	36	222 N

For the following igus® series

easy chain®
- E200/Z200

E2.1
- E2.26

E2/000
- 1400/1500/1450/1480
- 2400/2500/2450/2480
- 255

E2 R100
- R117/R118

E2 R
- R48

E4.1
- E4.21

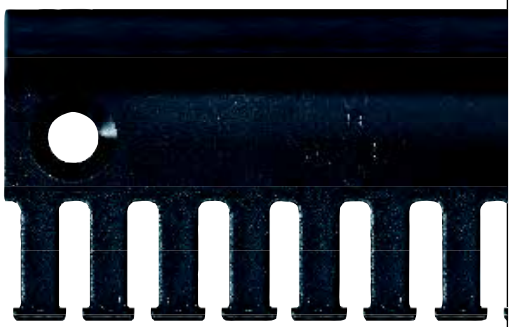
E6.1
- E61.29/EF61.29
- E61.35
- E61.40

E6
- E6.29/R6.29
- E6.35
- E6.40

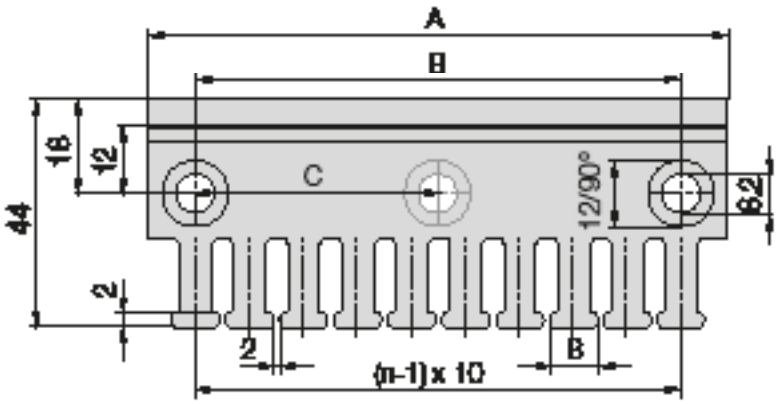
ASEAN2023

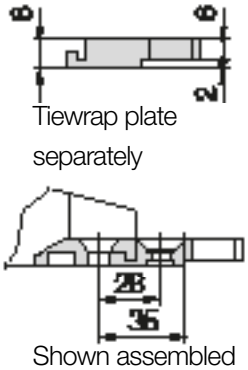
Option 1B: chainfix tiewrap plate Series 3000
Available as an individual component

- Screwed on KMA with C-profile (KMA = polymer metal mounting bracket)
- Can be clipped onto some mounting brackets
- Can be used as an individual part in switchgear cabinets or in the assembly of machines



Series 3000 | tiewrap plate as an individual part





Tiewrap plate separately

Shown assembled

Part No.Tiewrap plate	Number of teeth [n]	A [mm]	B [mm]	C [mm]	Centre bore – = no / + = yes
3050.ZB	5	50	30	–	–
3075.ZB	7	75	55	–	–
3100.ZB	10	100	80	–	–
3115.ZB	11	115	95	–	–
3125.ZB	12	125	105	–	–
3150.ZB	15	150	130	–	–
3175.ZB	17	175	155	–	–
3200.ZB	20	200	180	90	+
3225.ZB	22	225	205	102.5	+
3250.ZB	25	250	230	115	+

Cable tiewraps as individual parts

Part No. cable tiewraps 100-piece bag	Width x length [mm]	≤ Ø [mm]	Holding force [N]
CFB.001	4.8 x 150	36	222 N

For the following igus® series

easy chain®
- E26/Z26
- E300/Z300

E2.1
- E2.38
- E2.48

E2/000
- 2600/2700/2650/2680
- 3400/3500/3450/3480

E4.1L
- E4.38L/R4.38L
- E4.48L/R4.48L
- E4.64L

E4Q
- E4Q.34/H4Q.34
- E4Q.44/H4Q.44
- E4Q.58/H4Q.58
- E4Q.82/H4Q.82

E4.1
- E4.32/H4.32/R4.32
- E4.42/H4.42/R4.42
- E4.56/H4.56/R4.56
- E4.80/H4.80/R4.80
- E4.112/R4.112
- E4.162
- 800
- 840

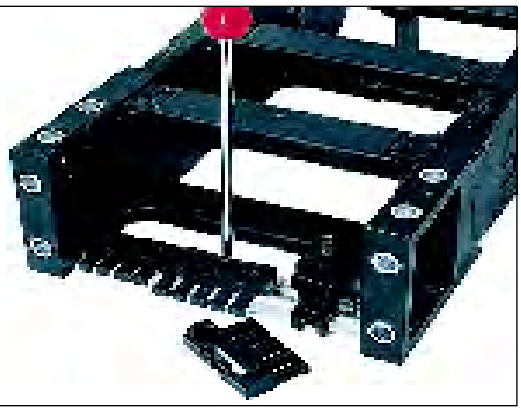
E4/light
- 14040/14140/18840
- 14240/14340
- 14550/14650/19050
- 15050/15150/19850
- 15250/15350
- 1640/1608

E6.1
- E61.52
- E61.62
- E61.80

E6
- E6.52/R6.52
- E6.62
- E6.80L
- E6.80

Option 1: chainfix tiewrap plates with clip-on connection to C-profile

- Can be clipped into the KMA C-profile
- Easy to assemble without any screws
- Easy to remove with screwdriver but secure when in use
- Can be used as an individual part in switchgear cabinets or in the assembly of machines



Option 1 | Tiewrap plate for C-profile

Part No. Tiewrap plate	Width [mm]	Number of teeth	For series
3050.ZC	50	5	For all mounting brackets with C-profile
3075.ZC	75	7	For all mounting brackets with C-profile

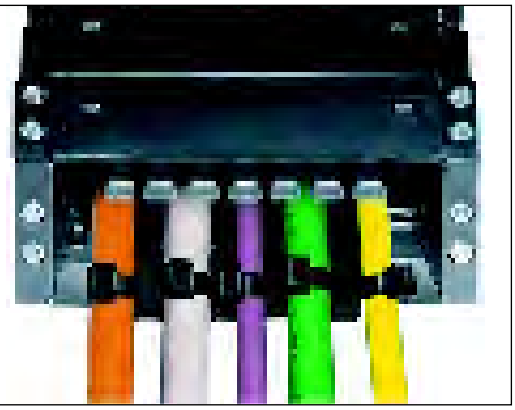
For the following igus® series

C-profile

- For all mounting brackets with C-profile

Option 2: integrated strain relief for R series E2 e-tubes

- Strain relief integrates completely into the e-tube
- Easy to assemble without any screws
- Can be used as an individual part in switchgear cabinets or in the assembly of machines



Option 2 | Tiewrap plate for R series E2 e-tubes

Part No. Tiewrap plate	Width [mm]	Number of teeth	For series	
3050.Z*	50	5	**R68**	
3075.Z	75	7	**R68**	
5850.Z	46	4	**R58**	
5835.Z	32	3	**R58**	for series 58.050. ***Bi*** 50 only.

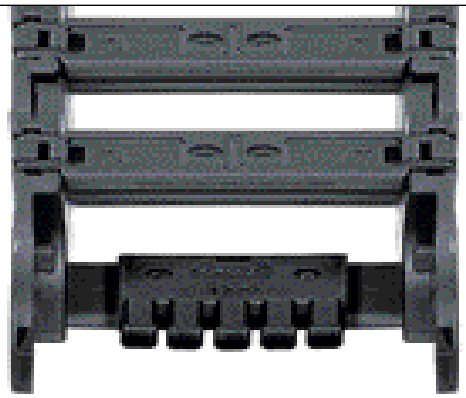
*Only possible from e-chain® width 100mm and larger

For the following igus® series

E2 R
● R58
● R68

Option 3: tiewrap plates for fixed crossbars

- Can be clipped on fixed crossbars
- For use with many harnessed cables
- If the KMA is too small for C-profile
- Easy to assemble without any screws



Option 3 | Tiewrap plate for fixed crossbars

Part No.Tiewrap plate	Width [mm]	Number of teeth	For series
2050.Z	60	6	E/Z200, 2400/2500, 2600/2700
3050.Z	50	5	3400/3500
3075.Z	74	7	3400/3500
C.2.522.050.ZS New	48	4	E2.38, E2.48
C.2.522.065.ZS	63	6	E2.38, E2.48
C.2.522.075.ZS	73	7	E2.38, E2.48

For the following igus® series

easy chain®

- E200/Z200

E2.1

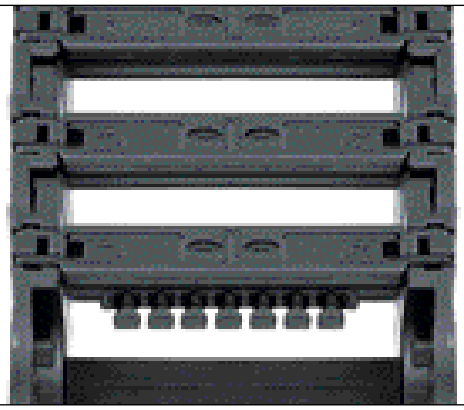
- E2.38
- E2.48

E2/000

- 2400/2500
- 2600/2700
- 3400/3500

Option 4: chainfix tiewrap plates for openable crossbars

- Can be clipped on openable crossbars
- For use with many harnessed cables
- If the KMA is too small for C-profile
- Easy to assemble without any screws



Option 4 | Tiewrap plate for openable crossbars

Part No. Tiewrap plate	Width [mm]	Number of teeth	For series
2050.Z	60	6	2600/2700/2650, E4.28, E61.52, E6.52
3035.ZS	35	3	3400/3500/3450
3050.ZS	50	5	3400/3500/3450
3075.ZS	75	7	3400/3500/3450
3850.ZS	48	5	E4.32/H4.32, E4.42/H4.42, 14240/14340, 15250/15350, E61.62, E6.62
3875.ZS New	74	7	E4.32/H4.32, E4.42/H4.42, 14240/14340, 15250/15350, E61.62, E6.62
4550.ZS	74	5	E4.56/H4.56, E4.80/H4.80, E4.112, 14040/14140,14550/14650, 15050/15150, E61.80, E6.80L, E6.80, 1640
4575.ZS	80	7	E4.56/H4.56, E4.80/H4.80, E4.112, 14040/14140, 14550/14650, 15050/15150, E61.80, E6.80L, E6.80, 1640
C622.100.ZS		8	E4.38L, E4.48L

For the following igus® series

E2/000
- 2600/2700/2650
- 3400/3500/3450

E4.1L
- E4.38L
- E4.48L

E4.1
- E4.28
- E4.32/H4.32
- E4.42/H4.42
- E4.56/H4.56
- E4.80/H4.80
- E4.112

E4/light
- 14040/14140
- 14240/14340
- 14550/14650
- 15050/15150
- 15250/15350
- 1640

E6
- E6.52
- E6.62
- E6.80L
- E6.80

E6.1
- E61.52
- E61.62
- E61.80

chainfix strain relief elements | Honeycomb strain relief

CFU.V Honeycomb strain relief | Product range

CFU.V strain relief with innovative honeycomb design for fast assembly and high holding force.

- 80% faster filling (compared to CFX strain relief), openable from both sides for assembly in seconds
- Flexible honeycomb design for increased holding force
- Tribologically optimised honeycomb design for the best hold
- Different cables with diameters from 2mm to 17mm can be strain-relieved without problems
- Cables can be replaced easily
- Easy positioning of cables
- CFU.V cannot be attached to mounting bracket, but has to be installed beforehand on-site



CFU.V | Honeycomb strain relief | Product range

Part No.CFU.V	*Bi* [mm]	Height [mm]	For series
CFU.V.64.40.100.25.01	100	62	See table on the right
CFU.V.64.40.125.25.01	125	62	See table on the right
CFU.V.64.40.150.25.01	150	62	See table on the right
CFU.V.64.40.175.25.01	175	62	See table on the right
CFU.V.64.40.200.25.01	200	62	See table on the right
CFU.V.64.40.225.25.01	225	62	See table on the right
CFU.V.64.40.250.25.01	250	62	See table on the right
CFU.V.64.40.275.25.01	275	62	See table on the right
CFU.V.64.40.300.25.01	300	62	See table on the right
CFU.V.64.40.325.25.01	325	62	See table on the right
CFU.V.64.40.350.25.01	350	62	See table on the right
CFU.V.64.40.375.25.01	375	62	See table on the right
CFU.V.64.40.400.25.01	400	62	See table on the right

For the following igus® series

E2.1
E2.48

E2/000
- 3400/3500/3450/3480

R2.1
- R2.48

E2 R100
- 167/68

E2 R
- R68

E4.1L
- E4.48L/R4.48L

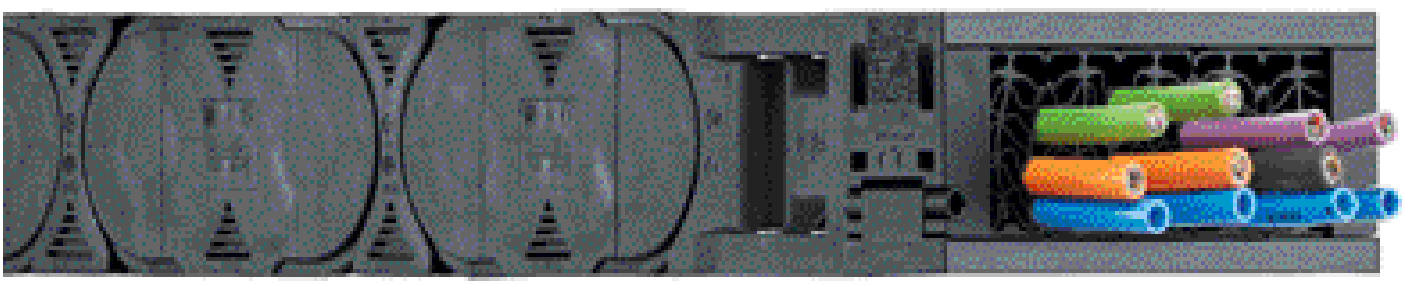
E4.1
- E4.42/H4.42/R4.42

E6.1
- E61.52*

E6
- E6.52/R6.52*

*Available upon request.
Delivery time upon request.

reddot design award
winner 2018



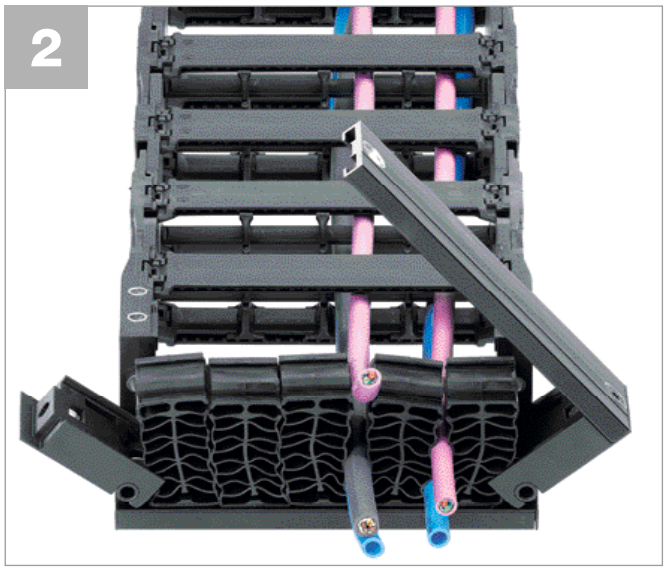
Installation note: 80% faster (compared to CFX strain relief) for different cable types in different chambers, fully flexible, with strong holding force and easy assembly.

chainfix strain relief elements | Honeycomb strain relief

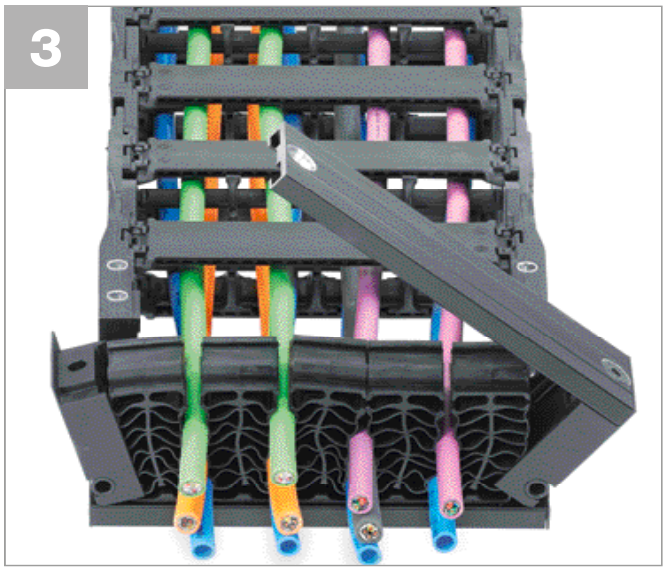
CFU.V Honeycomb strain relief | Assembly instruction | Design



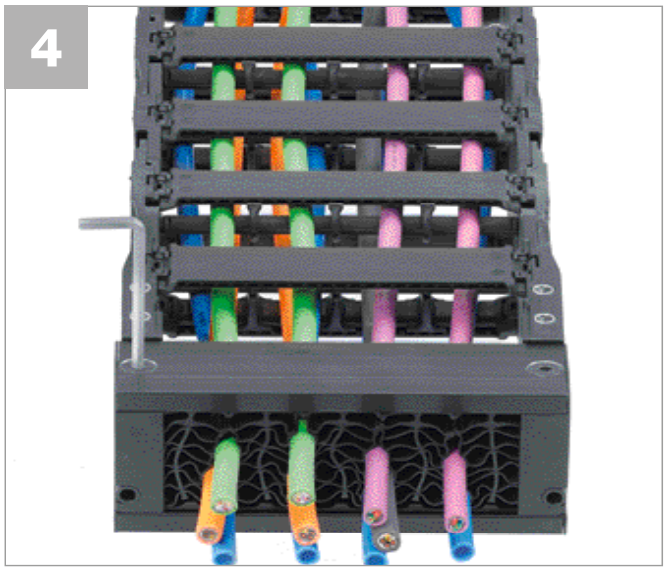
Remove the top side with a hexagon wrench, openable from both sides ...



... fill the CFU.V honeycomb with different cables (with diameters from 2mm to 17mm)



Close the top side ...



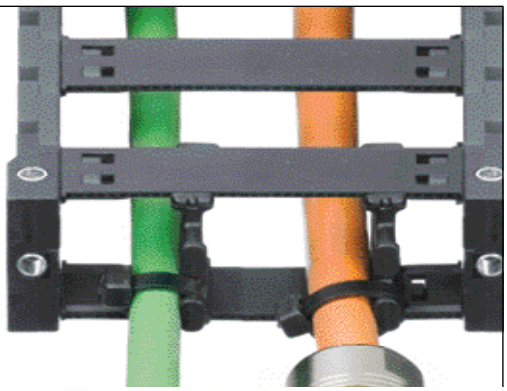
... and screw the top side down with a hexagon wrench

An installation video can be found on the Internet at
▶ www.igus-asean.com/cfu-honeycomb

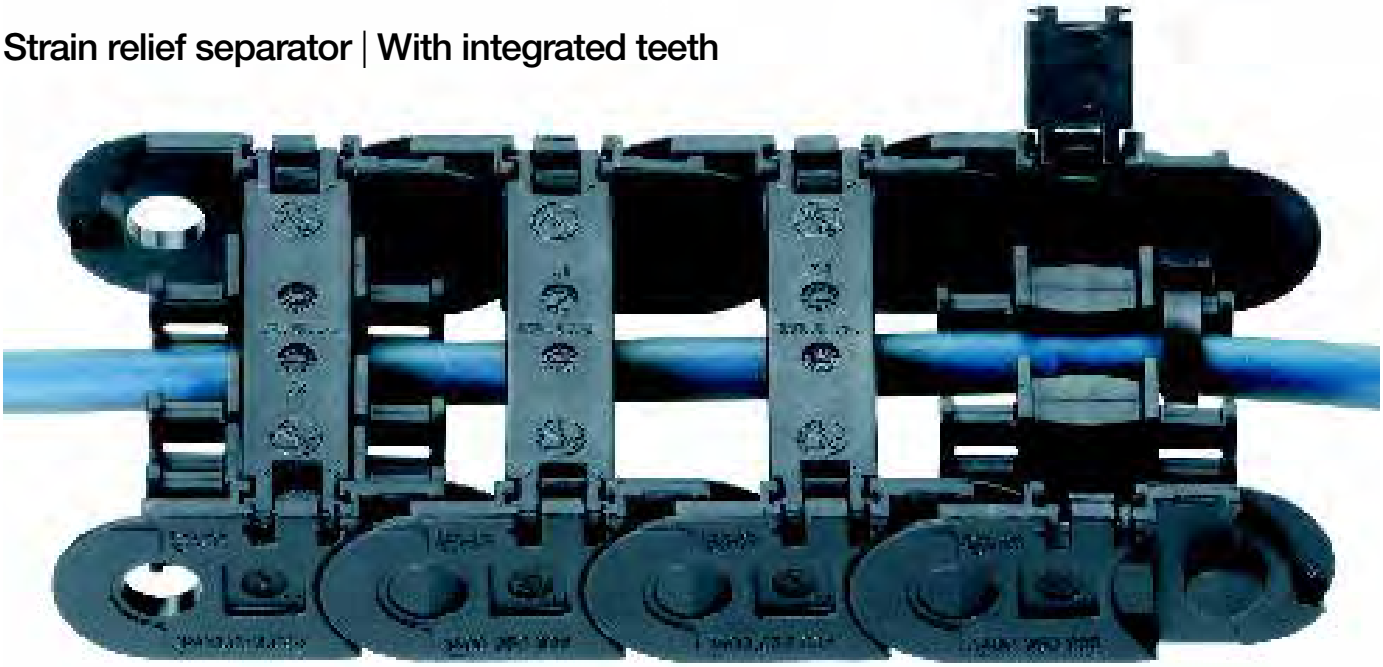
chainfix strain relief | Clip-on solutions

Strain relief separators - separators with integrated strain relief teeth

- To be fitted at the first and last e-chain® link
- For restricted space conditions
- Easy to assemble without any screws
- The number ***n*** depends on the selection of the cables (diameter, type) and the available space



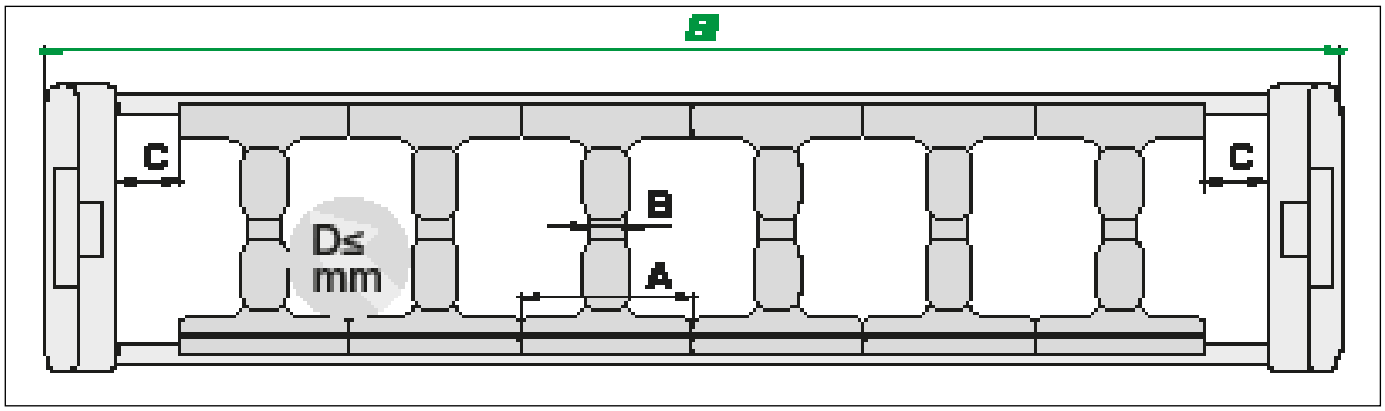
Strain relief separator | With integrated teeth



Strain relief separators are assembled either at the first or last e-chain® link. Alternatively they can be fitted within the e-chain® as an intermediate strain relief

chainfix strain relief | Clip-on solutions

Product range | Installation dimensions



Strain relief separator | Product range | Installation dimensions

Part No.	For series	Number of teeth	A [mm]	B [mm]	C [mm]	D [mm]
26.Z*	E2.26	6	12	3	–	7
21.1.Z	1400/1500	4	10	4	–	6
2020.Z	2400/2500	2	10	4	–	6
2020.ZR	2450/2480	4	10	4	–	6
262.Z	2600/2700	3	10	4	–	6
301.Z	3400/3500	3	18	4	–	14
34501.Z	3450/3480	6	14	4	–	10
1585.01.Z	R157/R158	6	22	4	–	18
1685.01.Z	R167/R168	8	22	4	–	18
481.ZR	R48	4	10	3.5	10	6.5
R2.26.Z	R2.26/R2.26i	4	10	3	–	6
R2.40.Z	R2.40/R2i.40	8	12	3	–	7
31.Z	E4.31L/R4.31L	4	9	4	6	6
38.Z	E4.38L/R4.38L	4	14	4.5	8	15
48.Z	E4.48L/R4.48L	4	14	4.5	8	20
48.ZS	E4.48L/R4.48L	4	14	4.5	8	20
T2103.Z	E4.21	2	8	4	1	4
28.Z	E4.28	4	10	4	–	6
28.ZT	R4.28	4	10	4	15	6
E6.29.02.Z	T3.29	2	8	4	1	4
E6.29.02.Z	E6.29/E61.29	2	8	4	1	4
R6.29.02.Z	R6.29	2	10	4	10	4
E6.35.02.Z	E6.35/E61.35	3	8	4	1	4
E6.40.02.Z	E6.40/E61.40	3	13	4	–	8

*For KMA mounting bracket only

For the following igus® series

E2.1
- E2.26

E2/000
- 1400/1500
- 2400/2500
- 2450/2480
- 2600/2700
- 3400/3500
- 3450/3480

E2 R100
- R157/R158
- R167/R168

E2 R
- R48

R2.1
- R2.26/R2i.26
- R2i.40/R2i.40

E4.1L
- E4.31L/R4.31L
- E4.38L/R4.38L
- E4.48L/R4.48L

E4.1
- E4.21
- E4.28/R4.28

T3
- T3.29

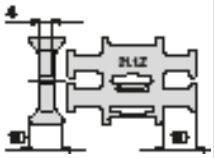
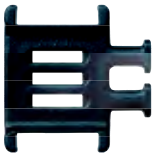
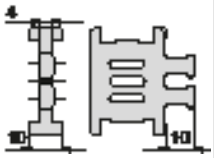
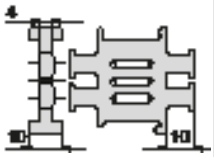
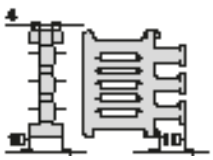
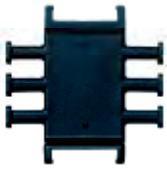
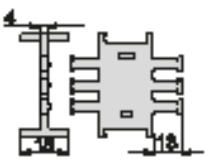
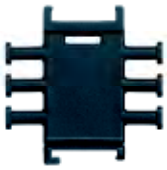
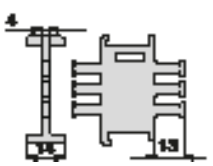
E6.1
- E61.29/EF61.29
- E61.35
- E61.40

E6
- E6.29
- R6.29
- E6.35
- E6.40

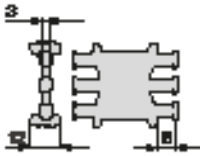
chainfix strain relief | Clip-on solutions

Strain relief separator | Overview

For series E2/000

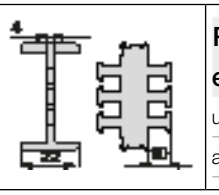
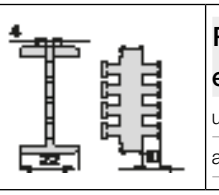
		1400/1500 e-chains® unassembled 21.1.Z assembled 21.1.Z.1
		2400/2500 e-chains® unassembled 2020.Z assembled 2120.Z
		2450/2480 e-tubes unassembled 2020.ZR assembled 2120.ZR
		2600/2700 e-chains® unassembled 262.Z assembled 263.Z
		3400/3500 e-chains® unassembled 301.Z assembled 311.Z
		3450/3480 e-tubes unassembled 34501.Z assembled 34511.Z

For series E2.1 e-chains®

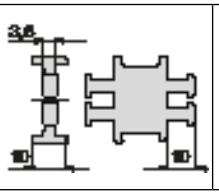
		E2.26·E2i.26* e-chains® unassembled 26.Z assembled 26.Z.1

*For KMA mounting bracket only

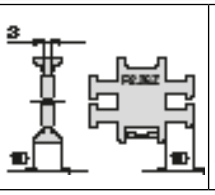
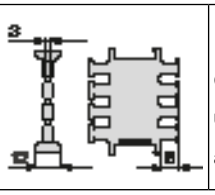
For series R100 E2 e-tubes

		R157/R158 e-tubes unassembled 1585.01.Z assembled 1586.01.Z
		R167/R168 e-tubes unassembled 1685.01.Z assembled 1686.01.Z

For series R E2 e-tubes

		R48 e-tubes unassembled 481.ZR assembled 482.ZR

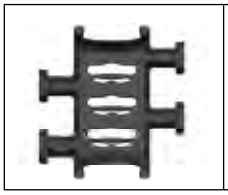
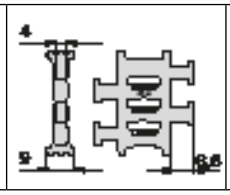
For series R2.1 e-tubes

		R2.26·R2i.26 e-tubes unassembled R2.26.Z assembled R2.26.Z.1
		R2.40·R2i.40 e-tubes unassembled R2.40.Z assembled R2.40.Z.1

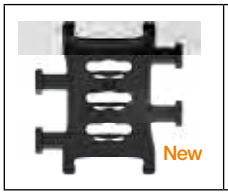
chainfix strain relief | Clip-on solutions

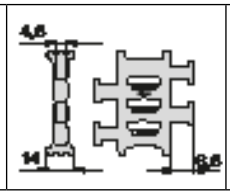
Strain relief separator | Overview

For series E4.1L

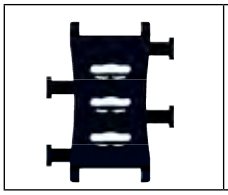
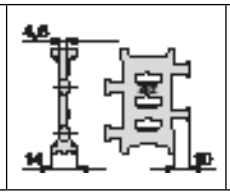



E4.31L/R4.31L
e-chains®/e-tubes
unassembled 31.Z
assembled 31.Z.1

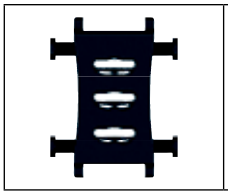
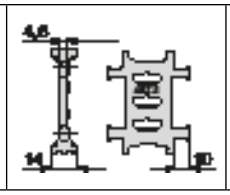




E4.38L/R4.38L
e-chains®/e-tubes
unassembled 38.Z
assembled 38.Z.1

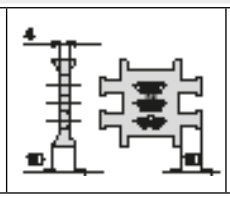



E4.48L/R4.48L
e-chains®/e-tubes
unassembled 48.Z
assembled 48.Z.1

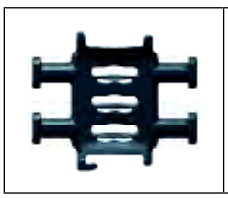
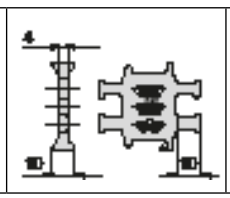



E4.48L/R4.48L
e-chains®/e-tubes
unassembled 48.ZS
assembled 48.ZS.1

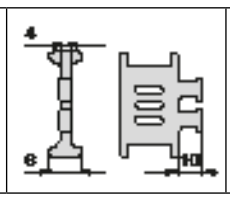
For series E4.1

E4.28
e-chains®
unassembled 28.Z
assembled 28.Z.1

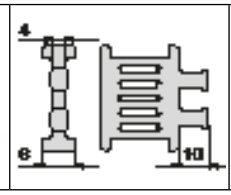



R4.28
e-tubes
unassembled 28.ZT
assembled 28.ZT.1

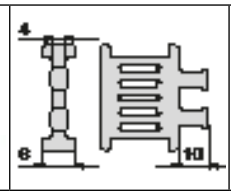
E4.21
e-chains®
unassembled T2103.Z
assembled T2113.Z

For series T3

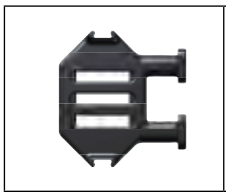
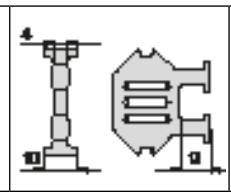



T3.29
e-chains®
unassembled E6.29.02.Z
assembled E6.29.12.Z

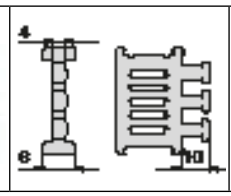
For series E6.1 / E6 / R6

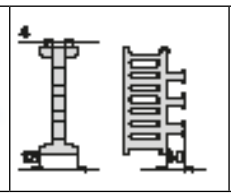
E6.29/E61.29
e-chains®
unassembled E6.29.02.Z
assembled E6.29.12.Z

R6.29
e-tubes
unassembled R6.29.02.Z
assembled R6.29.12.Z

E6.35/E61.35
e-chains®
unassembled E6.35.02.Z
assembled E6.35.12.Z

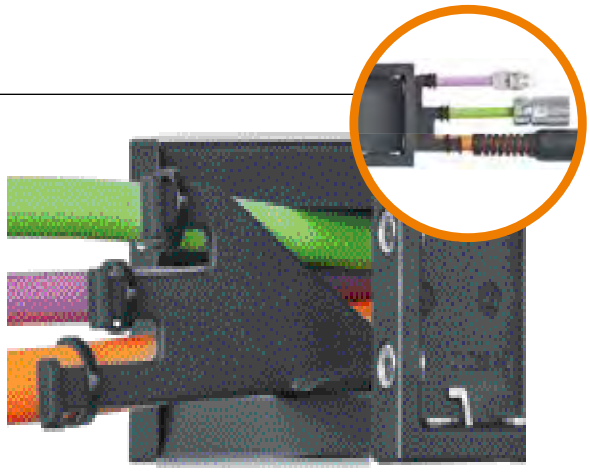



E6.40/E61.40
e-chains®
unassembled E6.40.02.Z
assembled E6.40.12.Z

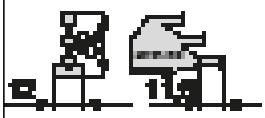
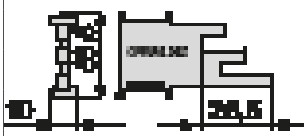
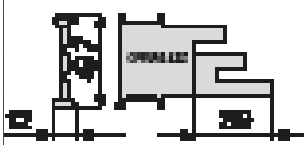
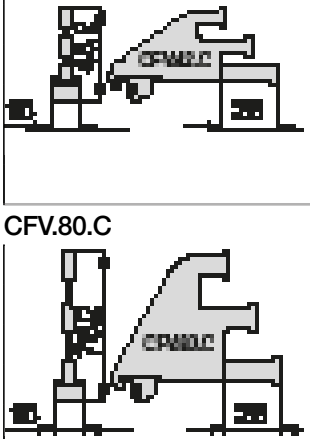
chainfix strain relief | Clip-on solutions

CFV strain relief element - for a stepped strain relief for use outside of the e-chain® section

- Easy strain relief for cables, even in fully enclosed tubes and with different connectors
- For e-chains® and e-tubes
- Subsequent installation into KMA mounting bracket or top-hat (DIN) rail 15 (TS92.31) possible



CFV | Strain relief elements with tiewrap teeth

Part No.	For series	Inner height *hi* [mm]	For use in
CFV.31.N15	E4.31L/R4.31L	31	Top-hat (DIN) rail 15 (TS92.31)
			
CFV.R2.26.Z	R2.26	26	KMA*
			
CFV.R2.40.Z	R2.40	40	KMA*
			
CFV.42.C	2600/2700/2650/2680	35	KMA*
	3400/3500/3450/3480	45	KMA*
	E4Q.34/H4Q.34	32	KMA*
	E4.32/H4.32/R4.32	32	KMA*
	E4Q.44/H4Q.44	42	KMA*
	E4.42/H4.42/R4.42	42	KMA*
	E4.38L/R4.38L	38	KMA*
	E4.48L/R4.48L	48	KMA*
CFV.80.C	R2.75	75	KMA*
	E4.64L	64	KMA*
	E4Q.58/H4Q.58	56	KMA*
	E4.56/H4.56/R4.56	56	KMA*
	E4Q.82/H4Q.82	80	KMA*
	E4.80/H4.80/R4.80	80	KMA*

*KMA = polymer metal mounting bracket

For the following igus® series

E2/000
- 2600/2700
- 2650/2680
- 3400/3500
- 3450/3480

R2.1
- R2.26
- R2.40

E4.1L
- E4.31L/R4.31L
- E4.38L/R4.38L
- E4.48L/R4.48L
- E4.64L

E4Q
- E4Q.34/H4Q.34
- E4Q.44/H4Q.44
- E4Q.58/H4Q.58
- E4Q.82/H4Q.82

E4.1
- E4.32/H4.32/R4.32
- E4.42/H4.42/R4.42
- E4.56/H4.56/R4.56
- E4.80/H4.80/R4.80



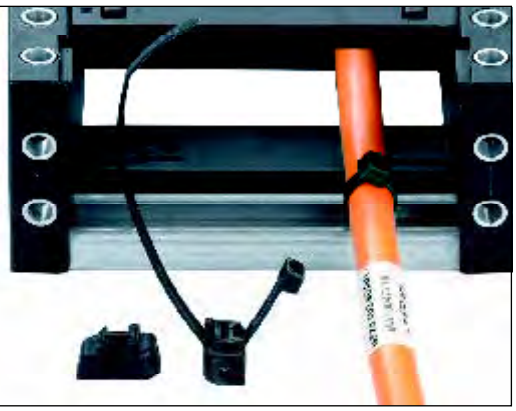
CFV stepped strain relief element easily clipped in from above

ASEAN2023

chainfix strain relief | Clip-on solutions

Option 1: CFN nuggets for C-profile
Option 2: CFN nuggets for top-hat (DIN) rail 35

- Universal cable fixation in C-profile or clip onto a standard top-hat (DIN) rail 35
- Simple strain relief with cable tiewraps
- Very little space required
- Easy to assemble without any screws and tools
- Adjustable to every e-chain® filling



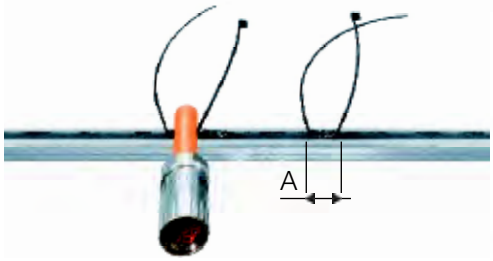
Option 1 | CFN nuggets for C-profile

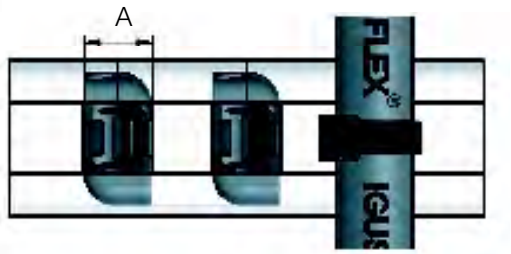
Part No. Nugget	For C-profiles	≤ Ø [mm]	A [mm]
CFN.20	92.42 ... /92.42 ... E	20	10.8
CFN.30.52	92.52 ... /92.52 ... E	30	16.4

For the following igus® series

C-profile

- For all mounting brackets with C-profile





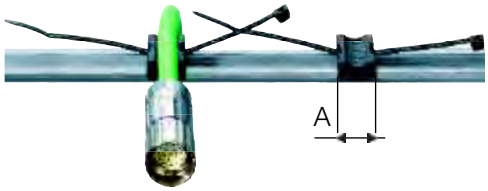
Option 2 | CFN nuggets for top-hat (DIN) rail 35

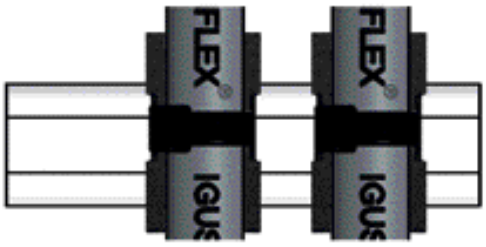
Part No. Nugget	For top-hat (DIN) rails	≤ Ø [mm]	A [mm]
CFN.20.N35	Top-hat (DIN) rail 35	20	20

For the following igus® series

Top-hat (DIN) rail

- Top-hat (DIN) rail 35





chainfix strain relief | Strain relief connector system

CFB strain relief connector system - polymer, modular, can be mounted into the C-profile

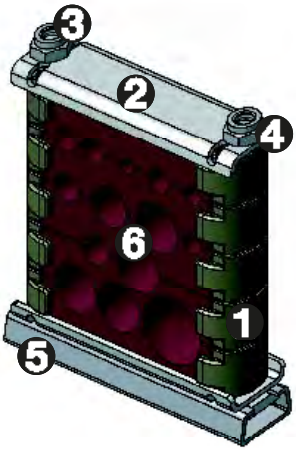
- Customised strain relief solutions can be offered
- 2 options available, cost-effective and strong
- Fast assembly with bolted connection
- Can be mounted in the mounting bracket or in front of the e-chain®
- Customised production from 1 piece



CFB strain relief connector system | Series 907.881

Please consult igus® when designing this product

Parts list Description	Part No.	Quantity
1 Outer fixing block	**CFB20.1**	N x 2
2 Clamping bar	**907.881.1.XXX**	2
3 Threaded bolt with plate	**907.825.2.LLL**	2
4 Hexagon nut M8	**MAT 0040012**	2
5 C-profile (part of KMA)	**92.42.XXX**	1
6 Strain relief block	Customer-specific	1



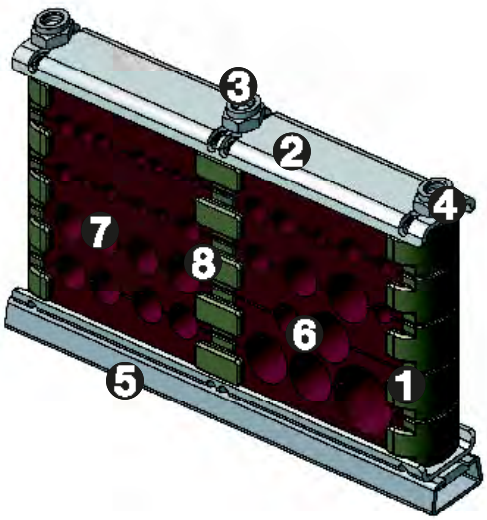
Order key
907.881.XXX.N

N = Number of layers of fixing blocks
XXX = *Bi* - 3mm (mounting bracket)
Part No. with version 881

CFB strain relief connector system | Series 907.825

Please consult igus® when designing this product

Parts list Description	Part No.	Quantity
1 Outer fixing block	**CFB20.1**	N x 2
2 Clamping bar	**907.825.1.XXX**	2
3 Threaded bolt with plate	**907.825.2.LLL**	3
4 Hexagon nut M8	**MAT 0040012**	3
5 C-profile (part of KMA)	**92.42.XXX**	1
6 Strain relief block	Customer-specific	1
7 Strain relief block	Customer-specific	1
8 Inner fixing block	**CFB20.2**	N

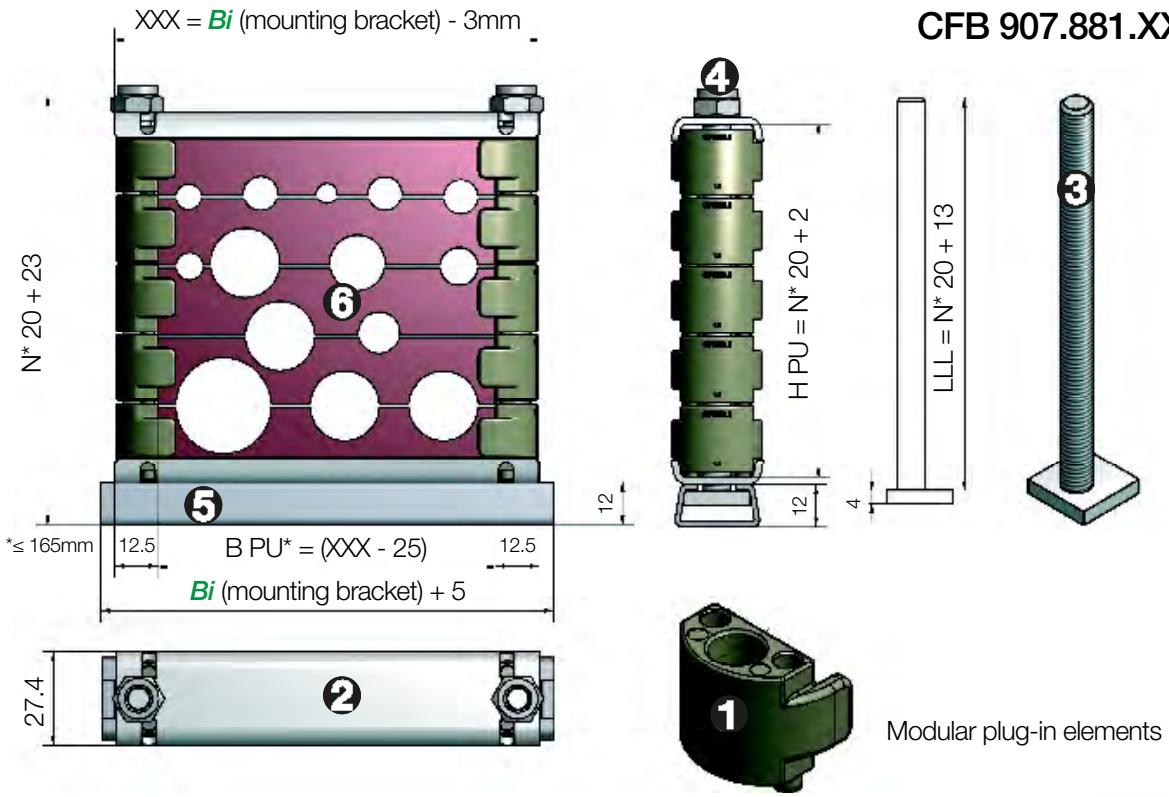


Order key
907.825.XXX.N

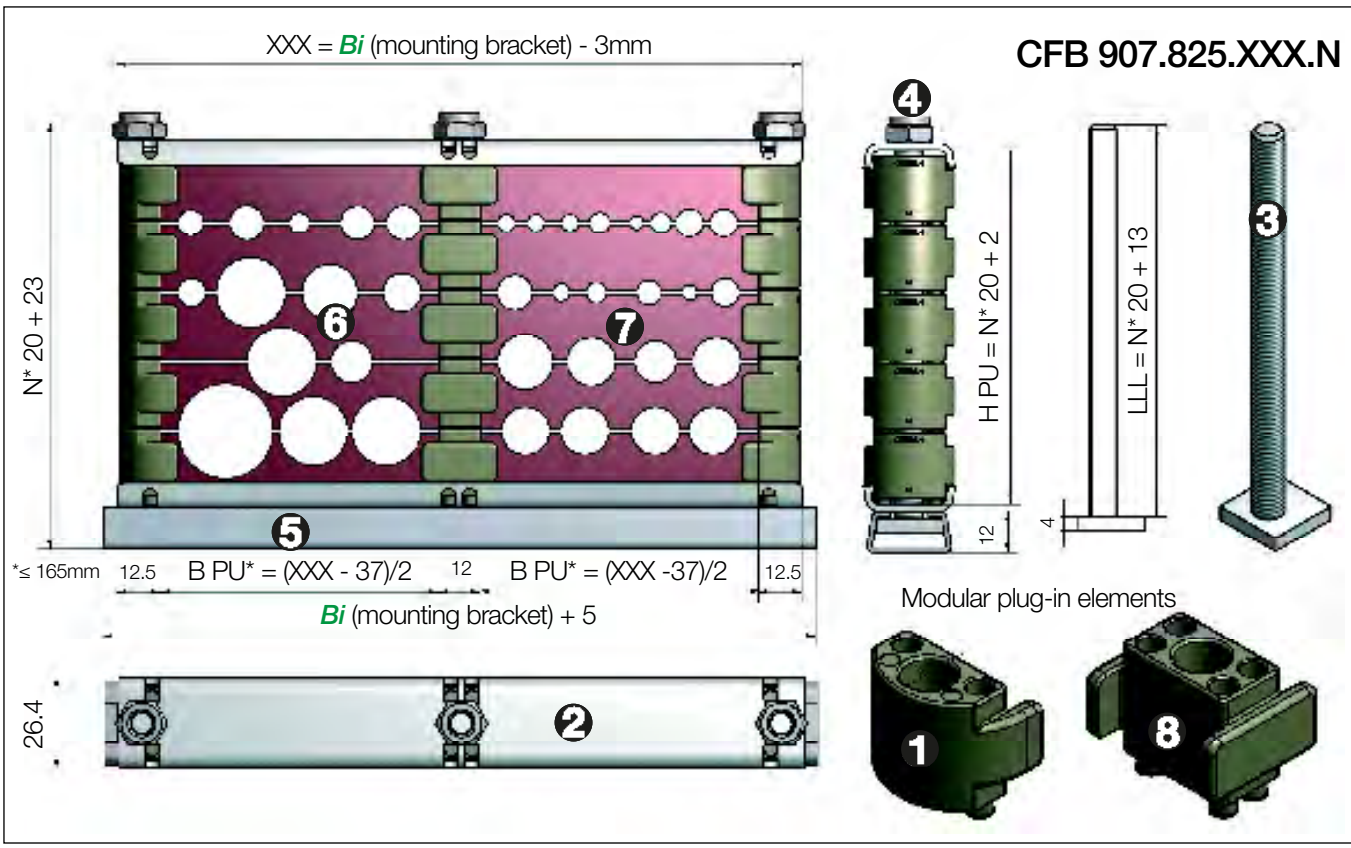
N = Number of layers of fixing blocks
XXX = *Bi* - 3mm (mounting bracket)
Part No. with version 825

igus
ASEAN2023

CFB 907.881.XXX.N



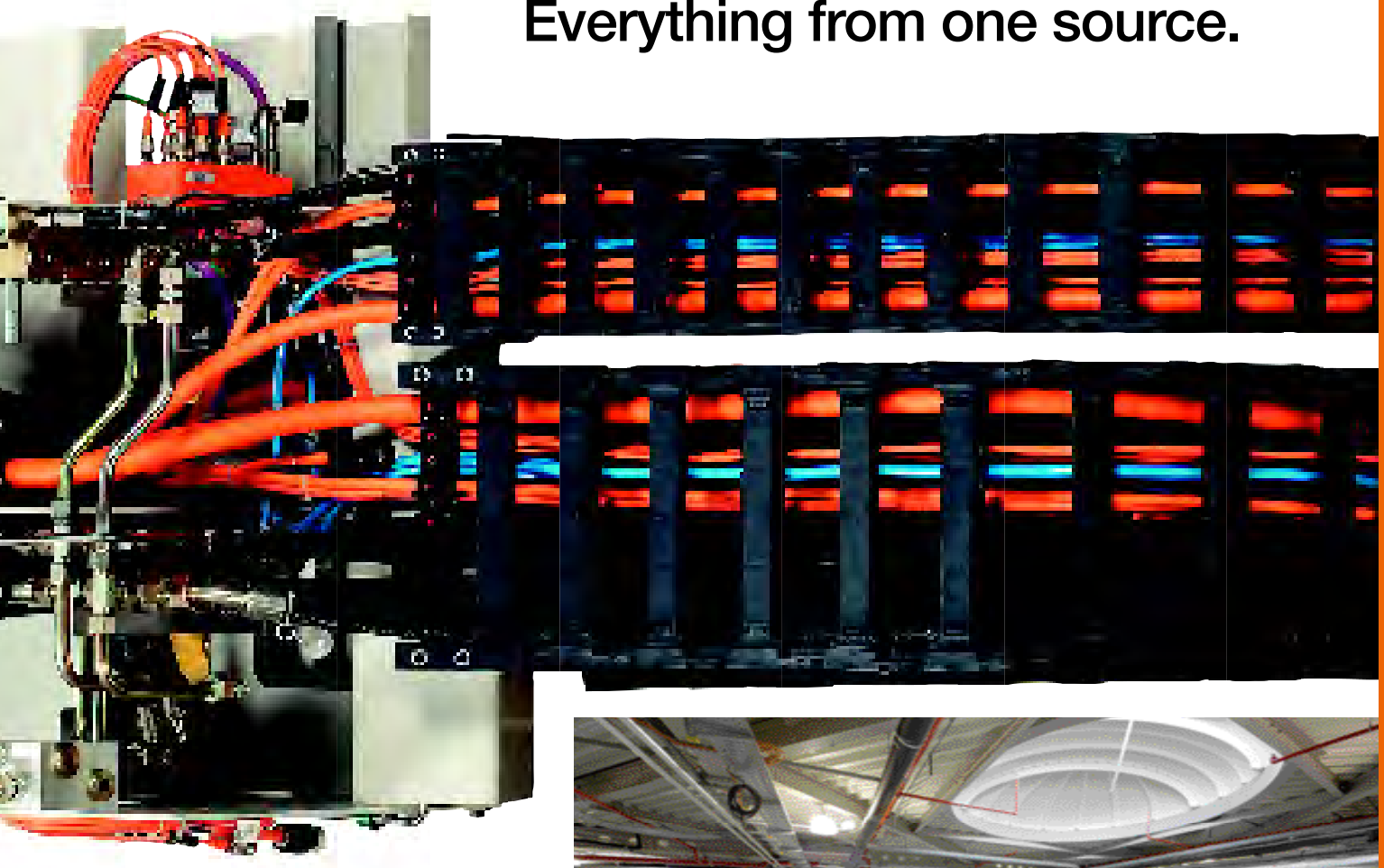
CFB 907.825.XXX.N



Delivery time upon request, due to customer-specific fabrication!

igus®
readychain®
& readycable®

Ready-to-install energy supply systems.
Cables with connectors.
Minimise process costs.
Everything from one source.





readychain® | Ready-to-install harnessed e-chain systems®

Harnessed energy supply systems, connectors, cables and attachment parts by igus® ... Everything from one source - directly from the manufacturer - quick delivery to your machine



Ready-to-install systems, from connectors through assembled cables up to complex energy supply modules, delivered in 1-10 days.



Customer-specific production



From one off to mass production

readychains® - increase your capacity and cash flow quickly with igus®

- Lower your overhead costs
- Cut your throughput times from days to hours
- Respond flexibly to order variations
- Utilise igus® manufacturing capacities and our know-how in cable assembly

Reduce the number of suppliers and orders by 75%

- One order, one invoice, one delivery
- One partner for minimal machine downtimes
- All readychain® components are subjected to extensive quality checks and function tests

Industrial harnessed energy chain modules directly from the manufacturer ... you decide quantity, travel distance and level of harnessing ...

3 Benefits: readychain® basic





1. ONE supplier - combine suppliers
2. Reduced assembly time
3. Reduce failures

Reduction of assembly time
Reduction of logistics cost
Optimisation of procurement process

Further information, videos, configurators and product finders
▶ www.igus-asean.com/RCbasic

6 Benefits: readychain® standard





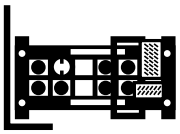
4. No electrical termination needed
5. 100% digitally tested
6. No cable surplus

Reduction of assembly time
Reduction of logistics cost
Optimisation of procurement process

Further information, videos, configurators and product finders
▶ www.igus-asean.com/RCstandard

9 Benefits: readychain® standard+





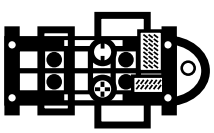
7. Reduce interfaces
8. Optimise points of connection/interfaces
9. Ready-to-install multi-axis system

Reduction of assembly time
Reduction of logistics cost
Optimisation of procurement process

Further information, videos, configurators and product finders
▶ www.igus-asean.com/RCstandard+

13 Benefits: readychain® premium





10. Optimise your transport/assembly
11. One single assembly
12. One Part No./Product group
13. Plug & Play

Reduction of assembly time
Reduction of logistics cost
Optimisation of procurement process

Further information, videos, configurators and product finders
▶ www.igus-asean.com/RCpremium

600 orders/week, more than 3,000m² of floorspace, "chain-cable guarantee" since 1989… 3 shifts, 13 project engineers, 160 employees dedicated only to harnessing



Ready-to-install systems, from connectors through assembled cables up to complex energy supply modules, delivered in 1-10 days



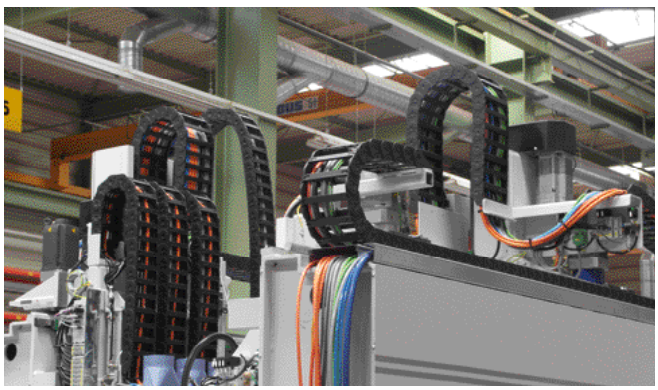
Up-to-date production processes, custom-build or serial production



Customised cable assembling



12 readychain® factories worldwide



Full service from system acceptance to installation

readychain® | You decide, igus® delivers

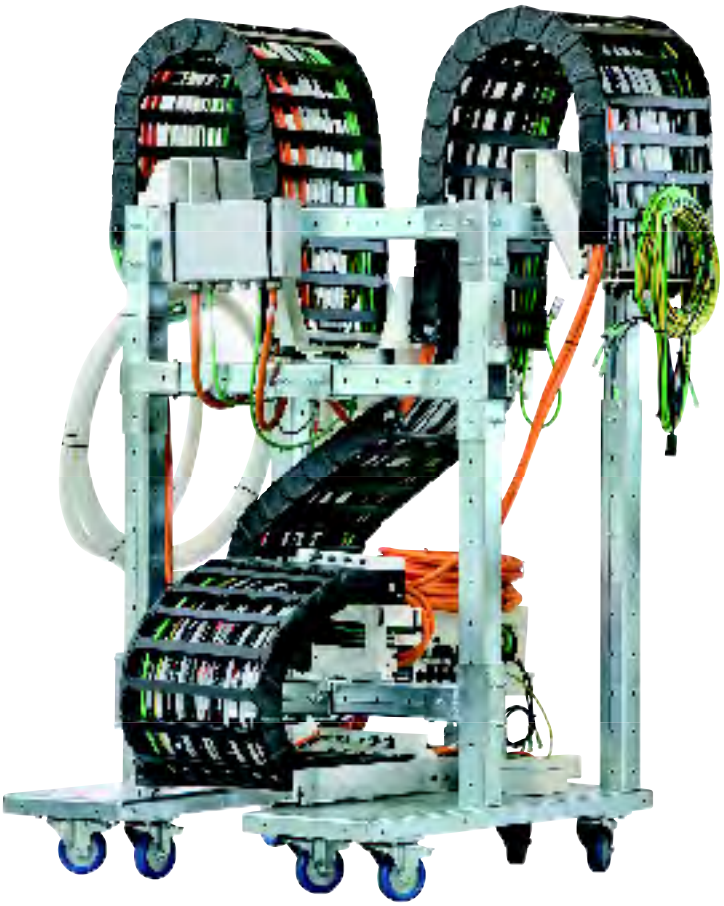
1 Everything from one source

The readychain® includes pre-harnessed, customised energy chain systems. The "plug and play" solutions are configured, manufactured and delivered according to individual customer specifications. The use of the transport rack can yield benefits even at low quantities.



2 Flexible components

The telescoping supports and braces of the readychain® rack allow flexible adaption to the installation on site. Changes in mass production can be undertaken easily. Additional components can also be easily attached to the rack due to the modular joining mechanism.



Save 80% when prototyping: Assembly transport rack for ready-to-install energy supply systems.

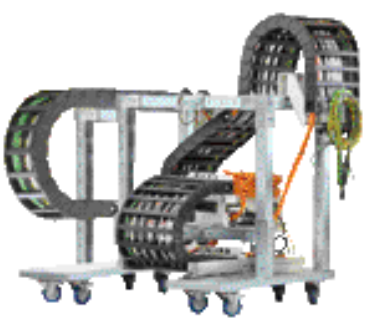
3 Sustainable use

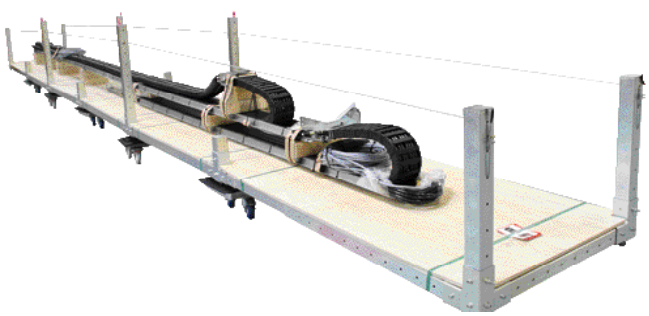
The components of the readychain® rack are galvanised and thus designed for a long life. Each rack is constructed within a few hours. The individual elements can be reused at any time removing the need to dispose of custom made parts - as with conventional welded transport racks.

4 Precisely fitting plug & play

All interfaces and attachments are designed in such a way that the installation of the energy chain can be managed quickly and easily. The complete package includes the matching plugs and connectors, plates, sensor actuator boxes, linear bearings, links to the central lubrication, etc., all reducing the installation time considerably.









igus® connectors



Round connector kit



D-Sub as a service kit



Tools and accessories

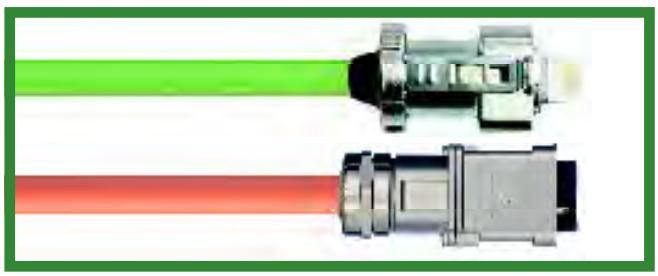
igus® readycable®



Control cables with industrial connectors



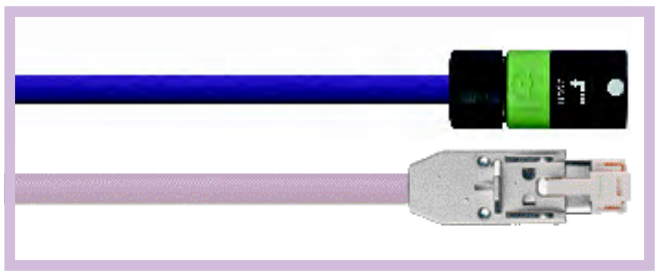
Harnessed dress packs and cables for robots



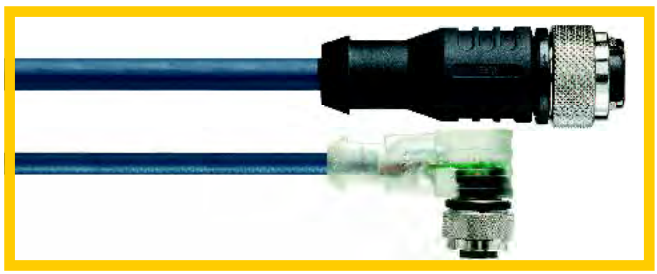
Drive technology: more than 4,200 cables



Catalogue standards: video/vision/bus technology



Catalogue standards: network/Ethernet/FOC/Field bus



Catalogue standards: initiator cables down to 4 x d

igus® hoses and attachments





Configured online with hose cable configurator - to meet your needs

readychain® | Configured, assembled, with system guarantee

1 System acceptance
2 Project phase
3 Initial acceptance of prototype
4 igus® installation



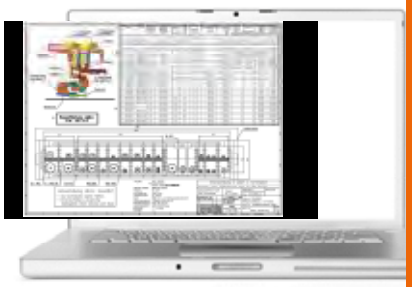
readychain® service
- We visit you
- Define interfaces
- Logistics planning
- Cycle integration
- Time schedule



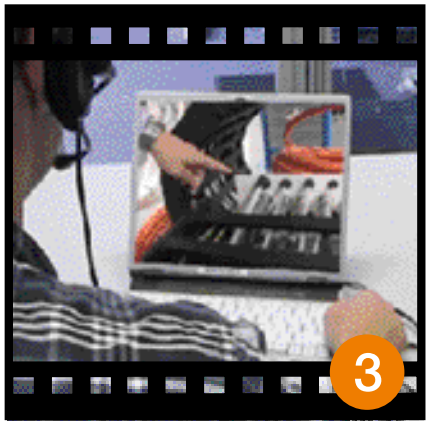
System acceptance on your machine



readychain® service
- Component selection
- Interface optimisation
- Documentation
- Integrated project management
- Cost optimisation



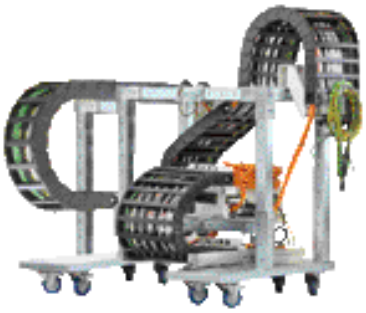
Project planning



readychain® Skype service*
- Initial acceptance from your work place
- Build your prototype with an igus® project engineer, live in your meeting
- Your requests for change explained with a model

... or visit us for acceptance in production

*only available in Germany



Prototype including transport rack



readychain® installation
- System installation by igus® specialists
- igus® supervision service for your own installation
- Transparent, fixed price



Installation on site

Capacity for 600,000 assembled cables a year ... more than 18,000 test programmes ... 1,800 test adapters



Process reliability ... crimp forces monitored ... automated ... time-optimised ...



Computer-based high-voltage testing and inspection of all assembled cables



Modern machinery ... automatic stripper-crimper



Special cable assemblies





Worldwide system guarantee

readychain® | You decide, igus® delivers

In our warehouse the material waits for your order... ... and not your order for the materials!

e-chains® ...



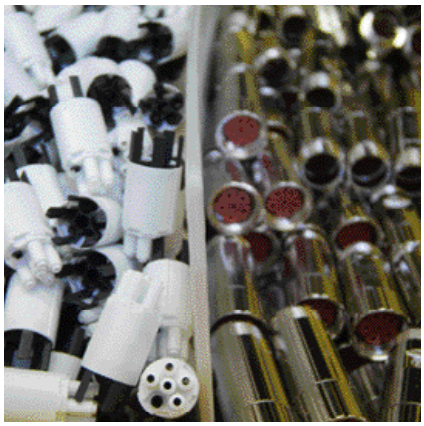
90,000 e-chain® components

... chainflex® cables ...



3 million metres of cable on stock

... harnessing



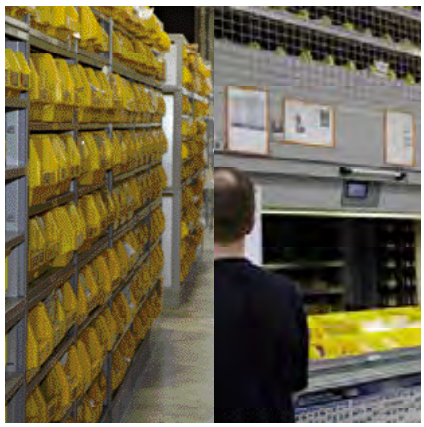
3,500 connector components



Hundreds of metres of guide troughs



3,800m² igus® test lab - more than 8,000 tests every year



Quickly within reach



Numerous strain relief solutions

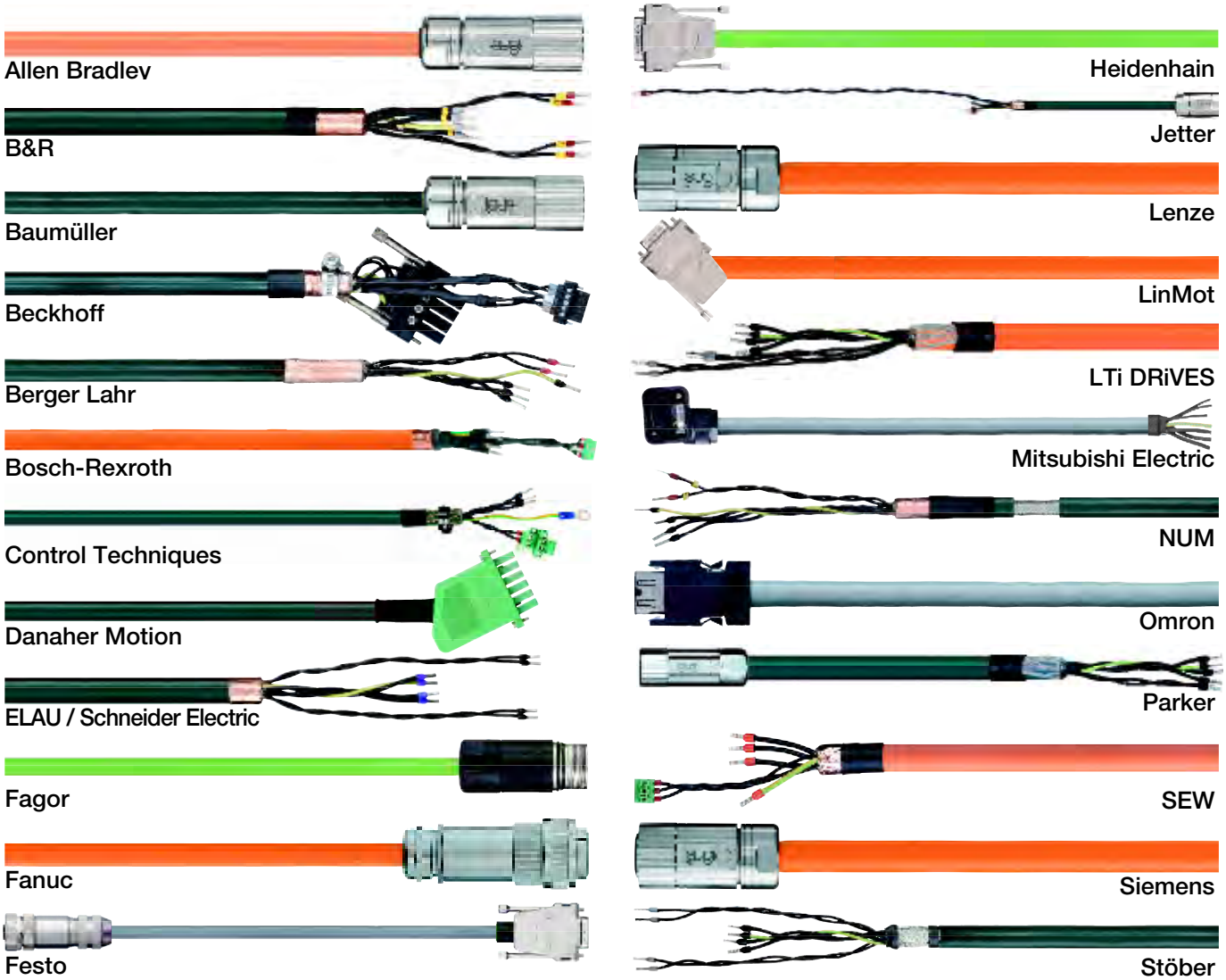


More than 8,000 cables per week



Just in time supply

readycable® – harnessed cables in 24hrs or today



- igus® offers more than 5,000 harnessed cables online
- Servo, motor and signal/encoder cables suitable for 24 manufacturers
- No cutting costs, no surcharges for small quantities and packaging
- Cable length accurate to the centimetre to the customer spec
- Smallest bend radii from 7.5 x d
- Reduce storage costs and increase cashflow
- Available in 24hrs or today

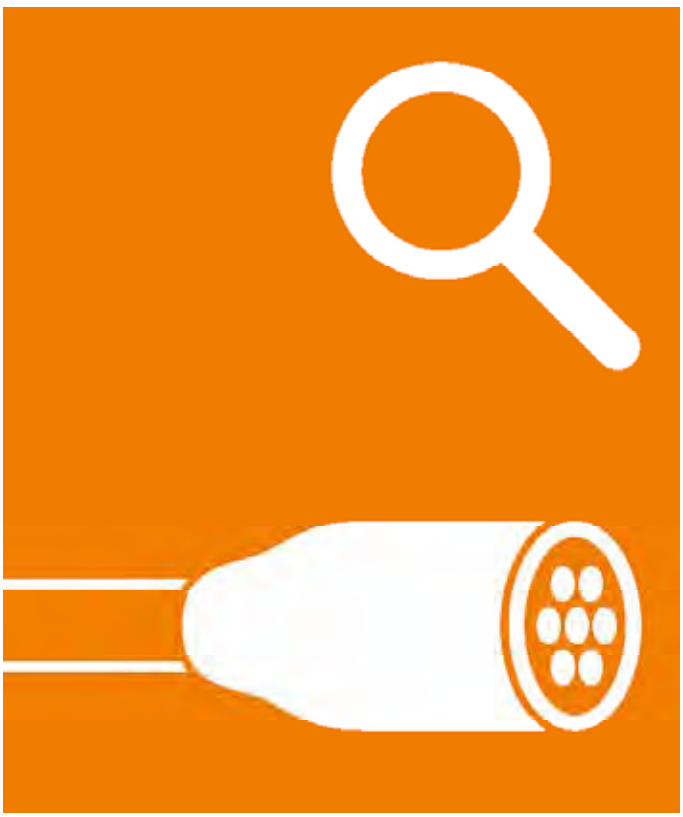
... over 5,000 drive cables ... in just 8 seconds ...

readycable® finder 2.0



Ready-to-connect drive cables - find and choose online in seconds

- Find drive cables suitable for 24 manufacturers quickly and easily online
- Price for different cable lengths and batch sizes available instantly
- Search by manufacturer or igus® part number
- Important information such as jacket material, oil resistance or bend radius at a glance
- Submit an enquiry or order with just one click
- 5,000 drive cables, suitable for 24 manufacturers, to choose from



1. Enter manufacturer or igus® part number
2. Compare cables with different jacket materials
3. Choose and order directly/ submit enquiry

www.igus-asean.com/ readycable-finder



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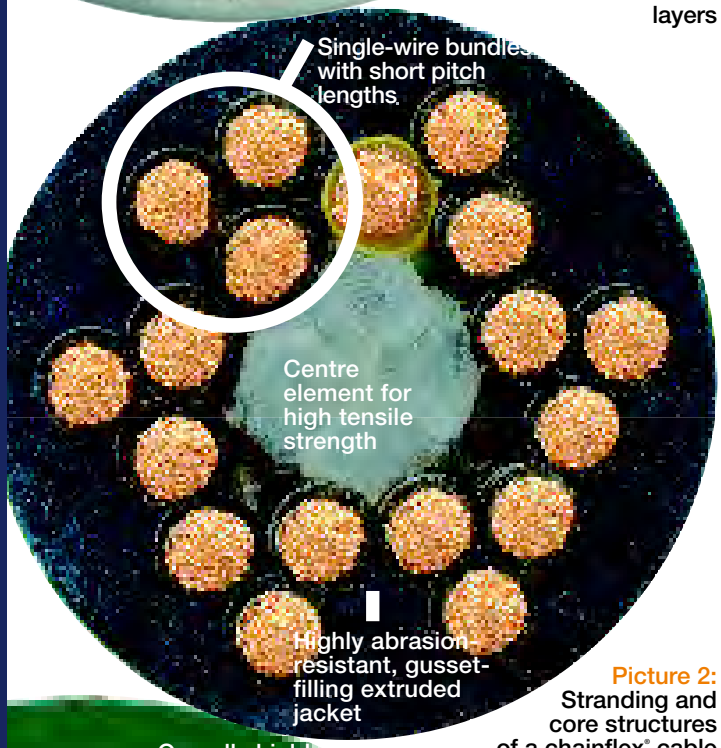
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chainflex®...

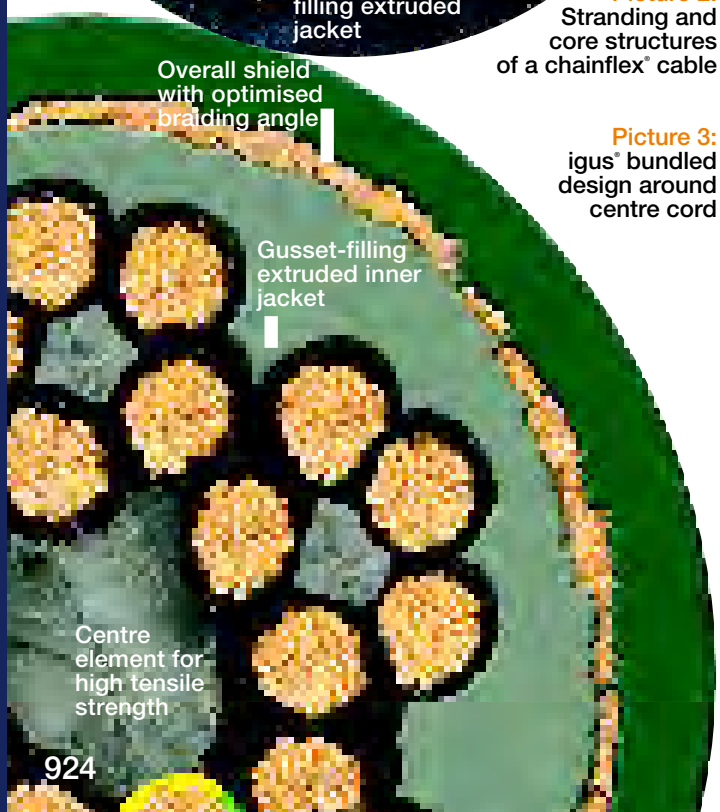
The tricks and ingenious features of...



Picture 1: Chain-suitable cable wound in layers



Picture 2: Stranding and core structures of a chainflex® cable



Picture 3: igus® bundled design around centre cord

From the customer's point of view, a flexible energy supply system needs to function properly. However, this demand assumes the perfect operation of all components, including the cables being used in this system. And this is exactly where problems came up in the early 1980s. Due to constantly increasing loads resulting from the constant movement, guided cables often failed even though the energy supply system itself was functioning perfectly. In extreme cases, failures caused by "corkscrews" and core ruptures brought the entire production process to a standstill and resulted in high costs.

In order to find a solution to this problem for its customers, igus® decided to take the initiative. As the first worldwide company to do so, igus® began to develop complete energy chain systems. chainflex® cables and energy chains are now being offered from one source and with a system guarantee depending on the individual application. Based on the increasing know-how gained since 1989 and on the very sophisticated series of tests that have been conducted since then, design principles were, and still are, being developed that help prevent machine downtime in factories throughout the world today.

How can "corkscrews" be prevented?

Here, the term "corkscrew" does not refer to a useful instrument for wine connoisseurs. Instead, it refers to the permanent deformation of guided, moving cables caused by excessive strain - which, in most cases, results in core rupture almost immediately afterwards. How does this happen? How can "corkscrews" be prevented? An important factor here - in addition to a sensible design of the total energy chain system - is the construction of the cables. Simply speaking, a clear distinction can be made between cables braided in bundles and cables wound in layers ▶ see pictures 1 and 2.

Properties of winding in layers

Winding in layers is significantly easier to produce and is therefore offered on the market in so-called "chain-suitable" cables at low cost. But what appears to be tempting at first glance can quickly turn into an expensive mistake when a "corkscrew" immobilises the system being operated with these cables. How do these problems arise? Looking at the cable structure can be quite helpful ▶ see picture 1.
In the case of winding in layers, the cable cores are mostly wound more or less firmly and relatively long in several layers around a centre and are then provided with a jacket extruded to the form of a tube. In the case of shielded cables, the cores are wrapped up with fleece or foils. But what happens to a similarly structured 12-core cable, for example, during normal operation?

The bending process compresses the inner radius of the cable and stretches the outer radius. Initially, this works quite well because the elasticity of the material is sufficient. But very soon, material fatigue causes permanent deformations, and then, due to excursion from the specified paths, the cores make their own compression and tension zones: The corkscrew is created, often followed rather quickly by core ruptures.

... lasts or your money back!

...the chainflex® design and why we feel so confident about this design

Bundled design tried and tested millions of times since 1989

The bundled design eliminates these problems by means of its very sophisticated, internal structure. Here, the core wires are wound with a special pitch length first and then the resulting cores are bundled. For large cross sections, this is done around a strain relief element. The next step is the winding of these bundles around a tension-proof centre cord ▶ see picture 2.

Due to this multiple winding of the cores, all cores move through the inner radius and the outer radius of the cable several times at identical spacing distances. Tensile and compressive forces balance one another around the high-tensile centre cord giving the structure its stability. In this way, the structure remains stable even under maximum bending stress ▶ see picture 3.

Picture 4: **Shielded "chain-suitable" control cable after only 400,000 double strokes with a bending factor of 10 x d**



What are EMC problems and shield wire breakage?

In principle, cable shields must fulfill two tasks:
- Preventing interference getting into the cable
- Preventing interference being transmitted out of the cable

Both tasks are equally important because faulty signals can cause considerable consequential damage in the system itself as well as to any external systems. Furthermore, this is especially problematic due to the fact that incorrect shielding usually cannot be detected from outside, and this is something that makes the trouble-shooting procedure extremely difficult. How do these kinds of problems arise in the first place? Once again, the answer is to be found in the internal structure of the cable itself: Is the shielding designed for the movements of the cable? Although it may be very easy to shield a fixed cable, it is much more difficult to guarantee the permanent shielding of a moving cable.

In the case of so-called "chain-suitable" cables, for example, an intermediate layer is formed with foils or fleeces. This layer is supposed to guarantee the separation between the cores and the shield braid. But something that functions quite well for the fixed installation of cables is quite insufficient for moving cables. This has to do with the fact that the foils and fleeces do not stay put between the cores, shield and jacket and may fall apart under stress. Consequently, the metallic shield then rubs on the insulation of the cores - short circuits can then be expected.

Dictionary of defects

Broken wires

Failure of electric conductivity due to broken copper wires as a result of subjecting the individual cores to mechanical load under constant bending stress. In most cases, the causes are incorrect strand wires and/or incorrect stranding pitch directions and lengths.

Insulation damage

Short circuits due to damage to the insulation around the conductor. The cause can be material fatigue under constant bending stress or material abrasion within the core structure. Single wire breakage of the conductor or the shield braid result in perforation of the insulation.

Corkscrew

An externally detectable corkscrew-like deformation of the entire cable due to broken copper wires as the result of subjecting the individual cores to mechanical load during the bending process. In most cases, the causes are poor structure (winding in layers, missing centre, loose jackets extruded to the form of a "tube") and subjecting the cables to high bending stress.

Jacket abrasion

The jacket is abraded down to the cores or to the shield. In most cases, the causes are incorrect selection of materials and/or unfavourable extrusion processes resulting in poor surface properties such that abrasion is an unavoidable effect.

Jacket swelling/jacket breakage

Jacket becomes soft and deformed or breaks until the cores/shield can be seen. The cause can be the incorrect selection of materials with respect to the oils or other chemical substances being used.

Shielding losses/EMC problems

Electromagnetic interferences inside or outside an electric cable. In most cases, the cause is shield wire breakage due to mechanical overload with incorrect shield braid angles. Other causes include loose braids over foils without supporting effects or very open coverings.



Picture 1: Optimised shield braiding angle over gusset-filling extruded inner jacket

chainflex®...

The tricks and ingenious features of...

The production of the shield itself is very time-consuming and cost-intensive and may have been the reason for the use of open braid shields or even simple wire wrappings. The disadvantages are obvious: open shields only possess a limited shielding effect when moving - motion reduces this effect even further. The type of shield is therefore an important point that is not even mentioned in some catalogues.

In its approx. 70% linear and approx. 90% optical coverage cables, igus® eliminates these weaknesses by means of an optimised internal structure. In virtually all shielded chainflex® cables, a gusset-filling extruded inner jacket over the core structure is used. This "second jacket" fulfils two tasks:

- It holds the core structure together and guides the individual cores as in a channel.
- It serves as a firm, round base for a very tight-fitting shield. ▶ see picture 1.

Shield wire breakage - and how this can be prevented

Even during the production of the shield, there are many things that can be done correctly - or incorrectly. Here, an important parameter is the braiding angle.
In the case of "chain-suitable" cables, tensile load on the shield wires in the outer radius of the cable must be taken into account. If an unfavourable braiding angle is used, the tensile load increases even further and shield wire breakage is the result. The consequences range from reduced shielding effects right up to short circuits whenever the sharp wire ends penetrate through the fleeces or foils into the cores. Here is a useful tip: If, after the insulation has been stripped off, the shield can be easily pushed back over the jacket, the shield is then usually unsuitable for use in moving energy supply systems! This is a problem that igus® has now solved with its novel approach:

- The shield braiding angle determined in long-term tests efficiently neutralises the tensile strengths and is therefore highly suitable for energy chains.
- Due to the stable inner jacket, the shield cannot become uncontrolled.
- The shield itself has a torsion protection effect on the wound structure.

Jacket abrasion/jacket breakage

Whilst defects in the internal structure are hardly detectable on the outside, jacket problems are immediately obvious. The jacket is the first protection for the complicated internal structure. This is why broken, worn and swollen jackets are a serious quality defect. To prevent this problem, the igus® customer can select from 7 jacket materials to adapt their energy chain cables to suit the conditions of the respective environment.

... lasts or your money back!

...the chainflex® design and why we feel so confident about this design

Gusset-filling extruded jacket

Here, not only is the material an important factor but also the production process. In the case of the so-called "chain-suitable" cables, the jackets are usually produced extruded to the form of a tube and therefore do not provide the structure with the necessary support for constant bending. The wound structure can fall apart.

Therefore, igus® is the first manufacturer of energy chain systems to offer the so-called the "gusset-filling extruded" jacket.

Here, the jacket material is injected between the core structure powdered with talc and ensures that the core structure does not open up and also makes sure that the cores are guided as in a channel. The special characteristic of this type of production is that the intermediate spaces created between the cores during the winding process, are completely filled with jacket material by the high extrusion pressure. As a result, the jacket material creates a channel-like guide which ensures the cores have a defined longitudinal movement. The jacket also provides a supporting function for the structure. ▶ see picture 2.

The quality bundles of igus® chainflex® cables

- Strain-relieving centre
- Cores in bundles
- Gusset-filling extruded inner jacket in shielded cables
- Enclosed shield braid
- Optimised shield braiding angle
- Gusset-filling extruded jacket



Picture 2:
Gusset-filling extruded jacket

7 basic rules for a good cable

1. Strain-relieving centre

Clear space is created in the centre of a cable according to the number of cores and the cross section of each cable. This centre should be filled, as far as possible, with a genuine centre cord (and not, as frequently the case, with fillers or dummy cores consisting of waste materials). These measures will then efficiently protect the structure and prevent it from wandering into the middle of the cable.

2. Stranded core

With respect to the selection of core strand wires, the maximum flexibility has proved to be the best solution. Although very flexible conductors can be made using very thin individual wires, these conductors can allow formation of kinks. Long-term testing provided the result of a combination of strand wire diameter, pitch length and pitch direction as the best overall bending-resistant solution.

3. Core insulation

The insulation materials must be made so that they do not stick to one another within the cable. Furthermore, the insulation is also required to support the stranded individual wires of the conductor. Accordingly, only the highest-quality, high-pressure-extruded PVC or TPE materials that have proved their tested reliability in millions of core kilometres are then used in energy chain applications.

4. Structure

The structure must be wound around a stable, tension-proof centre with an optimised short pitch length. However, due to the insulating materials being used, this wound structure should still used. Starting from a quantity of 12 cores, a bundled design should be used.

5. Inner jacket

A gusset-filling extruded inner jacket must be used instead of inexpensive fleeces, fillers or accessory fillers. This measure ensures that the core structure is efficiently guided in longitudinal direction. Moreover, the wound structure cannot fall apart or wander off.

6. Shielding

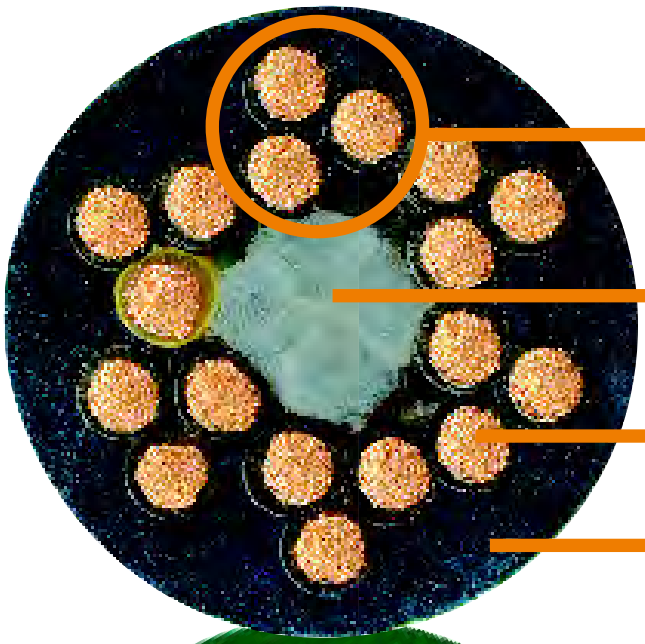
The overall shield should be made tight using an optimised shield braiding angle over an extruded inner jacket. Loose open braids or wrapped stranding reduce the EMC protection considerably and can fail very quickly due to shield wire breakage. A tight total braid shield also has a torsion protection effect on the wound structure.

7. Outer jacket

The material-optimised outer jacket can fulfil many different requirements: from UV-resistant to low-temperature-flexible, and from oil-resistant to cost-optimised. But these outer jackets must have one thing in common: A jacket material must be highly abrasion-resistant but not be allowed to stick to anything. It must be flexible but also provide a supporting function. In any case, the jacket should also be extruded under pressure (gusset-filling).

Sectional views through the

Detailed structure of igus® control, data, servo and motor cables



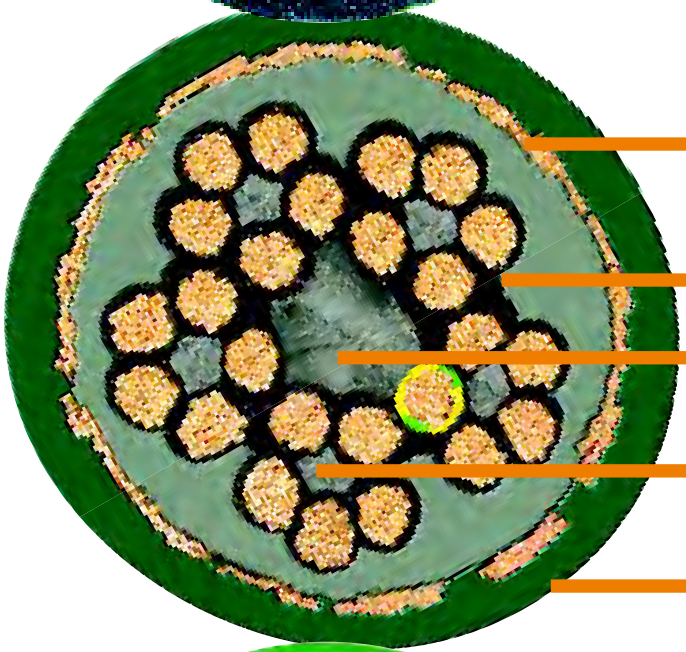
chainflex® control cable, unshielded

Individual bundles with optimised pitch length and pitch direction

Centre element for high tensile strength

Strand wire diameter optimised for energy chains

Highly abrasion-resistant, gusset-filling extruded jacket



chainflex® control cable, shielded

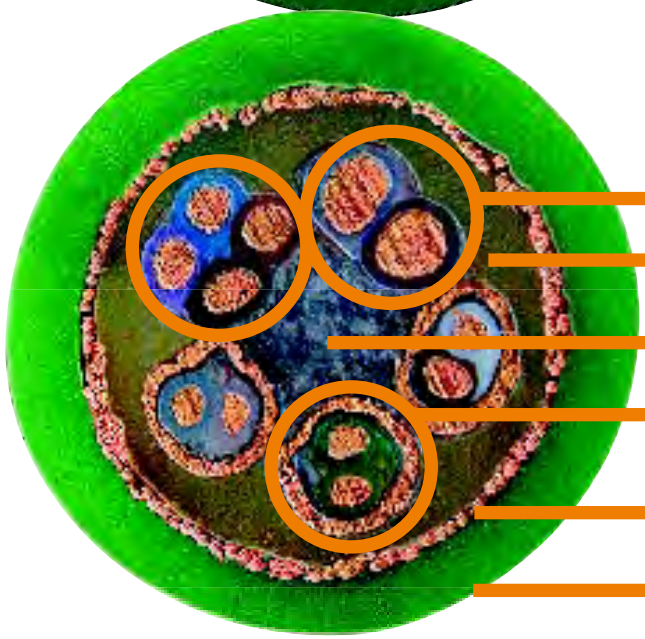
Overall shield with optimised braiding angle (approx. 70% linear, approx. 90% optical coverage)

Gusset-filling extruded inner jacket supports bundles

Centre element for high tensile strength

Centre element for high tensile strength in the individual bundles

Pressure-extruded outer jacket



chainflex® data/sensor cable, shielded

Stranded elements with optimised pitch length and pitch direction

Gusset-filling extruded inner jacket supports bundles

Centre element for high tensile strength

Pair braided shield

Overall shield with optimised braiding angle (approx. 70% linear, approx. 90% optical coverage)

Pressure-extruded outer jacket

igus® chainflex® cable types

chainflex® FOC graded index glass-fibre cable

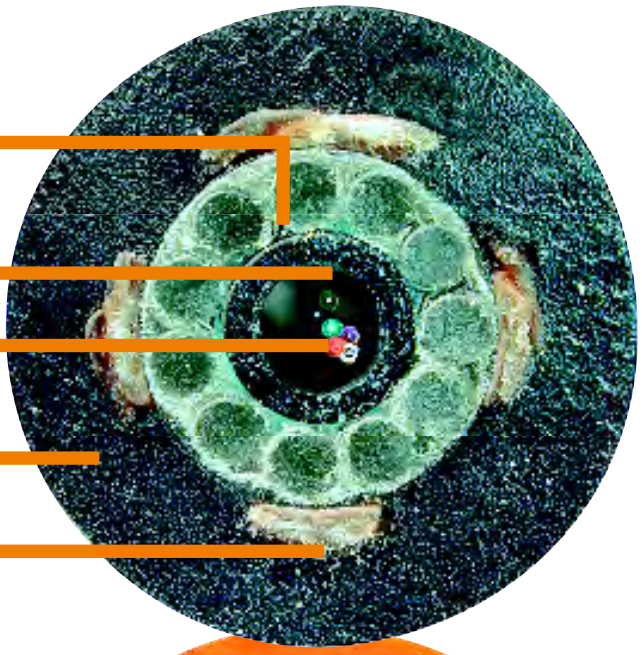
Supporting braid made of glass-yarn GRP rods

Gel-filled fibre tube

FOC fibres

Highly abrasion-resistant TPE jacket

Integrated torsion protection



chainflex® servo cable, shielded

Overall shield with optimised braiding angle (approx. 70% linear, approx. 90% optical coverage)

Optimised strand-wire diameter

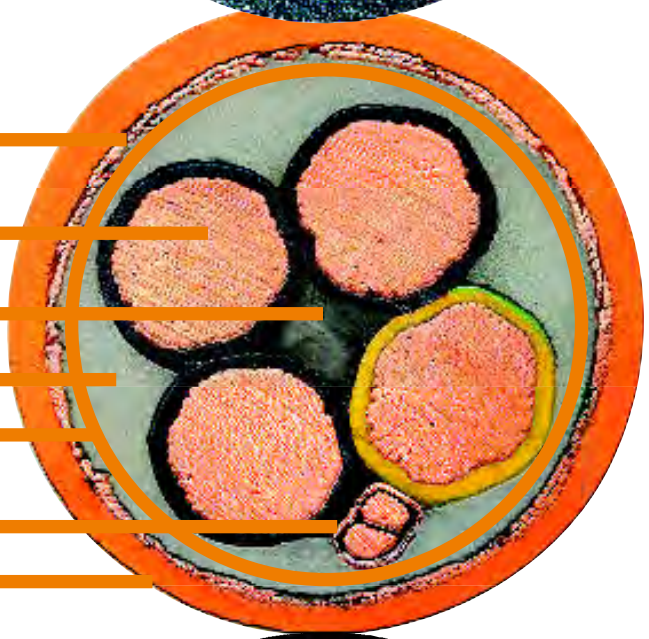
Centre element for high tensile strength

Gusset-filling extruded inner jacket

Cores wound with optimised pitch length and pitch direction

Pair braid shield over optimised wound pair

Highly abrasion-resistant pressure extruded jacket



chainflex® motor cable, shielded

Overall shield with optimised braiding angle (approx. 70% linear, approx. 90% optical coverage)

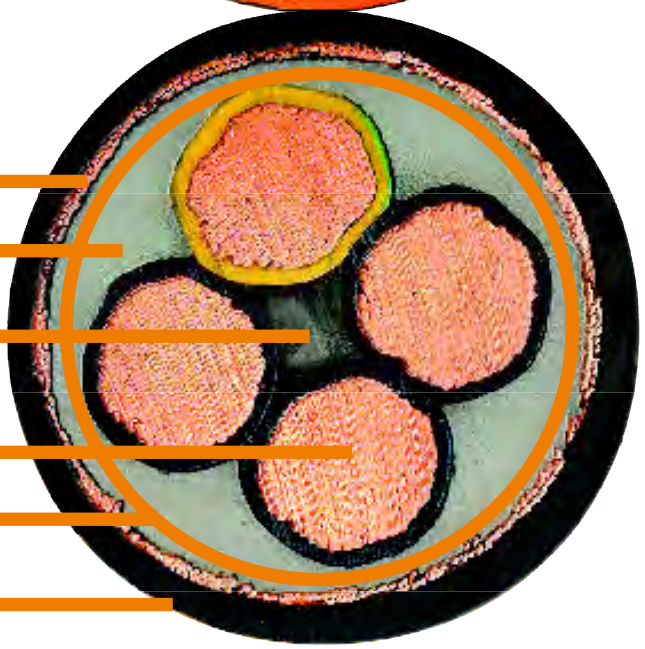
Gusset-filling extruded inner jacket

Centre element for high tensile strength

Optimised strand-wire diameter

Cores wound with optimised pitch length and pitch direction

Highly abrasion-resistant pressure extruded jacket



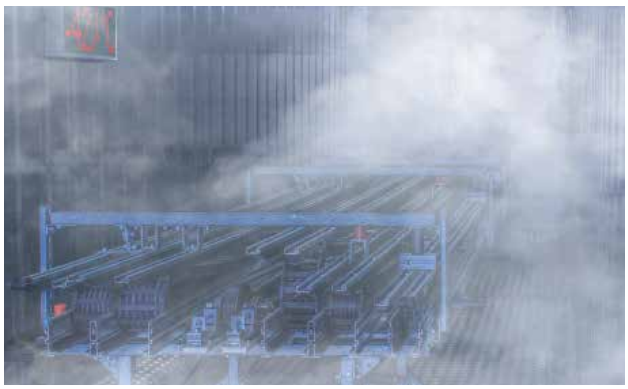
Example: Test 4876 Tested at -40°C

Bending tests in cold conditions in e-chains® with amazing results.

25 years of tests in the igus® in-house chainflex® test lab have clearly shown that international standards for the testing of cables are quite useful, but do not meet the special requirements for continuous movement in e-chains®. Thus we have the standard ratings for "*Mechanical tests - Low temperature bending tests for insulating sheaths and jackets*" according to IEC 60811-504.

According to this international standard, cables, according to the outer diameter, are wound around a mandrel and cooled down for a certain time to the temperature to be tested.
After the removal, a visual inspection is carried out. For the material tested, the test is deemed to have been passed if the material (in this case outer jacket) does not show damage, e.g. cracks.
Based on this standard, all cables for movement are tested in this way and the limit temperature is specified in catalogues as the lowest temperature for a moving application.
Thanks to many different series of tests, igus® has shown that these values are in accordance with the standards, but in continuous movement in e-chains® the materials tested in this way do not withstand the temperature.

Example: igus® test 4876. Here, the so-called chain-compatible PUR cables were tested in comparison with those with chainflex® TPE jacket material.
The cables to be tested were moved in continuous motion in the igus® 40-foot cooling container in an e-chain® at -40°C with a bend radius factor of 6.5 x d and a travel of 5m.



Media and cold tests of chainflex® cables and e-chains® in the 40-foot climatic container

The results of this experiment make for interesting reading: Cables, which are available on the market as cold-flexible down to -40°C with a PUR outer jacket and are marketed as having a service life of 10 million cycles in the catalogue, fail in a real test in an e-chain® at -40°C with a massive jacket break after less than 41,000 strokes!



Jacket damage after 41,000 strokes ...

The parallel test of the CF9.15.18, however, was discontinued after more than 520,000 double strokes since no change could be detected at all.
On the basis of this and many other test series, igus® is the only supplier on the market that is able to list three different temperature ranges in its catalogue:
For fixed installation, flexible movement according to DIN EN 60811-504, as well as for continuously moving applications in e-chains®.

A test result from the igus® database	
Test no.	4876
Bend radius factor in e-chain®	6.5 x d
Test temperature	-40°C
Result PUR jacket	Breaks after 41,000 strokes
Result chainflex® TPE jacket	520,000 strokes without any damage

Details of the test online:
www.igus-asean.com/test4876

Calculate service life online:
www.igus-asean.com/chainflexlife



40-foot climatic container for cable tests in continuous motion at -40°C



520,000 strokes without any damage, which the CF9.15.18 achieved in this test



Result PUR jacket: Broken after 41,000 strokes



Result chainflex® TPE jacket: Cable after the 520,000 strokes test

Example: Test 4866
9 year continuous test
chainflex® Profinet

Bending tests in e-chain® with chainflex®: Profinet bus cable lasts for more than 65 million double strokes.

Due to its extensive equipment, the igus® laboratory with a floor area of 3,800m² offers the necessary environment to carry out continuous flexing tests under real-world conditions, even over many years. Only these real long-term tests lead to the necessary understanding of the behaviour of cable design and materials.

These long-term studies are used to equip the chainflex® **online service life calculator** with its data.

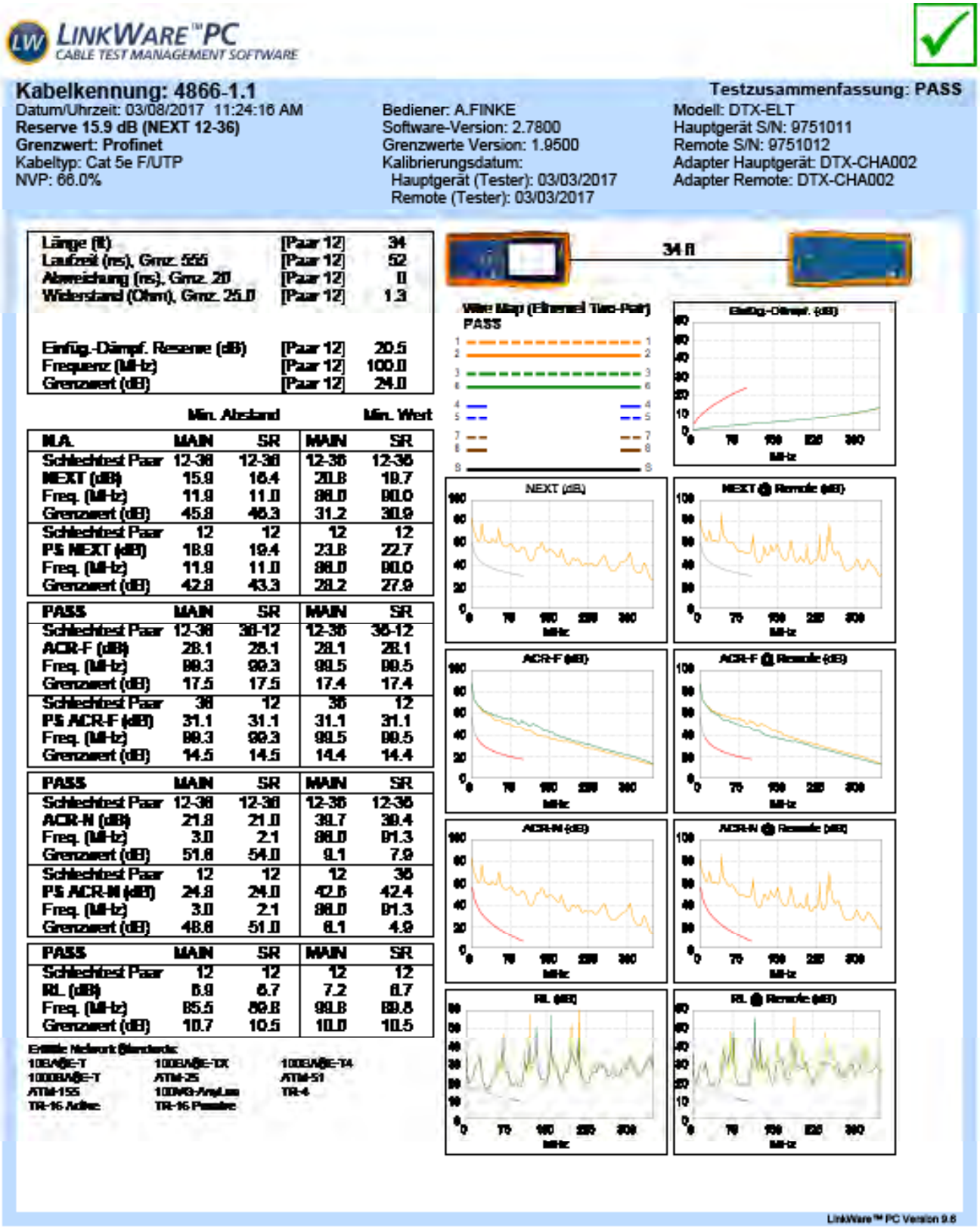
The chainflex® **online service life calculator** offers the user the great advantage of being able to determine the expected service life in advance so as not to be surprised by unscheduled breakdowns due to the cable.

In test 4866, the following question was posed:
To what extent is the continuous bending of the Profinet bus cable of the chainflex® CFBUS.060 type affecting the electrical transmission quality.
Or, in other words, if a chainflex® bus cable is moved in an e-chain® for years, can secure data transmission still be expected?

The CFBUS.060 Profinet cable has been in the long-term test since 2013 and has covered over 65 million double strokes without a measurable change in the electrical properties.



Linear chain tests with continuous monitoring of the electrical cable parameters



Projekt: CHAINFLEX
Unterpunkt1

Ort: LABOR

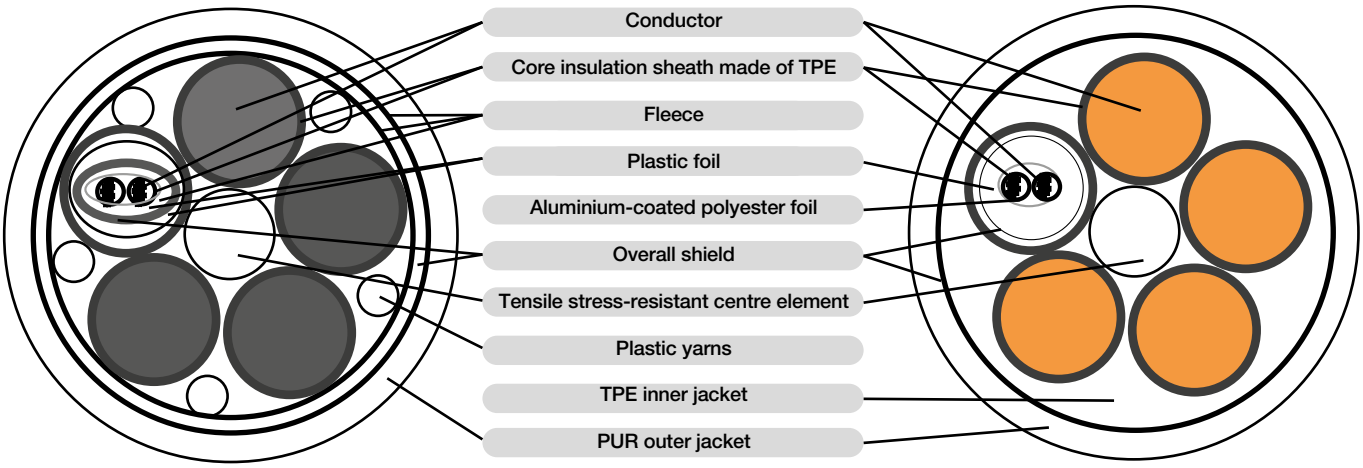
FLUKE networks

A test result from the igus® database	
Test no.	4866
Bend radius factor in e-chain®	8.5 x d
Measuring device	Fluke DTX-ELT
Double strokes without damage	29 million

Details of the test online:
www.igus-asean.com/test4866

Calculate service life online:
www.igus-asean.com/chainflexlife

Example: tested, tested, tested!
Servo cable structure



Sample B with fleece and filler experimental production 4x10+(2x1.0) C



The purpose of the test is to determine the advantages of the more expensive internal jacket in shielded servo cables versus the less expensive fleece taping with fillers.

In the case of flexible shielded cables, the shield is usually separated from the core structure. On the one hand, this is done in order to achieve a rounder braid form and, on the other hand, the friction of the core insulation against the braided shield is prevented due to the separation of the cores and shield. This can be achieved with an internal jacket or a fleece taping which is wrapped around the core structure. The internal jacket is more sophisticated and therefore more expensive to produce. Following the twisting process, the core structure must run through the extruder in which the internal jacket is then put on. In contrast to this method, the fleece tape can be put on between twisting and reeling-up during the twisting process and therefore does not require an extra operation.

Product information CF27.D
▶ Page 296

Sample A with inner jacket igus® chainflex® CF27.100.10.02.01.D



Comparison between the igus® solution with the gusset-filling internal jacket and the fleece version with fillers

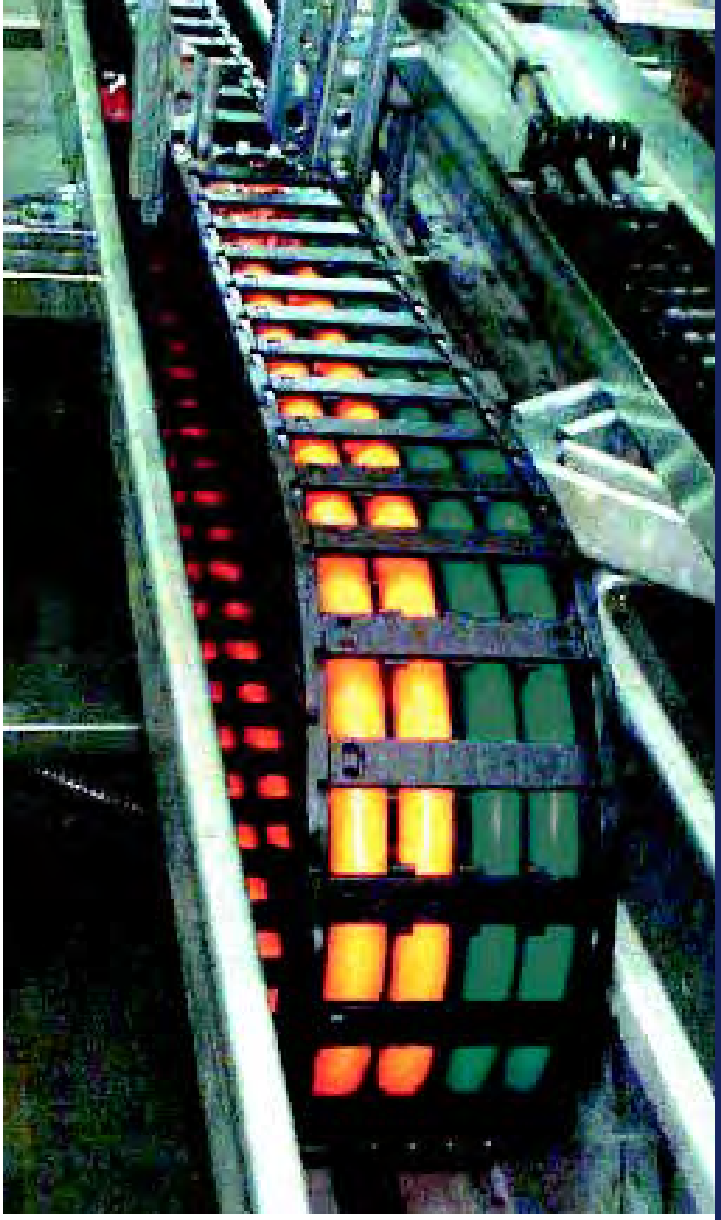
Here, the servo cables are highly flexible motor cables with a complete copper shield and an integrated, shielded pair of control cores. This cable type was selected due to the fact that the structure is not axisymmetric due to the different core cross sections, and therefore emphasises the bending behaviours of the different production methods.

- **Sample A: CF27.100.10.02.01.D (igus® GmbH) (4x10mm²) + (2x1.0mm²)**
- **Sample B: experimental (4x10mm²) + (2x1.0mm²)**

Both cables are provided with identical nominal cross sections and insulation materials. Cable A is equipped with an internal jacket and cable B with a fleece taping and fillers.

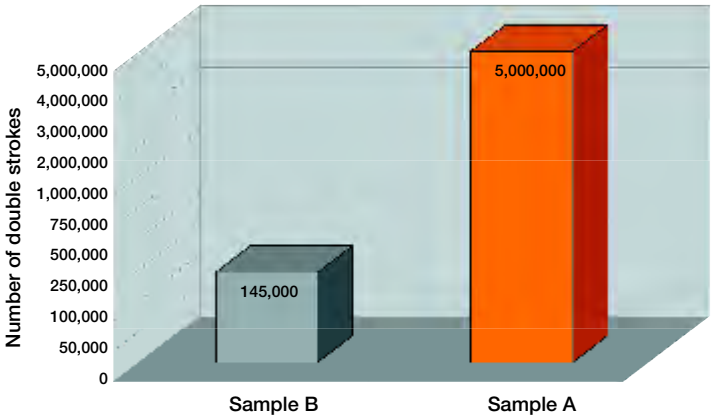
The experimental production (sample B) shows the formation of a corkscrew after just 145,000 double strokes. In the case of a cable, the so-called corkscrew refers to the wave-shaped deformation like that seen in the picture of sample B.

In the case of cable A, the internal jacket fills up the gussets and a round braided structure is created as a result, cable B requires fillers in the gussets. Like the core, the fillers are made of filbrated polyethylene. They are easy to compress and are therefore don't offer much support. By contrast, the internal jacket, which is made of TPE, and the cable A centre element hold the cores in a defined position. The cores of cable B are able to move about with no resistance. During the bending process, cores can detach themselves from the braid structure and shift into the inner bend radius or outer radius. This results in the corkscrew-type deformations that repeat themselves periodically along the length.



Assessment

Despite the extremely low bending factor of 4.76, no signs of wear can be detected in sample A (CF27.100.10.02.01.D) even after 5 million double strokes. Sample B, on the other hand, with its fillers and fleece taping, succumbs to a corkscrew formation after just 145,000 double strokes. Therefore, the result justifies the extra expenditure of the cable with the gusset-filling internal jacket.





Sample A: CF27.100.10.02.01.D



Sample B: experimental production

Example: tested, tested, tested! "Millions of double strokes" in an energy chain

Profibus cables for constant moving industrial use

For customers, it is hard to get an overview of the cable market. Competition between cable suppliers is intensifying and manufacturers are outshining one another with their promises to "guarantee service life for cables used in energy chains". Catalogues claim ten million - or even as many as 50 million - double strokes service life of cables used in moving applications.

Taking a closer look at figures claimed, one must ask what testing was done, or how realistic the tests carried out actually were (for example length of travel, test radii, etc.) in order to be able to provide such a guarantee. Even information stating that cables are tested in accordance with VDE (Association of German electrical engineers) 0472, part 603, test method H, is not helpful when it comes to determining the service life of a cable in energy chains, since the roller testing stand cannot provide any conclusive results and there is no VDE test for special cables in energy chains.



Picture 1: Gliding e-chain® application as the basis of the test

Differences in service life

At the beginning of 2002, a test to determine the service life of Profibus cables in a real application was commissioned in igus® test laboratory. The aim was to examine any differences in the service life of igus' CFBUS.001 chainflex® cable and another market leading Profibus cable. The parameters required for the test were selected on the basis of data contained in the competitor's catalogue:

Catalogue details	**Test item "A" Twin-core Profibus cable**	**Test item "B" igus® chainflex® CFBUS.001**
Cross section	(2 x AWG24)C	(2 x 0.25mm²)C
Guaranteed service life	Min. 4.0 million cycles	To be determined in a test
Bend radius	> = 60mm	85mm
Diameter	8.0mm	8.5mm
Catalogue details	Issue 2002	Issue 2002

Table 2: Test parameters according to catalogue data of the competition

A gliding application was chosen as a suitable test structure since Profibus cable systems are often used here because of their data integrity, particularly over long travel lengths and transmission distances.

In order to be able to carry out non-destructive testing and achieve a large number of bending cycles in a short period of time, a genuine Profibus transmission path was constructed. In a PC at the fixed end of the test chain there was a Profibus master insert card. A connection to a profibus slave was located on the moving end. This enabled the transmission rate to be determined with the help of a diagnostic program. Any data packets which might have been transmitted incorrectly would be indicated. The highest-possible transmission rate of 12 megabits/s was set.

This important test, which commenced at the beginning of 2002 and is still in progress today, showed that only a relatively low number of cycles (420,000) led to the total failure of test item "A", which, according to the competitor's catalogue, should have functioned safely for at least 4.0 million cycles. Thus the real lifetime reaches only about 10% of the stated catalogue value.

On the other hand test item "B", the CFBUS.001, is still undergoing testing without any faulty data transmissions. So far, it has accomplished more than 14.0 million double strokes.

Structure and materials

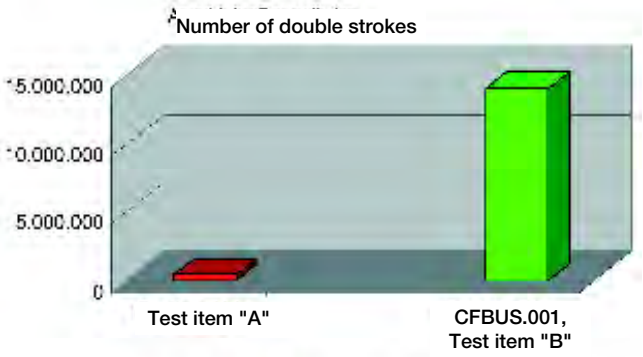
The main reason for the major differences in service life is the differing structural parameters of test item "A" and test item "B" (CFBUS.001), as well as the different materials used for producing the cables.
The conductor insulation of the bus pair comprised of a foam material for both test items. The electrical properties of this material ensured better transmission properties were achieved. A disadvantage of this material, however, was its weakness under mechanical stresses. The forces which affect the bus pair should be absorbed by the element insulation in order to alleviate the mechanical stress on a conductor insulation.

Highly-elastic element insulation

For this reason, test item "B" (igus®) was provided with a mechanically superior, extruded TPE inner, or element, gusset-filling insulation, in order to protect the bus pair against mechanical influences during the bending procedure. The element insulation must be highly elastic. A mechanically inferior element insulation made of inexpensive filling material only serves to make the bus pair round, just like often used fillers or banding. It is not able to protect the bus pairs from the high degree of mechanical stress present in the chain. Tensile and compressive forces which occur particularly affect those parts of the cable core in which there is a break in the element insulation.

Test parameters	
Travel distance:	S = 5.0m
Speed, approx.:	V = 3.5m/s
Acceleration, approx.:	a = 7.5m/s²
Bend radius, approx.:	55mm

The insulation of test item "B" (CFBUS.001) is on the one hand characterised by a mechanically superior, gusset-filling TPE element jacket, which mechanically relieves the bus pair, fixes the cores in a defined position.



The extremely short pitch of the core strands ensure that no great tensile or compressive force has an effect on a long length of core. So relatively small bend radii with high cycle rates can be realised.

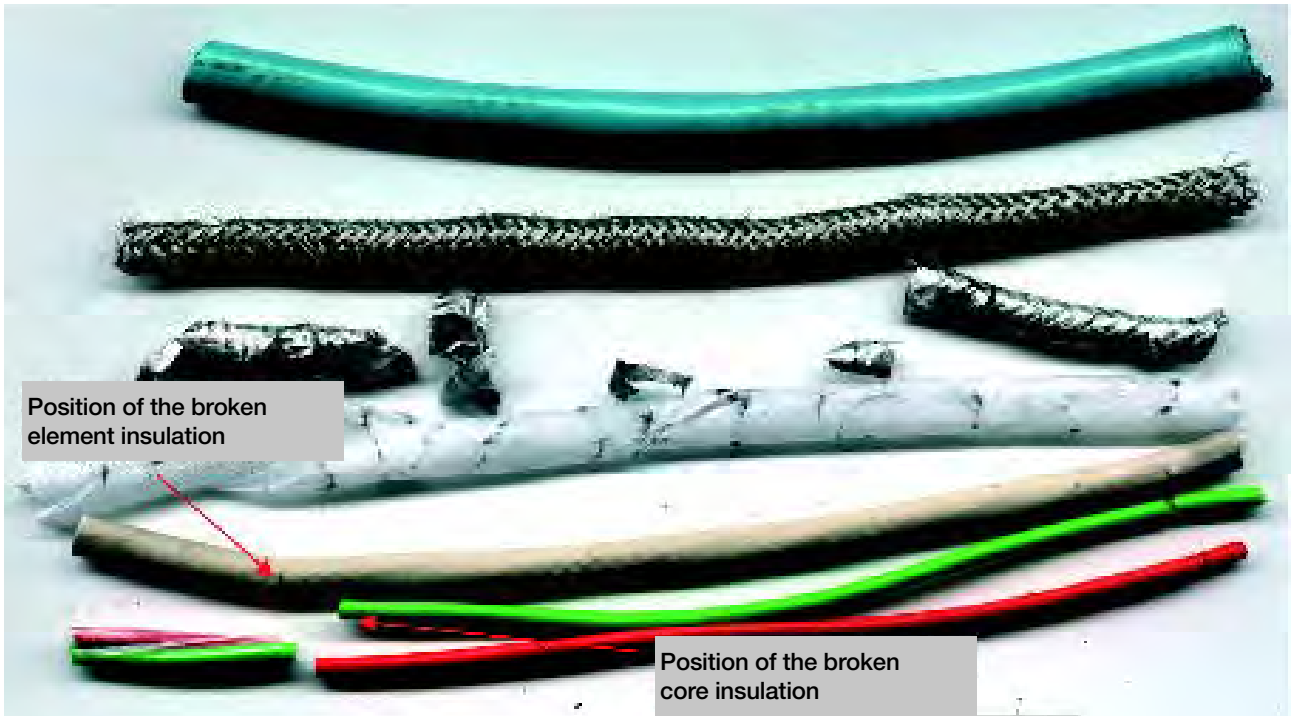
New: UL and CSA approval

chainflex® CFBUS cables are now also available for all standard field bus systems, complete with UL and CSA approval and DESINA compliance. The highly abrasion-resistant, flame-retardant TPE outer jacket is extruded onto the fully braided shield with an optimised angle in order to provide the cable with additional stability.

The bus elements wound with a particularly short pitch are protected by means of a gap-filling, extruded TPE inner jacket. The bus parameters required are fulfilled by means of a combination of optimised insulating materials and production procedures.

As with all chainflex® cables, the new standard field bus cables of the CFBUS series are now available ex-stock, without any cutting costs or extra charges for small quantities.

Product information CFBUS
▶ Page 204



Picture 3: A mechanically low-quality element jacket can't protect the bus pair against the high mechanical loads inside an energy chain.

Example: tested, tested, tested! CF98 with < 4xd!

For users of very small energy supply chains with very small bend radii, the question of a suitable cable for very high cycle life has come up many times in the past.

At bend radii of less than 5xd, copper quickly reaches its physical limits, which necessitated the search for suitable substitute conductor materials or for a fundamentally different conductor structure.

Many series of tests with a variety of conductor structures and materials were performed in order to find out how cables must be manufactured in order to be able to endure several million bending operations in e-chains®, even at bend radii of less than 4xd.

Test setup: Horizontal, short travel distance

Test parameters	
Travel distance:	S = 0.8m
Speed, approx.:	V = 1.5m/s
Acceleration, approx.:	a = 0.5m/s²
Bend radius, approx.:	18 m



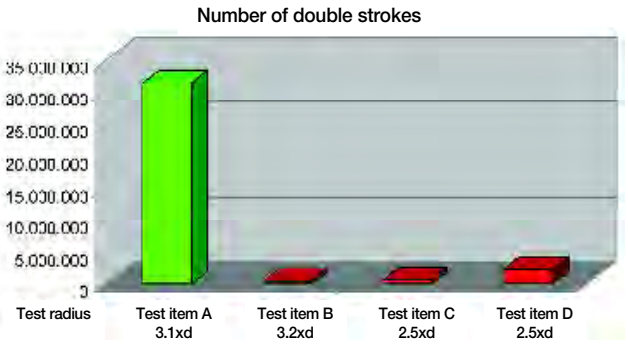
Product information CF98
▶ Page 134

Test 1:
Inspection of four different cable designs

Four different cable designs have been analysed:
Test item A - conductor in special conductor alloy
Test item B - conductor same as test item A, but in copper
Test item C - conductor with braided structure
Test item D - conductor with layered construction

This long-term inspection, which was carried out over a period of 2 years, provided the following results:

	Number of double strokes	Cross section	d [mm]	Test radius
Test item A	47,434,277	7x0.20	5.8	3.1xd = 18
Test item B	450,000	7x0.20	5.6	3.2xd = 18
Test item C	638,000	7x0.25	7.3	2.5xd = 18
Test item D	2,350,000	7x0.25	7.3	2.5xd = 18



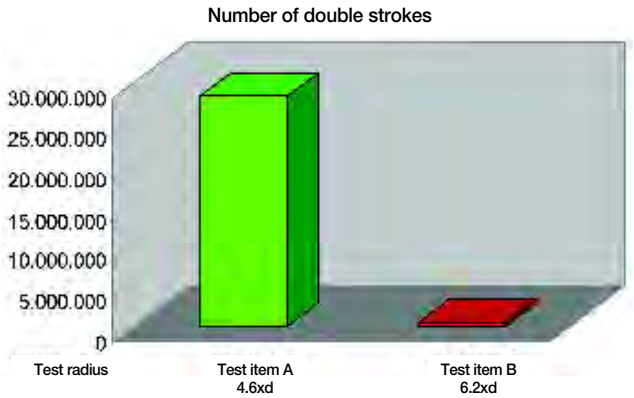


Test 2:

Two different cable designs were tested, and different core numbers and cross-sections were selected in comparison with test 1:
Test item A - conductor in special conductor alloy
Test item B - conductor in copper

In this case, test item B was manufactured completely identically to test item A except for the conductor material. The test showed that not a single case of wire breakage could be detected for test item A even after 28 million double strokes. Test item B, however, only achieved approx. 1.4 million double strokes before complete destruction of the conductor was observed. This test demonstrates that the alloy concept clearly surpasses the life of the copper conductor by more than 19 times and achieves these extraordinary results in the critical area of very small cross sections!

	Number of double strokes	Cross section	d [mm]	Test radius
Test item A	28,267,000	2x0.14	3.9	4.6xd = 18
Test item B	1,450,000	2x0.14	2.9	6.2xd = 18



Conductivity of alloys

However, the outstanding mechanical properties of this alloy also come with a reduced conductivity versus copper, but this can be compensated for by means of slightly increased cross-sections. This means that the cross-sections mentioned in the catalogue meet the electrically defined cross-section defined using the conductivity value. The conductor diameter of the alloyed conductor increases slightly compared to the conductor diameter of a copper conductor.

This compromise results in a 10% greater external diameter for the CF98 series versus a comparable CF9 type, although the service life differences between the CF98 versus the CF9 speak for themselves and increase by a multiple factor in comparison with other so-called chain-suitable cables.

As in the case of the CF9 series, further characteristics of the chainflex® CF98 include the highly abrasion-resistant, gusset-filling extruded TPE outer jacket, the oil resistance and the UV resistance as well as the absence of any PVC and halogen compounds.

In application areas with minimum space but which demand a large number of strokes, the igus® cable offers an increased degree of operational safety and reliability. Relevant application areas are in the: semiconductor and component parts industry, automation sector as well as the automotive and banking sector. New application possibilities can also be found in automatic doors for motor vehicles and trains as well as in automatic food and self-service machines, and in the packaging industry.

Example: ...tested!
Light in the cold

Light in the cold - igus® graded index glass-fibre cable in a deep freeze test

The igus® CFLG graded index glass-fibre cable has already become a standard in numerous crane applications for the safe transmission of large amounts of bus data at high speeds and over long distances. Insensitivity to electro-magnetic interference and resistance to tough environmental influences enable this, alongside the energy supply cables in very long travels.





What happens in crane facilities in regions with extremely low temperatures? Does the maximum possible cable length of several hundred metres reduce through increase in attenuation at low temperatures, or can the cable even break in extreme applications, for example at -40 °C?

The sensitive glass fibres are carried in a gel-filled tube. How does the gel behave in highly dynamic conditions and what happens in restarts after long downtimes? As no precise information about this could be found in relevant technical journals, and as little was known particularly about the thermal features of the gel, igus® undertook its own tests to determine the reliable specifications for applications in e-chain systems®. To carry out this task, the igus® test laboratory was equipped with a cold chamber that can generate constant temperatures of -40 °C and a test facility was created for long travels up to 7 m with a speed of 1.6 m/s and an acceleration up to 6 m/s². The igus® graded index glass-fibre cable CFLG.6G.50/125. TC was tested with a length of about 15 m as loop within an igus® e-chain system® 3500.125.200.0 with a bend radius of 200 mm. Varied and extreme temperatures simulated environmental influences, particularly when the temperature plunged during downtimes from above freezing to -40 °C in a short time and the motion was restarted afterwards.

Under these application conditions, the attenuation of the cable was not permitted to rise above 3dB at 850nm wave length. After one million double strokes, which correspond to an operational performance of about 7,000 kilometres, the maximum attenuation was reached and remained significantly below 3dB.

The measurements highlighted in the diagram reveal that variations in temperature combined with the constant movement in the e-chain have only minor effects on the attenuation of the CFLG.6G.TC cable. The noticeable high initial attenuation is attributed to the plugs used and also reflects the reality here because, in practice, 90% of the cables used in automation are plugged fibre optic cables.

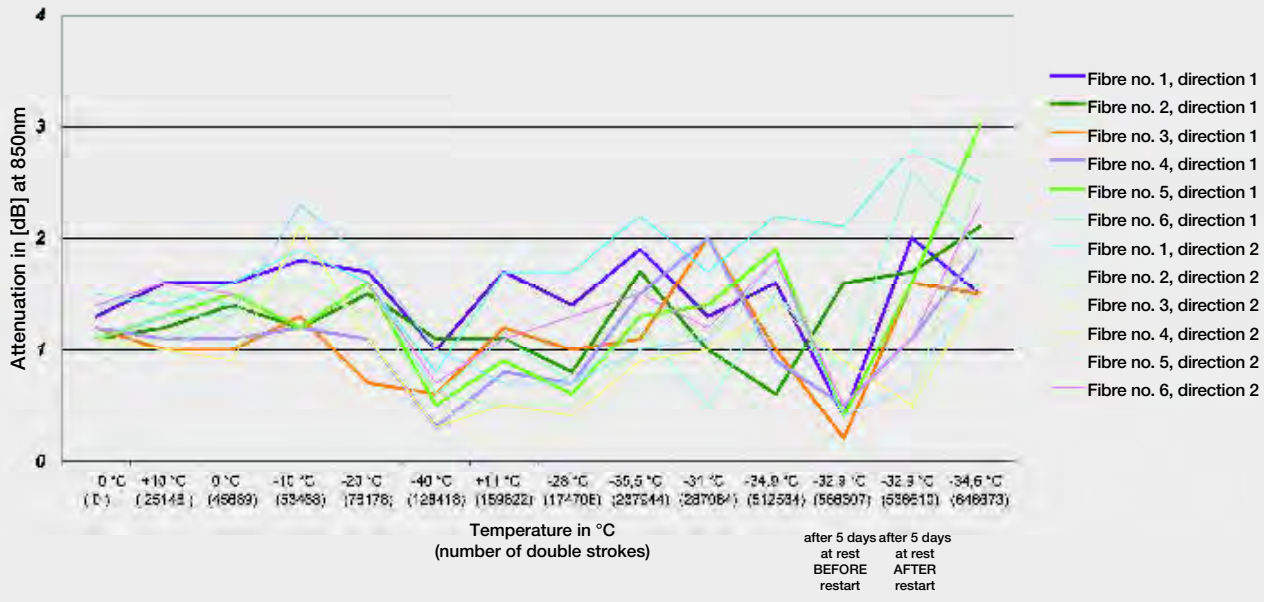
The test with the igus® cable makes it quite clear that only expensive and realistic tests can offer clarity about the service life of cables.

Product information CFLG.G
▶ Page 232





Attenuation of the fibres 1-6 of the CFLG.6G.50/125.T cable in two directions



Example: ...tested!
Completely twisted

chainflex® cables for e-chain system® are designed for application in linear movements and their efficiency has been proved a million times.

But industrial applications and their motion sequences are becoming increasingly complex, so that special cables are needed more and more for torsional movements. The service life of the different designs are even harder to calculate for torsion applications, as there are no fixed parameters such as radii, travels etc. Shielded cables however are particularly vulnerable in torsion applications. Braided shields are generally braided in the opposite directions. Whether a cable survives the torsional demands is very strongly dependent on the application and type of installation.



At igus®, the emphasis is not only on technology but also on aesthetically designed products. The TRC and TRE series both received the iF-Design-Award.

Unshielded cables, particularly bundled chainflex® types, can be successfully used in many twisted applications.
In twisting movements with a braided shield, the strand wires wound in one direction are in tension and the other direction in compression. This leads quickly to shield breakage.



Product information CFROBOT
▶ Page 404

The igus® development of a new twistable, shielded single core cable accounts for this and ensures, due to its special shield design and structure, that no, or absolutely minimal, forces act on the shield wire.

As the test clearly shows, massive service life extension can be observed when compared, for example, to a CF310.250.01.

Test setup:
The new CFROBOT cable was tested at the igus® laboratory in a specially developed torsion test rig.
The torsion angle is ±270° for a total cable length of about 2.5 m (tested within different versions of the triflex® R).

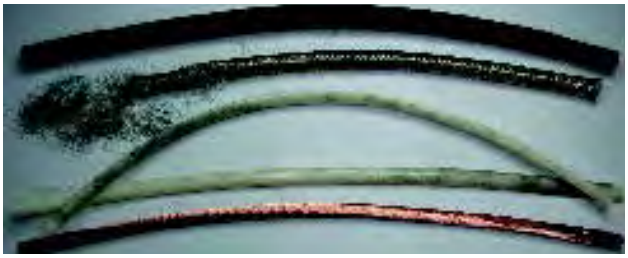
Cables tested were:
- **3 cables of CFROBOT.037**
- **3 cables of the series CF310.250.01.UL**
- **3 cables of the series CF310.250.01**



igus® test lab: The cables were tested in movements of ± 270°

The initial test sample of the CF310 with braided shield and the CFROBOT were taken after 250,000 movements with a torsion angle of ± 270°.

The cable dissection was undertaken in three areas of the cable length. In the sample illustrated in Picture 1, distinct damage to the overall shield is noticeable in the upper third of the cable.



Picture 1: Damaged overall shield sample of the braid version after 250,000 movements



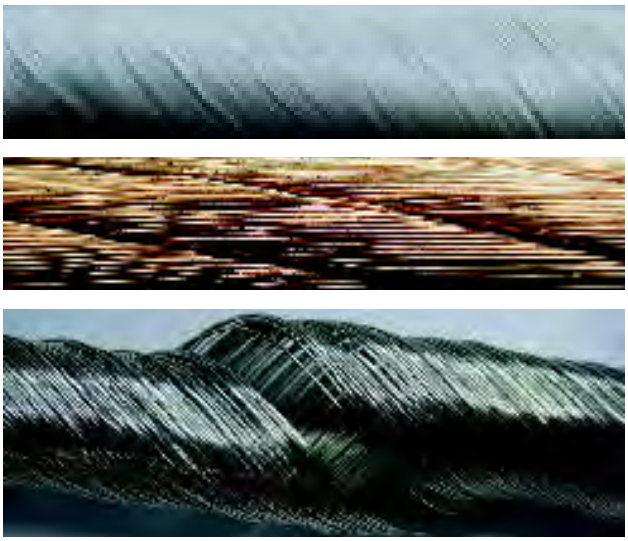
The detail inspection of the shield braid shows damage on the shield strand wires.

The samples (picture 2) of the CFROBOT.037 (so far samples were taken after 250,000, 1.5 million and 3 million movements) showed no damage in the area of the cable or the overall shield even after above 3 million torsional movements of ± 270°.



Picture 2: The CFROBOT shows absolutely no damage after more than 3 million movements

The detailed analyses (picture 3) of the shield wires, buffer fibres, PTFE film and the cable show no damage. The test is being continued further to determine the maximum service life of the cable.



Picture 3: Detail pictures of the CFROBOT after more than 3 million movements of ±270°

Example: tested live! Container crane with 50m travel distance

In the crane engineering industry, energy supply systems are increasingly proving their technical and economic benefits.Flexibility, variability, and space-saving installation are just a few of the important criteria. An important building block of an energy supply system is the cable. Here, users expect a high degree of operational reliability.

In the chainflex® laboratory, igus® cables undergo constant testing which can be used to obtain important information on the service life of a cable and to develop improvements for the future structural design of the cable. However, the situation becomes very exciting if you get the rare opportunity to remove cables from their tough, real-life applications and inspect them.

Current inspection

The chainflex® cable CF9.60.05 has been used in container cranes for many years; in the case here with a total travel distance of approx. 47m.

An inspection contract commissioned by the owner-operator was to present a performance balance sheet after more than 40,000 chain kilometres and determine the date for which the next preventive maintenance work should be planned.

Following the removal of the CF9.60.05, inspections were performed with the following objectives:

1. outer jacket, abrasion behaviour, other damage;
2. overall structure, insulation behaviour of the individual cores;
3. strand wire structure, number of any individual broken wires which might be an indication of an early failure of the entire cable.



An igus® energy supply system with a length of approx. 26m in a stainless steel trough.



The energy chain system was filled with many different igus® chainflex® cables, including the CF9.60.05

Result regarding 1:
No or only barely measurable traces of abrasion could be detected on the highly abrasion-resistant TPE outer jacket. This means that a failure due to abrasion or jacket breakage, despite the extreme environmental factors (temperature differences, UV irradiation, etc.), is not expected.

Result regarding 2:
The overall structure showed no indications of fatigue and had not changed in its pitch length.
Due to the large amount of talc, no abrasion was observed between the TPE-insulated cores. The high-voltage tests did not show any age-related changes.

Result regarding 3:
The cable was opened all the way to the copper conductor in the most stressed section of the radius. Here too, after more than 40,000 km, the inspection of the individual strand wires also showed no fatigue breakages which would indicate an early failure of the cable.

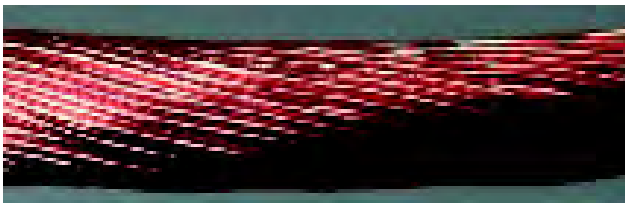
To sum up, it can be said that this cable, which was used in a real crane application in the trolley of an STS crane, was still completely intact even after more than 40,000 km and that preventive repair work was not required.



An igus® energy supply system with a length of approx. 26m in a stainless steel trough.



The individual elements of the CF9 from the dissected cable.



A close-up of the completely intact copper conductor. The inspection performed over the entire length shows that the conductor is still completely intact and does have any individual strand wire breakages.

Product information CF9
▶ Page 114

Example: ...tested!
Comparison of jacket materials exposed to different oils

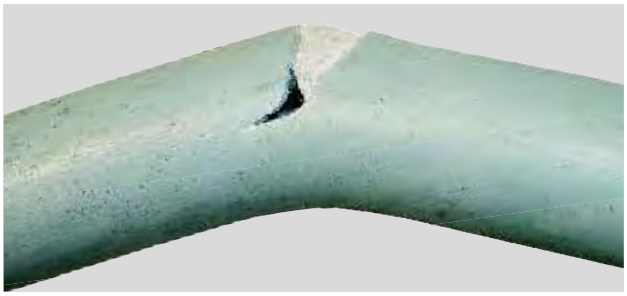
For years now, specially developed tests tailored to the individual requirements of igus® customers have been used to obtain more meaningful results than if standard tests were used. The relatively general terms such as "oil-resistant" or "coolant-resistant" are little help in making the right selection in terms of jacket material to be used for an application with oil, lubricant or coolant influence.

Alongside the generally applicable tests according to e.g. DIN EN 60811-2-1 and IEC 60811-1-1, "everyday application conditions" are simulated as realistically as possible in a test set-up matching our customers' requirements. Thus, for example, test samples are mounted in an energy chain that moves into an "oil bath" and then back out of it again. There is direct and alternating contact between the outer jacket and the medium to be tested and the air surrounding the energy chain and cable - just as in a real application.

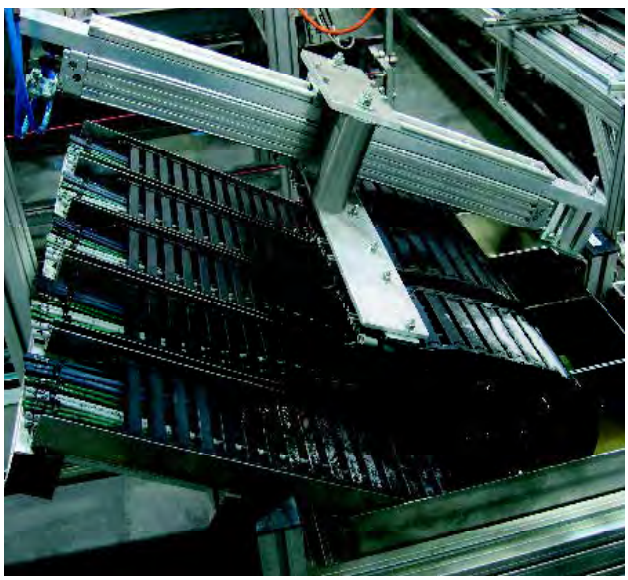
After a test duration for a customer application or defined according to the igus® standard, test samples can be examined for changes in material characteristics e.g. by comparing material strength, elongation at tear and swelling with the values noted before the test started.

In this way, customers not only get a statement about the different resistance of the various materials such as given by following the above-mentioned standards, but also an estimation of the real service life of the cable in an e-chain® in these conditions.

If the test samples - such as the cables shown - do not complete the prescribed test duration, we advise against use in the respective application.







Cracks in the outer jackets of materials from competitors caused by the use in e-chains®.





Example: ...tested! Completely twisted, take two.

The "torsion-resistant" requirement for cables for energy chains is not new, but is seldom exactly defined. So how is a statement such as "This cable is torsion-resistant up to ±180 °" to be understood? This makes it all the more important to be able to deliver comparable and meaningful test results.

In order to satisfy this requirement, the "torsion test bench" was developed according to the igus® standard. Here, various cable types are twisted to a prescribed cable length of 1 metre, which also corresponds to the distance between the fixed points. The degree of torsion can be chosen, and is defined individually according to the test requirement, and the standard test is ±180 °.

After a prescribed number of double strokes or a negative electrical or mechanical test result, the test specimen is dissected, and the type and position of any damage can be exactly determined.

The first chainflex® CFROBOT cable types were developed to series with help of the data of these tests.

Product information CFROBOT
▶ Page 404



The "torsion test bench" developed according to the igus® standard

Information | **DIN 47100 colour code**

DIN 47100 colour code (however, deviating from DIN: without colour repetition after 44th core)*

1	white
2	brown
3	green
4	yellow
5	grey
6	pink
7	blue
8	red
9	black
10	violet
11	grey-pink
12	red-blue
13	white-green
14	brown-green
15	white-yellow
16	yellow-brown
17	white-grey
18	grey-brown
19	white-pink
20	pink-brown
21	white-blue
22	brown-blue
23	white-red
24	brown-red
25	white-black
26	brown-black
27	grey-green
28	yellow-grey
29	pink-green
30	yellow-pink
31	green-blue
32	yellow-blue
33	green-red
34	yellow-red
35	green-black
36	yellow-black
37	grey-blue
38	pink-blue
39	grey-red
40	pink-red
41	grey-black
42	pink-black
43	blue-black
44	red-black
45	white-brown-black
46	yellow-green-black
47	grey-pink-black
48	red-blue-black
49	white-green-black
50	brown-green-black
51	white-yellow-black
52	yellow-brown-black
53	white-grey-black
54	grey-brown-black
55	white-pink-black
56	pink-brown-black
57	white-blue-black
58	brown-blue-black
59	white-red-black
60	brown-red-black
61	black-white

*Exception: 4-core cables are braided in the colour sequence white, green, brown, yellow.

The first colour indicates the basic colour of the core insulation, and the second colour indicates the colour of the printed-on ring. In the case of three colours, the second and colours are printed on the basic colour.

Calculation of the copper surcharge

The copper surcharge is the calculation of the difference between the calculated price (copper basis) and the actual price listed on the stock exchange of the copper share in a cable. In calculatory terms, the price of each chainflex® cable listed in the catalogue is based on a copper price to the amount of €150.–/100kg copper.

Calculation of the copper surcharge:

- LME[1] (London Metal Exchange) price in USD/ton
- ECB exchange rate, USD/euro
- Plus surcharges

[1] LME stands for London Metal Exchange.
Together with Shanghai and New York, it is one of the world's largest metal trading centres.This basis has been used in Europe for many decades to determine the copper price listed on the stock.

More Information online

▶ igus-asean.com/CF-copper

Calculate the copper surcharge online

The copper surcharge can be calculated directly for each chainflex® cable and individual length in our copper surcharge calculator on the igus® website:

▶ igus-asean.com/quickcopper

Copper wire dimensions according to Anglo-American AWG numbers

AWG No.	Diameter [mm]	Cross section [mm²]
500	17.96	253.00
350	15.03	177.00
250	12.70	127.00
4/0	11.88	107.20
3/0	10.40	85.00
2/0	9.27	67.50
1/0	8.25	53.50
1	7.35	42.40
2	6.54	33.60
4	5.19	21.20
6	4.12	13.30
8	3.26	8.37
10	2.59	5.26
12	2.05	3.31
14	1.63	2.08
16	1.29	1.31

AWG No.	Diameter [mm]	Cross section [mm²]
18	1.024	0.823
20	0.813	0.519
22	0.643	0.324
24	0.511	0.205
26	0.405	0.128
28	0.320	0.0804
30	0.255	0.0507
32	0.203	0.0324
34	0.160	0.0200
36	0.127	0.0127
38	0.102	0.00811
40	0.079	0.00487
42	0.064	0.00317
44	0.051	0.00203

Information | **Load-carrying capacity of cores**

	Control/data cables			Motor/servo cables			Single-core cables	
chainflex® type	CF5, CF6, CF2, CF150.UL, CF160.UL	CF880, CF881, CF130.UL, CF140.UL, CF240, CF211, CF884	CF890, CF891, CF77.UL.D, CF78.UL, CF9, CF10, CF9.UL, CF10.UL, CF98, CF98.PLUS, CF99, CF99.PLUS, CF112, CF11, CF12, CF298, CF299, CF894, CF113.D, CF111.D, CF11.D, CFROBOT2, CFROBOT3, CFROBOT9	CF885, CF886, CF30, CF31, CF887, CF897, CF210.UL, CF220.UL.H, CF21.UL , CF895, CF896	CFROBOT6, CFROBOT7	CF34.UL.D, CF35.UL, CF37.D, CF38, CF270.UL.D, CF280.UL.H, CF27.D, CF29.D	CF885, CF885.PE, CF886	CF270.UL.D, CF300.UL, CF310.UL, CF330.D, CF340, CFPE, CFROBOT
Insulation material	PVC	TPE	TPE	TPE/XLPE	TPE	XLPE	PVC	TPE
Loaded cores	2 or 3	2 or 3	2 or 3	2 or 3	2 or 3	2 or 3	1	1
Nominal cross section of copper core [mm²]	Load capacity [A]	Load capacity [A]	Load capacity [A]	Load capacity [A]	Load capacity [A]	Load capacity [A]	Load capacity [A]	Load capacity [A]
0.14	2.5	2.5	2.5	-	-	-	-	-
0.25	4	5	5	-	5	-	-	-
0.34	5	7	7	-	7	-	-	-
0.5	8	10	10	-	10	11	-	-
0.75	12	13	14	-	14	14	-	-
1	15	15	17	-	17	17	-	-
1.5	18	19	21	19	21	21	-	25
2.5	26	27	30	27	30	30	30	34
4	-	37	41	37	41	41	41	46
6	-	48	53	48	53	53	53	58
10	-	-	74	69	74	74	74	81
16	-	-	99	92	99	99	99	110
25	-	-	131	121	131	131	131	144
35	-	-	162	152	-	162	162	179
50	-	-	-	191	-	202	202	228
70	-	-	-	239	-	-	250	285
95	-	-	-	-	-	-	301	348
120	-	-	-	-	-	-	-	394
150	-	-	-	-	-	-	-	466
185	-	-	-	-	-	-	-	532
240	-	-	-	-	-	-	-	610
300	-	-	-	-	-	-	-	754
400	-	-	-	-	-	-	-	903

Table 1: Load-carrying capacity for chainflex® cables fixed or moving in e-chains® and e-tubes

The values in these tables have been taken from the standard DIN VDE 0298, Part 4. These values have been simplified and only apply approximately. For each application, it is advisable to obtain and comply with the regulations that apply to each individual case (e.g. measures for protection in case of indirect contact in accordance with DIN VDE 0100 Part 410, overcurrent protective devices in accordance with DIN VDE 0100 Part 430 or voltage drop in accordance with DIN VDE 0100 Part 520). It is not possible to provide all the regulations or overviews in this catalogue. Due to the harmonisation that has been carried out, it is possible that different load-carrying values may be permissible for the same cable in some cases. For the selection of the relevant cross section, the load capacity in undisturbed operation is the determining factor, i.e. the use with permissible operating temperature or permissible maximum temperature on the core.
The load-carrying capacity according to **Table 1** applies to operating-current-carrying cores.

Normally, these are 2 loaded cores in the case of 2-core and 3-core cables, as well as 3 loaded cores in the case of 4-core and 5-core cables. Please take this into account when planning for the use of multi-core cables in electrical installation conduits or energy chains. This information is based on an ambient temperature of 30°C and a non-loaded cable. Please apply the conversion factors according to **Table 2** if the air temperature is increased due to the heat loss of the cables (please take thermal radiation into account as well, e.g. effects of exposure to the sun).

The possible cable installation types in energy chains result in such a broad range of loading profiles that no generalised conversion factors can be offered for this large range of cables. The installation type and the conversion factors must be taken from **Table 3**, according to each individual application.

Ambient temperature [°C]	Conversion factor	
	PVC insulation	TPE /XLPE insulation
10	1.22	1.15
15	1.17	1.12
20	1.12	1.08
25	1.06	1.04
30	1.00	1.00
35	0.94	0.96
40	0.87	0.91
45	0.79	0.87
50	0.71	0.82
55	0.61	0.76
60	0.50	0.71
65	–	0.65
70	–	0.58
75	–	0.50
80	–	0.41
85	–	0.29
90	–	0.14

Table 2: Conversion factors in case of varying ambient temperature

Loaded cores	Conversion factor
5	0.75
7	0.65
10	0.55
14	0.50
19	0.45
24	0.40
40	0.35
61	0.30

Table 3: Conversion factors for multi-core cables with cable cross sections up to 10 mm^2

Chemical resistance | **Selection chart**

Group	chainflex® cable	Jacket material	1	2	3	4	5	Page
Control cables								
Control cable	CF880	PVC	1					58
Control cable	CF881	PVC	1					62
Control cable	CF130.UL	PVC	1					66
Control cable	CF140.UL	PVC	1					70
Control cable	CF150.UL	PVC		2				74
Control cable	CF160.UL	PVC		2				78
Control cable	CF5	PVC		2				82
Control cable	CF6	PVC		2				86
Control cable	CFSOFT1	PVC		2				90
Control cable	CFSOFT2	PVC		2				92
Control cable	CF890	iguPUR			3			94
Control cable	CF891	iguPUR			3			98
Control cable	CF77.UL.D	PUR				4		102
Control cable	CF78.UL	PUR				4		106
Control cable	CF2	PUR				4		110
Control cable	CF9	TPE					5	114
Control cable	CF10	TPE					5	118
Control cable	CF9.UL	TPE					5	122
Control cable	CF10.UL	TPE					5	126
Control cable	CF98	TPE					5	130
Control cable	CF99	TPE					5	132
Control cable	CF98.PLUS	TPE					5	134
Control cable	CF99.PLUS	TPE					5	138
Data cables								
Data cable	CF240	PVC		2				146
Data cable	CF240.PUR	PUR				4		152
Data cable	CF211	PVC		2				154
Data cable	CF211.PUR	PUR				4		158
Data cable	CF11	TPE					5	162
Data cable	CF112	PUR				4		166
Data cable	CF12	TPE					5	170
Data cable	CF298	TPE					5	172
Data cable	CF299	TPE					5	174
Data cable	CFKoax	TPE					5	176
Bus cables								
Bus cable	CF888	PVC	1					188
Bus cable	CFBUS.PVC	PVC		2				192
Bus cable	CF898	iguPUR			3			196
Bus cable	CFBUS.PUR	PUR				4		200
Bus cable	CFBUS	TPE					5	204
Bus cable	CFBUS.LB	TPE					5	210
Fibre Optic Cables								
Fibre Optic Cable	CFLK	PUR				4		220
Fibre Optic Cable	CFLG88	PVC	1					222
Fibre Optic Cable	CFLG.LB.PUR	PUR				4		224
Fibre Optic Cable	CFLG.LB	TPE					5	228
Fibre Optic Cable	CFLG.G	TPE					5	232
Measuring system cables								
Measuring system cable	CF884	PVC	1					242
Measuring system cable	CF211	PVC		2				246
Measuring system cable	CF894	iguPUR			3			252
Measuring system cable	CF111.D	PUR				4		256
Measuring system cable	CF113.D	PUR				4		262
Measuring system cable	CF11.D	TPE					5	268

Chemical resistance | **Selection chart**

Group	1	2	3	4	5
Inorganic chemicals					
Aqueous solutions, neutral					
Water	+	+	O	+	+
Common salt (10%)	+	+	O	+	+
Glauber's salt (10%)	+	+	O	+	+
Aqueous solutions, alkaline					
Soda (10%)	O	+	+	O	+
Aqueous solutions, acid					
Sodium bisulfate (10%)	O	+	+	O	+
Aqueous solutions, oxidising					
Hydrogen peroxide (10%)	+	+	O	+	+
Potassium permanganate (2%)	+	+	O	+	+
Inorganic acids					
Hydrochloric acid, concentrated	–	–	–	–	–
Hydrochloric acid (10%)	O	O	+	O	+
Sulfuric acid, concentrated	–	–	–	–	–
Sulfuric acid (10%)	O	O	+	O	+
Nitric acid, concentrated	–	–	–	–	–
Nitric acid (10%)	O	O	+	–	O
Inorganic caustic solutions					
Sodium hydroxide, concentrated	–	–	–	–	O
Soda lye (10%)	O	O	+	O	+
Caustic potash, concentrated	–	–	–	–	O
Caustic potash (10%)	O	O	+	O	+
Ammonia, concentrated	O	O	–	O	+
Ammonia (10%)	+	+	+	+	+
Organic chemicals					
Organic acids					
Acetic acid, concentrated (glacial acetic acid)	–	–	–	–	O
Acetic acid(10% in H_2O)	O	+	+	O	+
Tartaric acid (10% in H_2O)	O	+	+	+	+
Citric acid (10% in H_2O)	O	+	+	+	+
Ketone					
Acetone	–	–	–	–	O
Methyl ethyl ketone (MEK)	–	–	–	–	O
Alcohols					
Ethyl alcohol (spirit)	–	O	+	O	+
Isopropyl alcohol	–	O	+	O	+
Diethylene glycol	O	O	+	+	+
Aromatic compounds					
Toluol	–	–	–	O	–
Xylol	–	–	–	O	–
Fuels					
Gasoline	–	O	O	+	+
Diesel fuel	–	O	O	+	+
Synthetic oils					
Lubricating oil					
ASTM oil #2	O	+	+	+	+
Hydraulic oil					
Mineral oil base	–	O	+	+	+
Glycol base	O	O	+	+	+
Synthetic ester base	–	O	–	+	+
Vegetable oils					
Rapeseed oil	O	+	O	+	+
Olive oil	O	+	O	+	+
Soya bean oil	O	+	O	+	+
Cold cleaning agent					
Cold cleaning agent	–	O	+	+	O

\+ no or minimum negative influence

O medium reciprocal effect, short-term exposure permissible

– unstable, material partly destroyed

All information applies to room temperature

Chemical resistance | **Selection chart**

Group	chainflex® cable	Jacket material	1	2	3	4	5	Page
Servo cables								
Servo cable	CF887	PVC	1					280
Servo cable	CF210.UL	PVC		2				282
Servo cable	CF21.UL	PVC		2				286
Servo cable	CF897	iguPUR			3			290
Servo cable	CF270.UL.D	PUR				4		292
Servo cable	CF27.D	PUR				4		296
Servo cable	CF29.D	TPE					5	300
Servo cable	CF220.UL.H	PVC		2				302
Servo cable	CF280.UL.H	PUR				4		306
Motor cables								
Motor cable	CF885	PVC	1					318
Motor cable	CF886	PVC	1					320
Motor cable	CF210.UL	PVC		2				322
Motor cable	CF30	PVC		2				324
Motor cable	CF31	PVC		2				328
Motor cable	CF895	iguPUR			3			332
Motor cable	CF896	iguPUR			3			334
Motor cable	CF270.UL.D	PUR				4		336
Motor cable	CF27.D	PUR				4		340
Motor cable	CF34.UL.D	TPE					5	344
Motor cable	CF35.UL	TPE					5	348
Motor cable	CF37.D	TPE					5	352
Motor cable	CF38	TPE					5	354
Spindle cable/Single core	CF885	PVC	1					356
Spindle cable/Single core	CF885.PE	PVC	1					358
Spindle cable/Single core	CF886	PVC	1					360
Spindle cable/Single core	CF270.UL.D	PUR				4		362
Spindle cable/Single core	CF300.UL.D	TPE					5	364
Spindle cable/Single core	CFPE	TPE					5	366
Spindle cable/Single core	CF310.UL	TPE					5	368
Spindle cable/Single core	CF330.D	TPE					5	370
Spindle cable/Single core	CF340	TPE					5	372
Medium voltage cable	CFCRANE.PUR	TPE					5	374
Twistable cables								
Twistable cable	CF77.UL.D	PUR				4		384
Twistable cable	CFROBOT2	PUR				4		388
Twistable cable	CFROBOT3	PUR				4		390
Twistable cable	CFROBOT4	PUR				4		392
Twistable cable	CFROBOT5	TPE					5	396
Twistable cable	CFROBOT6	PUR				4		398
Twistable cable	CFROBOT7	PUR				4		400
Twistable cable	CFROBOT	TPE					5	404
Twistable cable	CFROBOT8	PUR				4		406
Twistable cable	CFROBOT8.PLUS	PUR				4		410
Twistable cable	CFROBOT9	PUR				4		414
Special cables								
Special cable	CFTHERMO	PUR				4		420
Special cable	CFFLAT	TPE					5	422
Special cable	CFSPECIAL.182	PUR				4		424
Special cable	CFSPECIAL.192	PUR				4		426
Special cable	CFSPECIAL.532	PUR				4		432
Special cable	CFSPECIAL.562.PE	PUR				4		434
Special cable	CFSPECIAL.572	PUR				4		436
Special cable	CFSPECIAL.592	PUR				4		438
Special cable	CFSPECIAL.792	PUR				4		440

Chemical resistance | **Selection chart**

Group	1	2	3	4	5
Inorganic chemicals					
Aqueous solutions, neutral					
Water	+	+	O	+	+
Common salt (10%)	+	+	O	+	+
Glauber's salt (10%)	+	+	O	+	+
Aqueous solutions, alkaline					
Soda (10%)	O	+	+	O	+
Aqueous solutions, acid					
Sodium bisulfate (10%)	O	+	+	O	+
Aqueous solutions, oxidising					
Hydrogen peroxide (10%)	+	+	O	+	+
Potassium permanganate (2%)	+	+	O	+	+
Inorganic acids					
Hydrochloric acid, concentrated	–	–	–	–	–
Hydrochloric acid (10%)	O	O	+	O	+
Sulfuric acid, concentrated	–	–	–	–	–
Sulfuric acid (10%)	O	O	+	O	+
Nitric acid, concentrated	–	–	–	–	–
Nitric acid (10%)	O	O	+	–	O
Inorganic caustic solutions					
Sodium hydroxide, concentrated	–	–	–	–	O
Soda lye (10%)	O	O	+	O	+
Caustic potash, concentrated	–	–	–	–	O
Caustic potash (10%)	O	O	+	O	+
Ammonia, concentrated	O	O	–	O	+
Ammonia (10%)	+	+	+	+	+
Organic chemicals					
Organic acids					
Acetic acid, concentrated (glacial acetic acid)	–	–	–	–	O
Acetic acid (10% in H_2O)	O	+	+	O	+
Tartaric acid (10% in H_2O)	O	+	+	+	+
Citric acid (10% in H_2O)	O	+	+	+	+
Ketone					
Acetone	–	–	–	–	O
Methyl ethyl ketone (MEK)	–	–	–	–	O
Alcohols					
Ethyl alcohol (spirit)	–	O	+	O	+
Isopropyl alcohol	–	O	+	O	+
Diethylene glycol	O	O	+	+	+
Aromatic compounds					
Toluol	–	–	–	O	–
Xylol	–	–	–	O	–
Fuels					
Gasoline	–	O	O	+	+
Diesel fuel	–	O	O	+	+
Synthetic oils					
Lubricating oil					
ASTM oil #2	O	+	+	+	+
Hydraulic oil					
Mineral oil base	–	O	+	+	+
Glycol base	O	O	+	+	+
Synthetic ester base	–	O	–	+	+
Vegetable oils					
Rapeseed oil	O	+	O	+	+
Olive oil	O	+	O	+	+
Soya bean oil	O	+	O	+	+
Cold cleaning agent					
Cold cleaning agent	–	O	+	+	O

\+ no or minimum negative influence

O medium reciprocal effect, short-term exposure permissible

– unstable, material partly destroyed

All information applies to room temperature

Design parameters | **Cable and hose packages**

Rules for:
- **Maximum cable diameters**
- **Separation**
- **Bend radius**

General rules for cables and hoses in e-chains®

Data and energy supply in all forms – in an energy chain system

The key advantage of an igus® e-chain system® is the safe accommodation of various forms of data cables and energy supply in one system. We recommend the optimal separation layout of the cables and hoses in the e-chain®, but you, the customer, are still afforded the final choice. It is possible, for instance, to maintain minimum distances between bus and motor cables and mix pneumatics, electric and hydraulics in the same compartments.

In addition to the quality of the cables used, the arrangement of each service within the e-chain® and the space allowed, are important for the service life of the system. Various separation options enable the adaptation of the e-chains® to the specific requirements of each respective application. Generalised rules such as "No more than 80% of the clear space of energy chains should be used" no longer make sense given the complexity of present-day applications. In this chapter, we give you detailed recommendations. Due to the variety of the application parameters, we strongly recommend you take advantage of our free consultation services.Simply give us a list of your cable requirements (or merely the required electrical or other services) and you will receive our recommendation.



Hydraulics and electric cables are separated from one another in this example



Well ordered cables with igus® interior separation

Maximum cable and hose diameters

The maximum cable and/or hose diameter corresponds to the inner height of the selected e-chain®/e-tube, with additional minimum clearance. This minimum clearance would be, for example, 10% for round electrical cables, 20% for hydraulic hoses. An e-chain® is ideal if a minimum lateral gap to the next cable or hose has been factored in. Depending on the nature of the cables, the dynamics, and the expected service life, more clearance must be allowed. In specific cases, clearances may be altered further. Please contact us.

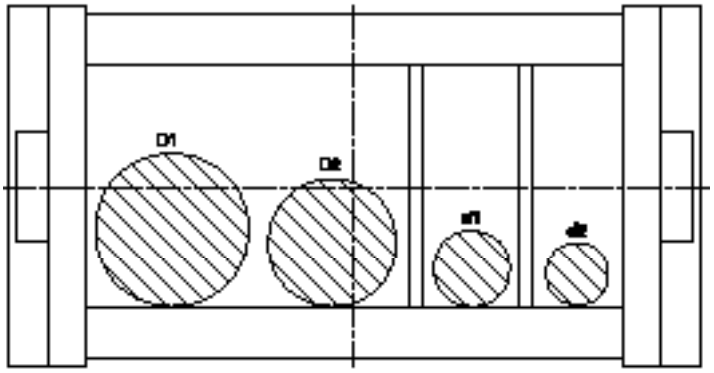
Electrical cables need at least 10% clearance space all around, hydraulic hoses need 20%

The maximum cable diameter is specified for each series in its respective chapter

Design parameters | **Cable and hose packages**

Distribution in e-chains®

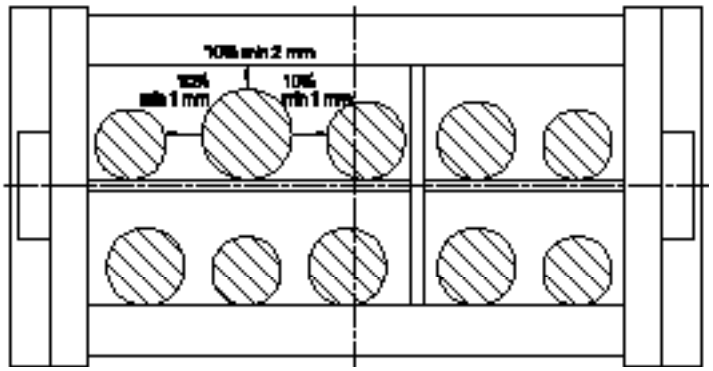
- Cables and hoses with very different diameters should be laid separately. The separation is achieved using modular separators.
- Cables and hoses must under no circumstances have the opportunity to tangle. Therefore, the clearance height of a compartment with several similar cables or hoses next to one another must **not amount to more than one and a half times the cable/hose diameter.**



D1 + D2 > 1.2 x hi **d1 + d2 ≤ 1.2 x hi**

Expressed in rules, this means:

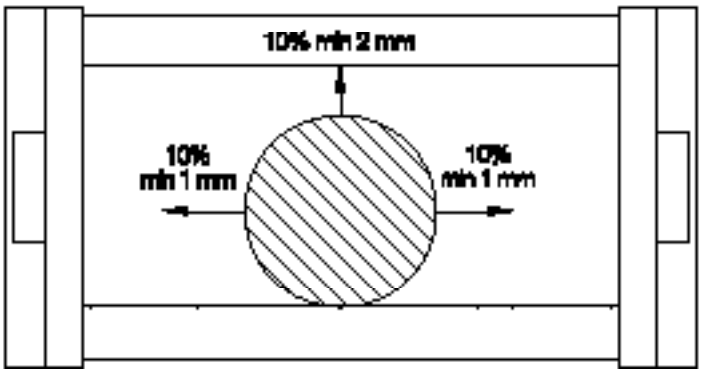
Rule 1:
If D1 + D2 > 1.2 x e-chain® inner height, no separation between the two cables/ hoses is necessary. Two cables/ hoses should never be left unguided on top of one another or be allowed to become tangled.



d1 + d2 ≤ 1.2 x hi

Rule 2:
if d1 + d2 ≤ 1.2 x e-chain® inner height, a vertical separator or a horizontal shelf must be used to reduce the inner height. Thereby preventing the entanglement of d1 and d2.

The reason for this rule is:
The cables and hoses must be laid so that they can move freely at all times and so that no tensile force is exerted at the radius of the e-chains®.



Clearance space for round electrical cables

For high-speed applications and high cycles, cables or hoses **must not be laid on top of each other without horizontal separation**. The standard values for this are:

Travel speed over **0.5m/s** and cycles over **10,000 p.a.**

igus® interior separation offers a safe solution for this situation.

Clearance space in % for various cables

Cables	Clearance space
Round electrical cables	**10%**
Electrical flat cables	**10%**
Pneumatics	**5-10%**
Hydraulics	**20%**
Media hoses	**15-20%**

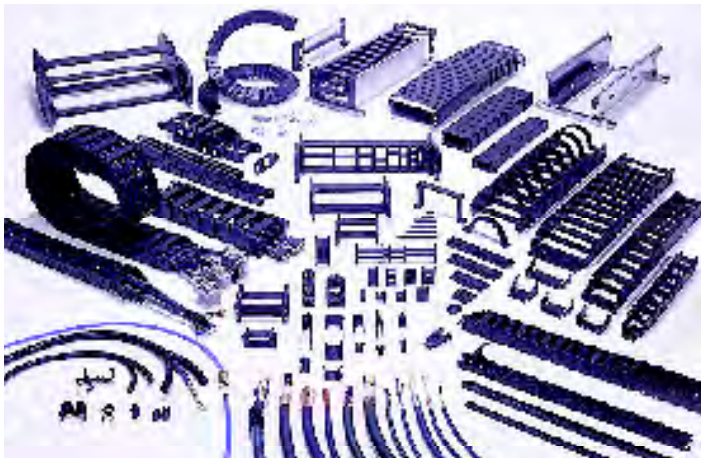
Design parameters | **Cable and hose packages**

Further guidelines for distribution

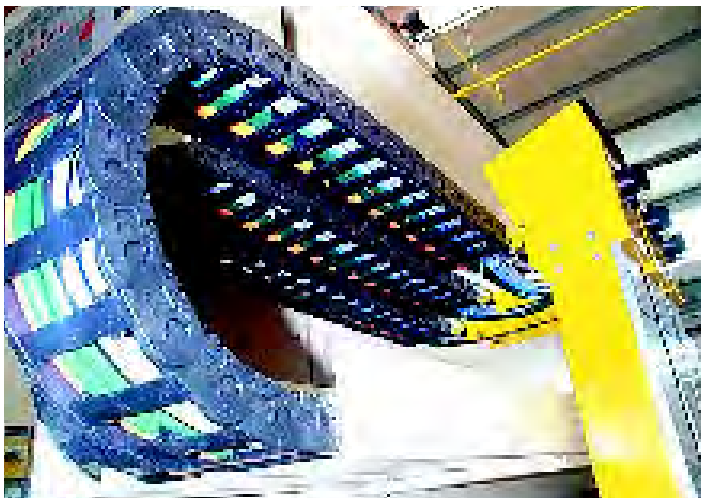
- The cable weight should be symmetrically distributed across the width of the e-chain®.
- Cables with different outer jacket materials must not be allowed to rub together. If necessary, they must be laid separately. All igus® chainflex® cables can be combined with each other and other brands of cables.
- The cables should always be fixed at the moving end. The fixed end should also always have strain relief. Exceptions are made only for certain hydraulic hoses with length compensation issues or other high pressure hoses. (refer to "hydraulic hoses").
- Generally, the faster and more frequently the e-chain® operates, the more important the exact positioning of the cables and hoses inside the e-chain® becomes. Due to the wide variety of the possibilities, we strongly recommend you take advantage of our free consultation services for your specific applications.

Bend radius R

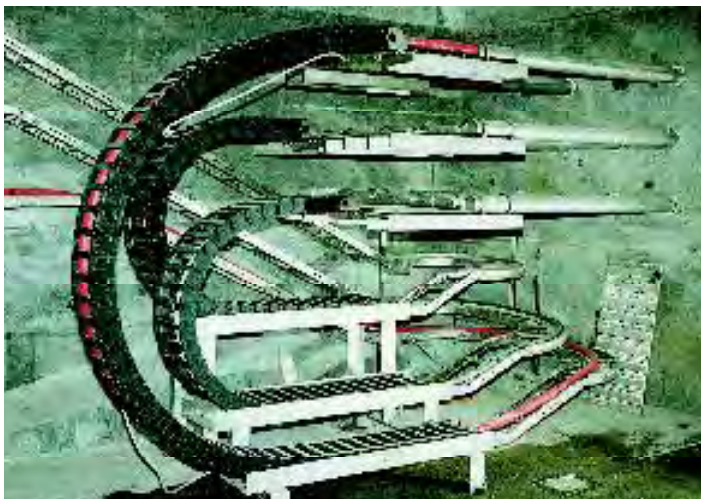
- The bend radius of your e-chain® depends on the thickest or stiffest cable or hose in your application.
- The bend radii of the e-chains® should be adjusted to the recommendations of the cable or hose manufacturer. The selection of a larger radius than the minimum will positively affect service life.
- The specification of minimum bend radii for cables refers to use at normal temperatures. Other bend radii may be recommended. Please ask your cable supplier for details.



The igus® construction kit of energy chain systems solves all the requirements for interior separation known today.



igus® chainflex® cables permit the smallest bend radius of 5 x d for one million strokes.



The igus® product range offers up to 12 different bend radii for each chain series from stock. Here series 50 in the Storebaelt bridge project.

We recommend complete e-chain systems®, - where bend radii for all cables and hoses, interior separation and service life are optimally matched. Also ask for the igus® system guarantee. ▶ readychain® **from page 910**

Design parameters | **Round electrical cables**

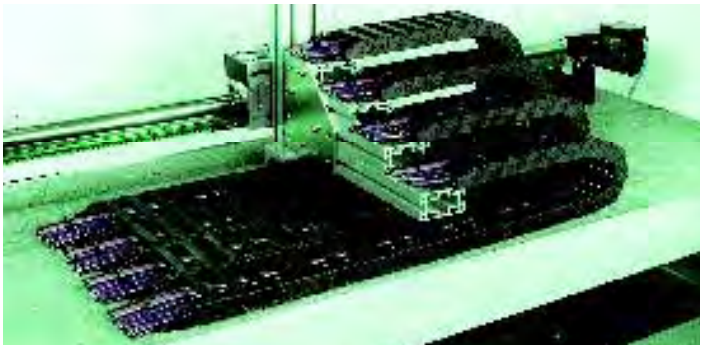
Round electrical cables

For electrical cables, the round cable is a safe, modular and cost-effective solution for e-chain systems®. We recommend the following criteria for selecting the proper round electrical cables:

Selection criteria:

- Small minimum bend radii and mounting heights
- Long service life at minimum bend radius
- Service life expectations for your application (short or long travel, hanging)
- Test data on service life from realistic tests
- Uncomplicated installation process - no hanging, laying out, etc, of cables required
- Strain relief integrated directly into the mounting bracket
- Flexible shields for shielded cables
- Abrasion-resistant and non-adhesive outer jackets
- Large selection to avoid expensive custom designs

For bus cables and fibre optic cables, special attention must be paid to how effective transmission rates and shielding remain after millions of cycles at the minimum bend radius.



Example at igus® test laboratory: constant development and testing of chainflex® cables

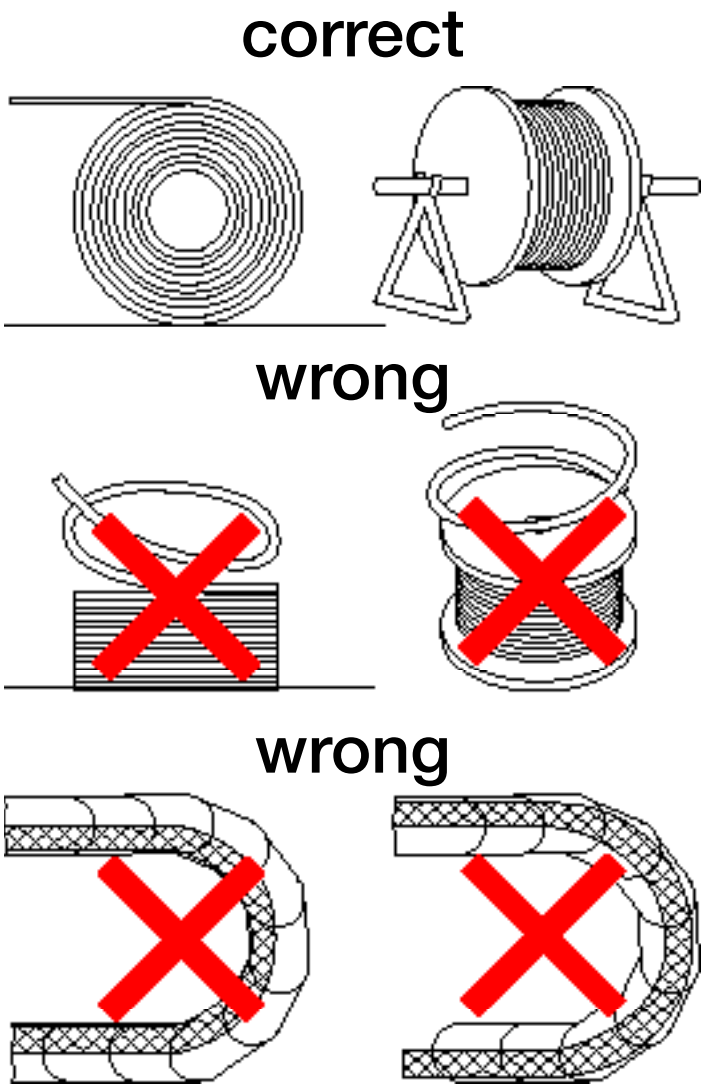
Design parameters | **Round electrical cables**

Installation and strain relief of round electrical cables

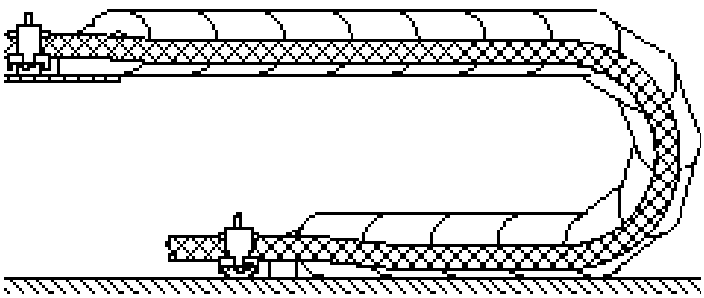
1. The cables must be laid straight, without twisting. Cables must not be uncoiled from the top of the spool. igus® chainflex® cables are immediately ready for fitting directly into the e-chain®. They need not be disconnected or laid out before installation.
2. The cables must be laid so that each individual cable can move freely from side to side.
3. The cables must be able to move freely along the radius. This must be double-checked if the upper run operates at the cable's maximum bend radius.
4. The division of the e-chains® interior using igus® interior separators or shelves is necessary if several cables and/or hoses with varying diameters are laid out. It is important to prevent cables and hoses from tangling.
5. For cables and hoses with different jacket materials, it is important to prevent them from "sticking" to one another. If necessary, they should be separated. igus® chainflex® cables can be combined with all others.
6. Round electrical cables must be secured with strain relief at both ends. In exceptional cases, the cables may be fixed with strain relief at the moving end of the e-chain® only. A gap of 10-30 x cable diameter between the end of the bend segment and the fixed point is recommended for most cables. chainflex® cables can, on the other hand, be secured directly to the mounting bracket with strain relief (this has been confirmed with testing).

We will be pleased to provide you with recommendations for complete e-chain systems®:
"readychain®: chain-cable harnessing".

▶ readychain® **from page 910**



The cables must be able to move freely along the radius



chainflex® cables can be strain-relieved directly at the mounting bracket.



Corkscrewing: an effect of improper cable and hose placement in an e-chain®

Design parameters | **Pneumatic hoses**

Pneumatic hoses

In principle, the same rules apply for pneumatic hoses as for round cables. In practice, it has been demonstrated that pneumatic hoses are less susceptible to wear. After consultation, they can be laid together more closely than the "10% all-around clearance" rule. A double-sided strain relief is required under these conditions. For pneumatic hoses made of rubber, we recommend strictly following the "10% clearance" rule because they tend to adhere to each other and to other cables and hoses.



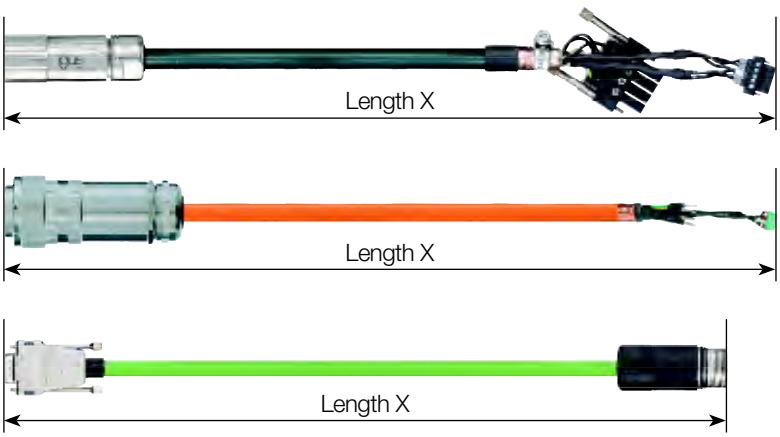
Fully pre-assembled e-chain system® with several pneumatic and hydraulic hoses.

The igus® product range also offers thermo polymer pneumatic hoses called "chainflex® CFAir and CFCleanAir" ▶ Page 462

Design parameters| **Definition of length**

Harnessed cables

igus® GmbH defines cable length as entire length including connectors or open harnessing.
Further length definitions possible on request. Feel free to contact us!



Welcome to the world ...

The chainflex® approvals and their significance:
www.igus-asean.com/chainflex-certificates

igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year

Guarantee igus chainflex 36

UL Marketing Claim Verification

Today, plant safety or availability can be the decisive reason to choose one machine over another.
As the complexity of the machines and number of electrical parts increases, the difficulty for designers to choose the best product also increases.
This is not helped by the fact that there is a lot of marketing information given, which is not norm based, and therefore difficult for the designer to verify the facts.
This is where the UL Marketing Claim Verification initiated by UL will help the designer.
This is because UL checks the marketing statements of the supplier for the technical data and accuracy.

The UL verified label now proves that the guarantee and quality statements for chainflex® cables and their durability, service life and functionality have been certified by UL. For companies that use these cables in their equipment, they offer more safety from purchasing parts for machine construction, customs clearance and shipping of the machines to America, right through to commissioning. Those who use chainflex® cables in energy chains can have confidence in terms of parameters such as temperature, type of movement, torsion, media influence or minimum bend radius.

The complex certification procedure (diagram 1) for the "igus® 36-month chainflex® cable guarantee and service life calculator based on 2 billion test cycles per year" claim, was carried out by auditors of the US institute at the igus® HQ in Cologne.

To achieve this, the processes and logic of service life determination were evaluated in a comprehensive audit program of the 3,800 m² chainflex® test laboratory, which has over 800 parallel running tests and over 2 billion test cycles per year.

The following four areas were scrutinised:



Figure 1: The complex process to get the UL marketing certificate (source: igus®)

More details online:
verify.ul.com/verifications/368

More information:
www.igus-asean.com/chainflex-welcome-to-the-world

UL listed

Cables for applications that can be fully described in a standard are certified as "UL Listed". Example: A cable for a washing machine power supply can be clearly described for its application; therefore a normative description of the application of the cable and the associated test setup can be clearly defined. To certify that the cable is in accordance with "UL Listed" and then to manufacture, test and mark according to "UL Listed". It is not permissible to use a different kind of cable in such a clearly described application in the USA.

UL/CSA Recognized

The "UL/CSA Recognized" certification marks are issued for components of larger systems. In this case, only components that are not intended for a single, precisely defined installation or application are certified.
Cables for applications that cannot be described normatively and completely are then certified according to "UL/CSA Recognized" (AWM).

Example: Cables for use in energy chains are so diverse and complex that a normative description is impossible. This is where the " UL/CSA Recognized" certification is applicable. It allows cable developers a whole range of different combinable options with respect to insulation material, jacket material and design. From this cable manufacturers develop a combination that works, which means that it can be used for a specific customer application.

Be aware: "UL/CSA Recognized" describes a large, extremely varied range of applications. Here, it is the responsibility of the designer and manufacturer of such an "AWM cable" to work out and carry out appropriate additional tests to prove a specific application, e.g. in an energy chain.

UL

The institution responsible for approval in the USA is Underwriters Laboratories (UL). The Canadian Standards Association (CSA) is responsible for it in Canada. Certification guidelines and certification processes differ in their complexity, depending on the market and country. A so-called Memorandum of Understanding allows use in both countries, regardless of the place of certification. Both testing organisations distinguish between the so-called "UL/CSA Listed" and "UL/CSA Recognized" certification, both of which fulfil normative safety requirements that are verified by test procedures.

More details online:
iq.ul.com/

More information:
www.igus-asean.com/chainflex-welcome-to-the-world

Information | **Approvals and standards**

NFPA

The US **N**ational **F**ire **P**rotection **A**ssociation (NFPA), is a non-profit organisation that has been active in fire protection since 1896.
NFPA publishes numerous safety standards including electrical standards that are used in the USA today.
These include the "NFPA 79 - Electrical Standard for Industrial Machinery". The subject of the standard is primarily the correct application of electrical systems in industrial machinery and equipment used in the USA. With the help of the standard, designers can develop safe machines with the highest level of protection for operating personnel.
NFPA 79-2018 includes the topic "*Special Cables and Conductors*" relevant for chainflex cables in section 12.9.

More details online:
www.nfpa.org/

CLPA

The **C**C-**L**ink **P**artner **A**ssociation is an organisation based in Japan and represented in 11 regions of the world.
The purpose of CLPA is to spread and establish the industry network "CC-Link" standard worldwide.
In addition to the marketing of this standard, CC-Link products that are to be used for this standard are tested by this organisation and, if they are technically compliant with the corresponding certificates, are approved for use in CC-Link networks.

More details online:
www.cc-link.org/sch/c012List?userSeqNo=76&menuSeqNo=2

DNV approval

The maritime economy is developing towards more automation and digitalisation: Whether vessel manufacture, shipping companies or the gas and oil industry - ships are becoming autonomous factories, shipping companies are becoming fully-fledged logistics providers, and refineries are becoming automated conveyor systems.
DNV is responsible for certifications in the maritime environment, offshore facilities, gas and oil pipelines, and onshore applications such as wind, tidal or solar energy. The classification society was formed in 2012 through the merger of the Norwegian company Det Norske Veritas (DNV) and Germanischer Lloyd (GL).
The components used in maritime environments have to meet different requirements than those of classic factory automation on land.
This requires a separate approval for the operation of these components. The certification society checks compliance with international standards and guidelines, which are applied accordingly to these components. If existing regulations or standards do not describe the application sufficiently, additional testing measures are defined or developed.

If products have DNV approval, it simplifies and speeds up their use in the maritime sector, as it is not necessary to test individual components.

More details online:
www.dnv.com

More information:
www.igus-asean.com/chainflex-welcome-to-the-world

EAC certificates

EAC (Eurasian Conformity) is a testing standards that is binding for components to be exported to Russia. The proof of compliance with fire protection regulations for Russia, Kazakhstan and Belarus (previously covered by CTP), is now integrated in the EAC certificates. The certifications were introduced after Russia's accession to the World Trade Organisation (WTO) in 2012. They replace the so-called GOST certifications.

The EAC certification is for export products and provides proof that the products conform to the technical requirements of the customs union of Russia, Belarus and Kazakhstan. Without this verification, imports into the customs union are prohibited.
The EAC follows the Russian machinery directive TR-753, which previously had to be taken into account when exporting to the Eurasian economic area.

Prior to certification, companies must submit an application to an accredited certification body in the EAWU (Eurasian Economic Union). The application includes:

- Detailed product description
- Product designation
- Customs tariff code
- {0}Technical pass
- Security review
- Operating instructions
- Technical drawings
- Technical data sheet
- Test reports
- Already existing certificates: ISO, DIN, CE

The certificate/approval document for a product must generally be available in Russian and in the local language.

If products have EAC and CTP certification, this speeds up their release at customs and thus enables fast and uncomplicated import into the destination country of the customs union.

More details online:
www.eaeunion.org/?lang=en#info

More information:
www.igus-asean.com/chainflex-welcome-to-the-world

REACH directive

The term REACH stands for a regulation called **R**egistration, **E**valuation, **A**uthorisation and Restriction of **Ch**emicals.

Its scope covers manufacturers or importers of more than one tonne of substances per year into the European Union.

The REACH directive is only partially valid for igus®: As a manufacturer of cables, the company is defined as a so-called "downstream user" with regard to the value add chain. Nevertheless, the contents of the REACH directive and its rules for the production and processing of chemical substances are observed at igus®. For example, no chemicals are used in the production of chainflex® cables that are above the valid REACH limits. The entire range of chainflex® cables is free from materials such as sodium peroxometaborates, cadmium sulphides or also dihexyl phthalates.

More details online:
echa.europa.eu/de/regulations/reach/understanding-reach

RoHS-II / RoHS-III

More safety for people and the environment

The abbreviation RoHS stands for **R**estriction **o**f **H**azardous **S**ubstances and regulates the use of selected hazardous substances in electrical and electronic equipment, which includes cables. By complying with this directive, companies prove that problematic materials such as lead, mercury or phthalates - known as plasticisers - have been banned from electronic waste and also from working environments. One example is lead. It occurs, among other things, in the form of solder on circuit boards, which are installed in complex machine systems in a variety of ways.

Materials research in recent years has also produced new jacket materials which, among other things, do not contain hazardous plasticisers and thus function flexibly in dynamic applications. Until now, plasticisers have been used in industry mainly where plastics had to remain particularly pliable, soft and elastic in use.

igus® develops and tests special jacket materials for use in e-chains in its own laboratory, which are RoHS II /III compliant according to the respective requirements.

More details online:
ec.europa.eu/environment/waste/rohs_eee/legis_en.htm

CE mark

The CE marking makes it clear that the manufacturer of a product such as chainflex® cables complies with the applicable EU directives. The CE marking is not a seal of approval or quality mark and was created for trade in the European Economic Area.

- The CE certification basis has come to encompass more than 25 EU directives (issue 2020).
- The CE certificate is a kind of voluntary commitment.
- The CE mark on a machine and the corresponding signature confirms that this machine was planned, designed and built in accordance with the applicable standards.
- The CE marking is part of further regulations. These include the Machinery Directive, the Electromagnetic Compatibility (EMC) Directive, the Low Voltage Directive (often referred to as LVD), RoHS substance restrictions and protective equipment, etc.

CE conformity is based on a complex risk assessment.

Risk assessment - the iterative procedure consists of:

- Verification of the intended use of e.g. e-chain® and chainflex® cables
- Analysis of conceivable, foreseeable misuse
- Determination of relevant and valid standards for the production of chainflex® cables and e-chains®
- Determination of specific requirements and conditions for the use of chainflex® cables
- Research of the responsible "notified body", e.g. at the accreditation body DAkkS (Institute for the monitoring of all certification, testing and inspection bodies)
- (Laboratory) tests of the chainflex® cables and e-chains®
- Data evaluation
- Preparation of technical documentation and translation into target languages
- Creation of the certificate/provision for download
- Attaching the CE mark

More details online:
c.europa.eu/growth/single-market/ce-marking_de

More information:
www.igus-asean.com/chainflex-welcome-to-the-world

UKCA

Like CE marking, UKCA marking ("United Kingdom Conformity Assessed") is a marking requirement for certain technical products.
With this marking, the manufacturer declares that the products are manufactured according to the applicable directives or regulations of the "United Kingdom". UKCA marking is not a seal of approval or sign of quality and was created for trade with the "United Kingdom". Technical details and further regulations in this regard are still being developed by the English government and trade associations.

Technical details and further regulations in this regard are still being developed by the English government and trade associations.
As a result of the national development of product regulations, it is possible that there will be product requirements that differ from those of the EU and must be complied with by manufacturers and importers wishing to place products on the market in the United Kingdom.

All information: As at 08/2021.

Information | **Approvals and standards**

igus® chainflex® cables for DESINA

DESINA: **DE**central and **S**tandardised **IN**st**A**llation technique is a recommendation of the Verein Deutscher Werkzeugmaschinenfabriken (VDW = Association of German machine tool industry) for the purpose of standardising components, interfaces and connecting systems.
DESINA describes an extensive whole concept for standardisation and decentralisation of the fluid technical and electrical installation of machines and plants.
For further information: www.desina.de

Det Norske Veritas Germanischer Lloyd

For further information: www.dnvgl.com

Underwriters Laboratories Inc.

For further information: www.ul-europe.com

Canadian Standards Association

For further information: www.csa.ca

Commission Électrotechnique Internationale

Communauté Européenne

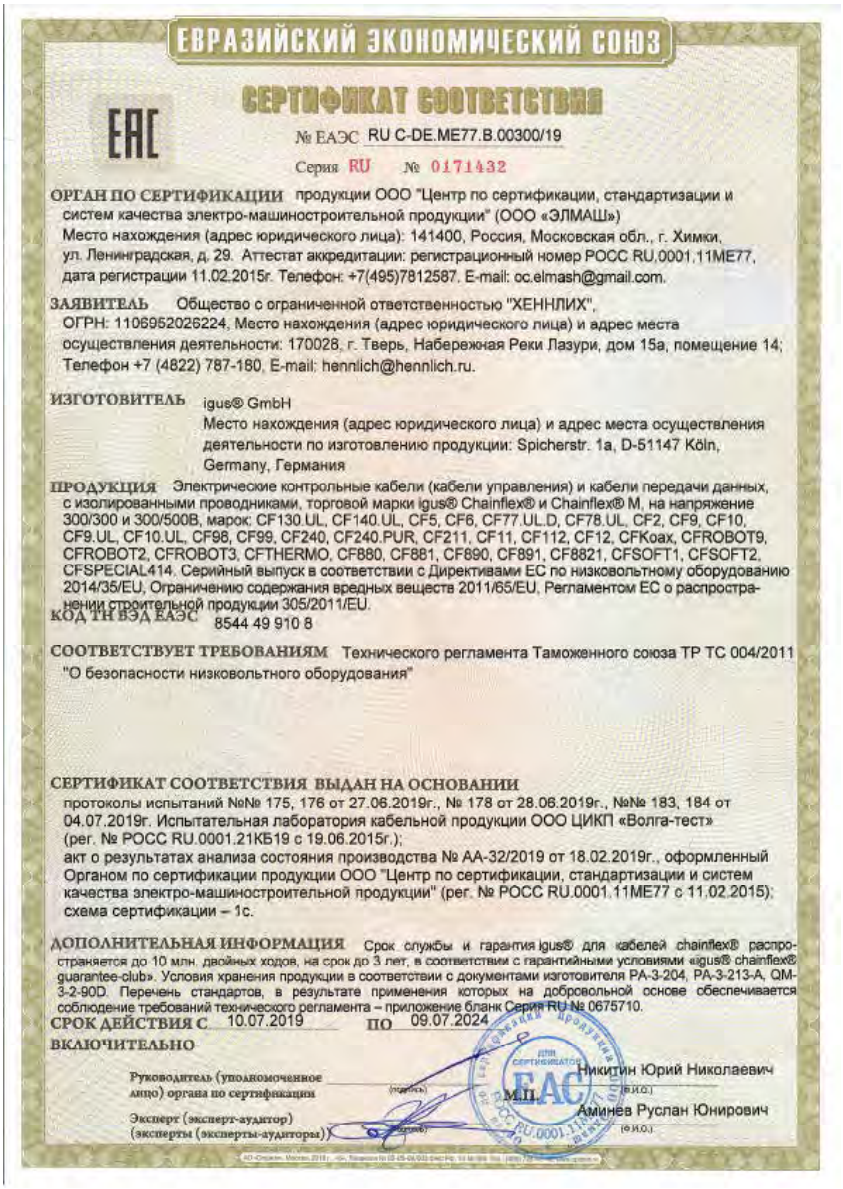
EurAsian Conformity

chainflex® cables now certified for the Russian market

igus® chainflex® cables are now certified for Russia, Belarus and Kazakhstan.
These certificates replace the outdated GOST certificates.

EAC

Certified according to the standards of the technical regulations of the customs union
Nr. RU C-DE.ME77.B.01218 (TR ZU)
Nr. RU C-DE.ME77.B.02324 (TR ZU)
Nr. RU C-DE.ME77.B.02806 (TR ZU)
Nr. RU C-DE.ME77.B.00295/19
Nr. RU C-DE.ME77.B.00300/19
Nr. RU C-DE.ME77.B.00302/19



ЕВРАЗИЙСКИЙ ЭКОНОМИЧЕСКИЙ СОЮЗ

СЕРТИФИКАТ СООТВЕТСТВИЯ

EAC

№ ЕАЭС RU C-DE.ME77.B.00300/19

Серия RU № 0171432

ОРГАН ПО СЕРТИФИКАЦИИ продукции ООО "Центр по сертификации, стандартизации и систем качества электро-машиностроительной продукции" (ООО «ЭЛМАШ»)
Место нахождения (адрес юридического лица): 141400, Россия, Московская обл., г. Химки, ул. Ленинградская, д. 29. Аттестат аккредитации: регистрационный номер РОСС RU.0001.11ME77, дата регистрации 11.02.2015г. Телефон: +7(495)7812587. E-mail: oc.elmash@gmail.com.

ЗАЯВИТЕЛЬ Общество с ограниченной ответственностью "ХЕННЛИХ",
ОГРН: 1106952026224, Место нахождения (адрес юридического лица) и адрес места осуществления деятельности: 170028, г. Тверь, Набережная Реки Лазури, дом 15а, помещение 14; Телефон +7 (4822) 787-180, E-mail: hennlich@hennlich.ru.

ИЗГОТОВИТЕЛЬ igus® GmbH
Место нахождения (адрес юридического лица) и адрес места осуществления деятельности по изготовлению продукции: Spicherstr. 1a, D-51147 Köln, Germany, Германия

ПРОДУКЦИЯ Электрические контрольные кабели (кабели управления) и кабели передачи данных, с изолированными проводниками, торговой марки igus® Chainflex® и Chainflex® M, на напряжение 300/300 и 300/500В, марок: CF130.UL, CF140.UL, CF5, CF6, CF77.UL.D, CF78.UL, CF2, CF9, CF10, CF9.UL, CF10.UL, CF98, CF99, CF240, CF240.PUR, CF211, CF11, CF112, CF12, CFKoax, CFROBOT9, CFROBOT2, CFROBOT3, CFTHERMO, CF880, CF881, CF890, CF891, CF8821, CFSOFT1, CFSOFT2, CFSPECIAL414. Серийный выпуск в соответствии с Директивами ЕС по низковольтному оборудованию 2014/35/EU, Ограничению содержания вредных веществ 2011/65/EU, Регламентом ЕС о распространении строительной продукции 305/2011/EU.

КОД ТН ВЭД ЕАЭС 8544 49 910 8

СООТВЕТСТВУЕТ ТРЕБОВАНИЯМ Технического регламента Таможенного союза ТР ТС 004/2011 "О безопасности низковольтного оборудования"

СЕРТИФИКАТ СООТВЕТСТВИЯ ВЫДАН НА ОСНОВАНИИ
протоколы испытаний №№ 175, 176 от 27.06.2019г., № 178 от 28.06.2019г., №№ 183, 184 от 04.07.2019г. Испытательная лаборатория кабельной продукции ООО ЦИКП «Волга-тест» (рег. № РОСС RU.0001.21КБ19 с 19.06.2015г.);
акт о результатах анализа состояния производства № АА-32/2019 от 18.02.2019г., оформленный Органом по сертификации продукции ООО "Центр по сертификации, стандартизации и систем качества электро-машиностроительной продукции" (рег. № РОСС RU.0001.11ME77 с 11.02.2015);
схема сертификации – 1с.

ДОПОЛНИТЕЛЬНАЯ ИНФОРМАЦИЯ Срок службы и гарантия igus® для кабелей chainflex® распространяется до 10 млн. двойных ходов, на срок до 3 лет, в соответствии с гарантийными условиями «igus® chainflex® guarantee-club». Условия хранения продукции в соответствии с документами изготовителя PA-3-204, PA-3-213-A, QM-3-2-90D. Перечень стандартов, в результате применения которых на добровольной основе обеспечивается соблюдение требований технического регламента – приложение бланк Серия RU № 0675710.

СРОК ДЕЙСТВИЯ С 10.07.2019 ПО 09.07.2024
ВКЛЮЧИТЕЛЬНО

Руководитель (уполномоченное лицо) органа по сертификации (подпись) Никитин Юрий Николаевич (Ф.И.О.)
М.П.
Эксперт (эксперт-аудитор) (эксперты (эксперты-аудиторы)) (подпись) Аминев Руслан Юнирович (Ф.И.О.)

All certificates can be found on ▶ www.igus-asean.com/CTP-EAC

Information | **General**

General conditions

The General Conditions of Sale of igus® shall apply. Excessive and short deliveries of ± 10 % for cables conform with contractual agreements. Deliveries can be made in part-lengths. Statutory VAT must be added to the prices. The General Conditions of Sale and Delivery of igus® GmbH, Cologne, can be found online under www.igus-asean.com.
The prices quoted in the catalogue or other media are subject to alteration. igus® can modify the prices at any time at their own discretion.

User information

Since our products are constantly being developed further in the interest of our customers, we reserve the right to make technical alterations at any time. With the issue of this catalogue, all previous publications lose their validity. Subject to printing errors.

Disclaimer

The terms "igus", "chainflex", "CFRIP", "readycable", "readychain", "e-chain", "e-chain systems", "e-ketten", "e-kettensysteme", "flizz", "iglidur", "drylin" are legally protected trademarks in the Federal Republic of Germany and in case also in foreign countries.

Outer jacket color according to RAL

chainflex® cable jacket colours are given with the similar RAL colour number; for example yellowgreen, similar to RAL 6018. Slight differences can occur from the exact RAL colour, depending on the cable jacket material. However, this has no effect on the quality or functionality of the cable.

A RAL number is used to describe different shades of colour more consistently. For example, RAL 7040 is light grey and RAL 7016 is a dark grey. The RAL number describes the colour, but cannot guarantee the same shade in different applications.

RAL: German Institute for Quality Assurance and Certification e.V. ▶ www.RAL.de

KTG

If cable drums are to be used, please visit KTG directly online.▶ www.kabeltrommel.de

Product illustrations

The products illustrated are photos showing examples for whole series, i.e. the original cable can deviate from the cable shown.

Technical notes

The USB, FireWire and GigE cables listed on this page have been developed and manufactured for the mechanically demanding industrial application in e-chain systems®. High resistance against oil and lubricants are guaranteed, and also a high protection against electro-magnetic interference fields. This high mechanical service life was reached with the usage of high quality materials which even care for the electrical safeness.
In single cases communication errors can occur, if very different hardware and software is combined. We recommend tests with all components and the cables before starting serial production, to get the proof for a perfectly running system.
Of course we support you with the details of these electrical tests.

The specifications in the catalogue referring to temperature range, bend radius and travel must be seen as limiting value specifications. If two limiting value specifications are combined, this can lead to a reduction of the cable's service life.

The term "oil-resistant" refers to a few selected oil types which have been tested accordingly. This does not mean, however, that the products are automatically resistant to all the oils on the market.

Length printing: Respective printing of the metre length is already on many cables. These are not calibrated measurements, they are only intended as an orientation aid.
Just give us a call!

Storage made easy ...





The chainflex® CASE is a cardboard box that allows cable drum shipping without a pallet. This means that the goods can be sent by a parcel carrier. The chainflex® CASE is not only used for transport, but also works as a storage system for cable drums. The cable can be easily unreeled directly from the box. Thanks to its stackability, you can set up flexible storage facilities. The QR code on the shipping box makes online re-ordering easy. All in all, this system helps you save shipping, process and storage costs.

chainflex® CASE allows cable drums to be shipped in a cardboard box via parcel carriers. Very simple and you can save up to 84% shipping cost compared to standard shipping on a pallet by a freight forwarder.

Remove expensive storage systems for cable drums. Unreel the cable immediately from the chainflex® CASE. Carrying handles and stackability allow for individual storage spaces.

This system makes storage mobile and can be used directly on construction sites, for instance. Expensive special shelving is not required, instead, it can be stored simply in standard shelving systems.

With the QR code on every chainflex® CASE, you can re-order your cable online in a few seconds. Simply use your smartphone's scanner.

▶ www.igus-asean.com/cf-case





chainflex® CASE S and CASE M



chainflex® CASE application example from the field: BSH Hausgeräte GmbH
"The maintenance staff at the BSH plant in Bad Neustadt an der Saale have implemented a real "out of the box" solution. Electrical cables no longer arrive by hank or cable drum, but in the "chainflex CASE" shipping and storage solution. This saves costs, space and waste."

Two sizes ... can be ordered separately ...

Just add the required CASE to your order



chainflex® CASE



chainflex® CASE S

Cables available in the chainflex® CASE

Control cables

Part No.	Number of cores and conductor nominal cross section [mm²]	Max. cable length [m] CASE M	CASE S
Control cables			
CF880.05.02	2x0.5	200	200
CF880.05.03	3G0.5	200	200
CF880.05.04	4G0.5	200	200
CF880.05.05	5G0.5	200	200
CF880.05.07	7G0.5	200	150
CF880.05.12	12G0.5	150	100
CF880.05.18	18G0.5	100	100
CF880.07.02	2x0.75	200	200
CF880.07.03	3G0.75	200	200
CF880.07.04	4G0.75	200	200
CF880.07.05	5G0.75	200	150
CF880.07.07	7G0.75	200	150
CF880.07.12	12G0.75	150	100
CF880.07.18	18G0.75	100	-
CF880.10.02	2x1.0	200	200
CF880.10.03	3G1.0	200	200
CF880.10.04	4G1.0	200	150
CF880.10.05	5G1.0	200	150
CF880.10.07	7G1.0	150	100
CF880.10.12	12G1.0	100	-
CF880.15.02	2x1.5	200	200
CF880.15.03	3G1.5	200	150
CF880.15.04	4G1.5	200	150
CF880.15.05	5G1.5	150	100
CF880.15.07	7G1.5	100	100
CF880.25.03	3G2.5	150	100
CF880.25.04	4G2.5	150	100
CF880.25.05	5G2.5	100	100
CF881.05.03	(3G0.5)C	200	200
CF881.05.04	(4G0.5)C	200	200
CF881.05.05	(5G0.5)C	200	150
CF881.05.07	(7G0.5)C	200	150
CF881.05.12	(12G0.5)C	150	100
CF881.05.18	(18G0.5)C	100	-
CF881.07.02	(2x0.75)C	200	200
CF881.07.03	(3G0.75)C	200	150
CF881.07.04	(4G0.75)C	200	150
CF881.07.05	(5G0.75)C	200	150
CF881.07.07	(7G0.75)C	150	100
CF881.07.12	(12G0.75)C	100	-
CF881.10.02	(2x1.0)C	200	200
CF881.10.03	(3G1.0)C	200	150
CF881.10.04	(4G1.0)C	200	150
CF881.10.05	(5G1.0)C	200	150
CF881.10.07	(7G1.0)C	150	100
CF881.10.12	(12G1.0)C	100	-
CF881.15.02	(2x1.5)C	200	150
CF881.15.03	(3G1.5)C	200	150
CF881.15.04	(4G1.5)C	150	100
CF881.15.05	(5G1.5)C	100	100
CF881.15.07	(7G1.5)C	100	-
CF881.25.04	(4G2.5)C	100	100
CF881.25.05	(5G2.5)C	100	-
CF130.02.03.UL	3x0.25	200	200
CF130.02.04.UL	4x0.25	200	200
CF130.02.06.UL	6x0.25	200	200
CF130.02.07.UL	7x0.25	200	200
CF130.02.12.UL	12x0.25	200	100
CF130.02.18.UL	18x0.25	150	100
CF130.02.20.UL	20x0.25	150	-
CF130.02.25.UL	25x0.25	100	-
CF130.02.30.UL	30x0.25	100	-
CF130.03.02.UL	2x0.34	200	200
CF130.03.05.UL	5x0.34	200	200
CF130.05.02.UL	2x0.5	200	200
CF130.05.03.UL	3G0.5	200	200
CF130.05.04.UL	4G0.5	200	200
CF130.05.05.UL	5G0.5	200	200
CF130.05.07.UL	7G0.5	200	150
CF130.05.12.UL	12G0.5	150	100
CF130.05.18.UL	18G0.5	100	-
CF130.07.02.UL	2x0.75	200	200
CF130.07.03.UL	3G0.75	200	200
CF130.07.04.UL	4G0.75	200	200
CF130.07.05.UL	5G0.75	200	150
CF130.07.07.UL	7G0.75	200	150
CF130.07.12.UL	12G0.75	100	-
CF130.10.02.UL	2x1.0	200	200
CF130.10.03.UL	3G1.0	200	200
CF130.10.04.UL	4G1.0	200	150
CF130.10.05.UL	5G1.0	200	150
CF130.10.07.UL	7G1.0	200	100
CF130.10.12.UL	12G1.0	100	-
CF130.15.02.UL	2x1.5	200	200
CF130.15.03.UL	3G1.5	200	150
CF130.15.04.UL	4G1.5	200	150
CF130.15.05.UL	5G1.5	200	100
CF130.15.07.UL	7G1.5	150	-
CF130.15.12.UL	12G1.5	100	-
CF130.25.03.UL	3G2.5	200	100
CF130.25.04.UL	4G2.5	150	100
CF130.25.07.UL	7G2.5	100	-
CF130.40.03.UL	3G4.0	100	100
CF140.02.12.UL	(12x0.25)C	150	-
CF140.03.05.UL	(5x0.34)C	200	150
CF140.05.03.UL	(3G0.5)C	200	150
CF140.05.05.UL	(5G0.5)C	200	150

Cables available in the chainflex® CASE

Control cables

Part No.	Number of cores and conductor nominal cross section [mm²]	Max. cable length [m] CASE M	CASE S
CF140.07.03.UL	(3G0.75)C	200	150
CF140.07.04.UL	(4G0.75)C	200	100
CF140.07.05.UL	(5G0.75)C	200	100
CF140.07.07.UL	(7G0.75)C	150	100
CF140.07.12.UL	(12G0.75)C	100	-
CF140.10.02.UL	(2x1.0)C	200	150
CF140.10.03.UL	(3G1.0)C	200	100
CF140.10.04.UL	(4G1.0)C	200	100
CF140.10.05.UL	(5G1.0)C	150	100
CF140.10.07.UL	(7G1.0)C	150	-
CF140.15.03.UL	(3G1.5)C	200	100
CF140.15.04.UL	(4G1.5)C	150	100
CF140.15.05.UL	(5G1.5)C	150	100
CF140.15.07.UL	(7G1.5)C	100	-
CF140.25.03.UL	(3G2.5)C	100	-
CF140.25.04.UL	(4G2.5)C	100	-
CF150.UL.10.03	3G1.0	200	150
CF150.UL.10.04	4G1.0	200	100
CF150.UL.10.05	5G1.0	200	100
CF150.UL.10.07	7G1.0	150	-
CF150.UL.15.03	3G1.5	200	100
CF150.UL.15.04	4G1.5	200	100
CF150.UL.15.05	5G1.5	150	100
CF150.UL.15.07	7G1.5	100	-
CF150.UL.25.03	3G2.5	150	100
CF150.UL.25.04	4G2.5	150	100
CF150.UL.25.05	5G2.5	100	-
CF150.UL.25.07	7G2.5	100	-
CF160.UL.10.03	(3G1.0)C	150	100
CF160.UL.10.04	(4G1.0)C	150	100
CF160.UL.10.05	(5G1.0)C	100	-
CF160.UL.10.07	(7G1.0)C	100	-
CF160.UL.15.03	(3G1.5)C	150	100
CF160.UL.15.04	(4G1.5)C	100	-
CF160.UL.15.05	(5G1.5)C	100	-
CF160.UL.25.03	(3G2.5)C	100	-
CF160.UL.25.04	(4G2.5)C	100	-
CF160.UL.25.05	(5G2.5)C	100	-
CF5.03.18	18x0.34	100	-
CF5.05.02	2x0.5	200	200
CF5.05.03	3G0.5	200	200
CF5.05.04	4G0.5	200	200
CF5.05.05	5G0.5	200	150
CF5.05.07	7G0.5	200	150
CF5.05.12	12G0.5	100	-
CF5.05.18	18G0.5	100	-
CF5.07.03	3G0.75	200	200
CF5.07.04	4G0.75	200	150
CF5.07.05	5G0.75	200	150

Part No.	Number of cores and conductor nominal cross section [mm²]	Max. cable length [m] CASE M	CASE S
CF5.07.07	7G0.75	200	100
CF5.07.12	12G0.75	100	-
CF5.10.03	3G1.0	200	200
CF5.10.04	4G1.0	200	150
CF5.10.05	5G1.0	200	150
CF5.10.07	7G1.0	150	100
CF5.10.12	12G1.0	100	-
CF5.15.03	3G1.5	200	150
CF5.15.04	4G1.5	200	150
CF5.15.05	5G1.5	200	100
CF5.15.07	7G1.5	150	-
CF5.25.04	4G2.5	150	100
CF5.25.05	5G2.5	100	-
CF6.02.04	(4x0.25)C	200	150
CF6.03.05	(5x0.34)C	200	150
CF6.05.02	(2x0.5)C	200	150
CF6.05.05	(5G0.5)C	200	100
CF6.05.07	(7G0.5)C	150	100
CF6.05.09	(9G0.5)C	100	-
CF6.05.12	(12G0.5)C	100	-
CF6.07.03	(3G0.75)C	200	150
CF6.07.04	(4G0.75)C	200	100
CF6.07.05	(5G0.75)C	200	100
CF6.07.07	(7G0.75)C	150	-
CF6.10.03	(3G1.0)C	200	150
CF6.10.04	(4G1.0)C	200	100
CF6.10.05	(5G1.0)C	150	100
CF6.10.07	(7G1.0)C	100	-
CF6.15.03	(3G1.5)C	200	100
CF6.15.04	(4G1.5)C	150	100
CF6.15.05	(5G1.5)C	150	-
CF6.15.07	(7G1.5)C	100	-
CF6.25.03	(3G2.5)C	150	-
CF6.25.04	(4G2.5)C	100	-
CFSOFT1.02.03	3x0.25	200	200
CFSOFT1.02.08	8x0.25	200	150
CFSOFT1.03.04	4x0.34	200	200
CFSOFT1.05.04	4x0.5	200	150
CFSOFT2.02.03	(3x0.25)C	200	200
CFSOFT2.02.08	(8x0.25)C	200	150
CFSOFT2.03.04	(4x0.34)C	200	200
CFSOFT2.05.04	(4x0.5)C	200	150
CF890.05.02	2x0.5	200	200
CF890.05.03	3G0.5	200	200
CF890.05.04	4G0.5	200	200
CF890.05.05	5G0.5	200	200
CF890.05.07	7G0.5	200	150
CF890.05.12	12G0.5	150	100
CF890.05.18	18G0.5	100	100

Cables available in the chainflex® CASE

Control cables

Part No.	Number of cores and conductor nominal cross section [mm²]	Max. cable length [m] CASE M	CASE S
Control cables			
CF890.07.02	2x0.75	200	200
CF890.07.03	3G0.75	200	200
CF890.07.04	4G0.75	200	200
CF890.07.05	5G0.75	200	150
CF890.07.07	7G0.75	200	150
CF890.07.12	12G0.75	150	100
CF890.07.18	18G0.75	100	-
CF890.10.02	2x1.0	200	200
CF890.10.03	3G1.0	200	200
CF890.10.04	4G1.0	200	150
CF890.10.05	5G1.0	200	150
CF890.10.07	7G1.0	150	100
CF890.10.12	12G1.0	100	-
CF890.15.02	2x1.5	200	200
CF890.15.03	3G1.5	200	150
CF890.15.04	4G1.5	200	150
CF890.15.05	5G1.5	150	100
CF890.15.07	7G1.5	100	100
CF890.25.03	3G2.5	200	100
CF890.25.04	4G2.5	150	100
CF890.25.05	5G2.5	100	100
CF891.05.02	(2x0.5)C	200	200
CF891.05.03	(3G0.5)C	200	200
CF891.05.05	(5G0.5)C	200	150
CF891.05.12	(12G0.5)C	150	100
CF891.05.18	(18G0.5)C	100	-
CF891.07.02	(2x0.75)C	200	200
CF891.07.03	(3G0.75)C	200	150
CF891.07.04	(4G0.75)C	200	150
CF891.07.05	(5G0.75)C	200	150
CF891.07.07	(7G0.75)C	150	100
CF891.07.12	(12G0.75)C	100	-
CF891.10.02	(2x1.0)C	200	200
CF891.10.03	(3G1.0)C	200	150
CF891.10.04	(4G1.0)C	200	150
CF891.10.05	(5G1.0)C	200	150
CF891.10.07	(7G1.0)C	150	100
CF891.10.12	(12G1.0)C	100	-
CF891.15.02	(2x1.5)C	200	150
CF891.15.03	(3G1.5)C	200	150
CF891.15.04	(4G1.5)C	150	100
CF891.15.05	(5G1.5)C	100	100
CF891.15.07	(7G1.5)C	100	-
CF891.25.04	(4G2.5)C	100	100
CF891.25.05	(5G2.5)C	100	-
CF77.UL.02.03.INI	3x0.25	200	200
CF77.UL.02.04.D	4x0.25	200	200
CF77.UL.02.05.D	5x0.25	200	200
CF77.UL.02.07.D	7x0.25	200	200
CF77.UL.02.12.D	12x0.25	200	100
CF77.UL.02.18.D	18x0.25	150	-
CF77.UL.02.25.D	25x0.25	100	-
CF77.UL.03.04.INI	4x0.34	200	200
CF77.UL.03.05.INI	5x0.34	200	200
CF77.UL.03.05.INI.D	5x0.34	200	200
CF77.UL.05.04.D	4G0.5	200	200
CF77.UL.05.05.D	5G0.5	200	200
CF77.UL.05.07.D	7G0.5	200	150
CF77.UL.05.12.D	12G0.5	150	100
CF77.UL.05.18.D	18G0.5	100	-
CF77.UL.07.03.D	3G0.75	200	200
CF77.UL.07.04.D	4G0.75	200	150
CF77.UL.07.05.D	5G0.75	200	150
CF77.UL.07.07.D	7G0.75	200	100
CF77.UL.07.12.D	12G0.75	100	-
CF77.UL.10.02.D	2x1.0	200	200
CF77.UL.10.03.D	3G1.0	200	200
CF77.UL.10.04.D	4G1.0	200	150
CF77.UL.10.05.D	5G1.0	200	150
CF77.UL.10.07.D	7G1.0	200	100
CF77.UL.10.12.D	12G1.0	100	-
CF77.UL.15.03.D	3G1.5	200	150
CF77.UL.15.04.D	4G1.5	200	150
CF77.UL.15.05.D	5G1.5	200	150
CF77.UL.15.07.D	7G1.5	150	100
CF77.UL.25.03.D	3G2.5	200	100
CF77.UL.25.04.D	4G2.5	150	100
CF77.UL.25.05.D	5G2.5	150	100
CF77.UL.25.07.D	7G2.5	100	-
CF77.UL.40.04.D	4G4.0	100	-
CF78.UL.05.04	(4G0.5)C	200	150
CF78.UL.05.05	(5G0.5)C	200	150
CF78.UL.05.07	(7G0.5)C	150	100
CF78.UL.05.09	(9G0.5)C	100	-
CF78.UL.05.12	(12G0.5)C	100	-
CF78.UL.07.03	(3G0.75)C	200	150
CF78.UL.07.04	(4G0.75)C	200	100
CF78.UL.07.05	(5G0.75)C	150	100
CF78.UL.07.07	(7G0.75)C	150	-
CF78.UL.10.03	(3G1.0)C	200	100
CF78.UL.10.04	(4G1.0)C	200	100
CF78.UL.10.05	(5G1.0)C	150	100
CF78.UL.10.07	(7G1.0)C	100	-
CF78.UL.15.03	(3G1.5)C	150	100
CF78.UL.15.04	(4G1.5)C	150	100
CF78.UL.15.05	(5G1.5)C	150	100
CF78.UL.15.07	(7G1.5)C	100	-

Cables available in the chainflex® CASE

Control cables

Part No.	Number of cores and conductor nominal cross section [mm²]	Max. cable length [m] CASE M	CASE S
CF78.UL.25.03	(3G2.5)C	150	100
CF78.UL.25.04	(4G2.5)C	100	-
CF78.UL.25.05	(5G2.5)C	100	-
CF2.01.04	(4x0.14)C	200	200
CF2.01.08	(8x0.14)C	200	150
CF2.01.12	(12x0.14)C	150	100
CF2.01.18	(18x0.14)C	150	-
CF2.01.24	(24x0.14)C	100	-
CF2.02.04	(4x0.25)C	200	150
CF2.02.08	(8x0.25)C	200	150
CF2.02.18	(18x0.25)C	100	-
CF9.02.02	2x0.25	200	200
CF9.02.03.INI	3x0.25	200	200
CF9.02.06	6x0.25	200	200
CF9.02.07	7x0.25	200	200
CF9.02.08	8x0.25	200	200
CF9.02.12	12x0.25	200	150
CF9.02.18	18x0.25	150	100
CF9.02.20	20x0.25	150	100
CF9.02.25	25x0.25	100	-
CF9.03.04.INI	4x0.34	200	200
CF9.03.05.INI	5x0.34	200	200
CF9.03.06	6x0.34	200	200
CF9.03.08	8x0.34	200	150
CF9.03.16.07.03.INI	16x0.34+3x0.75	100	-
CF9.05.02	2x0.5	200	200
CF9.05.03	3x0.5	200	200
CF9.05.04	4x0.5	200	200
CF9.05.05	5x0.5	200	200
CF9.05.07	7x0.5	200	150
CF9.05.12	12x0.5	150	100
CF9.05.18	18x0.5	100	-
CF9.05.25	25x0.5	100	-
CF9.07.04	4G0.75	200	200
CF9.07.05	5G0.75	200	200
CF9.07.07	7G0.75	200	150
CF9.07.12	12G0.75	100	-
CF9.10.03	3G1.0	200	200
CF9.10.04	4G1.0	200	200
CF9.10.05	5G1.0	200	150
CF9.10.12	12G1.0	100	-
CF9.15.02	2x1.5	200	200
CF9.15.04	4G1.5	200	150
CF9.15.05	5G1.5	200	150
CF9.15.07	7G1.5	150	100
CF9.25.04	4G2.5	150	100
CF9.25.05	5G2.5	150	100
CF9.25.07	7G2.5	100	-
CF9.40.04	4G4.0	100	-

Part No.	Number of cores and conductor nominal cross section [mm²]	Max. cable length [m] CASE M	CASE S
CF10.01.12	(12x0.14)C	200	150
CF10.01.18	(18x0.14)C	150	100
CF10.02.04	(4x0.25)C	200	200
CF10.02.08	(8x0.25)C	200	150
CF10.02.12	(12x0.25)C	150	100
CF10.02.25	(25x0.25)C	100	-
CF10.03.05.INI	(5x0.34)C	200	150
CF10.05.04	(4x0.5)C	200	150
CF10.05.05	(5x0.5)C	200	150
CF10.05.07	(7x0.5)C	200	100
CF10.05.12	(12x0.5)C	100	-
CF10.07.04	(4G0.75)C	200	150
CF10.07.05	(5G0.75)C	200	150
CF10.07.07	(7G0.75)C	150	100
CF10.07.12	(12G0.75)C	100	-
CF10.10.02	(2x1.0)C	200	150
CF10.10.03	(3G1.0)C	200	150
CF10.10.04	(4G1.0)C	200	150
CF10.10.05	(5G1.0)C	200	100
CF10.10.07	(7G1.0)C	150	100
CF10.15.04	(4G1.5)C	150	100
CF10.15.05	(5G1.5)C	150	100
CF10.15.07	(7G1.5)C	100	-
CF10.25.04	(4G2.5)C	100	-
CF9.UL.02.02	2x0.25	200	200
CF9.UL.02.03.INI	3x0.25	200	200
CF9.UL.02.04	4x0.25	200	200
CF9.UL.02.06	6x0.25	200	200
CF9.UL.02.08	8x0.25	200	150
CF9.UL.02.12	12x0.25	200	100
CF9.UL.03.04.INI	4x0.34	200	200
CF9.UL.03.05.INI	5x0.34	200	200
CF9.UL.03.06	6x0.34	200	200
CF9.UL.03.08	8x0.34	200	150
CF9.UL.05.02	2x0.5	200	200
CF9.UL.05.03	3x0.5	200	200
CF9.UL.05.04	4x0.5	200	150
CF9.UL.05.05	5x0.5	200	150
CF9.UL.05.07	7x0.5	200	100
CF9.UL.05.12	12x0.5	150	-
CF9.UL.05.18	18x0.5	100	-
CF9.UL.07.05	5G0.75	200	150
CF9.UL.07.07	7G0.75	200	100
CF9.UL.07.12	12G0.75	100	-
CF9.UL.10.03	3G1.0	200	150
CF9.UL.10.04	4G1.0	200	150
CF9.UL.10.12	12G1.0	100	-
CF9.UL.15.04	4G1.5	200	100
CF9.UL.15.05	5G1.5	200	100

Cables available in the chainflex® CASE

Control and data cables

Part No.	Number of cores and conductor nominal cross section [mm²]	Max. cable length [m] CASE M	CASE S
Control cables			
CF9.UL.15.07	7G1.5	150	-
CF9.UL.25.04	4G2.5	100	-
CF9.UL.25.05	5G2.5	100	-
CF9.UL.40.04	4G4.0	100	-
CF10.UL.02.04	(4x0.25)C	200	150
CF10.UL.02.08	(8x0.25)C	200	100
CF10.UL.02.12	(12x0.25)C	150	-
CF10.UL.02.25	(25x0.25)C	100	-
CF10.UL.05.04	(4x0.5)C	200	100
CF10.UL.05.05	(5x0.5)C	200	100
CF10.UL.05.12	(12x0.5)C	100	-
CF10.UL.07.04	(4G0.75)C	200	100
CF10.UL.07.05	(5G0.75)C	200	100
CF10.UL.07.07	(7G0.75)C	150	-
CF10.UL.07.12	(12G0.75)C	100	-
CF10.UL.10.02	(2x1.0)C	200	100
CF10.UL.10.03	(3G1.0)C	200	100
CF10.UL.10.04	(4G1.0)C	200	100
CF10.UL.10.05	(5G1.0)C	200	-
CF10.UL.10.07	(7G1.0)C	100	-
CF10.UL.15.04	(4G1.5)C	100	-
CF10.UL.15.05	(5G1.5)C	150	-
CF10.UL.15.07	(7G1.5)C	100	-
CF10.UL.25.04	(4G2.5)C	100	-
CF98.01.02	2x0.14	200	200
CF98.01.03	3x0.14	200	200
CF98.01.04	4x0.14	200	200
CF98.01.08	8x0.14	200	200
CF98.02.03.INI	3x0.25	200	200
CF98.02.04	4x0.25	200	200
CF98.02.07	7x0.25	200	150
CF98.02.08	8x0.25	200	150
CF98.03.04.INI	4x0.34	200	200
CF98.05.04	4x0.5	200	200
CF98.PLUS.01.02	2x0.14	200	200
CF98.PLUS.01.03	3x0.14	200	200
CF98.PLUS.01.04	4x0.14	200	200
CF98.PLUS.01.08	8x0.14	200	200
CF98.PLUS.02.03.INI	3x0.25	200	200
CF98.PLUS.02.04	4x0.25	200	200
CF98.PLUS.02.07	7x0.25	200	150
CF98.PLUS.02.08	8x0.25	200	150
CF98.PLUS.03.04.INI	4x0.34	200	200
CF98.PLUS.05.04	4x0.5	200	200
CF99.01.02	(2x0.14)C	200	200
CF99.01.04	(4x0.14)C	200	200
CF99.01.04	(4x0.14)C	200	200
CF99.01.08	(8x0.14)C	200	150
CF99.02.04	(4x0.25)C	200	150
CF99.03.08	(8x0.34)C	200	100
CF99.PLUS.01.02	(2x0.14)C	200	200
CF99.PLUS.01.04	(4x0.14)C	200	200
CF99.PLUS.01.04	(4x0.14)C	200	200
CF99.PLUS.01.08	(8x0.14)C	200	150
CF99.PLUS.02.04	(4x0.25)C	200	150
CF99.PLUS.03.08	(8x0.34)C	200	100
Data cables			
CF240.01.03	(3x0.14)C	200	200
CF240.01.04	(4x0.14)C	200	200
CF240.01.05	(5x0.14)C	200	200
CF240.01.07	(7x0.14)C	200	200
CF240.01.14	(14x0.14)C	200	150
CF240.01.18	(18x0.14)C	200	150
CF240.01.24	(24x0.14)C	200	100
CF240.02.03	(3x0.25)C	200	200
CF240.02.04	(4x0.25)C	200	200
CF240.02.05	(5x0.25)C	200	200
CF240.02.07	(7x0.25)C	200	200
CF240.02.08	(8x0.25)C	200	150
CF240.02.14	(14x0.25)C	200	150
CF240.02.18	(18x0.25)C	200	100
CF240.02.24	(24x0.25)C	150	100
CF240.03.02	(2x0.34)C	200	200
CF240.03.03	(3x0.34)C	200	200
CF240.03.04	(4x0.34)C	200	200
CF240.03.05	(5x0.34)C	200	200
CF240.03.07	(7x0.34)C	200	150
CF240.03.10	(10x0.34)C	200	150
CF240.03.14	(14x0.34)C	200	150
CF240.03.18	(18x0.34)C	150	100
CF240.03.24	(24x0.34)C	100	100
CF240.PUR.01.04	(4x0.14)C	200	200
CF240.PUR.01.07	(7x0.14)C	200	200
CF240.PUR.01.08	(8x0.14)C	200	150
CF240.PUR.01.14	(14x0.14)C	200	150
CF240.PUR.01.18	(18x0.14)C	200	150
CF240.PUR.01.25	(25x0.14)C	150	100
CF240.PUR.02.03	(3x0.25)C	200	200
CF240.PUR.02.04	(4x0.25)C	200	200
CF240.PUR.02.05	(5x0.25)C	200	200
CF240.PUR.02.07	(7x0.25)C	200	150
CF240.PUR.02.08	(8x0.25)C	200	150
CF240.PUR.02.14	(14x0.25)C	200	150
CF240.PUR.02.18	(18x0.25)C	200	100
CF240.PUR.02.25	(25x0.25)C	150	-
CF240.PUR.03.03	(3x0.34)C	200	200
CF240.PUR.03.04	(4x0.34)C	200	200

Data, coax and bus cables

Part No.	Number of cores and conductor nominal cross section [mm²]	Max. cable length [m] CASE M	CASE S
CF240.PUR.03.05	(5x0.34)C	200	200
CF240.PUR.03.07	(7x0.34)C	200	200
CF240.PUR.03.14	(14x0.34)C	150	150
CF240.PUR.03.18	(18x0.34)C	150	100
CF211.02.01.02	(2x0.25)C	200	200
CF211.02.02.02	(2x(2x0.25))C	200	200
CF211.02.03.02	(3x(2x0.25))C	200	150
CF211.02.04.02	(4x(2x0.25))C	200	150
CF211.02.05.02	(5x(2x0.25))C	200	100
CF211.02.06.02	(6x(2x0.25))C	200	100
CF211.02.08.02	(8x(2x0.25))C	150	-
CF211.02.10.02	(10x(2x0.25))C	100	-
CF211.02.14.02	(14x(2x0.25))C	100	-
CF211.03.03.02	(3x(2x0.34))C	200	150
CF211.03.08.02	(8x(2x0.34))C	100	-
CF211.05.01.02	(2x0.5)C	200	200
CF211.05.02.02	(2x(2x0.5))C	200	100
CF211.05.03.02	(3x(2x0.5))C	200	100
CF211.05.04.02	(4x(2x0.5))C	150	100
CF211.05.05.02	(5x(2x0.5))C	150	-
CF211.05.06.02	(6x(2x0.5))C	100	-
CF211.05.08.02	(8x(2x0.5))C	100	-
CF211.PUR.02.01.02	(2x0.25)C	200	200
CF211.PUR.02.02.02	(2x(2x0.25))C	200	200
CF211.PUR.02.03.02	(3x(2x0.25))C	200	150
CF211.PUR.02.04.02	(4x(2x0.25))C	200	150
CF211.PUR.02.05.02	(5x(2x0.25))C	200	100
CF211.PUR.02.06.02	(6x(2x0.25))C	200	100
CF211.PUR.02.08.02	(8x(2x0.25))C	150	-
CF211.PUR.02.10.02	(10x(2x0.25))C	100	-
CF211.PUR.03.03.02	(3x(2x0.34))C	200	150
CF211.PUR.03.08.02	(8x(2x0.34))C	100	-
CF211.PUR.05.01.02	(2x0.5)C	200	200
CF211.PUR.05.02.02	(2x(2x0.5))C	200	100
CF211.PUR.05.03.02	(3x(2x0.5))C	200	100
CF211.PUR.05.04.02	(4x(2x0.5))C	150	100
CF211.PUR.05.05.02	(5x(2x0.5))C	150	-
CF211.PUR.05.06.02	(6x(2x0.5))C	100	-
CF211.PUR.05.08.02	(8x(2x0.5))C	100	-
CF11.01.04.02	(4x(2x0.14))C	200	150
CF11.01.18.02	(18x(2x0.14))C	100	-
CF11.02.01.02	(2x0.25)C	200	200
CF11.02.02.02	(2x(2x0.25))C	200	200
CF11.02.03.02	(3x(2x0.25))C	200	150
CF11.02.04.02	(4x(2x0.25))C	200	100
CF11.02.05.02	(5x(2x0.25))C	200	100
CF11.02.06.02	(6x(2x0.25))C	150	100
CF11.02.10.02	(10x(2x0.25))C	100	-
CF11.03.08.02	(8x(2x0.34))C	100	-

Part No.	Number of cores and conductor nominal cross section [mm²]	Max. cable length [m] CASE M	CASE S
CF11.05.04.02	(4x(2x0.5))C	150	100
CF11.05.06.02	(6x(2x0.5))C	100	-
CF11.07.03.02	(3x(2x0.75))C	150	-
CF11.10.04.02	(4x(2x1.0))C	100	-
CF112.02.02.02	(2x(2x0.25)C)C	150	100
CF112.02.03.02	(3x(2x0.25)C)C	150	100
CF112.02.04.02	(4x(2x0.25)C)C	100	-
CF112.02.05.02	(5x(2x0.25)C)C	100	-
CF112.05.02.02	(2x(2x0.5)C)C	100	-
CF112.05.04.02	(4x(2x0.5)C)C	100	-
CF12.02.04.02	(4x(2x0.25)C)C	100	-
CF298.01.02	2x0.14	200	200
CF298.01.04	4x0.14	200	200
CF298.01.08	8x0.14	200	150
CF298.02.03	3x0.25	200	200
CF298.02.04	4x0.25	200	200
CF298.02.07	7x0.25	200	150
CF298.02.08	8x0.25	200	150
CF298.03.04	4x0.34	200	200
CF298.03.07	7x0.34	200	150
CF298.05.04	4x0.5	200	200
CF299.01.02	(2x0.14)C	200	200
CF299.01.04	(4x0.14)C	200	200
CF299.01.08	(8x0.14)C	200	100
CF299.02.04	(4x0.25)C	200	150
CF299.02.07	(7x0.25)C	200	100
Coax cables			
CFKoax1.01	1xHF75-0.3/1.6	200	200
CFKoax1.05	5xHF75-0.3/1.6	150	100
CFKoax2.01	1xHF50-0.9/2.95	200	200
CFKoax3.01	1xHF50-0.3/0.84	200	200
Bus cables			
CFBUS.LB.001	(2x0.25)C	200	100
CFBUS.LB.020	(4x0.25)C	200	200
CFBUS.LB.021	(2x0.5)C	200	150
CFBUS.LB.022	(4x0.5)C	200	150
CFBUS.LB.040	(4x0.25)C	200	150
CFBUS.LB.045	(4x(2x0.15))C	200	100
CFBUS.LB.049	(4x(2x0.15))C	200	100
CFBUS.LB.060	(4x0.38)C	200	150
CF888.001	(2x0.25)C	200	150
CF888.021	(2x0.5)C	200	100
CF888.045	(4x(2x0.14))C	200	150
CF888.060	(4x0.34)C	200	150
CFBUS.PVC.001	(2x0.25)C	200	100
CFBUS.PVC.020	(4x0.25)C	200	150
CFBUS.PVC.021	(2x0.5)C	200	100
CFBUS.PVC.022	(4x0.5)C	200	100
CFBUS.PVC.035	(3x0.5)C	200	150

Cables available in the chainflex® CASE

Bus, FOC and measuring system cables

Part No.	Number of cores and conductor nominal cross section [mm²]	Max. cable length [m] CASE M	CASE S
Bus cables			
CFBUS.PVC.040	(4x0.25)C	200	200
CFBUS.PVC.045	(4x(2x0.15))C	200	150
CFBUS.PVC.049	(4x(2x0.15))C	200	150
CFBUS.PVC.050	4x(2x0.20)C	150	100
CFBUS.PVC.052	(4x(2x0.15)C)C	150	100
CFBUS.PVC.060	(4x0.38)C	200	150
CFBUS.PVC.068	(2x(2xAWG28) +2x(2xAWG28)C)C	200	150
CF898.001	(2x0.25)C	200	150
CF898.021	(2x0.5)C	200	100
CF898.045	(4x(2x0.14))C	200	150
CF898.060	(4x0.34)C	200	150
CF898.061.FC	(4x0.34)C	200	150
CFBUS.PUR.001	(2x0.25)C	200	100
CFBUS.PUR.020	(4x0.25)C	200	150
CFBUS.PUR.021	(2x0.5)C	150	100
CFBUS.PUR.022	(4x0.5)C	200	100
CFBUS.PUR.035	(3x0.5)C	200	150
CFBUS.PUR.040	(4x0.25)C	200	200
CFBUS.PUR.042	(2x0.15)C	200	200
CFBUS.PUR.045	(4x(2x0.15))C	150	150
CFBUS.PUR.049	(4x(2x0.15))C	150	150
CFBUS.PUR.050	4x(2x0.20)C	200	100
CFBUS.PUR.052	(4x(2x0.15)C)C	200	100
CFBUS.PUR.056	(2x(2x0.15)C+2x0.38)C	200	100
CFBUS.PUR.060	(4x0.38)C	200	150
CFBUS.PUR.068	(2x(2xAWG28) +2x(2xAWG28)C)C	200	150
CFBUS.PUR.H01.049	((4x(2x0.15))C+4x1.5)C	200	-
CFBUS.PUR.H01.060	((4x0.38)C+4x1.5)C	150	-
CFBUS.001	(2x0.25)C	100	100
CFBUS.002	(2x0.25)C+4x1.5	100	-
CFBUS.003	(2x0.25)C+3G0.75	200	-
CFBUS.010	(3x(2x0.25))C	100	100
CFBUS.011	(3x(2x0.25)+(3G1.0))C	100	-
CFBUS.020	(4x0.25)C	200	200
CFBUS.021	(2x0.5)C	200	150
CFBUS.022	(4x0.5)C	200	150
CFBUS.030	((2xAWG24)C+2xAWG22)C	150	150
CFBUS.031	((2xAWG18)C+2xAWG15)C	150	-
CFBUS.035	(3xAWG20)C	100	100
CFBUS.040	(4x0.25)C	100	150
CFBUS.045	(4x(2x0.15))C	200	100
CFBUS.049	(4x(2x0.15))C	200	100
CFBUS.050	(4x(2x0.15)C)C	200	-
CFBUS.052	(4x(2x0.15)C)C	200	-
CFBUS.055	2x(2x0.15)C+2x(0.34)C	200	150
CFBUS.060	(4x0.38)C	200	150
CFBUS.065	((2xAWG28)+2xAWG20)C	150	200
CFBUS.066	((2xAWG24)+2xAWG20)C	100	200
CFBUS.070	(4x(2xAWG28)C +(2xAWG28)+3xAWG28)C	100	100
Fibre Optic Cable			
CFLK.L1.01	1x980/1,000	200	200
CFLK.L1.02	2x980/1,000	200	150
CFLG88.2.50/125	2x50/125	200	150
CFLG88.2.62.5/125	2x62.5/125	200	150
CFLG.2LB.PUR.62.5/125	2x62.5/125	200	100
CFLG.4LB.PUR.62.5/125	4x62.5/125	200	100
CFLG.6LB.PUR.50/125	6x50/125	100	-
CFLG.6LB.PUR.62.5/125	6x62.5/125	100	-
CFLG.6LB.PUR.9/125	6x9/125	100	-
CFLG.2LB.200/230	2x200/230	200	100
CFLG.2LB.50/125	2x50/125	200	100
CFLG.2LB.62.5/125	2x62.5/125	200	100
CFLG.4LB.50/125	4x50/125	200	100
CFLG.4LB.62.5/125	4x62.5/125	200	100
CFLG.6LB.50/125	6x50/125	100	-
CFLG.6LB.62.5/125	6x62.5/125	100	-
CFLG.12E.9/125.TC	12x9/125	150	100
CFLG.12G.50/125.TC	12x50/125	150	100
CFLG.12G.62.5/125.TC	12x62.5/125	150	100
CFLG.6G.50/125.TC	6x50/125	150	100
CFLG.6G.62.5/125.TC	6x62.5/125	150	100
Measuring system cables			
CF884.001	(3x(2x0.14)C +(4x0.14)+(2x0.5))C	200	100
CF884.006	(3x(2x0.14)C+(4x0.14) +(4x0.22)+(2x0.5))C	200	100
CF884.009	(4x(2x0.25)+2x0.5)C	200	150
CF884.011	(4x(2x0.34)+4x0.5)C	150	100
CF884.015	(4x(2x0.14)+4x0.5)C	200	100
CF884.022	((2x0.25)+5x0.5)C	200	150
CF884.028	(2x(2x0.15)+(2x0.38))C	200	150
CF211.001	(3x(2x0.14)C +(4x0.14)+(2x0.5))C	200	100
CF211.002	(3x(2x0.14)C+2x(0.5)C)C	150	100
CF211.004	(2x(2x(2x0.14)) +(4x0.14)C+(4x0.5))C	150	100
CF211.006	(3x(2x0.14)C+(4x0.14) +(4x0.25)+(2x0.5))C	150	100
CF211.009	(4x(2x0.25)+2x0.5)C	200	150
CF211.010	(4x(2x0.25)+2x1.0)C	200	100
CF211.011	(4x(2x0.34)+4x0.5)C	200	100
CF211.014	(4x(2x0.25)C+(2x0.5))C	150	-
CF211.015	(4x(2x0.14)+4x0.5)C	200	100
CF211.016	(3x(2x0.25)C)C	200	100

Cables available in the chainflex® CASE

Measuring system cables

Part No.	Number of cores and conductor nominal cross section [mm²]	Max. cable length [m] CASE M	CASE S
CF211.017	(4x(2x0.14) +(4x0.14)C+4x1.0)C	150	100
CF211.018	(2x(2x0.25)+2x0.5)C	200	200
CF211.019	(3x(2x0.25)C +(3x0.25)+2x1.0)C	150	100
CF211.022	((2x0.25)+5x0.5)C	200	150
CF211.024	((4x0.14)+2x(2x0.34))C	200	150
CF211.027	(5x(2x0.14)+2x0.5)C	200	150
CF211.028	(2x(2x0.15)+(2x0.38))C	200	150
CF211.032	3x(2x0.14)C+(3x0.14)C	200	150
CF211.033	4x(2x0.14)C+2x(1.0)C	150	100
CF211.036	(5x(2x0.25))C	200	150
CF211.037	(6x(2x0.25))C	200	100
CF211.038	(3x(2x0.14)+(2x0.34))C	200	150
CF211.039	(4x(2x0.14)C+2x(0.5)C)C	150	100
CF894.001	(3x(2x0.14)C +(4x0.14)+(2x0.5))C	200	100
CF894.006	(3x(2x0.14)C+(4x0.14) +(4x0.22)+(2x0.5))C	200	100
CF894.009	(4x(2x0.25)+2x0.5)C	200	150
CF894.011	(4x(2x0.34)+4x0.5)C	150	100
CF894.015	(4x(2x0.14)+4x0.5)C	200	100
CF894.022	((2x0.25)+5x0.5)C	200	150
CF894.028	(2x(2x0.15)+(2x0.38))C	200	150
CF111.001.D	(3x(2x0.14)C +(4x0.14)+(2x0.5))C	200	100
CF111.002.D	(3x(2x0.14)C+2x(0.5)C)C	150	100
CF111.004.D	(2x(2x(2x0.14)) +(4x0.14)C+(4x0.5))C	150	-
CF111.006.D	(3x(2x0.14)C+(4x0.14) +(4x0.25)+(2x0.5))C	150	100
CF111.009.D	(4x(2x0.25)+2x0.5)C	200	150
CF111.010.D	(4x(2x0.25)+2x1.0)C	200	100
CF111.011.D	(4x(2x0.34)+4x0.5)C	200	100
CF111.014.D	(4x(2x0.25)C+(2x0.5))C	150	-
CF111.015.D	(4x(2x0.14)+4x0.5)C	200	100
CF111.020.D	(3x(2x0.14) +2x(4x0.14)+(2x0.5))C	200	100
CF111.021.D	((4x0.25) +3x(2x0.25+2x0.5))C	150	100
CF111.022.D	((2x0.25)+5x0.5)C	200	150
CF111.024.D	((4x0.14)+2x(2x0.34))C	200	150
CF111.026.D	(6x(2x0.25) +(2x0.34)C+(2x0.5))C	150	-
CF111.027.D	(5x(2x0.14)+2x0.5)C	200	150
CF111.028.D	(2x(2x0.15)+(2x0.38))C	200	150
CF111.032.D	3x(2x0.14)C+(3x0.14)C	200	100
CF111.040.D	(3x(4x0.14) +(2x0.14+2x0.34)+2x1.5)C	200	100

Part No.	Number of cores and conductor nominal cross section [mm²]	Max. cable length [m] CASE M	CASE S
CF113.001.D	(3x(2x0.14)C +(4x0.14)+(2x0.5))C	150	100
CF113.002.D	(3x(2x0.14)C+2x(0.5)C)C	100	100
CF113.003.D	(3x(2x0.14)+2x1.0)C	200	150
CF113.004.D	(2x(2x(2x0.14)) +(4x0.14)C+(4x0.5))C	100	-
CF113.005.D	(4x(2x0.14)+4x0.5)C	150	100
CF113.006.D	(3x(2x0.14)C+(4x0.14) +(4x0.25)+(2x0.5))C	100	-
CF113.007.D	(4x0.34)C	200	200
CF113.008.D	(3x(2x0.25))C	200	150
CF113.009.D	(4x(2x0.25)+2x0.5)C	150	100
CF113.010.D	(4x(2x0.25)+2x1.0)C	150	100
CF113.011.D	(4x(2x0.34)+4x0.5)C	100	100
CF113.013.D	(3x(2x0.14)C+2x0.5)C	150	100
CF113.014.D	(4x(2x0.25)C+(2x0.5))C	100	-
CF113.015.D	(4x(2x0.14)+4x0.5)C	150	100
CF113.016.D	(3x(2x0.25)C)C	150	100
CF113.017.D	(4x(2x0.14) +(4x0.14)C+4x1.0)C	100	100
CF113.018.D	(2x(2x0.25)+2x0.5)C	200	200
CF113.019.D	(3x(2x0.25)C +(3x0.25)+2x1.0)C	100	100
CF113.022.D	((2x0.25)+5x0.5)C	200	150
CF113.025.D	(3x(2x0.14)C+(2x0.5)C)C	100	100
CF113.027.D	(5x(2x0.14)+2x0.5)C	200	100
CF113.028.D	(2x(2x0.20)+(2x0.38))C	200	150
CF113.029.D	(5x(2x0.25)C +(2x0.25+2x0.5))C	100	-
CF113.031.D	(2x(2x0.25)C+2x1.0)C	150	100
CF113.032.D	3x(2x0.14)C+(3x0.14)C	150	100
CF113.033.D	4x(2x0.14)C+2x(1.0)C	100	100
CF113.036.D	(5x(2x0.25))C	150	100
CF113.037.D	(6x(2x0.25))C	150	100
CF113.038.D	(3x(2x0.14)+(2x0.34))C	200	100
CF113.040.D	(3x(4x0.14) +(2x0.14+2x0.34)+2x1.5)C	150	100
CF11.001.D	(3x(2x0.14) C+(4x0.14)+(2x0.5))C	150	100
CF11.002.D	(3x(2x0.14)C+2x(0.5)C)C	150	100
CF11.003.D	(3x(2x0.14)+2x1.0)C	200	150
CF11.004.D	(2x(2x(2x0.14)) +(4x0.14)C+(4x0.5))C	100	-
CF11.005.D	(4x(2x0.14)+4x0.5)C	150	100
CF11.006.D	(3x(2x0.14)C+(4x0.14) +(4x0.25)+(2x0.5))C	100	-
CF11.007.D	(4x0.34)C	200	200
CF11.008.D	(3x(2x0.25))C	200	150
CF11.009.D	(4x(2x0.25)+2x0.5)C	150	100

Cables available in the chainflex® CASE

Measuring system, servo and motor cables

Part No.	Number of cores and conductor nominal cross section [mm²]	Max. cable length [m] CASE M	CASE S
Measuring system cables			
CF11.010.D	(4x(2x0.25)+2x1.0)C	150	100
CF11.011.D	(4x(2x0.34)+4x0.5)C	100	100
CF11.012.D	(3x(2x0.14)C+(3x0.14)C +(4x0.14) +(2x0.14+2x0.5))C	100	-
CF11.013.D	(3x(2x0.14)C+2x0.5)C	150	100
CF11.014.D	(4x(2x0.25)C+(2x0.5))C	100	-
CF11.015.D	(4x(2x0.14)+4x0.5)C	200	100
CF11.017.D	(4x(2x0.14) +(4x0.14)C+4x1.0)C	100	100
CF11.018.D	(2x(2x0.25)+2x0.5)C	200	200
CF11.019.D	(3x(2x0.25)C +(3x0.25)+2x1.0)C	100	100
CF11.021.D	((4x0.25) +3x(2x0.25+2x0.5))C	100	100
CF11.022.D	((2x0.25)+5x0.5)C	200	150
CF11.025.D	(3x(2x0.14)C+(2x0.5)C)C	150	100
CF11.027.D	(5x(2x0.14)+2x0.5)C	200	100
CF11.028.D	(2x(2x0.20)+(2x0.38))C	200	150
CF11.031.D	(2x(2x0.25)C+2x1.0)C	150	100
CF11.032.D	3x(2x0.14)C+(3x0.14)C	150	150
CF11.033.D	4x(2x0.14)C+2x(1.0)C	100	100
CF11.034.D	3x(2x0.14)C+(4x0.14)C +2x(2x0.5)C	100	-
CF11.035.D	(4x(2x0.25)C+2x(2x0.5))C	100	-
CF11.038.D	(3x(2x0.14)+(2x0.34))C	200	150
Servo cables			
CF887.07.05.02.01	(4G0.75+(2x0.5)C)C	150	100
CF887.10.07.02.02	(4G1.0+2x(2x0.75)C)	100	-
CF887.15.15.02.01	(4G1.5+(2x1.5)C)	100	-
CF210.UL.15.15.02.01	(4G1.5+(2x1.5)C)	100	-
CF21.07.03.02.02.UL	(4G0.75+2x(2x0.34)C)C	100	-
CF21.07.05.02.01.UL	(4G0.75+(2x0.5)C)C	100	-
CF21.15.15.02.01.UL	(4G1.5+(2x1.5)C)	100	-
CF897.15.15.02.01	(4G1.5+(2x1.5)C)	100	-
CF270.UL.07.03.02.02.D	(4G0.75+2x(2x0.34)C)C	100	-
CF270.UL.10.07.02.02.D	(4G1.0+2x(2x0.75)C)	100	-
CF270.UL.15.15.02.01.D	(4G1.5+(2x1.5)C)	100	-
CF27.07.03.02.02.D	(4G0.75+2x(2x0.34)C)C	100	-
CF27.07.05.02.01.D	(4G0.75+(2x0.5)C)C	100	-
CF27.15.05.04.D	(4G1.5+(4x0.5)C)C	100	-
CF27.15.15.02.01.D	(4G1.5+(2x1.5)C)	100	-
CF29.15.15.02.01.D	(4G1.5+(2x1.5)C)	100	-
Hybrid servo cables			
CF220.UL.H100.07.04	(4G0.75+(2x0.34)C +(2xAWG22)C)C	100	-
CF220.UL.H101.10.04	(4G1.0+(2x0.75)C +(2xAWG22)C)C	100	-
CF220.UL.H304.15.04.D	(4G1.5+(2x1.5)C +(4xAWG26)C)C	100	-
CF280.UL.H100.07.04.D	(4G0.75+(2x0.34)C +(2xAWG22)C)C	100	-
CF280.UL.H101.10.04.D	(4G1.0+(2x0.75)C +(2xAWG22)C)C	100	-
CF280.UL.H203.15.04.D	(4G1.5+(3x1.0)C)C	100	-
CF280.UL.H300.03.04.D	(4G0.34+(2x0.34)C +(4xAWG26)C)C	150	100
CF280.UL.H301.07.04.D	(4G0.75+(2x0.5)C +(4xAWG26)C)C	100	-
CF280.UL.H304.15.04.D	(4G1.5+(2x1.5)C +(4xAWG26)C)C	100	-
CF280.UL.H401.07.04.D	(4G0.75+(2x0.5)C +(4xAWG24)C)C	100	-
Motor cables			
CF885.15.04	4G1.5	200	150
CF885.25.04	4G2.5	150	100
CF885.40.04	4G4.0	100	-
CF886.15.04	(4G1.5)C	150	100
CF886.25.04	(4G2.5)C	100	-
CF886.40.04	(4G4.0)C	100	-
CF210.UL.05.04	(4G0.5)C	200	150
CF210.UL.15.04	(4G1.5)C	150	100
CF210.UL.25.04	(4G2.5)C	100	-
CF30.15.04	4G1.5	200	150
CF30.25.04	4G2.5	150	100
CF30.25.05	5G2.5	100	-
CF30.40.04	4G4.0	100	-
CF31.15.04	(4G1.5)C	150	100
CF31.25.04	(4G2.5)C	100	-
CF895.15.04	4G1.5	200	150
CF895.25.04	4G2.5	150	100
CF895.40.04	4G4.0	100	-
CF896.07.04	(4G0.75)C	200	150
CF896.15.04	(4G1.5)C	200	100
CF896.25.04	(4G2.5)C	150	-
CF896.40.04	(4G4.0)C	100	-
CF270.UL.07.04.D	(4G0.75)C	200	150
CF270.UL.15.04.D	(4G1.5)C	150	100
CF270.UL.25.04.D	(4G2.5)C	100	-
CF270.UL.10.06.D	(6G1.0)C	150	100
CF27.07.04.D	(4G0.75)C	200	100
CF27.15.04.D	(4G1.5)C	150	-
CF27.25.04.D	(4G2.5)C	100	-
CF34.UL.15.04.D	4G1.5	200	150
CF34.UL.25.04.D	4G2.5	150	100
CF34.UL.40.04.D	4G4.0	100	-

Cables available in the chainflex® CASE

Motor/spindle and torsion cables & pneumatic hoses

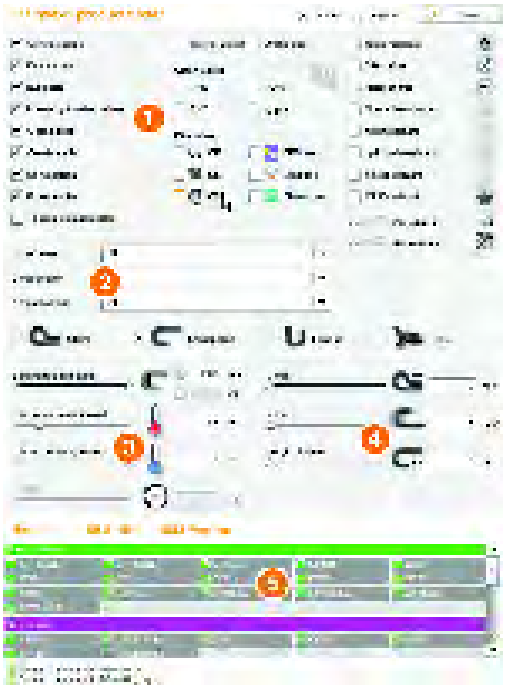
Part No.	Number of cores and conductor nominal cross section [mm²]	Max. cable length [m] CASE M	CASE S
CF35.UL.05.04	(4G0.5)C	200	150
CF35.UL.07.04	(4G0.75)C	200	150
CF35.UL.15.04	(4G1.5)C	150	100
CF35.UL.25.04	(4G2.5)C	100	-
CF37.15.04.D	4G1.5	200	150
CF37.25.04.D	4G2.5	150	100
CF37.40.04.D	4G4.0	100	-
CF38.15.04	(4G1.5)C	150	100
CF38.25.04	(4G2.5)C	100	-
Spindle cables/Single cores			
CF885.40.01	1x4.0	200	150
CF885.60.01	1x6.0	200	150
CF885.100.01	1x10	150	100
CF885.160.01	1x16	100	-
CF885.PE.25.01	1G2.5	200	200
CF885.PE.40.01	1G4.0	200	150
CF885.PE.60.01	1G6.0	200	150
CF885.PE.100.01	1G10	150	100
CF885.PE.160.01	1G16	100	-
CF886.160.01	(1x16)C	100	-
CF270.UL.60.01.D	(1x6.0)C	200	150
CF270.UL.160.01.D	(1x16)C	100	100
CF300.UL.40.01.D	1x4.0	200	200
CF300.UL.60.01.D	1x6.0	200	150
CF300.UL.100.01.D	1x10	200	150
CF300.UL.160.01.D	1x16	100	100
CFPE.15.01	1G1.5	200	200
CFPE.25.01	1G2.5	200	200
CFPE.40.01	1G4.0	200	200
CFPE.60.01	1G6.0	200	150
CFPE.100.01	1G10	200	150
CFPE.160.01	1G16	100	100
CF310.UL.25.01	(1x2.5)C	200	200
CF310.UL.40.01	(1x4.0)C	200	200
CF310.UL.60.01	(1x6.0)C	200	150
CF310.UL.100.01	(1x10)C	150	100
CF310.UL.160.01	(1x16)C	100	100
CF330.60.01.D	1x6.0	200	150
CF330.100.01.D	1x10	200	150
CF330.160.01.D	1x16	150	100
CF340.40.01	(1x4.0)C	200	200
CF340.160.01	(1x16)C	100	100
Twistable cables			
CFROBOT2.07.04.C	(4G0.75)C	200	150
CFROBOT2.07.05.C	(5G0.75)C	200	100
CFROBOT2.07.07.C	(7G0.75)C	150	100
CFROBOT3.02.03.02	(3x(2x0.25))C	150	100
CFROBOT3.02.04.02	(4x(2x0.25))C	150	-
CFROBOT3.02.06.02	(6x(2x0.25))C	100	-

Part No.	Number of cores and conductor nominal cross section [mm²]	Max. cable length [m] CASE M	CASE S
CFROBOT3.05.05.02	(5x(2x0.5))C	100	-
CFROBOT4.001	(3x(2x0.14)C +(4x0.14)+(2x0.5))C	150	-
CFROBOT4.006	(3x(2x0.14)C+(4x0.14) +(4x0.22)+(2x0.5))C	100	-
CFROBOT4.009	(4x(2x0.25)+(2x0.5))C	150	100
CFROBOT4.015	(4x(2x0.14)+4x0.5)C	200	100
CFROBOT4.028	(2x(2x0.20)+(2x0.38))C	200	150
CFROBOT5.500	2x62.5/125	200	100
CFROBOT5.501	2x50/125	200	100
CFROBOT7.07.03.02.02.C	(4G0.75+2x(2x0.34)C)C	100	-
CFROBOT7.15.03.C	(3G1.5)C	200	100
CFROBOT7.15.04.C	(4G1.5)C	200	100
CFROBOT7.25.03.C	(3G2.5)C	150	100
CFROBOT7.25.04.C	(4G2.5)C	150	-
CFROBOT.035	(1x10)C	100	-
CFROBOT8.001	(2x0.35)C	200	150
CFROBOT8.022	(4x0.5)C	200	150
CFROBOT8.030	(2xAWG24)C +(2xAWG22)C	150	100
CFROBOT8.045	4x(2x0.15)C	150	100
CFROBOT8.049	4x(2x0.15)C	150	100
CFROBOT8.050	4x(2x0.15)C	150	-
CFROBOT8.052	4x(2x0.15)C	150	-
CFROBOT8.060	(2x(2x0.34))C	200	100
CFROBOT8.PLUS.001	(2x0.25)C	200	100
CFROBOT8.PLUS.022	(4x0.5)C	200	150
CFROBOT8.PLUS.045	(4x(2x0.15))C	200	150
CFROBOT8.PLUS.049	(4x(2x0.15))C	200	150
CFROBOT8.PLUS.050	(4x(2x0.15)C)C	200	150
CFROBOT8.PLUS.060	(4x0.34)C	200	150
CFROBOT9.010	(4x(2x0.25)C)C	150	-
Pneumatic hoses			
CAPE.A.06.0	4.0x1.0x6.0	200	-
CAPE.A.08.0	5.7x1.15x8.0	200	-
CAPU.A.06.0	4x1.0x6.0	200	-
CAPU.A.08.0	5.7x1.15x8.0	200	-

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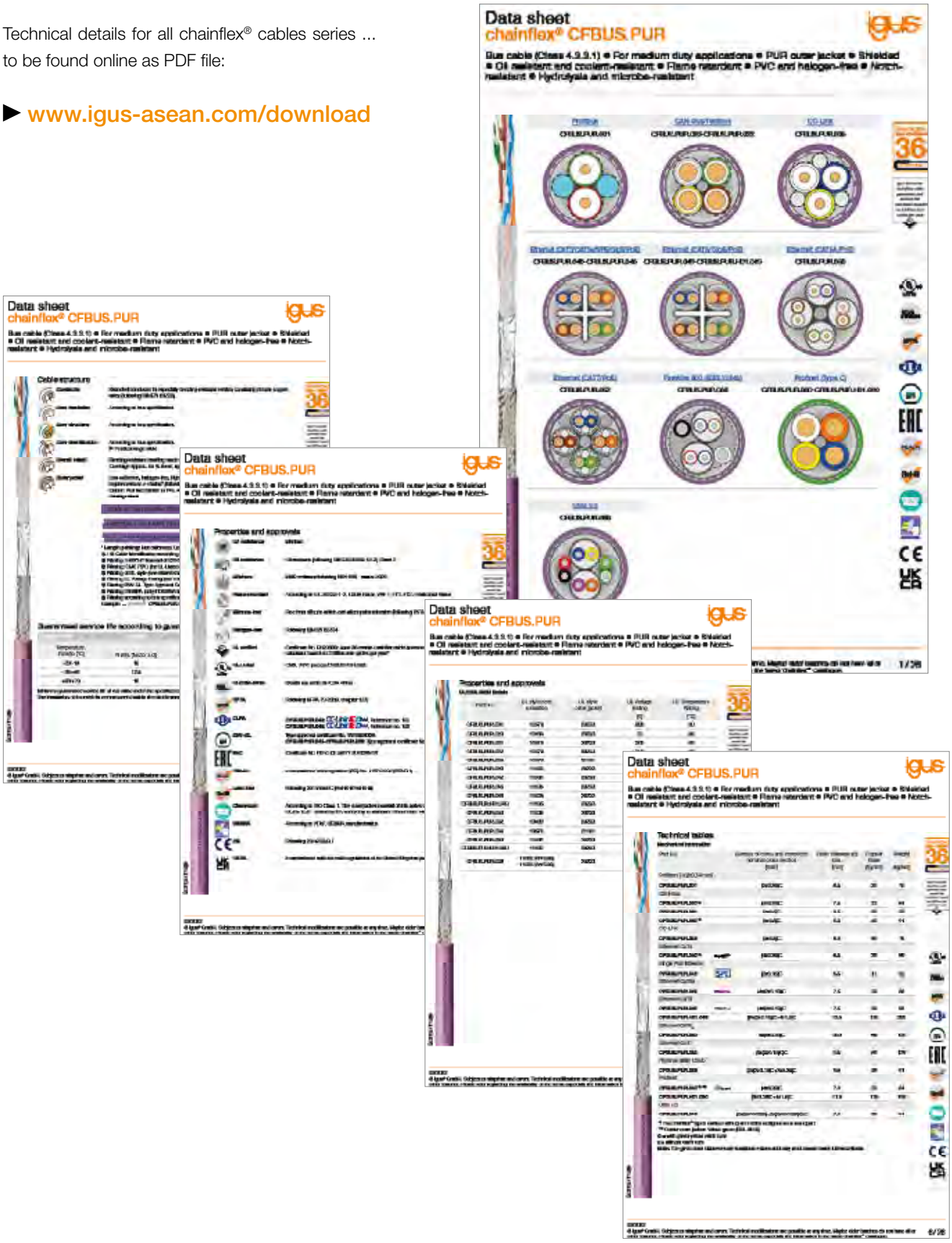
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Definition of the icons used in the catalogue



Bend radius



Temperature



v max. unsup-ported/gliding



a max.



Travel distance



Torsion



UV-resistance



Nominal voltage


Testing voltage



Oil resistance


Offshore


Flame-retardant


Silicon-free



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