

cables

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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



igus.com ... chainflex® cables ... 2022 ... motion plastics...

chainflex®



Tested, tested, tested

chainflex® test lab

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Control cables

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chainflex®

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Measuring system cables

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Motor cables

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Robotic cables

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Special cables

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chainflex®

Pneumatic hoses

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chainflex® selection according to "Class"

chainflex® series	Basic requirements	Travel distance	Oil-resistance	Torsion
CF880 New	3	1	1	1
CF881 New	3	1	1	1
CF8821	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 New	3	1	1	1
CF888 New	3	1	1	1
CF890 New	3	1	3	1
CF891 New	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 New	3	1	3	1
CF130US	3	1	4	2
CF140US	3	1	4	1
CF210-UL	4	2	2	1
CF210-UL (Motor)	4	2	2	1
CF211 (MSC)	4	2	2	1
CF220-UL-H	4	2	2	1
CF111-D	4	2	3	1
CF270-UL-D	4	2	3	1
CF270-UL-D (Motor)	4	2	3	1
CF280-UL-H	4	2	3	1
CFBUS-PVC New	4	3	2	1
CFBUS-PUR New	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
CF77-UL-D (Robot)	5	1	3	3
CFLK	5	3	3	1
CF THERMO	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

chainflex® series	Basic requirements	Travel distance	Oil-resistance	Torsion
CFROBOT4	6	1	3	3
CFROBOT7 New	6	1	3	3
CFROBOT8	6	1	3	3
CFROBOT9	6	1	3	3
CFROBOT8-PLUS	6	1	3	4
CFROBOT	6	1	4	3
CFROBOT5	6	1	4	3
CFROBOT6	6	1	3	3
CF2	6	5	3	1
CF14US	6	3	4	1
CF112	6	5	3	1
CFLG-LB-PUR	6	5	3	1
CF113-D New	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 New	6	6	4	1
CF11-D	6	6	4	1
CF35-UL New	6	6	4	1
CF310-UL	6	6	4	1
CF9-UL	6	6	4	2
CF34-UL-D New	6	6	4	2
CF300-UL-D	6	6	4	2
CFPE	6	6	4	2
CFSOFT1	7	1	2	1
CFSOFT2	7	1	2	1
CF99	7	5	4	1
CF299 New	7	5	4	1
CFLG-LB	7	5	4	1
CF FLAT	7	5	4	1
CF98	7	5	4	2
CF298 New	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

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chainflex® for
Network technology

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Harnessed Fiber optic cables
FOC

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CF.INI
Sensor/actuator cables

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chainflex® cables with
Industrial connectors

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Harnessed dress packs and cables
for robots

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Harnessed cables for drive technology
ReadyCable®

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Connectors

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Strain relief systems
Chainfix

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Ready-to-install assembled Energy Chain systems®
ReadyChain®

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Facts, figures and data
Technical appendix

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Control cables ...



chainflex® types



chainflex® cable	Jacket	Shield	Bend radius min., E-Chain® [factor x d]	Temperature, E-Chain® from/to [°F]	Price index	Approvals and standards	Flame-retardant	Oil-resistant	Halogen-free	UV-resistant	Torsion resistant	v max. unsupported [ft/s]	v max. gliding [ft/s]	a max. [ft/s²]	chainflex® Class	Page	
Control cables																	44
Exclusive! Guaranteed lifetime for this series according to the guarantee conditions ▶ Page 26-27															Selection table ▶ Page 46		
	CF880 <i>New</i>	PVC	12.5	+41/ +158	●●●		✓					9.84	65.62		3.1.1.1	50	
	CF881 <i>New</i>	PVC	✓	12.5	+41/ +158	●●●		✓				9.84	65.62		3.1.1.1	54	
	CF130US	PVC	8	+41/ +176	●●●		✓	✓		✓	✓	9.84	6.56	65.62	3.1.4.2	58	
	CF140US	PVC	✓	10	+41/ +176	●●●		✓		✓		9.84	6.56	65.62	3.1.4.1	62	
	CF130-UL	PVC	7.5	+41/ +158	●●●		✓				✓	9.84	6.56	65.62	4.4.1.2	66	
	CF140-UL	PVC	✓	7.5	+41/ +158	●●●		✓				9.84	6.56	65.62	4.4.1.1	70	
	CF5	PVC	6.8	+41/ +158	●●●		✓	✓		✓	✓	32.81	16.41	262.5	5.5.2.2	74	
	CF6	PVC	✓	6.8	+41/ +158	●●●		✓		✓		32.81	16.41	262.5	5.5.2.1	78	
	CFSOFT1	PVC	5	+41/ +158	●●●		✓	✓		✓		32.81	16.41	262.5	7.1.2.1	82	
	CFSOFT2	PVC	✓	5	+41/ +158	●●●		✓		✓		32.81	16.41	262.5	7.1.2.1	84	
	CF890 <i>New</i>	iguPUR	12.5	-4/ +176	●●●		✓	✓		✓		9.84	65.62		3.1.3.1	86	
	CF891 <i>New</i>	iguPUR	✓	12.5	-4/ +176	●●●		✓		✓		9.84	65.62		3.1.3.1	90	
	CF77-UL-D	PUR	6.8	-13/ +176	●●●		✓	✓	✓	✓	✓	32.81	16.41	262.5	5.5.3.3	94	
	CF78-UL	PUR	✓	6.8	-13/ +176	●●●		✓	✓	✓	✓	32.81	16.41	262.5	5.5.3.1	98	
	CF2	PUR	✓	5	-4/ +176	●●●		✓		✓		32.81	16.41	262.5	6.5.3.1	102	
	CF9	TPE	5	-31/ +212	●●●		✓	✓	✓	✓	✓	32.81	19.69	328.1	7.6.4.2	106	
	CF10	TPE	✓	5	-31/ +212	●●●		✓	✓	✓		32.81	19.69	328.1	7.6.4.1	110	
	CF9-UL	TPE	5	-31/ +212	●●●		✓	✓		✓	✓	32.81	19.69	328.1	6.6.4.2	114	
	CF10-UL	TPE	✓	5	-31/ +212	●●●		✓	✓		✓	32.81	19.69	328.1	6.6.4.1	118	
	CF98	TPE	4	-31/ +194	●●●		✓	✓	✓	✓	✓	32.81	19.69	328.1	7.5.4.2	122	
	CF99	TPE	✓	4	-31/ +194	●●●		✓	✓	✓		32.81	19.69	328.1	7.5.4.1	124	

























































































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

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



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chainflex® cable	Jacket	Shield	Bend radius min., E-Chain® [factor x d]	Temperature, E-Chain® from/to [°F]	Price index	Approvals and standards	Flame-retardant	Oil-resistant	Halogen-free	UV-resistant	Torsion resistant	v max. unsupported [ft/s]	v max. gliding [ft/s]	a max. [ft/s²]	chainflex® Class	Page
Data cables																
Exclusive! Guaranteed lifetime for this series according to the guarantee conditions ▶ Page 26-27															Selection table ▶ Page 128	
	CF8821	PVC	✓	12.5	+41/ +158	●●●	       ✓					9.84	65.62		3.1.1.1	130
	CF240	PVC	✓	10	+41/ +158	●●●	       ✓ ✓					9.84	6.56	65.62	4.4.2.1	132
	CF240-PUR	PUR	✓	10	-13/ +176	●●●	       ✓ ✓ ✓ ✓					9.84	6.56	65.62	4.4.3.1	136
	CF211	PVC	✓	7.5	+41/ +158	●●●	       ✓ ✓					16.41	9.84	164.1	5.5.2.1	140
	CF211-PUR	PUR	✓	7.5	-13/ +176	●●●	       ✓ ✓ ✓ ✓					16.41	9.84	164.1	5.5.3.1	144
	CF11	TPE	✓	6.8	-31/ +212	●●●	       ✓ ✓ ✓					32.81	19.69	328.1	6.6.4.1	148
	CF112	PUR	✓	10	-13/ +176	●●●	       ✓ ✓ ✓ ✓					32.81	16.41	262.5	6.5.3.1	152
	CF12	TPE	✓	10	-31/ +212	●●●	       ✓ ✓ ✓					32.81	19.69	328.1	6.6.4.1	156
	CF298 <i>New</i>	TPE		4	-31/ +194	●●●	       ✓ ✓ ✓ ✓					32.81	19.69	328.1	7.5.4.2	158
	CF299 <i>New</i>	TPE	✓	4	-31/ +194	●●●	       ✓ ✓ ✓					32.81	19.69	328.1	7.5.4.1	160
Coax cables																
	CFKoax	TPE		10	-35/ +100	●●●	       ✓ ✓					32.81	16.41	328.1	6.6.4.1	162

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

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

Bus ... Ethernet ... FOC

chainflex® types



chainflex® cable	Jacket	Shield	Bend radius min., E-Chain® [factor x d]	Temperature, E-Chain® from/to [°F]	Price index	Approvals and standards	Flame-retardant	Oil-resistant	Halogen-free	UV-resistant	Torsion resistant	v max. unsupported [ft/s]	v max. gliding [ft/s]	a max. [ft/s²]	chainflex® Class	Page
Bus cables 166																
Exclusive! Guaranteed lifetime for this series according to the guarantee conditions ▶ Page 26-27															Selection table ▶ Page 168	
	CF888 <i>New</i>	PVC	✓	15	+41/ +158	●●●	UL, FM, CE, ENEC, EAC, RoHS, REACH, CE, ✓					9.84	65.62		3.1.1.1	174
	CFBUS-PVC <i>New</i>	PVC	✓	12.5	+41/ +158	●●●	UL, FM, CE, ENEC, EAC, RoHS, REACH, CE, ✓, ✓, ✓	✓		✓		9.84	6.56	98.43	4.3.2.1	178
	CF898 <i>New</i>	iguPUR	✓	15	-4/ +176	●●●	UL, FM, CE, ENEC, EAC, RoHS, REACH, CE, ✓, ✓, ✓					9.84	65.62		3.1.3.1	182
	CFBUS-PUR <i>New</i>	PUR	✓	12.5	-4/ +176	●●●	UL, FM, CE, ENEC, EAC, RoHS, REACH, CE, ✓, ✓, ✓, ✓	✓		✓	✓	9.84	6.56	98.43	4.3.3.1	186
	CF14US	PUR	✓	7.5	-4/ +158	●●●	UL, FM, CE, ENEC, EAC, RoHS, REACH, CE, ✓, ✓, ✓					32.81	19.69	328.1	6.3.4.1	190
	CFBUS <i>New</i>	TPE	✓	10-12.5	-31/ +158	●●●	UL, FM, CE, ENEC, EAC, RoHS, REACH, CE, ✓, ✓, ✓	✓		✓		32.81	19.69	328.1	6.6.4.1	192
	CFBUS-LB	TPE	✓	7.5	-31/ +158	●●●	UL, FM, CE, ENEC, EAC, RoHS, REACH, CE, ✓, ✓, ✓	✓	✓	✓		32.81	19.69	328.1	7.6.4.1	198
Fiber optic cables 202																
Exclusive! Guaranteed lifetime for this series according to the guarantee conditions ▶ Page 26-27															Selection table ▶ Page 206	
	CFLK	PUR		12.5	-4/ +140	●●●	UL, FM, CE, ENEC, EAC, RoHS, REACH, CE, ✓, ✓, ✓	✓	✓	✓		32.81	16.41	65.62	5.3.3.1	208
	CFLG88	PVC		7.5	+41/ +158	●●●	UL, FM, CE, ENEC, EAC, RoHS, REACH, CE, ✓					9.84	65.62		3.1.1.1	210
	CFLG-LB-PUR	PUR		5	-31/ +176	●●●	UL, FM, CE, ENEC, EAC, RoHS, REACH, CE, ✓, ✓, ✓, ✓	✓	✓	✓	✓	32.81	19.69	65.62	6.5.3.1	212
	CFLG-LB	TPE		5	-31/ +176	●●●	UL, FM, CE, ENEC, EAC, RoHS, REACH, CE, ✓, ✓, ✓	✓	✓	✓		32.81	19.69	65.62	7.5.4.1	216
	CFLG-G	TPE		10	-40/ +176	●●●	UL, FM, CE, ENEC, EAC, RoHS, REACH, CE, ✓, ✓, ✓	✓	✓	✓		32.81	19.69	65.62	7.6.4.1	220

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

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

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36 month chainflex® guarantee
 Guaranteed lifetime for predictable reliability
 ▶ Selection table page 168 (Bus) and page 206 (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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... Measuring ... Servo ...

chainflex® types



chainflex® cable	Jacket	Shield	Bend radius min., E-Chain® [factor x d]	Temperature, E-Chain® from/to [°F]	Price index	Approvals and standards	Flame-retardant	Oil-resistant	Halogen-free	UV-resistant	Torsion resistant	v max. unsupported [ft/s]	v max. gliding [ft/s]	a max. [ft/s²]	chainflex® Class	Page
Measuring system cables																224
Exclusive! Guaranteed lifetime for this series according to the guarantee conditions ▶ Page 26-27																Selection table ▶ Page 226
	CF884	PVC	✓	15	+41/ +158	●●●	UL, FM, NEMA, ENEC, CE, etc.					9.84	65.62		3.1.1.1	230
	CF211	PVC	✓	10	+41/ +158	●●●	UL, FM, NEMA, ENEC, CE, etc.					16.41	9.84	98.43	4.2.2.1	234
	CF894	iguPUR	✓	15	-4/ +176	●●●	UL, FM, NEMA, ENEC, CE, etc.					9.84	65.62		3.1.3.1	240
	CF111-D	PUR	✓	10	-13/ +176	●●●	UL, FM, NEMA, ENEC, CE, etc.					16.41	9.84	98.43	4.2.3.1	244
	CF113-D <i>New</i>	PUR	✓	7.5	-13/ +176	●●●	UL, FM, NEMA, ENEC, CE, etc.					32.81	16.41	164.05	6.5.3.1	250
	CF11-D	TPE	✓	7.5	-31/ +194	●●●	UL, FM, NEMA, ENEC, CE, etc.					32.81	19.69	328.1	6.6.4.1	256
Servo cables																262
Exclusive! Guaranteed lifetime for this series according to the guarantee conditions ▶ Page 26-27																Selection table ▶ Page 264
	CF887 <i>New</i>	PVC	✓	15	+41/ +158	●●●	UL, FM, NEMA, ENEC, CE, etc.					9.84	65.62		3.1.1.1	268
	CF210-UL	PVC	✓	10	+41/ +158	●●●	UL, FM, NEMA, ENEC, CE, etc.					32.81	6.56	164.05	4.2.2.1	270
	CF21-UL	PVC	✓	7.5	+41/ +158	●●●	UL, FM, NEMA, ENEC, CE, etc.					32.81	16.41	262.48	5.5.2.1	274
	CF897	iguPUR	✓	15	-4/ +176	●●●	UL, FM, NEMA, ENEC, CE, etc.					9.84	65.62		3.1.3.1	278
	CF270-UL-D	PUR	✓	10	-13/ +176	●●●	UL, FM, NEMA, ENEC, CE, etc.					32.81	6.56	164.05	4.2.3.1	280
	CF27-D	PUR	✓	7.5	-13/ +176	●●●	UL, FM, NEMA, ENEC, CE, etc.					32.81	16.41	262.48	6.5.3.1	284
	CF29-D	TPE	✓	6.8	+31/ +212	●●●	UL, FM, NEMA, ENEC, CE, etc.					32.81	16.41	262.48	7.6.4.1	288
Servo cables																
	CF220-UL-H	PVC	✓	10	+41/ +158	●●●	UL, FM, NEMA, ENEC, CE, etc.					32.81	6.56	164.05	4.2.2.1	290
	CF280-UL.H	PUR	✓	10	-13/ +176	●●●	UL, FM, NEMA, ENEC, CE, etc.					32.81	6.56	164.05	4.2.3.1	294

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

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

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36 month chainflex® guarantee
 Guaranteed lifetime for predictable reliability
 ▶ Selection table page 226 (Measuring system) and page 264 (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.com/chainflexlife

Guarantee igus chainflex 36 up to 36 months guarantee		chainflex® cable	Jacket	Shield	Bend radius min., E-Chain® [factor x d]	Temperature, E-Chain® from/to [°F]	Price index	Approvals and standards	Flame-retardant	Oil-resistant	Halogen-free	UV-resistant	Torsion resistant	v max. unsupported [ft/s]	v max. gliding [ft/s]	a max. [ft/s²]	chainflex® Class	Page	
Motor cables																			298
Exclusive! Guaranteed lifetime for this series according to the guarantee conditions ▶ Page 26-27															Selection table ▶ Page 300				
	CF885	PVC		15	+41/ +158	●●●		UL, NFPA, ENEC, CE, RoHS, REACH, CE, RoHS	✓					9.84	65.62		3.1.1.1	304	
	CF886	PVC	✓	15	+41/ +158	●●●		UL, NFPA, ENEC, CE, RoHS, REACH, CE, RoHS	✓					9.84	65.62		3.1.1.1	306	
	CF210-UL	PVC	✓	10	+41/ +158	●●●		UL, NFPA, ENEC, CE, RoHS, REACH, CE, RoHS	✓	✓		✓	32.81	6.56	164.05		4.2.2.1	308	
	CF30	PVC		7.5	+41/ +158	●●●		UL, NFPA, ENEC, CE, RoHS, REACH, CE, RoHS	✓	✓		✓	32.81	16.41	262.48		5.5.2.2	310	
	CF31	PVC	✓	7.5	+41/ +158	●●●		UL, NFPA, ENEC, CE, RoHS, REACH, CE, RoHS	✓	✓		✓	32.81	16.41	262.48		5.5.2.1	314	
	CF895	iguPUR		15	-4/ +176	●●●		UL, NFPA, ENEC, CE, RoHS, REACH, CE, RoHS	✓	✓		✓	9.84		65.62		3.1.3.1	318	
	CF896	iguPUR	✓	15	-4/ +176	●●●		UL, NFPA, ENEC, CE, RoHS, REACH, CE, RoHS	✓	✓		✓	9.84		65.62		3.1.3.1	320	
	CF270-UL-D	PUR	✓	10	-13/ +176	●●●		UL, NFPA, ENEC, CE, RoHS, REACH, CE, RoHS	✓	✓	✓	✓	32.81	6.56	164.05		4.2.3.1	322	
	CF27-D	PUR	✓	7.5	-13/ +176	●●●		UL, NFPA, ENEC, CE, RoHS, REACH, CE, RoHS	✓	✓	✓	✓	32.81	16.41	262.48		6.5.3.1	326	
	CF34-UL-D <i>New</i>	TPE		7.5	-31/ +194	●●●		UL, NFPA, ENEC, CE, RoHS, REACH, CE, RoHS	✓	✓		✓	32.81	19.69	262.48		6.6.4.2	330	
	CF35-UL <i>New</i>	TPE	✓	7.5	-31/ +194	●●●		UL, NFPA, ENEC, CE, RoHS, REACH, CE, RoHS	✓	✓		✓	32.81	19.69	262.48		6.6.4.1	334	
	CF37-D	TPE		7.5	-31/ +194	●●●		UL, NFPA, ENEC, CE, RoHS, REACH, CE, RoHS	✓	✓	✓	✓	32.81	19.69	262.48		7.6.4.2	338	
	CF38	TPE	✓	7.5	-31/ +194	●●●		UL, NFPA, ENEC, CE, RoHS, REACH, CE, RoHS	✓	✓	✓	✓	32.81	19.69	262.48		7.6.4.1	340	
Spindle cables/Single cores																			
	CF885	PVC		15	+41/ +158	●●●		UL, NFPA, ENEC, CE, RoHS, REACH, CE, RoHS	✓					9.84	65.62		3.1.1.1	342	
	CF885-PE	PVC		15	+41/ +158	●●●		UL, NFPA, ENEC, CE, RoHS, REACH, CE, RoHS	✓					9.84	65.62		3.1.1.1	344	
	CF886	PVC	✓	15	+41/ +158	●●●		UL, NFPA, ENEC, CE, RoHS, REACH, CE, RoHS	✓					9.84	65.62		3.1.1.1	346	
	CF270-UL-D	PUR	✓	10	-13/ +176	●●●		UL, NFPA, ENEC, CE, RoHS, REACH, CE, RoHS	✓	✓	✓	✓	32.81	6.56	164.05		4.2.3.1	348	
	CF300-UL-D	TPE		7.5	-31/ +194	●●●		UL, NFPA, ENEC, CE, RoHS, REACH, CE, RoHS	✓	✓		✓	32.81	19.69	328.1		6.6.4.2	350	
	CFPE	TPE		7.5	-31/ +194	●●●		UL, NFPA, ENEC, CE, RoHS, REACH, CE, RoHS	✓	✓		✓	32.81	19.69	328.1		6.6.4.2	352	
	CF310-UL	TPE	✓	7.5	-31/ +194	●●●		UL, NFPA, ENEC, CE, RoHS, REACH, CE, RoHS	✓	✓		✓	32.81	19.69	328.1		6.6.4.1	354	
	CF330-D	TPE		7.5	-31/ +194	●●●		UL, NFPA, ENEC, CE, RoHS, REACH, CE, RoHS	✓	✓	✓	✓	32.81	19.69	328.1		7.6.4.2	356	
	CF340	TPE	✓	7.5	-31/ +194	●●●		UL, NFPA, ENEC, CE, RoHS, REACH, CE, RoHS	✓	✓	✓	✓	32.81	19.69	328.1		7.6.4.1	358	
Medium voltage cables																			
	CFCRANE-PUR	PUR	✓	10	-4/ +176	●●●		UL, NFPA, ENEC, CE, RoHS, REACH, CE, RoHS	✓	✓	✓	✓	32.81	19.69	164.05		6.6.3.1	360	
	CFCRANE	igupren	✓	10	-4/ +176	●●●		UL, NFPA, ENEC, CE, RoHS, REACH, CE, RoHS	✓	✓	✓	✓	32.81	19.69	164.05		6.6.3.1	362	

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

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



chainflex® cable	Jacket	Shield	Bend radius min., E-Chain® [factor x d]	Torsion angle [°/m]	Temperature, E-Chain® from/to [°F]	Price index	Approvals and standards	Flame-retardant	Oil-resistant	Halogen-free	UV-resistant	Torsion resistant	v max. twisted [°/s]	a max. twisted [°/s²]	chainflex® Class	Page
Twistable cables																
Exclusive! Guaranteed lifetime for this series according to the guarantee conditions ▶ Page 26-27																
Control cables																
	CF77-UL-D	PUR	6.8	±180	-13/ +176	●●●		✓	✓	✓	✓	✓	180	60	5.1.3.3	372
	CFROBOT2	PUR	✓	10	±180	-13/ +176	●●●		✓	✓	✓	✓	180	60	6.1.3.3	376
Data cable																
	CFROBOT3	PUR	✓	10	±180	-13/ +176	●●●		✓	✓	✓	✓	180	60	6.1.3.3	378
Measuring system cable																
	CFROBOT4	PUR	✓	10	±180	-13/ +176	●●●		✓	✓	✓	✓	180	60	6.1.3.3	380
Fiber optic cable																
	CFROBOT5	TPE	10	±180	-31/ +176	●●●		✓	✓	✓	✓	180	60	6.1.4.3	384	
Motor cables																
	CFROBOT6	PUR	10	±180	-13/ +176	●●●		✓	✓	✓	✓	180	60	6.1.3.3	386	
	CFROBOT7 <i>New</i>	PUR	✓	10	±180	-13/ +176	●●●		✓	✓	✓	✓	180	60	6.1.3.3	388
Spindle cables/Single cores																
	CFROBOT	TPE	✓	10	±180	-31/ +194	●●●		✓	✓	✓	✓	180	60	6.1.4.3	392
Bus cable																
	CFROBOT8	PUR	✓	10	±180	-13/ +158	●●●		✓	✓	✓	✓	180	60	6.1.3.3	394
	CFROBOT8-PLUS	PUR	✓	10	±360	-13/ +158	●●●		✓	✓	✓	✓	360	60	6.1.3.4	398
Hybrid cable																
	CFROBOT9	PUR	✓	10	±180	-13/ +176	●●●		✓	✓	✓	✓	180	60	6.1.3.3	402

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













































































































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

... Data ... Special ...



chainflex® types



chainflex® cable	Jacket	Shield	Bend radius min., E-Chain® [factor x d]	Temperature, E-Chain® from/to [°F]	Price index	Approvals and standards	Flame-retardant	Oil-resistant	Halogen-free	UV-resistant	Torsion resistant	v max. unsupported [ft/s]	v max. gliding [ft/s]	a max. [ft/s²]	chainflex® Class	Page
 CF THERMO	PUR	✓	12.5	-13/ +176	●●●	                	✓	✓	✓	6.56	3.28	65.62	5.4.3.1	408		
 CF FLAT	TPE		5	-31/ +194	●●●	                	✓	✓	✓	32.81	19.69	328.1	7.5.4.1	410		
 CF SPECIAL-182	PUR	✓	10	-13/ +176	●●●	                	✓	✓	✓	32.81	19.69	328.1	-	412		
 CF SPECIAL-414			7.5	-4/ +140	●●●	                	✓	✓	✓	32.81	-	65.62	-	414		
 CF SPECIAL-484		✓	12.5	-4/ +140	●●●	                	✓	✓	✓	32.81	-	65.62	-	416		
 CF SPECIAL-792	PUR	✓	10	-13/ +176	●●●	                	✓	✓	✓	9.84	6.56	65.62	-	418		

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

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

... Video ... Network ...



Cable type	Jacket	Page
Harnessed Bus cables		
FireWire	Pre-harnessed cable	TPE 428
USB 2.0	Pre-harnessed cable	PVC/PUR/TPE 430
USB 3.0	Pre-harnessed cable	PVC/PUR 432
GigE	Pre-harnessed cable	PUR-ROBOT/TPE 433
Harnessed coax cables		
Koax	Pre-harnessed cable (BNC/SMA)	TPE 434
VGA	Pre-harnessed cable	TPE 437
DVI-D/HDMI	Pre-harnessed cable	TPE 438
Harnessed Ethernet cables 440		
CAT5 Straight	PVC/PUR/TPE	443
CAT5e Straight	PVC/PUR/TPE	444
CAT5e Straight	PVC/PUR/TPE	447
CAT5e Cross-Over	PVC/PUR/TPE	448
CAT5e with 615 connectors	PVC/PUR/TPE	449
CAT5e with angled connectors (L/T angle)	PVC/PUR/TPE	450
CAT6 Straight	PVC/PUR/TPE	454
CAT6 Straight/Cross-Over	TPE	456
CAT6A with M12 connectors	PVC/PUR/TPE	457
CAT7 Straight	PUR/TPE	459
Industrial Ethernet moulded	PVC/PUR	460
Harnessed Profibus cables		
Profibus	PVC/PUR/TPE	462
Harnessed Profinet cables		
Profinet	PVC/PUR/TPE	468
Industrial Profinet moulded New	PVC/PUR	472


















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



Cable type	Jacket	Page
Harnessed Fiber optic cables for Video		
FOC 2 fibers	PVC/TPE	480
FOC 4 fibers	TPE	481
Harnessed Fiber optic cables for Network		
FOC 6 fibers	TPE	482
FOC 12 fibers	TPE	482
Initiators CF9 - CF.INI (minimum bend radius 5 x d) 484		
Connection cable M12 x 1, straight/angled	TPE	487
Linking cable M12 x 1, straight/angled	TPE	487
Connection cable M12 x 1, straight/angled, LED	TPE	489
Connection cable M8 x 1, straight/angled	TPE	491
Linking cable M8 x 1, straight/angled	TPE	491
Connection cable M8 x 1, angled, LED	TPE	493
Initiators CF10 - CF.INI (minimum bend radius 5 x d) 360° shielded		
Connection cable M12 x 1, straight/angled	TPE	495
Linking cable M12 x 1, straight/angled	TPE	495
Initiators CF98 - CF.INI (minimum bend radius 4 x d)		
Connection cable M12 x 1, straight/angled	TPE	497
Linking cable M12 x 1, straight/angled	TPE	497
Connection cable M8 x 1, straight/angled	TPE	499
Linking cable M8 x 1, straight/angled	TPE	499
chainflex® cables for actuator/sensor distribution box		
Connection cable M23, straight	TPE	500
Linking cable M23, straight/angled	TPE	500
Connection cable M12, straight	TPE	501

























Industrial ... Robots ...


























Cable type	Page
chainflex® cables with industrial connectors	502
 Han 6B	Harnessed cable, single locking lever at both ends, straight Harnessed cable, double locking lever at both ends, angled 504
 Han 10B	Harnessed cable, single locking lever at both ends, straight Harnessed cable, single locking lever at both ends, angled 506
 Han 10B	Harnessed cable, double locking lever at both ends, straight Harnessed cable, double locking lever at both ends, angled 506
 Han 16B	Harnessed cable, single locking lever at both ends, straight Harnessed cable, single locking lever at both ends, angled 508
 Han 16B	Harnessed cable, double locking lever at both ends, straight Harnessed cable, double locking lever at both ends, angled 508
 Han 24B	Harnessed cable, single locking lever at both ends, straight Harnessed cable, single locking lever at both ends, angled 510
 Han 24B	Harnessed cable, double locking lever at both ends, straight Harnessed cable, double locking lever at both ends, angled 510
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	Connenctors sets with pin inserts 752
	Connenctors sets Premium (Pin + Socket) 754
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Harnessed cables for robots	
 readycable® Kuka	Harnessed cables for Kuka robots 516
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 readycable® Fanuc	Direct connection cables for Fanuc robots New 523
 readycable® ABB	Direct connection cables for ABB robots New 527
Cables according to AIDA specifications	
 readycable® AIDA	Harnessed cables according to AIDA specifications 532

... Drive technology ...



Selection according to manufacturers	Jacket	Seite
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 B&R	Motor/Servo/EnDat/Encoder/ Resolver/Bus cables PVC/PUR/TPE	543
 Baumüller	Servo/Resolver/Pulse encoder cables PVC/PUR/TPE	543
 Beckhoff	Motor/Servo/Servo-HybridEncoder/Thermal protection/Resolver/Network cables PVC/PUR/TPE	546
 Berger Lahr	Servo/Resolver cables PVC/PUR/TPE	546
 Bosch Rexroth	Power/Servo/Servo Hybrid New / Encoder cables PVC/PUR/TPE	546
 ELAU/ Schneider Electric	Servo/Encoder/Hybrid Servo cables PVC/PUR/TPE	549
 FAGOR	Path measuring cables PUR/TPE	549
 Fanuc	Power/Servo/Brake/ Encoder/Signal cables PVC/PUR/TPE	549
 Festo	Servo/Encoder/Data/ Bus/Control cables PVC/PUR/TPE	550
 Heidenhain	Servo/Adapter cables PVC/PUR/TPE	550
 Jetter	Motor/Servo/Resolver cables PVC/PUR/TPE	551
 Kolmorgen/ Danaher Motion	Motor/Servo/Signal cables PVC/PUR/TPE	551
 Lenze	Servo/Resolver/Encoder/Feedback/ Decoder/Fan cables PVC/PUR/TPE	553
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 LTi DRIVES	Servo/Encoder cables PVC/PUR/TPE	554
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Connectors ... Strain relief

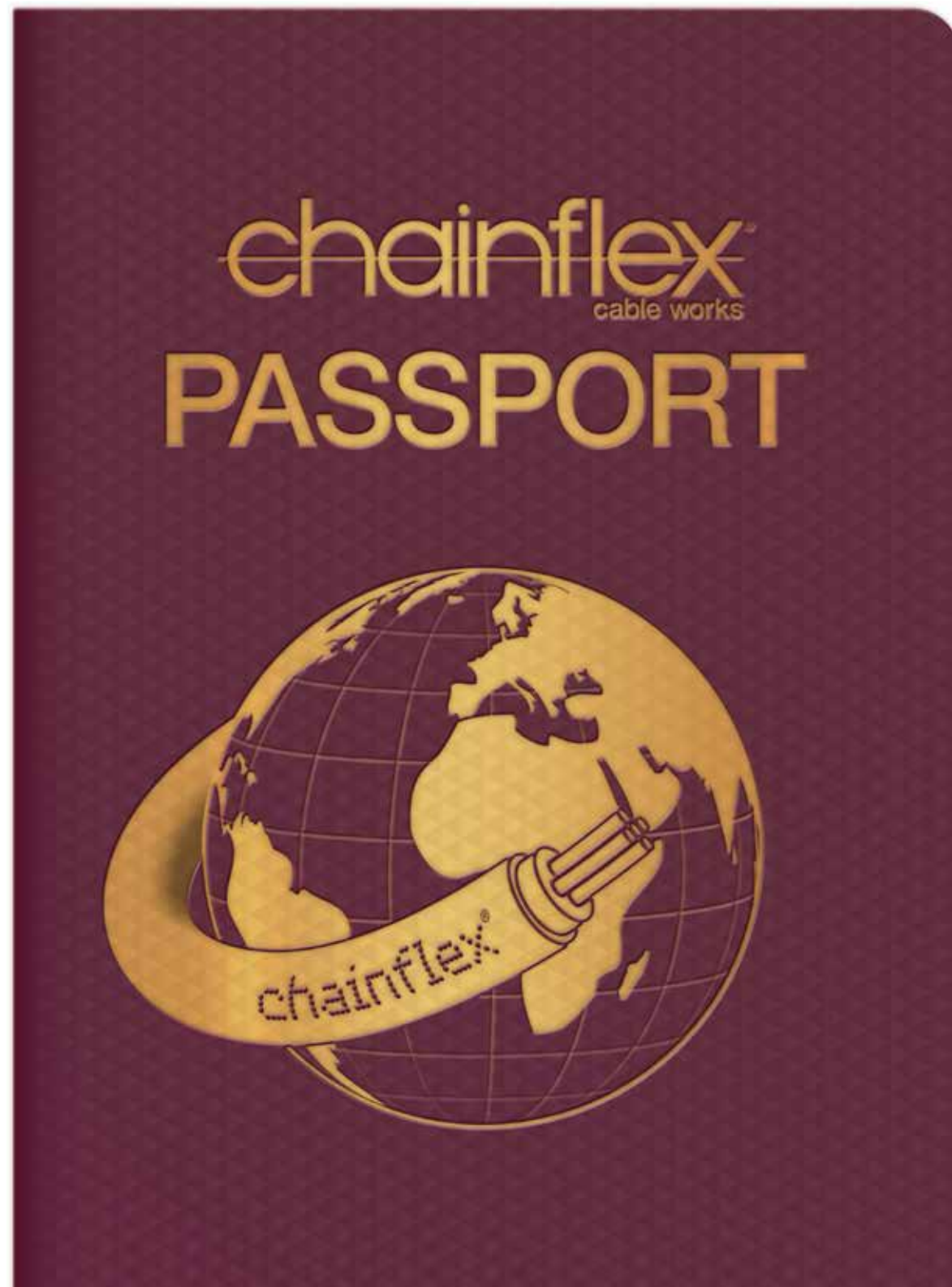
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At home across the world ... chainflex® approvals for all major markets

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-GL approval for use in the offshore sector.

Details on this can be found on the following pages: 844 to 849.

Approvals overview

- CE ... 1,354 cables
- DESINA ... 300 cables
- NFPA ... 947 cables
- UL-Listed ... 29 cables
- UL-AWM ... 1,032 cables
- UL-verified ... 1,317 cables
- EAC ... 1,273 cables
- DNV-GL ... 381 cables
- CC-Link IE Field ... 8 cables
- Cleanroom ... 1,063 cables
- Ethercat ... 13 cables
- Profinet ... 10 cables
- Profibus ... 27 cables

36 months guarantee – on every chainflex® cable in this catalog

igus® chainflex® CF29.D



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

Safety is of utmost essence, 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 also reduces it significantly. With the unique 36-month guarantee on every chainflex® cable in this catalog, we assume a part of the responsibility and create a 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 even under liability law. Predictable reliability for every user!

Guarantee instead of mere warranty or defects liability expands the assurance qualitatively 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 measuring data: igus® "AutoMeS" system

Direct overview of the service life by means of the selection tables "cycles"

For each chainflex® series you will find a selection table called "Cycles – 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 service life guarantee of 5, 7.5 or 10 million cycles is applicable depending on the application. The service life itself, measured by the number of possible cycles, can even be significantly higher.

- 1 Temperature, from/to [°F]
- 2 Guaranteed cycles
- 3 Bend radius min. [factor x d]

Guaranteed service life (details see page 22-23)

Cycles*	2 5 million	2 7.5 million	2 10 million
Temperature, from/to [°F]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
1 -31/+13	6.8	7.5	8.5
-13/+194	5 3	6 3	7 3
+194/+212	6.8	7.5	8.5

Example: Selection table "Guaranteed service life" for CF9

* Higher number of cycles? Online lifetime calculation ► www.chainflex.com/chainflexlife

Example:

A cable with a diameter of 12 mm in an energy chain® with a radius of 100 mm results in a bending factor of 8.3 (100 mm/12 mm). In order to determine the guaranteed durability, you set the technical conditions from the ranges 1-2. In range 3, you can now see that (with an assumed temperature range of -13/+194°F) with 8.3 x d the effective bending factor is above the minimum limit of 7 and for the cable you have a guaranteed operation of 10 million cycles. Should the temperature become higher or lower, the necessary factor for this guarantee

level would be 8.5, that is, the number of guaranteed cycles is reduced to 7.5 million. This very clear statement provides reliability and planning safety for your entire facility and can be further refined with the online service life calculator.

Calculate service life online: www.igus.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 trials and tests, which, apart from the rather theoretical standard procedures, also investigates concrete applications as they occur in the everyday field experience of mechanical engineering 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 the determination of service life and function. On a laboratory floor area of 29,600 ft², 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 well-coordinated 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 other hand. However, it is precisely here that the question arises 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 represent the standards, which means they give generalising answers to generalised questions. The customer, however, wants a concrete answer and solution for his specific problem, which is often not, or only partially addressed by the

standards. It is precisely these individual customer requirements that the igus® laboratory devotes itself to. Besides that, a further consequence of our intensive research and laboratory activities is the development of standard tests and production standards for chainflex® cables for the 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 such as conductors, insulating materials and jacket materials are developed. Differences that are considerable but not obvious emerge 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, only slightly different manufacturing processes can lead to significantly different effects in the case of moving applications.



The chainflex® cables must also prove themselves in field experience 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 algorithms. The laboratory tests up to 20% of all completed cables in a continuous bending test and then carries out the necessary structural examinations.

4. Long-time tests of service life

These test projects, which have to be carried out over a period of up to 5 years, 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 at the right time.

5. Customer-specific applications

A special service is customer-specific examinations according to the igus® standard. This type of test is based on the customer-specific movement sequences of the application and offers in critical applications the significant advantage of test-defined stress limits and a feasible, potential optimisation before the start of mass production.



All types of Chainflex® cables are tested in moving applications in E-Chains®



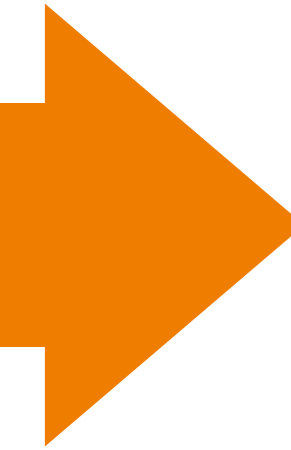
Rotary movement tests: Demanding chain applications with small radii



Test for combined motions: simulation of complex motions in robot applications

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

... 29,600 ft² test laboratory with over 65 test stations, two climatic containers (40 feet each), and 200 m of outdoor testing facilities ...



2 billion test strokes every year

250 million cycles in batch testing per year

36-month guarantee

Anyone who wants to carry out systematic, comparative and reproducible tests with a volume of more than 2 billion cycles and 1.4 million electrical measurements must, of course, provide the necessary spatial, technical and personnel requirements. On a total of 65 test stands, various test series are carried out according to the special igus® test standards. The laboratory team consisting of technically qualified and committed employees tests and monitors thousands of measuring points in E-Chains® and cables on a wide range of travel paths, in horizontal or hanging applications and always under the most real-life conditions possible in field experience. Multi-dimensionally moving E-Chains® such as the tri-flex® series from the robotics range are also tested for torsional strength on special test rigs.

Special test equipment for the special something
In addition to the normal quality and service life tests, special testing rigs are also available for custom tests. Thus, for example, abrasion and media tests for materials are carried out under considerably more accurate experimental conditions than in tests for storage and aging carried out according to UL or VDE standards. The optimum matching of igus® outer jacket materials to the materials in the energy supply systems is a tribologically clearly noticeable result. The influence of thermal factors on moving cables can be analysed in two special climatic containers for a temperature curve of -40°F to +140°F. Both are equipped with a 19.69 ft long axis, which can be operated with different radii and E-Chains®. In contrast to the standard winding mandrel test (for details see page 36) according to VDE, one can test the aging in very different temperature curves in continuous motion in E-Chains®.

Consistent monitoring and accurate test documentation

Necessary condition for successful and meaningful tests is the systematic and effective monitoring as well as exact documentation of the results. Here, monitoring systems developed by igus® are used, which, in addition to a permanent online monitoring, ensure documentation with very high accuracy. Therefore wear can also be detected before the failure. This early detection – without a destructive test – allows prompt adjustments. After each test, all the cables are separated into their elements according to predetermined sequences, examined in detail and their properties documented.

Due to these careful test conditions, qualified data on all chainflex® cables are available and offer the user planning security for his cable selection.

Facts and figures

- The industry's largest test lab for moving cables
- 25 years of experience
- 29,600 ft² 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)

Safe cable selection – the different test methods in detail

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 33-34)

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 35)

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 36)

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 37)

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	Specification	Design										
IEC 60332-1-2	<p>Test of vertical flame propagation on a core, an insulated wire or a cable, test method 1kW - flame with gas/air mixture</p> <p>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</p> <table border="1"> <thead> <tr> <th>Outer diameter of the sample [mm]</th> <th>Flame duration [s]</th> </tr> </thead> <tbody> <tr> <td><25</td> <td>60</td> </tr> <tr> <td>25-50</td> <td>120</td> </tr> <tr> <td>50-75</td> <td>240</td> </tr> <tr> <td>>75</td> <td>480</td> </tr> </tbody> </table>	Outer diameter of the sample [mm]	Flame duration [s]	<25	60	25-50	120	50-75	240	>75	480	
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	<p>Testing vertical flame propagation of vertically arranged bundles of cables or insulated cables</p> <p>Sample length: 3500mm 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.</p> <table border="1"> <thead> <tr> <th>Regulation</th> <th>Flame duration</th> </tr> </thead> <tbody> <tr> <td>IEC 60332-3-22 and -23</td> <td>40 minutes</td> </tr> <tr> <td>IEC 60332-3-24 and -25</td> <td>20 minutes</td> </tr> </tbody> </table>	Regulation	Flame duration	IEC 60332-3-22 and -23	40 minutes	IEC 60332-3-24 and -25	20 minutes					
Regulation	Flame duration											
IEC 60332-3-22 and -23	40 minutes											
IEC 60332-3-24 and -25	20 minutes											
FT2 Flame Test	<p>UL 1581, § 1100 (FT2 Flame Test)</p> <p>Sample length: 250mm-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.</p> <p>Dripping material must not ignite the underlying cotton (B).</p>											

Test	Specification	Design
Vertical Flame and FT1	<p>UL 1581, § 1060 (Vertical Flame and FT1 Test)</p> <p>Sample length: 457mm-610mm Burner: Bunsen burner with additional air supply (Tirril gas burner) Ø9.5mm Test temperature: 500 W 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</p>	
VW-1 Flame	<p>UL 1581, § 1080 (VW-1 Flame Test)</p> <p>Sample length: 610mm Burner: Bunsen burner with additional air supply (Tirril gas burner) Ø9.5mm Test temperature: 500 W 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</p>	
Cable Flame	<p>UL 1581, § 1061 (Cable Flame Test)</p> <p>Sample length: 455mm Burner: Bunsen burner with additional air supply (Tirril gas burner) Ø9.5mm Test temperature: 500 W 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 maximum 1 minute - Dripping material must not ignite the cotton (B) lying under it</p>	

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

Details on the media resistance of chainflex® cables ► Page 834-837

Test Specification Design

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

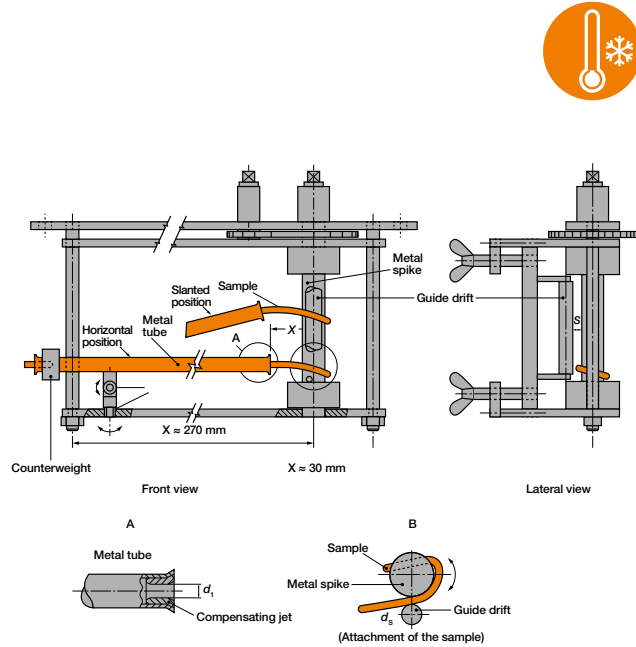
Mandrel diameter 4-5 times the sample diameter (there must be at least 2 samples)

Outer diameter (d) of the sample [mm]	Number of windings
$d \leq 2.5$	10
$2.5 < d \leq 4.5$	6
$4.5 < d \leq 6.5$	4
$6.5 < d \leq 8.5$	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 be no cracks in the outer jacket.



DIN EN 60811-504

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

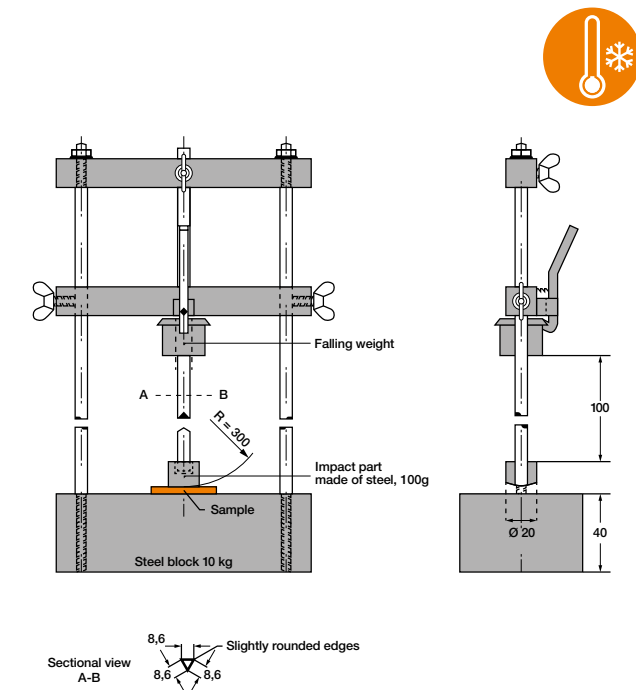
Diameter of the cable (D) [mm]	Dimensions of the hammer [g]	Dimensions of the intermediate sample [g]	Fall height [mm]
$D < 15$	1000	200	100
$15 < D \leq 25$	1500	200	150
$D > 25$	2000	200	200

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 be no cracks in the outer jacket.



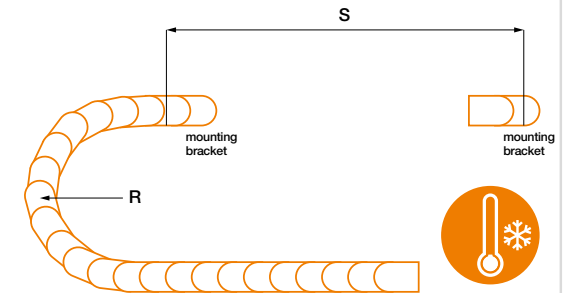
DIN EN 50305

Test Specification Design

igus® test: "Cold test" in e-chain®

Horizontal travel

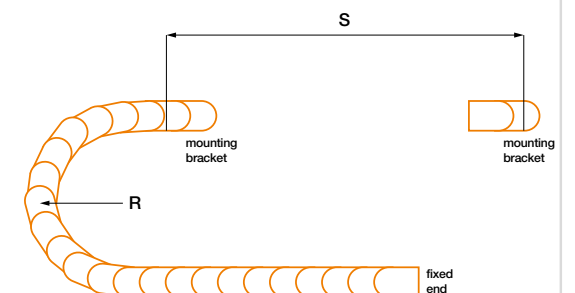
Travel length S: up to about 5m
 Temperature: down to about -40°C
 Bending factor: according to the catalogue (approx. 6.8 - 10 x d)
 Target: **minimum 500,000 double strokes**



igus® test: "Short travel" in e-chain®

Horizontal travel

Travel length 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®

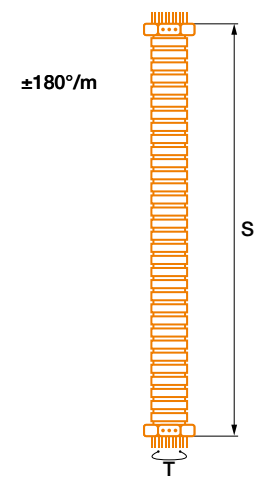
Horizontal travel

Travel length S: up to about 7.5m
 Temperature: approx. +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: approx. 1m
 Rotation angle: according to catalogue (about ±180°)
 Target: **minimum 5,000,000 cycles**





Test no.
2233 online
Further tests,
service life,
finder & shop online

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

Control cables are still a measure of all things in automation. This makes it all the more important for the control cable for the permanent use in E-Chain® to have a safe construction in order to meet the increasingly stringent mechanical requirements in the long term.

The special features of the chainflex® control cables are:

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

Every design proposal has to be tested time and again under real conditions, in order to be able to calculate a binding guarantee, or 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.chainflex.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.chainflex.com/test2233

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



Test no.
4901 online
Further tests,
service life,
finder & shop online

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

Although data cables must have different electrical requirements than bus cables, data cables provide a specific requirement for EMC protection. Especially in the case of the permanent movement in the E-Chain®, the EMC shielding is subjected to very high mechanical loads.

To ensure that this load does not lead to failures in the communication, a safe construction and manufacturing is important, especially in the field of shielding.

The special features of the Chainflex data cables are:

- Very short balanced **braiding in pairs** according to electrical requirements
- **Braid angles** of the igus® overall shields have been specially developed and tested by igus®.
- **Pressure extruded outer jackets** for stabilising shield and stranding

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

Example of long-term test 4901 of a CF211 series data cable with short travel, with a 75 mm 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.chainflex.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.chainflex.com/test4901

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



Test no.
3089 online
Further tests,
service life,
finder & shop online



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

The use of fieldbus cables, and particularly the rapid growth of the Ethernet communication nodes in the industrial environment, poses very high requirements on the design and manufacture of the bus cables. This is the only way to prevent the classic mechanical damage and the creeping loss of data transmission quality. Increasing attenuation due to shield damage or characteristic impedance changes leads to considerable reduction in data quantities. Since the attenuation values are constantly changing by and during the 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 **strandings**, 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 stabilising shield and stranding

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

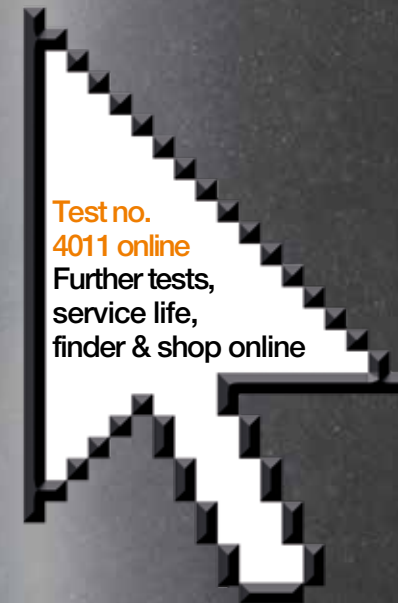
This is just one example of the numerous cable tests from the chainflex® laboratory. All current tests can be found online at ► www.chainflex.com/tests

A test result from the igus® database

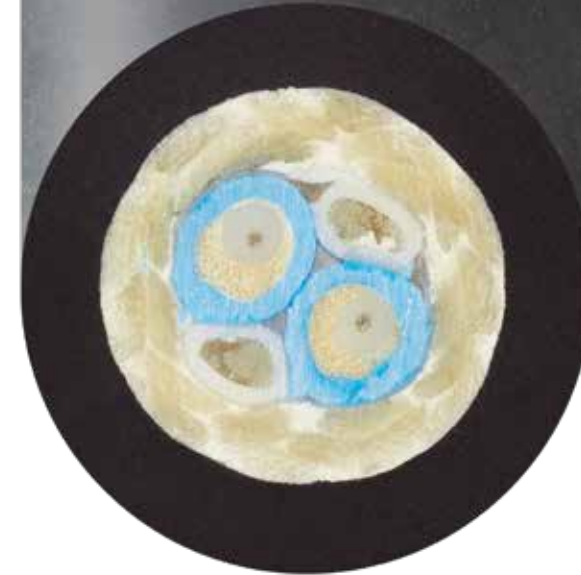
Test no.	3089
Cable type	CFBUS-045
Bend radius factor in E-Chain®	9.4 x d
Number of bending strokes without damage	76 million

 Details of the test online:
www.chainflex.com/test3089

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



Test no.
4011 online
Further tests,
service life,
finder & shop online



Test 4011: Fiber optic cable tested with 50 million strokes ...

FOC cables are characterised by the safest and most effective possible data transmission.

In particular, when using glass fibers, the effective length, the effective data volume and the EMC safety is inexhaustible for today's automation technology.

However, the pure glass fibers are sensitive to mechanical loads. Therefore, the chainflex® fiber optic cables are designed in such a way that the fibers are never exposed to mechanical loads at any time, but the cable elements safely absorb all forces, thus protecting the fibers.

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

- FOC **multimode or singlemode fiber** with high flexing strength
- Balanced **stranding** of the aramide-protected sub-cable elements
- High tensile **strength aramid torsion protection braid**
- With pressure extruded **outer jackets** for the stabilisation of the entire structure.

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

Example of long-term test 4011 of a multimode fiber glass cable of CFLB series tested short travel distance, with a bend 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.chainflex.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.chainflex.com/test4011

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



Test no.
3479 online
Further tests,
service life,
finder & shop online



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

Measuring system cables are the important communication link between the drive and the control system. Considerable damage can occur if the electrical signals are not transmitted safely and in the correct time due to movements. Therefore, measuring system cables have a special requirement for EMC protection.

Especially in the case of the permanent movement in the E-Chain®, the EMC shielding is subjected to very high mechanical loads. To ensure that this load does not lead to failures in the measuring systems, a safe construction and manufacturing, especially in the field of shielding and stranding, is very important.

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

- **Stranding elements specifically designed for the measuring system** with the necessary element shields and optimized strand pitch lengths
- Conductor color code matched to the defined measuring system
- Gusset-filled extruded **inner jacket**
- **Shield superstructures** specially developed and tested by igus®
- With **pressure extruded outer jackets** for stabilizing shield and stranding

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

Example of long-term test 3479 of a measuring system cable of the CF11-D series, with a 75 mm test bend radius.

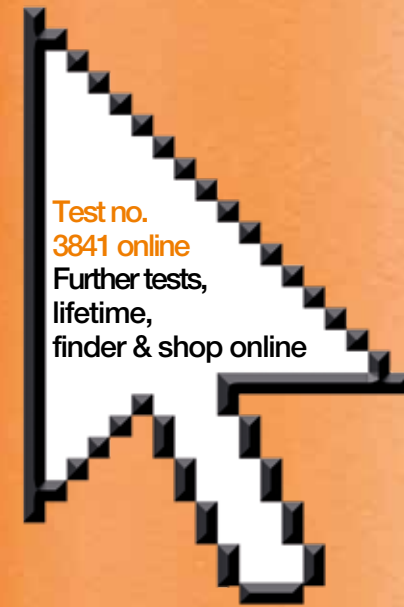
This is just one example of the numerous cable tests from the chainflex® laboratory. All current tests can be found online at ► www.chainflex.com/tests

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.chainflex.com/test3479

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



Test no.
3841 online
Further tests,
lifetime,
finder & shop online



Test 3841: Servo cable tested with 53 million strokes

Servo cables are today the standard for drive technology in automation technology and machine construction. Due to the construction with power cores in combination with usually essential shielded pairs, servo cables are mechanically constructed often in a very unbalanced manner.

To ensure that this asymmetry does not lead to failures 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 urgently recommended.

The special properties of the chainflex® servo cables are:

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

Every design proposal has to be tested time and again under real conditions, in order to be able to calculate a binding guarantee, or 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.chainflex.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.chainflex.com/test3841

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

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

Test no.
4904 online
Further tests,
service life,
finder & shop online



Motor cables are today the standard for drive technology in automation technology as well as in plant and machine construction.

Due to today's high dynamics, the design features of conductors, insulation and in particular the stranding must be chosen in such a way that the drive 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 urgently recommended.

The special properties of the chainflex® motor cables are:

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

Every design proposal has to be tested time and again under real conditions, in order to be able to calculate a binding guarantee, or 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.chainflex.com/tests

A test result from the igus® database

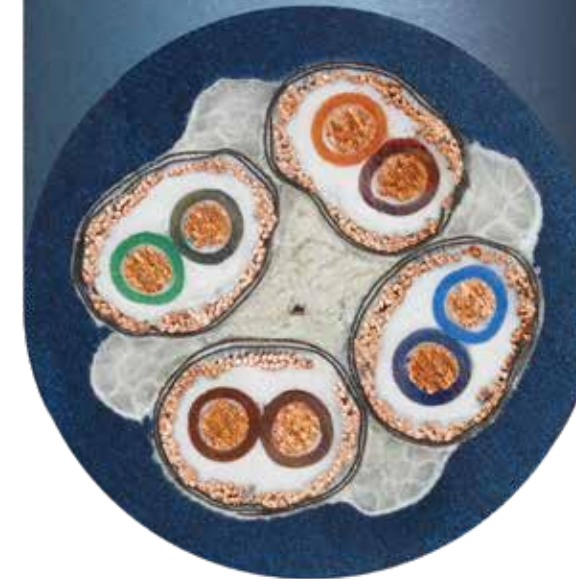
Test no.	4904
Cable type	CF38
Bend radius factor in E-Chain®	6.5 x d
Number of bending strokes without damage:	43 million

Details of the test online:
www.chainflex.com/test4904

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

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

Test no.
3486 online
Further tests,
service life,
finder & shop online



Cables for torsion are subjected to very special stress. Particularly in the case of shielded bus cables, due to the multiple stresses a high mechanical load is exerted by the bending and torsion of the insulation materials and, in particular, by the shield.

This requires completely different structural concepts compared to cables for linear E-Chain® applications.

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

- Low-capacitance **insulating materials**
- Optimized **pitch lengths**, in combination with force-absorbing filler elements
- Highly abrasion resistant **films** between the shielded elements
- With pressure extruded **outer jacket**

Any well thought-out design still should always be tested under real conditions in order to be able to calculate a binding guarantee or the service life 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.chainflex.com/tests

A test result from the igus® database

Test no.	3486
Cable type	CFROBOT8
Bend radius factor in E-Chain®	±180°/m
Cycle frequency without damage:	22 million

Details of the test online:
www.chainflex.com/test3486






















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

Control cables



chainflex [®] cable	Jacket	Shield	Bending radius min., E-Chain [®] [factor x d]	Temperature, E-Chain [®] from/to [°F]	UL	FM	NFPA	ERAC	REACH	RoHS	CE	Oil-resistant	Torsion resistant	v max. [ft/s] unsupported	v max. [ft/s] gliding	a max. [ft/s ²]	Page
Control cables																	
CF880	PVC		12.5	+41/ +158	UL	FM	NFPA	ERAC	REACH	RoHS	CE			9.84	65.6	50	New
CF881	PVC	✓	12.5	+41/ +158	UL	FM	NFPA	ERAC	REACH	RoHS	CE			9.84	65.6	54	New
CF130US	PVC		8	+41/ +176	UL	FM	NFPA	ERAC	REACH	RoHS	CE	✓	✓	9.84	6.56	65.6	58
CF140US	PVC	✓	10	+41/ +176	UL	FM	NFPA	ERAC	REACH	RoHS	CE	✓		9.84	6.56	65.6	62
CF130-UL	PVC		7.5	+41/ +158	UL	FM	NFPA	ERAC	REACH	RoHS	CE	✓		9.84	6.56	65.6	66
CF140-UL	PVC	✓	7.5	+41/ +158	UL	FM	NFPA	ERAC	REACH	RoHS	CE			9.84	6.56	65.6	70
CF5	PVC		6.8	+41/ +158	UL	FM	NFPA	ERAC	REACH	RoHS	CE	✓	✓	32.81	16.41	262.5	74
CF6	PVC	✓	6.8	+41/ +158	UL	FM	NFPA	ERAC	REACH	RoHS	CE	✓		32.81	16.41	262.5	78
CFSOFT1	PVC		5	+41/ +158	UL	FM	NFPA	ERAC	REACH	RoHS	CE	✓		32.81	16.41	262.5	82
CFSOFT2	PVC	✓	5	+41/ +158	UL	FM	NFPA	ERAC	REACH	RoHS	CE	✓		32.81	16.41	262.5	84
CF890	iguPUR		12.5	-4/ +176	UL	FM	NFPA	ERAC	REACH	RoHS	CE	✓		9.84	65.6	86	New
CF891	iguPUR	✓	12.5	-4/ +176	UL	FM	NFPA	ERAC	REACH	RoHS	CE	✓		9.84	65.6	90	New
CF77-UL-D	PUR		6.8	-13/ +176	UL	FM	NFPA	ERAC	REACH	RoHS	CE	✓	✓	32.81	16.41	262.5	94
CF78-UL	PUR	✓	6.8	-13/ +176	UL	FM	NFPA	ERAC	REACH	RoHS	CE	✓		32.81	16.41	262.5	98
CF2	PUR	✓	5	-4/ +176	UL	FM	NFPA	ERAC	REACH	RoHS	CE	✓		32.81	16.41	262.5	102
CF9	TPE		5	-31/ +212	UL	FM	NFPA	ERAC	REACH	RoHS	CE	✓	✓	32.81	19.69	328.1	106
CF10	TPE	✓	5	-31/ +212	UL	FM	NFPA	ERAC	REACH	RoHS	CE	✓		32.81	19.69	328.1	110
CF9-UL	TPE		5	-31/ +212	UL	FM	NFPA	ERAC	REACH	RoHS	CE	✓	✓	32.81	19.69	328.1	114
CF10-UL	TPE	✓	5	-31/ +212	UL	FM	NFPA	ERAC	REACH	RoHS	CE	✓		32.81	19.69	328.1	118
CF98	TPE		4	-31/ +194	UL	FM	NFPA	ERAC	REACH	RoHS	CE	✓	✓	32.81	19.69	328.1	122
CF99	TPE	✓	4	-31/ +194	UL	FM	NFPA	ERAC	REACH	RoHS	CE	✓		32.81	19.69	328.1	124



chainflex® cable	Temperature, from/to [°F]	v max. [ft/s]		a max. [ft/s²]	Travel distance [ft]	Bending radius min. [factor x d]		Bending radius min. [factor x d]		Bending radius min. [factor x d]		Page	
		unsupported	gliding			< 32.81 ft	≥ 32.81 ft	< 32.81 ft	≥ 32.81 ft	< 32.81 ft	≥ 32.81 ft		
Control cables													
	CF880	New!	+41 / +59 +59 / +140 +140 / +158	9.84	-	65.6	≤ 32.8					50	
	CF881	New!	+41 / +59 +59 / +140 +140 / +158	9.84	-	65.6	≤ 32.8					54	
	CF130US		+23 / +59 +59 / +140 +140 / +176	9.84	6.56	65.6	≤ 29.5					58	
	CF140US		+23 / +59 +59 / +140 +140 / +176	9.84	6.56	65.6	≤ 29.5					62	
	CF130-UL		+41 / +59 +59 / +140 +140 / +158	9.84	6.56	65.6	≤ 164.1					66	
	CF140-UL		+41 / +59 +59 / +140 +140 / +158	9.84	6.56	65.6	≤ 164.1					70	
	CF5		+41 / +59 +59 / +140 +140 / +158	32.81	16.41	262.5	≤ 328.1					74	
	CF6		+41 / +59 +59 / +140 +140 / +158	32.81	16.41	262.5	≤ 328.1					78	
								10 million cycles		15 million cycles		20 million cycles	
	CFSOFT1		+41 / +59 +59 / +140 +140 / +158	32.81	16.41	262.5	≤ 16.4					82	
	CFSOFT2		+41 / +59 +59 / +140 +140 / +158	32.81	16.41	262.5	≤ 16.4					84	
								5 million (1 million) cycles *		7.5 million (3 million) cycles *		10 million (5 million) cycles *	
	CF890	New!	-4 / +14 +14 / +158 +158 / +176	9.84	-	65.6	≤ 32.8					86	
	CF891	New!	-4 / +14 +14 / +158 +158 / +176	9.84	-	65.6	≤ 32.8					90	
	CF77-UL-D		-13 / +5 -5 / +158 +158 / +176	32.81	16.41	262.5	≤ 328.1					94	
	CF78-UL		-13 / +5 -5 / +158 +158 / +176	32.81	16.41	262.5	≤ 328.1					98	
	CF2		-4 / +14 +14 / +158 +158 / +176	32.81	16.41	262.5	≤ 328.1					102	
	CF9		-31 / -13 -13 / +194 +194 / +212	32.81	19.69	328.1	> 1,312					106	
	CF10		-31 / -13 -13 / +194 +194 / +212	32.81	19.69	328.1	> 1,312					110	
	CF9-UL		-31 / -13 -13 / +194 +194 / +212	32.81	19.69	328.1	> 1,312					114	
	CF10-UL		-31 / -13 -13 / +194 +194 / +212	32.81	19.69	328.1	> 1,312					118	
								20 million cycles		30 million cycles		40 million cycles	
	CF98		-31 / -13 -13 / +176 +176 / +194	32.81	19.69	328.1	≤ 328.1					122	
	CF99		-31 / -13 -13 / +176 +176 / +194	32.81	19.69	328.1	≤ 328.1					124	

⁽¹⁾ Exclusive! Guaranteed lifetime for this series according to the guarantee conditions ▶ Page 26-27

* Higher number of cycles? Online lifetime calculation ▶ www.igus.com/chainflexlife
 Figures in brackets refer to chainflex® series CF880/CF881 and CF890/CF891

Control cable | PVC | chainflex® CF880

36 5,000,000
Cycles guaranteed

12.5 x d
Bend radius E-Chain®

32.8 ft
Travel distance E-Chain®

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

Optimized conductor insulation, reduced diameters

Dynamic Information

	Bend radius	E-Chain® linear	min. 12.5 x d
		flexible	min. 10 x d
		fixed	min. 7 x d
	Temperature	E-Chain® linear	+41 °F to +158 °F (+5 °C to +70 °C)
		flexible	+23 °F to +158 °F (-5 °C to +70 °C)
		fixed	+5 °F to +158 °F (-15 °C to +70 °C)
	v max.	unsupported	9.84 ft/s (3 m/s)
		a max.	65.6 ft/s² (20 m/s²)
	Travel distance	Unsupported travel distances up to 32.8 ft (10 m), Class 1	

Cable structure

	Conductor	Conductor consisting of bare copper wires (according to DIN EN 60228).
	Conductor insulation	Mechanically high-quality TPE mixture.
	Conductor construction	Conductors cabled with an optimized pitch length.
	Color code	Black with white numbers, one conductor green-yellow.
	Outer jacket	Low-adhesion mixture on the basis of PVC, adapted to suit the requirements in E-Chains®. Color: Jet black (similar to RAL 9005)

Electrical Information

	Nominal voltage	300 V
	Test voltage	2000 V (following DIN EN 50395)

Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

Class 3.1.1.1

Properties and approvals

	Flame resistance	According to IEC 60332-1-2, FT1, VW-1
	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	300 V, +80 °C See data sheet for details ► www.igus.com/CF880
	NFPA 79	Complies to Electrical Standard for Industrial Machinery NFPA 79 Section 12.9
	EAC	Certificate No. RU C-DE.ME77.B.00300/19 (TR ZU)
	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

Guaranteed service life (details see page 26-27)

Cycles*	1 million	3 million	5 million
Temperature, from/to [°F]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
+41/+59	15	16	17
+59/+140	12.5	13.5	14.5
+140/+158	15	16	17

* Higher number of cycles? Online lifetime calculation ► www.chainflex.com/chainflexlife

Typical application areas

- For low duty flexing applications, Class 3
- Especially for unsupported travels, Class 1
- Without influence of oil, Class 1
- Preferably indoor applications
- Wood/stone processing, Packaging industry, supply systems, Handling, adjusting equipment



igus® chainflex® CF880

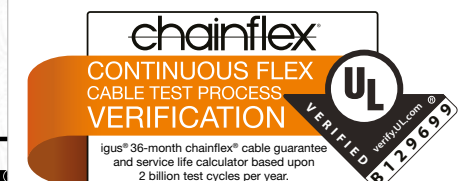
Example image

Configurators ► www.igus.com/CF880

36 month guarantee ... 1,354 types from stock ... no cutting charges



UL-verified chainflex® guarantee ... www.igus.com/ul-verified



low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			



Example image

Part No.	AWG	Number of Conductors and rated cross section	Outer diameter max.		Copper index		Weight	
			[mm²]	[in.] [mm]	[lbs/mft] [kg/km]	[lbs/mft] [kg/km]		
CF880-05-02	20	2 x 0.5	0.20	5.0	7.4	11	21.5	32
CF880-05-03	20	3 G 0.5	0.22	5.5	10.8	16	24.9	37
CF880-05-04	20	4 G 0.5	0.24	6.0	14.1	21	30.9	46
CF880-05-05	20	5 G 0.5	0.26	6.5	17.5	26	37.0	55
CF880-05-07	20	7 G 0.5	0.30	7.5	24.9	37	49.1	73
CF880-05-12	20	12 G 0.5	0.33	8.5	42.3	63	72.6	108
CF880-05-18	20	18 G 0.5	0.39	10.0	63.2	94	106.2	158
CF880-05-25	20	25 G 0.5	0.47	12.0	86.0	128	152.5	227
CF880-07-02	18	2 x 0.75	0.22	5.5	10.8	16	26.9	40
CF880-07-03	18	3 G 0.75	0.24	6.0	16.1	24	32.9	49
CF880-07-04	18	4 G 0.75	0.26	6.5	21.5	32	41.0	61
CF880-07-05	18	5 G 0.75	0.28	7.0	26.9	40	49.1	73
CF880-07-07	18	7 G 0.75	0.31	8.0	37.6	56	66.5	99
CF880-07-12	18	12 G 0.75	0.39	10.0	63.2	94	102.1	152
CF880-07-18	18	18 G 0.75	0.45	11.5	94.1	140	112.2	167
CF880-07-25	18	25 G 0.75	0.53	13.5	130.4	194	190.8	284
CF880-10-02	17	2 x 1.0	0.24	6.0	14.1	21	32.3	48
CF880-10-03	17	3 G 1.0	0.26	6.5	21.5	32	39.0	58
CF880-10-04	17	4 G 1.0	0.28	7.0	28.2	42	41.7	62
CF880-10-05	17	5 G 1.0	0.30	7.5	34.9	52	57.8	86
CF880-10-07	17	7 G 1.0	0.33	8.5	49.1	73	77.9	116
CF880-10-12	17	12 G 1.0	0.41	10.5	83.3	124	122.3	182
CF880-10-18	17	18 G 1.0	0.49	12.5	125.0	186	186.8	278
CF880-10-25	17	25 G 1.0	0.59	15.0	173.4	258	264.1	393
CF880-15-02	16	2 x 1.5	0.26	6.5	21.5	32	43.0	64
CF880-15-03	16	3 G 1.5	0.28	7.0	31.6	47	55.1	82
CF880-15-04	16	4 G 1.5	0.30	7.5	42.3	63	69.9	104
CF880-15-05	16	5 G 1.5	0.33	8.5	52.4	78	80.6	120
CF880-15-07	16	7 G 1.5	0.39	10.0	73.2	109	112.2	167
CF880-15-12	16	12 G 1.5	0.47	12.0	125.0	186	174.7	260
CF880-15-18	16	18 G 1.5	0.57	14.5	187.5	279	248.6	370
CF880-15-25	16	25 G 1.5	0.69	17.5	260.1	387	345.4	514

Note: The given outer diameters are maximum values.
G = with green-yellow earth core x = without earth core

Class 3.1.1.1

Part No.	AWG	Number of Conductors and rated cross section	Outer diameter max.		Copper index		Weight	
			[mm²]	[in.] [mm]	[lbs/mft] [kg/km]	[lbs/mft] [kg/km]		
CF880-25-03	14	3 G 2.5	0.33	8.5	52.4	78	80.6	120
CF880-25-04	14	4 G 2.5	0.35	9.0	69.2	103	100.8	150
CF880-25-05	14	5 G 2.5	0.39	10.0	86.7	129	123.6	184
CF880-25-07	14	7 G 2.5	0.47	12.0	121.6	181	172.0	256
CF880-25-12	14	12 G 2.5	0.59	15.0	219.7	327	278.2	414

Note: The given outer diameters are maximum values.
G = with green-yellow earth core x = without earth core

cost down...



Reduce cost, improve technology, now!

Do the chainflex® price check now ...
www.igus.com/info/cable-price-check

... just one idea for you: Reduce bend radius with CF5



chainflex® CF880 in short travel application



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



Control cable | PVC | chainflex® CF881

36 5,000,000
Cycles guaranteed

12.5 x d
Bend radius E-Chain®

32.8 ft
Travel distance E-Chain®

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

Optimized conductor insulation, reduced diameters

Dynamic Information

	Bend radius	E-Chain® linear	min. 12.5 x d
		flexible	min. 10 x d
		fixed	min. 7 x d
	Temperature	E-Chain® linear	+41 °F to +158 °F (+5 °C to +70 °C)
		flexible	+23 °F to +158 °F (-5 °C to +70 °C)
		fixed	+5 °F to +158 °F (-15 °C to +70 °C)
	v max.	unsupported	9.84 ft/s (3 m/s)
		a max.	65.6 ft/s² (20 m/s²)
	Travel distance	Unsupported travel distances up to 32.8 ft (10 m), Class 1	

Cable structure

	Conductor	Conductor consisting of bare copper wires (according to DIN EN 60228).
	Conductor insulation	Mechanically high-quality TPE mixture.
	Conductor construction	Conductors cabled with an optimized pitch length.
	Color code	Black with white numbers, one conductor green-yellow.
	Overall shield	aluminum/polyester tape and tinned cooper braid. 60 % optical coverage
	Outer jacket	Low-adhesion mixture on the basis of PVC, adapted to suit the requirements in E-Chains®. Color: Jet black (similar to RAL 9005)

Electrical Information

	Nominal voltage	300 V
	Test voltage	2000 V (following DIN EN 50395)

Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

Class 3.1.1.1

Properties and approvals

	Flame resistance	According to IEC 60332-1-2, FT1, VW-1
	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	300 V, +80 °C See data sheet for details ► www.igus.com/CF881
	NFPA 79	Complies to Electrical Standard for Industrial Machinery NFPA 79 Section 12.9
	EAC	Certificate No. RU C-DE.ME77.B.00300/19 (TR ZU)
	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

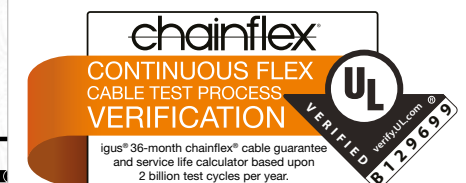
Guaranteed service life (details see page 26-27)

Cycles*	1 million	3 million	5 million
Temperature, from/to [°F]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
+41/+59	15	16	17
+59/+140	12.5	13.5	14.5
+140/+158	15	16	17

* Higher number of cycles? Online lifetime calculation ► www.chainflex.com/chainflexlife

Typical application areas

- For low duty flexing applications, Class 3
- Especially for unsupported travels, Class 1
- Without influence of oil, Class 1
- Preferably indoor applications
- Wood/stone processing, Packaging industry, supply systems, Handling, adjusting equipment



low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			



igus® chainflex® CF881

Example image

Part No.	AWG	Number of Conductors and rated cross section	Outer diameter max.		Copper index		Weight	
			[mm²]	[in.] [mm]	[lbs/mft] [kg/km]	[lbs/mft] [kg/km]		
CF881-05-03	20	3 G 0.5	0.24	6.0	18.8	28	31.6	47
CF881-05-04	20	4 G 0.5	0.26	6.5	23.5	35	36.3	54
CF881-05-05	20	5 G 0.5	0.28	7.0	27.6	41	43.7	65
CF881-05-07	20	7 G 0.5	0.31	8.0	39.6	59	50.4	75
CF881-05-12	20	12 G 0.5	0.35	9.0	61.1	91	84.0	125
CF881-05-18	20	18 G 0.5	0.43	11.0	91.4	136	118.9	177
CF881-05-25	20	25 G 0.5	0.51	13.0	141.1	210	163.3	243
CF881-07-02	18	2 x 0.75	0.26	6.5	20.2	30	33.6	50
CF881-07-03	18	3 G 0.75	0.28	7.0	24.9	37	44.3	66
CF881-07-04	18	4 G 0.75	0.30	7.5	30.9	46	48.4	72
CF881-07-05	18	5 G 0.75	0.31	8.0	41.0	61	58.5	87
CF881-07-07	18	7 G 0.75	0.35	9.0	55.8	83	75.3	112
CF881-07-12	18	12 G 0.75	0.41	10.5	83.3	124	114.2	170
CF881-07-18	18	18 G 0.75	0.47	12.0	123.0	183	159.9	238
CF881-07-25	18	25 G 0.75	0.57	14.5	149.2	222	207.6	309
CF881-10-02	17	2 x 1.0	0.26	6.5	20.2	30	34.9	52
CF881-10-03	17	3 G 1.0	0.28	7.0	30.9	46	49.1	73
CF881-10-04	17	4 G 1.0	0.30	7.5	42.3	63	68.5	102
CF881-10-05	17	5 G 1.0	0.31	8.0	51.1	76	73.9	110
CF881-10-07	17	7 G 1.0	0.37	9.5	67.2	100	87.4	130
CF881-10-12	17	12 G 1.0	0.45	11.5	112.2	167	153.9	229
CF881-10-18	17	18 G 1.0	0.51	13.0	143.1	213	188.8	281
CF881-10-25	17	25 G 1.0	0.63	16.0	195.5	291	262.1	390
CF881-15-02	16	2 x 1.5	0.30	7.5	40.3	60	47.7	71
CF881-15-03	16	3 G 1.5	0.30	7.5	42.3	63	58.5	87
CF881-15-04	16	4 G 1.5	0.33	8.5	60.5	90	74.6	111
CF881-15-05	16	5 G 1.5	0.35	9.0	63.2	94	88.0	131
CF881-15-07	16	7 G 1.5	0.43	11.0	102.8	153	123.0	183
CF881-15-12	16	12 G 1.5	0.51	13.0	142.5	212	189.5	282
CF881-15-18	16	18 G 1.5	0.59	15.0	268.1	399	307.8	458
CF881-15-25	16	25 G 1.5	0.73	18.5	285.6	425	385.0	573
CF881-25-04	14	4 G 2.5	0.39	10.0	94.7	141	109.5	163
CF881-25-05	14	5 G 2.5	0.43	11.0	100.1	149	131.0	195
CF881-25-07	14	7 G 2.5	0.51	13.0	137.1	204	176.1	262
CF881-25-12 ¹¹⁾	14	12 G 2.5	0.63	16.0	229.8	342	287.6	428

¹¹⁾ Phase-out model
Note: The given outer diameters are maximum values.
G = with green-yellow earth core x = without earth core

Class 3.1.1.1

Order example: **CF881-25-25** – To your desired length
CF881 chainflex® series -25 Code nominal cross section -25 Number of conductors

Online order ► www.chainflex.com/CF881

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

cost down...

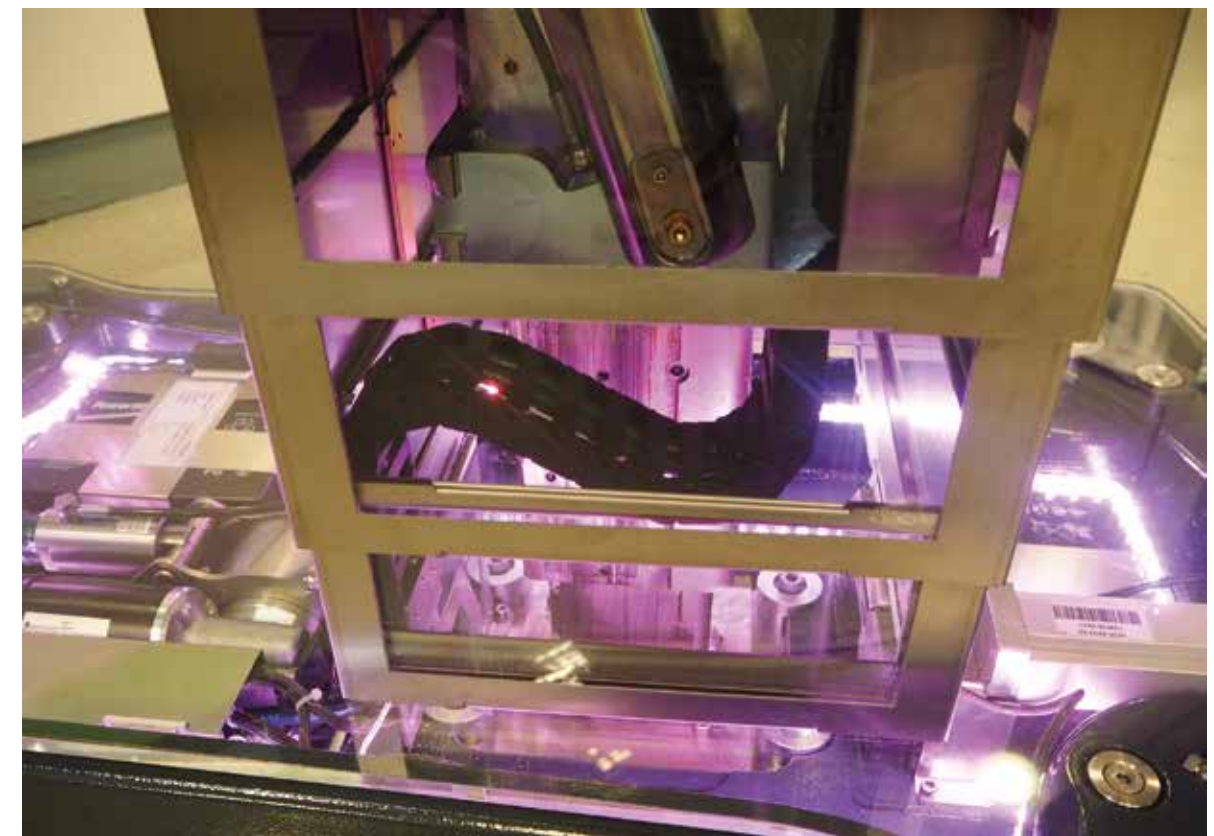


...life up

Reduce cost, improve technology, now!

Do the chainflex® price check now ...
www.igus.com/info/cable-price-check

... just one idea for you: **Reduce bend radius with CF6**



chainflex® CF881 in a mobile surgical table

Guarantee
igus chainflex
36
months

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

CFRIP

UL LISTED

FUS

NFPA

EAC

REACH

RoHS

CE

Control cable | PVC | chainflex® CF130US







36 5,000,000
Cycles guaranteed

8 x d
Bend radius E-Chain®






30 ft
Travel distance E-Chain®

- For low duty flexing applications
- PVC outer jacket
- Oil-resistant
- Flame retardant
- UL Tray cable for exposed run (TC-ER)



Dynamic Information

	Bend radius	E-Chain® linear flexible	min. 8 x d min. 7.5 x d
		fixed	min. 5 x d
	Temperature	E-Chain® linear flexible	+41 °F to +176 °F (+5 °C to +80 °C) +23 °F to +176 °F (-5 °C to +80 °C)
		fixed	-4 °F to +194 °F (-20 °C to +90 °C)
	v max.	unsupported	9.84 ft/s (3 m/s)
		gliding	6.56 ft/s (2 m/s)
	a max.		65.6 ft/s ² (20 m/s ²)
	Travel distance		Unsupported distances and low duty gliding applications up to 30ft (9m)
	Torsion		±90° with 3.281 ft (1m) cable length

Cable structure

	Conductors	Finely stranded bundled bare copper wires. Designed in accordance with ASTM B174-95.
	Conductor insulation	Mechanically high-quality, PVC/Nylon.
	Conductor construction	Conductors concentrically layered with short pitch.
	Color code	Black with white numbers, one green-yellow.
	Outer jacket	Oil-resistant UV-resistant PVC, low-adhesion blend, adapted to the requirements of the Energy Chain®. Color: Gray (similar to RAL 7001)








Electrical Information

	Nominal voltage	600 V
	Test voltage	3300 V

Basic requirements	low	1	2	3	4	5	6	7	highest
Travel distance	unsupported	1	2	3	4	5	6	1,312 ft +	
Oil resistance	none	1	2	3	4	highest			
Torsion	none	1	2	3	4	±360°			

Class 3.1.4.2

Properties and approvals

	UV resistance	Medium.
	Oil resistance	Oil resistant (according to DIN EN 60811-2-1, DIN EN 50363-4-1, Class 4)
	Flame resistance	MTW: UL WW-1 and CSA FT4 TC-ER: UL 1685 and CSA FT4
	Silicone-free	Free from silicone which can affect paint adhesion (following PV3.10.7 – status 1992)
	NFPA 79	Complies to Electrical Standard for Industrial Machinery NFPA 79 Section 12.9
	UL/CSA	For installation in accordance with all applicable sections of the National Electric Code. Type TC-ER-HL Tray cable ER = Exposed Run HL = Hazardous Locations Per NEC Articles 501, 502, 503 & 505 permitted for use in Class I and II Divisions 1 and 2 , Zones 1 and 2 locations Direct Burial Oil Resistant I Type WTTC: Wind Turbine Tray Cable Type MTW: For installation in Accordance with all applicable sections of the National Electric Code. UL AWM 2587 90°C 600V cUL: Canadian Tray Cable CIC-TC FT4 CSA AWM I/II A/B 90°C 600V FT4 CE: In accordance with European Council Directive 73/23/EEC 2002/95/EC; Please reference the Design Section for more Information.
	Lead-free	

 **CE**

 **Info**

In general these cables will offer continuous-flex performance in specific “Tray Cable” and “Machine Tool Wire” NEC compliant installations. The CF130US line is designed for use in 600V control and power applications. The oil-resistant jacket also passes the stringent 70,000 BTU UL and CSA Vertical Flame Tests. Not recommended for long travel / gliding applications.

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

Cycles*	1 million	3 million	5 million
Temperature, from/to [°F]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
+23/+59	10	12	13
+59/+140	8	10	12
+140/+176	10	12	13

* Higher number of cycles? Online lifetime calculation ► www.chainflex.com/chainflexlife

Typical application areas

- For low duty flexing applications
- Suitable for indoor/outdoor applications
- Especially for unsupported travel distances and low-duty gliding applications up to 30 ft (9m)
- UL Tray cable for exposed run (TC-ER)
- Wood/stone processing, packaging industry, supply systems, handling, adjusting equipment, machine tools

Guarantee
igus chainflex
36
months

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

CFRIP

UL

UL

UL

NFPA

UL

UL

UL

UL

UL

UL

UL

UL

UL

Control cable | PVC | chainflex® CF130US



Example image

Part No.	AWG	Number of Conductors and rated cross section [mm²]	Outer diameter max.		Copper index		Weight	
			[in.]	[mm]	[lbs/mft]	[kg/km]	[lbs/mft]	[kg/km]
CF130US-05-02	20	2 x 0.5	0.26	6.7	6.7	10	22.2	33
CF130US-05-03	20	3 G 0.5	0.28	7.1	10.1	15	34.9	52
CF130US-05-04	20	4 G 0.5	0.31	7.9	12.8	19	49.1	73
CF130US-05-05	20	5 G 0.5	0.33	8.4	16.1	24	56.4	84
CF130US-05-07	20	7 G 0.5	0.38	9.7	22.2	33	72.6	108
CF130US-05-12	20	12 G 0.5	0.47	11.9	38.3	57	115.6	172
CF130US-05-18	20	18 G 0.5	0.55	14.0	57.8	86	161.9	241
CF130US-05-25	20	25 G 0.5	0.65	16.6	80.0	119	215.7	321
CF130US-07-04	18	4 G 0.75	0.33	8.3	20.2	30	59.1	88
CF130US-07-05	18	5 G 0.75	0.35	8.9	25.5	38	68.5	102
CF130US-07-07	18	7 G 0.75	0.40	10.2	35.6	53	88.7	132
CF130US-07-12	18	12 G 0.75	0.50	12.7	60.5	90	143.1	213
CF130US-07-18	18	18 G 0.75	0.58	14.7	91.4	136	202.9	302
CF130US-07-25	18	25 G 0.75	0.69	17.5	126.3	188	270.8	403
CF130US-15-03	16	3 G 1.5	0.33	8.4	24.2	36	59.8	89
CF130US-15-04	16	4 G 1.5	0.35	9.0	32.3	48	76.6	114
CF130US-15-05	16	5 G 1.5	0.39	9.8	40.3	60	88.7	132
CF130US-15-07	16	7 G 1.5	0.44	11.3	56.4	84	129.0	192
CF130US-15-10	16	10 G 1.5	0.56	14.2	80.6	120	184.1	274
CF130US-15-12	16	12 G 1.5	0.56	14.2	96.1	143	196.2	292
CF130US-15-18	16	18 G 1.5	0.65	16.4	144.5	215	282.9	421
CF130US-15-22	16	22 G 1.5	0.71	18.0	176.7	263	339.3	505
CF130US-15-25	16	25 G 1.5	0.76	19.4	200.2	298	389.7	580
CF130US-15-33	16	33 G 1.5	0.85	21.6	264.8	394	556.4	828
CF130US-25-04	14	4 G 2.5	0.39	9.8	51.7	77	101.5	151
CF130US-25-07	14	7 G 2.5	0.51	13.0	90.7	135	170.7	254
CF130US-25-10	14	10 G 2.5	0.63	16.0	127.7	190	223.8	333
CF130US-25-12	14	12 G 2.5	0.61	15.6	155.9	232	269.5	401
CF130US-40-04	12	4 G 4.0	0.49	12.4	79.3	118	149.2	222
CF130US-60-04	10	4 G 6.0	0.56	14.2	129.7	193	219.7	327
CF130US-60-05	10	5 G 6.0	0.61	15.5	162.6	242	261.4	389

Note: The given outer diameters are maximum values.
G = with green-yellow earth core x = without earth core

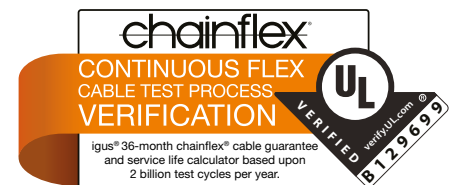
Configurators ► www.igus.com/CF130US



Basic requirements	low	1	2	3	4	5	6	7	highest
Travel distance	unsupported	1	2	3	4	5	6	1,312 ft +	
Oil resistance	none	1	2	3	4	highest			
Torsion	none	1	2	3	4	±360°			

Class 3.1.4.2

- Order example: **CF130US-05-02** – To your desired length
CF130US chainflex® series -05 Code nominal cross section -02 Code Number of conductors
- Online order ► www.chainflex.com/CF130US
- Delivery time 24h or today.
Delivery time means time until shipping of goods.



Control cable | PVC | chainflex® CF140US

36 5,000,000
Cycles guaranteed

10 x d
Bend radius E-Chain®

30 ft
Travel distance E-Chain®

- For low duty flexing applications
- PVC outer jacket
- Shielded
- Oil-resistant
- Flame retardant
- UL Tray cable for exposed run (TC-ER)

Dynamic Information

	Bend radius	E-Chain® linear	min. 10 x d
		flexible	min. 8 x d
		fixed	min. 7.5 x d
	Temperature	E-Chain® linear	+41 °F to +176 °F (+5 °C to +80 °C)
		flexible	+23 °F to +176 °F (-5 °C to +80 °C)
		fixed	-4 °F to +194 °F (-20 °C to +90 °C)
	v max.	unsupported	9.84 ft/s (3 m/s)
		gliding	6.56 ft/s (2 m/s)
	a max.	65.6 ft/s ² (20 m/s ²)	
	Travel distance	Unsupported distances and low duty gliding applications up to 30ft (9m)	

Cable structure

	Conductors	Finely stranded bundled bare copper wires. Designed in accordance with ASTM B174-95.
	Conductor insulation	Mechanically high-quality, PVC/Nylon.
	Conductor construction	Conductors concentrically layered with short pitch.
	Color code	Black with white numbers, one green-yellow. **
	Inner jacket	Low-adhesion PVC.
	Overall shield	Tinned copper braid. 65 % optical coverage
	Outer jacket	Oil-resistant UV-resistant PVC, low-adhesion blend, adapted to the requirements of the Energy Chain®. Color: Gray (similar to RAL 7001)

Electrical Information

	Nominal voltage	600 V
	Test voltage	3300 V

Basic requirements	low	1	2	3	4	5	6	7	highest
Travel distance	unsupported	1	2	3	4	5	6	1,312 ft +	
Oil resistance	none	1	2	3	4	highest			
Torsion	none	1	2	3	4	±360°			

Class 3.1.4.2

Properties and approvals

	UV resistance	Medium.
	Oil resistance	Oil resistant (according to DIN EN 60811-2-1, DIN EN 50363-4-1, Class 4)
	Flame resistance	CSA AWM: FT4
	Silicone-free	Free from silicone which can affect paint adhesion (following PV3.10.7 – status 1992)
	NFPA 79	Complies to Electrical Standard for Industrial Machinery NFPA 79 Section 12.9
	UL/CSA	For installation in accordance with all applicable sections of the National Electric Code. Type TC-ER-HL Tray cable ER = Exposed Run HL = Hazardous Locations Per NEC Articles 501, 502, 503 & 505 permitted for use in Class I and II Divisions 1 and 2 , Zones 1 and 2 locations Direct Burial Oil Resistant I Type WTTC : Wind Turbine Tray Cable Type MTW : For installation in Accordance with all applicable sections of the National Electric Code. UL AWM 2587 90°C 600V cUL : Canadian Tray Cable CIC-TC FT4 CSA AWM I/II A/B 90°C 600V FT4 CE : In accordance with European Council Directive 73/23/EEC 2002/95/EC; Please reference the Design Section for more Information.
	Lead-free	

CE

Info

Following 2014/35/EU.

In general these cables will offer continuous-flex performance in specific “Tray Cable” and “Machine Tool Wire” NEC compliant installations. The CF140US line is designed for use in 600V control and power applications. The oil-resistant jacket also passes the stringent 70,000 BTU UL and CSA Vertical Flame Tests. Not recommended for long travel / gliding applications.

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

Cycles*	1 million	3 million	5 million
Temperature, from/to [°F]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
+23/+59	12	13	15
+59/+140	10	12	13
+140/+176	12	13	15

* Higher number of cycles? Online lifetime calculation ► www.chainflex.com/chainflexlife

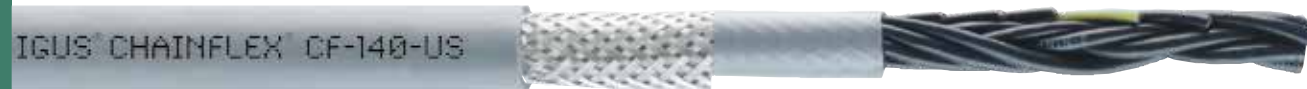
Typical application areas

- For low duty flexing applications
- Suitable for indoor/outdoor applications
- Especially for unsupported travel distances and low-duty gliding applications up to 30 ft (9m)
- UL Tray cable for exposed run (TC-ER)
- Wood/stone processing, packaging industry, supply systems, handling, adjusting equipment, machine tools

Guarantee
igus chainflex
36
months

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

Control cable | PVC | chainflex® CF140US



Example image

Part No.	AWG	Number of Conductors and rated cross section [mm²]	Outer diameter max.		Copper index		Weight	
			[in.]	[mm]	[lbs/mft]	[kg/km]	[lbs/mft]	[kg/km]
CF140US-05-02	20	2 x 0.5	0.35	8.8	14.8	22	55.1	82
CF140US-05-03	20	3 G 0.5	0.36	9.1	20.8	31	66.5	99
CF140US-05-04	20	4 G 0.5	0.39	9.9	24.9	37	74.6	111
CF140US-05-05	20	5 G 0.5	0.41	10.4	28.2	42	87.4	130
CF140US-05-07	20	7 G 0.5	0.46	11.7	37.6	56	108.2	161
CF140US-05-12	20	12 G 0.5	0.55	14.0	61.1	91	165.3	246
CF140US-05-18	20	18 G 0.5	0.63	16.1	84.0	125	219.1	326
CF140US-05-25	20	25 G 0.5	0.78	19.7	115.6	172	291.0	433
CF140US-07-04	18	4 G 0.75	0.40	10.2	32.3	48	88.7	132
CF140US-07-05	18	5 G 0.75	0.43	10.8	28.9	43	101.5	151
CF140US-07-07	18	7 G 0.75	0.48	12.2	51.1	76	127.0	189
CF140US-07-12	18	12 G 0.75	0.57	14.6	86.0	128	196.9	293
CF140US-07-18	18	18 G 0.75	0.66	16.8	123.0	183	267.4	398
CF140US-07-25	18	25 G 0.75	0.78	19.7	161.3	240	283.6	422
CF140US-15-03	16	3 G 1.5	0.41	10.3	37.0	55	92.7	138
CF140US-15-04	16	4 G 1.5	0.43	10.9	46.4	69	108.9	162
CF140US-15-05	16	5 G 1.5	0.46	11.7	63.2	94	125.0	186
CF140US-15-07	16	7 G 1.5	0.52	13.3	79.3	118	154.6	230
CF140US-15-12	16	12 G 1.5	0.64	16.3	118.9	177	250.0	372
CF140US-15-18	16	18 G 1.5	0.72	18.4	169.3	252	334.6	498
CF140US-15-22	16	22 G 1.5	0.76	19.2	203.6	303	385.7	574
CF140US-15-25	16	25 G 1.5	0.85	21.6	241.2	359	454.9	677
CF140US-15-33	16	33 G 1.5	0.93	23.5	307.1	457	578.6	861
CF140US-25-04	14	4 G 2.5	0.46	11.8	67.2	100	137.1	204
CF140US-25-07	14	7 G 2.5	0.59	14.9	110.9	165	217.7	324
CF140US-25-12	14	12 G 2.5	0.69	17.5	180.1	268	326.6	486
CF140US-25-18	14	18 G 2.5	0.79	20.0	200.2	298	350.4	522
CF140US-40-04	12	4 G 4.0	0.57	14.5	99.5	148	195.5	291
CF140US-60-04	10	4 G 6.0	0.64	16.3	155.2	231	270.1	402
CF140US-60-05	10	5 G 6.0	0.69	17.5	186.8	278	318.5	474

Note: The given outer diameters are maximum values.
G = with green-yellow earth core x = without earth core

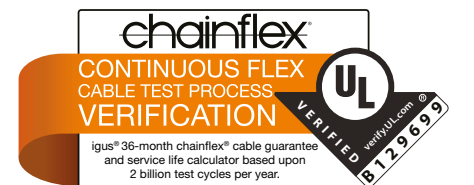
Configurators ► www.igus.com/CF140US



Basic requirements	low	1	2	3	4	5	6	7	highest
Travel distance	unsupported	1	2	3	4	5	6	1,312 ft +	
Oil resistance	none	1	2	3	4	highest			
Torsion	none	1	2	3	4	±360°			

Class 3.1.4.2

- Order example: **CF140US-05-02** – To your desired length
CF140US chainflex® series -05 Code nominal cross section -02 Code Number of conductors
- Online order ► www.chainflex.com/CF140US
- Delivery time 24h or today.
Delivery time means time until shipping of goods.



Control cable | PVC | chainflex® CF130-UL







36 10,000,000 Cycles guaranteed

7.5 x d Bend radius E-Chain®







164.1 ft Travel distance E-Chain®

- For medium mechanical load requirements
- PVC outer jacket
- Flame-retardant



Dynamic Information

 Bend radius	E-Chain® linear flexible	min. 7.5 x d min. 6 x d
	fixed	min. 4 x d
 Temperature	E-Chain® linear flexible	+41 °F to +158 °F (+5 °C to +70 °C) +23 °F to +158 °F (-5 °C to +70 °C)
	fixed	+5 °F to +158 °F (-15 °C to +70 °C)
 v max.	unsupported	9.84 ft/s (3 m/s)
	gliding	6.56 ft/s (2 m/s)
 a max.		65.6 ft/s ² (20 m/s ²)
 Travel distance		Unsupported travel distances and for gliding applications up to 164.1 ft (50 m), Class 4
 Torsion		Torsion ±90°, with 3.281ft (1m) cable length, Class 2

Cable structure

 Conductor	Conductor consisting of bare copper wires (according to DIN EN 60228).
 Conductor insulation	Mechanically high-quality TPE mixture.
 Conductor construction	Number of conductors < 12: Conductors cabled in a layer with short pitch length. Number of conductors ≥ 12: Conductors combined in bundles and stranded together around a high-tensile strength core, using short pitch directions for a low-torsion cable structure.
 Color code	24-22 AWG Color code in accordance with DIN 47100. 20-4 AWG Black with white numbers, one conductor green-yellow.
 Outer jacket	Low-adhesion mixture on the basis of PVC, adapted to suit the requirements in E-Chains® (following DIN EN 50363-4-1). Color: Gray (similar to RAL 7001)
 CFRIP®	Strip 50% faster: a tear strip is molded into the outer jacket Video ► www.igus.com/CFRIP

Electrical Information

 Nominal voltage	300 V
 Test voltage	2000 V (following DIN EN 50395)

Example image

Configurators ► www.igus.com/CF130-UL

36 month guarantee ... 1,354 types from stock ... no cutting charges













Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

Class 4.4.1.2

Properties and approvals

 Flame resistance	According to IEC 60332-1-2, FT1, VW-1
 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	300 V, +60 °C See data sheet for details ► www.igus.com/CF130-UL
 NFPA 79	Complies to Electrical Standard for Industrial Machinery NFPA 79 Section 12.9
 EAC	Certificate No. RU C-DE.ME77.B.00300/19 (TR ZU)
 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

Guaranteed service life (details see page 26-27)

Cycles*	5 million		7.5 million		10 million	
	< 10 m	≥ 10 m	< 10 m	≥ 10 m	< 10 m	≥ 10 m
Temperature, from/to [°F]	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]
+41/+59	10	12.5	11	13.5	12	14.5
+59/+140	7.5	10	8.5	11	9.5	12
+140/+158	10	12.5	11	13.5	12	14.5

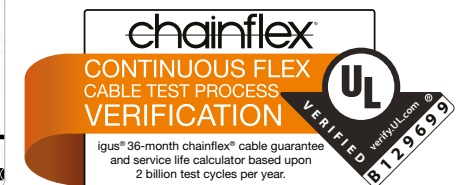
* Higher number of cycles? Online lifetime calculation ► www.chainflex.com/chainflexlife

Typical application areas

- For medium mechanical load requirements, Class 4
- Unsupported travel distances and for gliding applications up to 164 ft (50 m), Class 4
- Without influence of oil, Class 1
- Torsion ±90°, with 3.281ft (1m) cable length, Class 2
- Preferably indoor applications
- Wood/stone processing, Packaging industry, supply systems, Handling, adjusting equipment



chainflex® CF130.UL for woodworking. E-Chain®: E4/light



UL-verified chainflex® guarantee ... www.igus.com/ul-verified



Control cable | PVC | chainflex® CF130-UL

Strip cables 50 % faster

igus® chainflex® CF130.UL

Example image

Class 4.4.1.2

Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

Part No.	AWG	Number of Conductors and rated cross section	Outer diameter max.		Copper index		Weight	
			[mm²]	[in.] [mm]	[lbs/mft] [kg/km]	[lbs/mft] [kg/km]		
CF130-02-03-UL	24	3 x 0.25	0.20	5.0	6.0	9	17.5	26
CF130-02-04-UL	24	4 x 0.25	0.22	5.5	7.4	11	23.5	35
CF130-02-06-UL	24	6 x 0.25	0.24	6.0	10.8	16	32.3	48
CF130-02-07-UL	24	7 x 0.25	0.26	6.5	12.8	19	37.6	56
CF130-02-12-UL	24	12 x 0.25	0.33	8.5	22.2	33	64.5	96
CF130-02-18-UL	24	18 x 0.25	0.39	10.0	30.9	46	82.7	123
CF130-02-20-UL	24	20 x 0.25	0.41	10.5	34.3	51	97.4	145
CF130-02-25-UL	24	25 x 0.25	0.45	11.5	44.3	66	110.2	164
CF130-02-30-UL	24	30 x 0.25	0.49	12.5	50.4	75	126.3	188
CF130-03-02-UL	22	2 x 0.34	0.20	5.0	5.4	8	18.1	27
CF130-03-05-UL	22	5 x 0.34	0.24	6.0	12.1	18	28.2	42
CF130-05-02-UL	20	2 x 0.5	0.22	5.5	7.4	11	25.5	38
CF130-05-03-UL	20	3 G 0.5	0.22	5.5	10.8	16	26.9	40
CF130-05-04-UL	20	4 G 0.5	0.24	6.0	14.1	21	31.6	47
CF130-05-05-UL	20	5 G 0.5	0.26	6.5	17.5	26	37.6	56
CF130-05-07-UL	20	7 G 0.5	0.30	7.5	24.9	37	51.1	76
CF130-05-12-UL	20	12 G 0.5	0.39	10.0	42.3	63	94.1	140
CF130-05-18-UL	20	18 G 0.5	0.47	12.0	63.2	94	129.0	192
CF130-05-25-UL	20	25 G 0.5	0.53	13.5	86.7	129	174.0	259
CF130-07-02-UL	18	2 x 0.75	0.24	6.0	10.8	16	32.3	48
CF130-07-03-UL	18	3 G 0.75	0.24	6.0	15.5	23	33.6	50
CF130-07-04-UL	18	4 G 0.75	0.26	6.5	20.8	31	40.3	60
CF130-07-05-UL	18	5 G 0.75	0.28	7.0	25.5	38	47.0	70
CF130-07-07-UL	18	7 G 0.75	0.31	8.0	36.3	54	64.5	96
CF130-07-12-UL	18	12 G 0.75	0.43	11.0	61.1	91	117.6	175
CF130-07-18-UL	18	18 G 0.75	0.53	13.5	90.0	134	166.6	248
CF130-07-25-UL	18	25 G 0.75	0.63	16.0	125.0	186	232.5	346
CF130-07-36-UL	18	36 G 0.75	0.75	19.0	196.9	293	356.8	531
CF130-07-42-UL	18	42 G 0.75	0.83	21.0	229.1	341	408.6	608
CF130-10-02-UL	17	2 x 1.0	0.24	6.0	14.1	21	37.0	55
CF130-10-03-UL	17	3 G 1.0	0.26	6.5	20.8	31	41.0	61
CF130-10-04-UL	17	4 G 1.0	0.28	7.0	27.6	41	49.7	74
CF130-10-05-UL	17	5 G 1.0	0.30	7.5	33.6	50	58.5	87
CF130-10-07-UL	17	7 G 1.0	0.35	9.0	47.7	71	79.3	118
CF130-10-12-UL	17	12 G 1.0	0.49	12.5	80.6	120	153.2	228
CF130-10-18-UL	17	18 G 1.0	0.59	15.0	120.3	179	207.0	308
CF130-10-25-UL	17	25 G 1.0	0.69	17.5	166.6	248	275.5	410

Note: The given outer diameters are maximum values.
G = with green-yellow earth core x = without earth core

Part No.	AWG	Number of Conductors and rated cross section	Outer diameter max.		Copper index		Weight	
			[mm²]	[in.] [mm]	[lbs/mft] [kg/km]	[lbs/mft] [kg/km]		
CF130-15-02-UL	16	2 x 1.5	0.26	6.5	20.8	31	47.7	71
CF130-15-03-UL	16	3 G 1.5	0.28	7.0	30.9	46	51.1	76
CF130-15-04-UL	16	4 G 1.5	0.31	8.0	41.0	61	62.5	93
CF130-15-05-UL	16	5 G 1.5	0.33	8.5	50.4	75	74.6	111
CF130-15-07-UL ¹⁷⁾	16	7 G 1.5	0.41	10.5	70.6	105	111.5	166
CF130-15-12-UL	16	12 G 1.5	0.51	13.0	120.3	179	193.5	288
CF130-15-18-UL	16	18 G 1.5	0.67	17.0	180.1	268	294.3	438
CF130-15-25-UL	16	25 G 1.5	0.77	19.5	249.3	371	378.3	563
CF130-15-36-UL	16	36 G 1.5	0.91	23.0	389.1	579	596.0	887
CF130-25-03-UL	14	3 G 2.5	0.33	8.5	50.4	75	79.3	118
CF130-25-04-UL	14	4 G 2.5	0.37	9.5	67.2	100	100.1	149
CF130-25-07-UL ¹⁷⁾	14	7 G 2.5	0.47	12.0	116.9	174	168.0	250
CF130-25-12-UL	14	12 G 2.5	0.65	16.5	199.6	297	299.0	445
CF130-40-03-UL	12	3 G 4.0	0.39	10.0	80.0	119	140.4	209
CF130-40-05-UL	12	5 G 4.0	0.47	12.0	133.0	198	197.6	294
CF130-60-04-UL	10	4 G 6.0	0.51	13.0	159.3	237	263.4	392
CF130-60-05-UL	10	5 G 6.0	0.55	14.0	200.9	299	316.5	471

¹⁷⁾ When using the cables with "7G1.5mm²" and "G2.5mm²" minimum bend radius must be 17.5xd with gliding travel distance ≥ 5m.
Note: The given outer diameters are maximum values.
G = with green-yellow earth core x = without earth core

cost down...

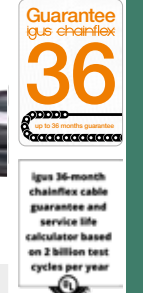


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Control cable | PVC | chainflex® CF140-UL

36 10,000,000 Cycles guaranteed
7.5 x d Bend radius E-Chain®
164.1 ft Travel distance E-Chain®

- For medium mechanical load requirements
- PVC outer jacket
- Shielded
- Flame-retardant

Dynamic Information

	Bend radius	E-Chain® linear flexible	min. 7.5 x d min. 6 x d
		fixed	min. 4 x d
	Temperature	E-Chain® linear flexible	+41 °F to +158 °F (+5 °C to +70 °C) +23 °F to +158 °F (-5 °C to +70 °C)
		fixed	+5 °F to +158 °F (-15 °C to +70 °C)
	v max.	unsupported	9.84 ft/s (3 m/s)
		gliding	6.56 ft/s (2 m/s)
	a max.		65.6 ft/s² (20 m/s²)
	Travel distance		Unsupported travel distances and for gliding applications up to 164.1 ft (50 m), Class 4

Cable structure

	Conductor	Conductor consisting of bare copper wires (according to DIN EN 60228).
	Conductor insulation	Mechanically high-quality TPE mixture.
	Conductor construction	Number of conductors < 12: Conductors cabled in a layer with short pitch length. Number of conductors ≥ 12: Conductors combined in bundles and stranded together around a high-tensile strength core, using short pitch directions for a low-torsion cable structure.
	Color code	24-22 AWG Color code in accordance with DIN 47100. 20-4 AWG Black with white numbers, one conductor green-yellow.
	Inner jacket	PVC mixture adapted to suit the requirements in E-Chains®.
	Overall shield	Bending-resistant tinned copper braid. 80 % optical coverage
	Outer jacket	Low-adhesion mixture on the basis of PVC, adapted to suit the requirements in E-Chains® (following DIN EN 50363-4-1). Color: Gray (similar to RAL 7001)
	CFRIP®	Strip 50% faster: a tear strip is molded into the inner jacket Video ► www.igus.com/CFRIP

Electrical Information

	Nominal voltage	300 V
	Test voltage	2000 V (following DIN EN 50395)

Configurators ► www.igus.com/CF140-UL

36 month guarantee ... 1,354 types from stock ... no cutting charges

Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

Class 4.4.1.1

Properties and approvals

	Flame resistance	According to IEC 60332-1-2, FT1, VW-1
	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	300 V, +60 °C See data sheet for details ► www.igus.com/CF140-UL
	NFPA 79	Complies to Electrical Standard for Industrial Machinery NFPA 79 Section 12.9
	EAC	Certificate No. RU C-DE.ME77.B.00300/19 (TR ZU)
	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. Outer jacket material complies with CF130-15-07-UL, tested by IPA according to standard 14644-1.
	CE	Following 2014/35/EU

Guaranteed service life (details see page 26-27)

Cycles*	5 million		7.5 million		10 million	
	< 10 m	≥ 10 m	< 10 m	≥ 10 m	< 10 m	≥ 10 m
Temperature, from/to [°F]	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]
+41/+59	10	12.5	11	13.5	12	14.5
+59/+140	7.5	10	8.5	11	9.5	12
+140/+158	10	12.5	11	13.5	12	14.5

* Higher number of cycles? Online lifetime calculation ► www.chainflex.com/chainflexlife

Typical application areas

- For medium mechanical load requirements, Class 4
- Unsupported travel distances and for gliding applications up to 164 ft (50 m), Class 4
- Without influence of oil, Class 1
- Preferably indoor applications
- Wood/stone processing, Packaging industry, supply systems, Handling, adjusting equipment

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

CFRIP

UL LISTED

UL/CSA AWM

NFPA

CE

EAC

REACH

REACH

RoHS

Clean-Room

CE

CE

Guarantee igus chainflex
36
up to 36 months guarantee

chainflex
CONTINUOUS FLEX
CABLE TEST PROCESS
VERIFICATION
UL
igus® 36-month chainflex® cable guarantee and service life calculator based upon 2 billion test cycles per year.

Control cable | PVC | chainflex® CF140-UL

Strip cables 50 % faster

igus® chainflex® CF140.UL

Example image

Part No.	AWG	Number of Conductors and rated cross section	Outer diameter max.		Copper index		Weight	
			[mm²]	[in.]	[mm]	[lbs/mft]	[kg/km]	[lbs/mft]
CF140-02-12-UL	24	12 x 0.25	0.41	10.5	48.4	72	89.4	133
CF140-03-05-UL	22	5 x 0.34	0.30	7.5	24.2	36	48.4	72
CF140-05-03-UL	20	3 G 0.5	0.28	7.0	22.2	33	48.4	72
CF140-05-05-UL	20	5 G 0.5	0.31	8.0	30.2	45	61.1	91
CF140-05-18-UL	20	18 G 0.5	0.57	14.5	98.8	147	173.4	258
CF140-05-36-UL	20	36 G 0.5	0.73	18.5	173.4	258	314.5	468
CF140-07-03-UL	18	3 G 0.75	0.31	8.0	28.2	42	57.1	85
CF140-07-04-UL	18	4 G 0.75	0.33	8.5	34.3	51	68.5	102
CF140-07-05-UL	18	5 G 0.75	0.35	9.0	41.0	61	77.3	115
CF140-07-07-UL	18	7 G 0.75	0.39	10.0	55.8	83	102.1	152
CF140-07-12-UL	18	12 G 0.75	0.51	13.0	91.4	136	176.7	263
CF140-07-18-UL	18	18 G 0.75	0.61	15.5	130.4	194	241.2	359
CF140-07-25-UL	18	25 G 0.75	0.71	18.0	175.4	261	321.9	479
CF140-10-02-UL	17	2 x 1.0	0.31	8.0	23.5	35	57.8	86
CF140-10-03-UL	17	3 G 1.0	0.33	8.5	34.3	51	70.6	105
CF140-10-04-UL	17	4 G 1.0	0.35	9.0	41.7	62	79.3	118
CF140-10-05-UL	17	5 G 1.0	0.37	9.5	49.7	74	91.4	136
CF140-10-07-UL	17	7 G 1.0	0.41	10.5	69.9	104	118.3	176
CF140-10-12-UL	17	12 G 1.0	0.55	14.0	111.5	166	201.6	300
CF140-10-18-UL	17	18 G 1.0	0.65	16.5	161.3	240	277.5	413
CF140-10-25-UL	17	25 G 1.0	0.77	19.5	218.4	325	377.6	562
CF140-15-03-UL	16	3 G 1.5	0.35	9.0	45.7	68	84.7	126
CF140-15-04-UL	16	4 G 1.5	0.37	9.5	57.8	86	98.1	146
CF140-15-05-UL	16	5 G 1.5	0.37	9.5	72.6	108	112.9	168
CF140-15-07-UL ¹⁷⁾	16	7 G 1.5	0.45	11.5	96.8	144	151.9	226
CF140-15-12-UL	16	12 G 1.5	0.63	16.0	156.6	233	260.1	387
CF140-15-18-UL	16	18 G 1.5	0.75	19.0	232.5	346	311.1	463
CF140-15-25-UL	16	25 G 1.5	0.89	22.5	311.8	464	495.2	737
CF140-15-36-UL	16	36 G 1.5	1.04	26.5	445.5	663	772.8	1150
CF140-25-03-UL	14	3 G 2.5	0.41	10.5	71.2	106	135.7	202
CF140-25-04-UL	14	4 G 2.5	0.45	11.5	94.1	140	141.1	210

¹⁷⁾ When using the cables with "7G1.5mm²" and "G2.5mm²" minimum bend radius must be 17.5xd with gliding travel distance ≥ 5m.
Note: The given outer diameters are maximum values.
G = with green-yellow earth core x = without earth core

Class 4.4.1.1

Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			



chainflex® CF140.UL in a feeder application. E-Chain®: easychain®

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36
up to 36 months guarantee

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

CFRIP

UL LISTED

UL

UL

NFPA

UL

EAC

REACH

RoHS

Clean Room

UL

CE

Guarantee igus chainflex
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up to 36 months guarantee

chainflex®
CONTINUOUS FLEX
CABLE TEST PROCESS
VERIFICATION
UL
igus® 36-month chainflex® cable guarantee and service life calculator based upon 2 billion test cycles per year.

Control cable | PVC | chainflex® CF5







36 10,000,000
Cycles guaranteed

6.8 x d
Bend radius E-Chain®







328.1 ft
Travel distance E-Chain®

- For high mechanical load requirements
- PVC outer jacket
- Oil-resistant
- Flame-retardant



Dynamic Information

 Bend radius	E-Chain® linear flexible	min. 6.8 x d min. 5 x d
	fixed	min. 4 x d
 Temperature	E-Chain® linear flexible	+41 °F to +158 °F (+5 °C to +70 °C) +23 °F to +158 °F (-5 °C to +70 °C)
	fixed	+5 °F to +158 °F (-15 °C to +70 °C)
 v max.	unsupported	32.81 ft/s (10 m/s)
	gliding	16.41 ft/s (5 m/s)
 a max.		262.5 ft/s ² (80 m/s ²)
 Travel distance		Unsupported travel distances and for gliding applications up to 328.1 ft (100 m), Class 5
 Torsion		Torsion ±90°, with 3.281ft (1m) cable length, Class 2

Cable structure

 Conductor	Conductor consisting of bare copper wires (according to DIN EN 60228).
 Conductor insulation	Cores ≥ 20 AWG: Mechanically high-quality TPE mixture. Cores ≤ 18 AWG: Mechanically high-quality PVC mixture.
 Conductor construction	Number of conductors < 12: Conductors cabled in a layer with short pitch length. Number of conductors ≥ 12: Conductors combined in bundles and stranded together around a high-tensile strength core, using short pitch directions for a low-torsion cable structure.
 Color code	24-22 AWG Color code in accordance with DIN 47100. 20-4 AWG Black with white numbers, one conductor green-yellow.
 Outer jacket	Low-adhesion, oil-resistant mixture on the basis of PVC, adapted to suit the requirements in E-Chains® (following DIN EN 50363-4-1). Color: Green (similar to RAL 6005)
 CFRIP®	Strip 50% faster: a tear strip is molded into the outer jacket Video ► www.igus.com/CFRIP

Electrical Information

 Nominal voltage	600 V
 Test voltage	2000 V (following DIN EN 50395)

Example image

Configurators ► www.igus.com/CF5

36 month guarantee ... 1,354 types from stock ... no cutting charges















Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	7	≥ 1312 ft
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

Class 5.5.2.2

Properties and approvals

 UV resistance	Medium
 Oil resistance	Oil-resistant (following DIN EN 50363-4-1), Class 2
 Flame resistance	According to IEC 60332-1-2, FT1, VW-1
 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	600 V, +80 °C See data sheet for details ► www.igus.com/CF5
 NFPA 79	Complies to Electrical Standard for Industrial Machinery NFPA 79 Section 12.9
 EAC	Certificate No. RU C-DE.ME77.B.00300/19 (TR ZU)
 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

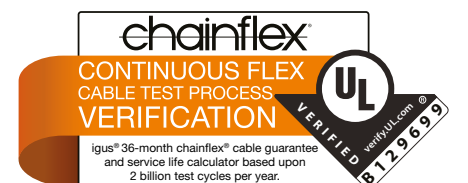
Guaranteed service life (details see page 26-27)

Cycles*	5 million		7.5 million		10 million	
	< 10 m	≥ 10 m	< 10 m	≥ 10 m	< 10 m	≥ 10 m
Temperature, from/to [°F]	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]
+41/+59	7.5	10	8.5	11	9.5	12
+59/+140	6.8	7.5	7.8	8.5	8.8	9.5
+140/+158	7.5	10	8.5	11	9.5	12

* Higher number of cycles? Online lifetime calculation ► www.chainflex.com/chainflexlife

Typical application areas

- For high mechanical load requirements, Class 5
- Unsupported travel distances and for gliding applications up to 328 ft (100 m), Class 5
- Light oil influence, Class 2
- Torsion ±90°, with 3.281ft (1m) cable length, Class 2
- Preferably indoor applications, can be used in outdoor applications with temperatures > 41 °F
- Storage and retrieval units for high-bay warehouses, machining units/ packaging machines, quick handling, indoor cranes



Control cable | PVC | chainflex® CF5

Strip cables 50 % faster

igus chainflex CF5

Example image

Part No.	AWG	Number of Conductors and rated cross section	Outer diameter max.		Copper index		Weight	
			[mm²]	[in.] [mm]	[lbs/mft] [kg/km]	[lbs/mft] [kg/km]		
CF5-02-36	24	36 x 0.25	0.59	15.0	66.5	99	140.4	209
CF5-03-15	22	15 x 0.34	0.43	11.0	37.0	55	75.9	113
CF5-03-18	22	18 x 0.34	0.47	12.0	45.0	67	96.1	143
CF5-03-25	22	25 x 0.34	0.55	14.0	61.8	92	130.4	194
CF5-05-02	20	2 x 0.5	0.24	6.0	7.4	11	25.5	38
CF5-05-03	20	3 G 0.5	0.24	6.0	10.8	16	27.6	41
CF5-05-04	20	4 G 0.5	0.26	6.5	14.1	21	31.6	47
CF5-05-05	20	5 G 0.5	0.28	7.0	16.8	25	39.6	59
CF5-05-07	20	7 G 0.5	0.31	8.0	24.2	36	52.4	78
CF5-05-12	20	12 G 0.5	0.43	11.0	41.0	61	88.0	131
CF5-05-18	20	18 G 0.5	0.51	13.0	61.1	91	127.7	190
CF5-05-25	20	25 G 0.5	0.63	16.0	83.3	124	188.8	281
CF5-05-30	20	30 G 0.5	0.71	18.0	100.1	149	218.4	325
CF5-07-03	18	3 G 0.75	0.26	6.5	15.5	23	36.3	54
CF5-07-04	18	4 G 0.75	0.28	7.0	21.5	32	45.0	67
CF5-07-05	18	5 G 0.75	0.30	7.5	26.2	39	55.1	82
CF5-07-07	18	7 G 0.75	0.35	9.0	37.6	56	77.3	115
CF5-07-12	18	12 G 0.75	0.49	12.5	61.1	91	127.0	189
CF5-07-18	18	18 G 0.75	0.59	15.0	90.0	134	180.8	269
CF5-07-25	18	25 G 0.75	0.69	17.5	127.7	190	258.0	384
CF5-07-36	18	36 G 0.75	0.87	22.0	179.4	267	394.4	587
CF5-07-42	18	42 G 0.75	0.93	23.5	210.3	313	500.6	745
CF5-10-03	17	3 G 1.0	0.26	6.5	20.8	31	37.6	56
CF5-10-04	17	4 G 1.0	0.28	7.0	27.6	41	52.4	78
CF5-10-05	17	5 G 1.0	0.31	8.0	33.6	50	63.2	94
CF5-10-07	17	7 G 1.0	0.37	9.5	49.7	74	87.4	130
CF5-10-12	17	12 G 1.0	0.51	13.0	80.0	119	152.5	227
CF5-10-18	17	18 G 1.0	0.65	16.5	120.3	179	205.6	306
CF5-10-25	17	25 G 1.0	0.77	19.5	166.6	248	327.2	487
CF5-15-03	16	3 G 1.5	0.30	7.5	30.9	46	49.7	74
CF5-15-04	16	4 G 1.5	0.31	8.0	41.0	61	70.6	105
CF5-15-05	16	5 G 1.5	0.35	9.0	50.4	75	85.3	127
CF5-15-07 ¹⁷⁾	16	7 G 1.5	0.41	10.5	70.6	105	121.0	180
CF5-15-12	16	12 G 1.5	0.59	15.0	120.3	179	177.4	264
CF5-15-18	16	18 G 1.5	0.77	19.5	179.4	267	321.2	478
CF5-15-25	16	25 G 1.5	0.85	21.5	249.3	371	433.4	645
CF5-15-36	16	36 G 1.5	1.04	26.5	355.5	529	645.1	960

¹⁷⁾ When using the cables with "7G1.5mm²" and "G2.5mm²" minimum bend radius must be 17.5xd with gliding travel distance ≥ 5m.
Note: The given outer diameters are maximum values.
G = with green-yellow earth core x = without earth core

Configurators ► www.igus.com/CF5



Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

Class 5.5.2.2

Part No.	AWG	Number of Conductors and rated cross section	Outer diameter max.		Copper index		Weight	
			[mm²]	[in.] [mm]	[lbs/mft] [kg/km]	[lbs/mft] [kg/km]		
CF5-25-04	14	4 G 2.5	0.39	10.0	64.5	96	114.2	170
CF5-25-05	14	5 G 2.5	0.43	11.0	80.6	120	134.4	200
CF5-25-07 ¹⁷⁾	14	7 G 2.5	0.51	13.0	113.6	169	187.5	279
CF5-25-12	14	12 G 2.5	0.73	18.5	190.8	284	322.5	480
CF5-25-18	14	18 G 2.5	0.93	23.5	286.9	427	514.1	765
CF5-25-25	14	25 G 2.5	1.08	27.5	397.1	591	708.3	1054

¹⁷⁾ When using the cables with "7G1.5mm²" and "G2.5mm²" minimum bend radius must be 17.5xd with gliding travel distance ≥ 5m.
Note: The given outer diameters are maximum values.
G = with green-yellow earth core x = without earth core

Order example: **CF5-02-36** – To your desired length
CF5 chainflex® series -02 Code nominal cross section -36 Number of conductors

Online order ► www.chainflex.com/CF5

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



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** up to 36 months guarantee

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

CFRIP

UL LISTED

UL

NFPA

EAC

REACH

RoHS

Clean Room

CE

Control cable | PVC | chainflex® CF6






36 10,000,000
Cycles guaranteed

6.8 x d
Bend radius E-Chain®









328.1 ft
Travel distance E-Chain®

- For high mechanical load requirements
- PVC outer jacket
- Shielded
- Oil-resistant
- Flame-retardant



Dynamic Information

	Bend radius	E-Chain® linear flexible	min. 6.8 x d min. 5 x d
		fixed	min. 4 x d
	Temperature	E-Chain® linear flexible	+41 °F to +158 °F (+5 °C to +70 °C) +23 °F to +158 °F (-5 °C to +70 °C)
		fixed	+5 °F to +158 °F (-15 °C to +70 °C)
	v max.	unsupported	32.81 ft/s (10 m/s)
		gliding	16.41 ft/s (5 m/s)
	a max.		262.5 ft/s² (80 m/s²)
	Travel distance		Unsupported travel distances and for gliding applications up to 328.1 ft (100 m), Class 5

Cable structure

	Conductor	Conductor consisting of bare copper wires (according to DIN EN 60228).
	Conductor insulation	24-20 AWG: Mechanically high-quality TPE mixture. 18-14 AWG: Mechanically high-quality PVC mixture.
	Conductor construction	Number of conductors < 12: Conductors cabled in a layer with short pitch length. Number of conductors ≥ 12: Conductors combined in bundles and stranded together around a high-tensile strength core, using short pitch directions for a low-torsion cable structure.
	Color code	24-22 AWG Color code in accordance with DIN 47100. 20-4 AWG Black with white numbers, one conductor green-yellow.
	Inner jacket	PVC mixture adapted to suit the requirements in E-Chains®.
	Overall shield	Extremely bending-resistant tinned copper braid. 90 % optical coverage
	Outer jacket	Low-adhesion, oil-resistant mixture on the basis of PVC, adapted to suit the requirements in E-Chains® (following DIN EN 50363-4-1). Color: Green (similar to RAL 6005)
	CFRIP®	Strip 50% faster: a tear strip is molded into the inner jacket Video ► www.igus.com/CFRIP

Electrical Information

	Nominal voltage	600 V
	Test voltage	2000 V (following DIN EN 50395)

Configurators ► www.igus.com/CF6













36 month guarantee ... 1,354 types from stock ... no cutting charges

Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

Class 5.5.2.1

Properties and approvals

	UV resistance	Medium
	Oil resistance	Oil-resistant (following DIN EN 50363-4-1), Class 2
	Flame resistance	According to IEC 60332-1-2, FT1, VW-1
	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	600 V, +80 °C See data sheet for details ► www.igus.com/CF6
	NFPA 79	Complies to Electrical Standard for Industrial Machinery NFPA 79 Section 12.9
	EAC	Certificate No. RU C-DE.ME77.B.00300/19 (TR ZU)
	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

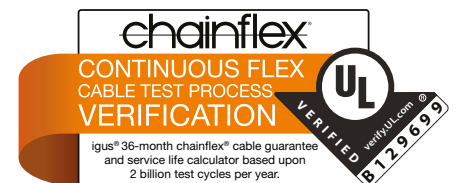
Guaranteed service life (details see page 26-27)

Cycles*	5 million		7.5 million		10 million	
	< 10 m	≥ 10 m	< 10 m	≥ 10 m	< 10 m	≥ 10 m
Temperature, from/to [°F]	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]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.
+41/+59	7.5	10	8.5	11	9.5	12
+59/+140	6.8	7.5	7.8	8.5	8.8	9.5
+140/+158	7.5	10	8.5	11	9.5	12

* Higher number of cycles? Online lifetime calculation ► www.chainflex.com/chainflexlife

Typical application areas

- For high mechanical load requirements, Class 5
- Unsupported travel distances and for gliding applications up to 328 ft (100 m), Class 5
- Light oil influence, Class 2
- Preferably indoor applications, can be used in outdoor applications with temperatures > 41 °F
- Storage and retrieval units for high-bay warehouses, machining units/ packaging machines, quick handling, indoor cranes



Control cable | PVC | chainflex® CF6

Strip cables 50 % faster

igus chainflex CF6

Example image

Part No.	AWG	Number of Conductors and rated cross section	Outer diameter max.		Copper index		Weight	
			[mm²]	[in.] [mm]	[lbs/mft] [kg/km]	[lbs/mft] [kg/km]		
CF6-02-04	24	4 x 0.25	0.28	7.0	19.5	29	41.0	61
CF6-02-25	24	25 x 0.25	0.57	14.5	74.6	111	174.7	260
CF6-03-05	22	5 x 0.34	0.30	7.5	24.9	37	60.5	90
CF6-05-02	20	2 x 0.5	0.28	7.0	20.2	30	51.7	77
CF6-05-05	20	5 G 0.5	0.33	8.5	32.9	49	71.2	106
CF6-05-07	20	7 G 0.5	0.39	10.0	43.0	64	85.3	127
CF6-05-09	20	9 G 0.5	0.47	12.0	53.8	80	103.5	154
CF6-05-12	20	12 G 0.5	0.51	13.0	65.9	98	155.9	232
CF6-05-18	20	18 G 0.5	0.59	15.0	97.4	145	192.2	286
CF6-05-25	20	25 G 0.5	0.69	17.5	129.0	192	268.1	399
CF6-07-03	18	3 G 0.75	0.31	8.0	30.9	46	65.9	98
CF6-07-04	18	4 G 0.75	0.33	8.5	37.6	56	75.9	113
CF6-07-05	18	5 G 0.75	0.35	9.0	45.0	67	86.0	128
CF6-07-07	18	7 G 0.75	0.41	10.5	58.5	87	102.1	152
CF6-07-12	18	12 G 0.75	0.55	14.0	86.0	128	178.7	266
CF6-07-18	18	18 G 0.75	0.69	17.5	131.7	196	268.8	400
CF6-07-25	18	25 G 0.75	0.77	19.5	178.1	265	360.2	536
CF6-10-03	17	3 G 1.0	0.31	8.0	36.3	54	71.9	107
CF6-10-04	17	4 G 1.0	0.35	9.0	43.7	65	77.9	116
CF6-10-05	17	5 G 1.0	0.37	9.5	51.7	77	91.4	136
CF6-10-07	17	7 G 1.0	0.47	12.0	69.2	103	137.8	205
CF6-10-12	17	12 G 1.0	0.59	15.0	108.2	161	214.4	319
CF6-10-18	17	18 G 1.0	0.75	19.0	164.6	245	323.9	482
CF6-10-25	17	25 G 1.0	0.83	21.0	216.4	322	399.8	595
CF6-15-03	16	3 G 1.5	0.35	9.0	48.4	72	82.0	122
CF6-15-04	16	4 G 1.5	0.37	9.5	59.1	88	104.2	155
CF6-15-05	16	5 G 1.5	0.41	10.5	70.6	105	118.9	177
CF6-15-07 ¹⁷⁾	16	7 G 1.5	0.49	12.5	98.1	146	173.4	258
CF6-15-12	16	12 G 1.5	0.67	17.0	151.2	225	252.0	375
CF6-15-18	16	18 G 1.5	0.83	21.0	231.8	345	390.4	581
CF6-15-25	16	25 G 1.5	0.94	24.0	310.4	462	581.3	865
CF6-15-36 ¹¹⁾	16	36 G 1.5	1.18	30.0	453.6	675	868.9	1293
CF6-25-04	14	4 G 2.5	0.45	11.5	88.0	131	149.2	222

¹¹⁾ Phase-out model

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

Note: The given outer diameters are maximum values.
G = with green-yellow earth core x = without earth core

Configurators ► www.igus.com/CF6



Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

Class 5.5.2.1



- Order example: **CF6-02-04** – To your desired length
CF6 chainflex® series -02 Code nominal cross section -04 Number of conductors
- Online order ► www.chainflex.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 (gray) in a screwing station of a car factory. E-Chain®: System E4/00 with chainfix clip strain relief devices.



Control cable | PVC | chainflex® CFSOFT1

36 20,000,000
Cycles guaranteed

5 x d
Bend radius E-Chain®

16.4 ft
Travel distance E-Chain®

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

Dynamic Information

	Bend radius	E-Chain® linear	min. 5 x d
		flexible	min. 4 x d
		fixed	min. 3 x d
	Temperature	E-Chain® linear	+41 °F to +158 °F (+5 °C to +70 °C)
		flexible	+23 °F to +158 °F (-5 °C to +70 °C)
		fixed	+5 °F to +158 °F (-15 °C to +70 °C)
	v max.	unsupported	32.81 ft/s (10 m/s)
		gliding	16.41 ft/s (5 m/s)
	a max.	262.5 ft/s² (80 m/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.
	Conductor insulation	Mechanically high-quality TPE mixture.
	Conductor construction	Conductors cabled in one layer with especially short pitch length.
	Color code	Color code in accordance with DIN 47100.
	Outer jacket	Low-adhesion, oil-resistant mixture on the basis of PVC, adapted to suit the requirements in E-Chains® (following DIN EN 50363-4-1). Color: Jet black (similar to RAL 9005)

Electrical Information

	Nominal voltage	300 V
	Test voltage	2000 V (following DIN EN 50395)

Configurators ► www.igus.com/CFSOFT1

36 month guarantee ... 1,354 types from stock ... no cutting charges



Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

Class 7.1.2.1

Properties and approvals

	UV resistance	Medium
	Oil resistance	Oil-resistant (following DIN EN 50363-4-1), Class 2
	Flame resistance	According to IEC 60332-1-2, FT1, VW-1
	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	300 V, +80 °C See data sheet for details ► www.igus.com/CFSOFT1
	NFPA 79	Complies to Electrical Standard for Industrial Machinery NFPA 79 Section 12.9
	EAC	Certificate No. RU C-DE.ME77.B.00300/19 (TR ZU)
	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

Guaranteed service life (details see page 26-27)

Cycles*	10 million	15 million	20 million
Temperature, from/to [°F]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
+41/+59	6.8	7.5	8.5
+59/+140	5	6	7
+140/+158	6.8	7.5	8.5

* Higher number of cycles? Online lifetime calculation ► www.chainflex.com/chainflexlife

Typical application areas

- For heaviest duty applications and especially 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
- Especially soft cable design, for reduced forces
- Pick and place machines, Automatic doors, Cleanroom, very quick handling

Part No.	AWG	Number of Conductors and rated cross section	Outer diameter max.		Copper index		Weight	
			[in.]	[mm]	[lbs/mft]	[kg/km]	[lbs/mft]	[kg/km]
CFSOFT1-02-03	24	3 x 0.25	0.22	5.5	6.0	9	18.8	28
CFSOFT1-02-08	24	8 x 0.25	0.28	7.0	14.1	21	41.7	62
CFSOFT1-03-04	22	4 x 0.34	0.24	6.0	10.1	15	26.2	39
CFSOFT1-05-04	20	4 x 0.5	0.28	7.0	14.1	21	34.9	52

Note: The given outer diameters are maximum values.
G = with green-yellow earth core x = without earth core



UL-verified chainflex® guarantee ... www.igus.com/ul-verified



Control cable | PVC | chainflex® CFSOFT2






36 20,000,000
Cycles guaranteed

5 x d
Bend radius E-Chain®








16.4 ft
Travel distance E-Chain®

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



Dynamic Information

	Bend radius	E-Chain® linear flexible	min. 5 x d min. 4 x d
		fixed	min. 3 x d
	Temperature	E-Chain® linear flexible	+41 °F to +158 °F (+5 °C to +70 °C) +23 °F to +158 °F (-5 °C to +70 °C)
		fixed	+5 °F to +158 °F (-15 °C to +70 °C)
	v max.	unsupported	32.81 ft/s (10 m/s)
		gliding	16.41 ft/s (5 m/s)
	a max.		262.5 ft/s ² (80 m/s ²)
	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.
	Conductor insulation	Mechanically high-quality TPE mixture.
	Conductor construction	Conductors cabled in one layer with especially short pitch length.
	Color code	24-22 AWG: Color code in accordance with DIN 47100. 20-18 AWG: Black with white numbers, one conductor green-yellow.
	Intermediate layer	polyester tape over external layer
	Overall shield	Extremely bending-resistant tinned copper braid. 90 % optical coverage
	Outer jacket	Low-adhesion, oil-resistant mixture on the basis of PVC, adapted to suit the requirements in E-Chains® (following DIN EN 50363-4-1). Color: Jet black (similar to RAL 9005)

Electrical Information

	Nominal voltage	300 V
	Test voltage	2000 V (following DIN EN 50395)

Example image

Configurators ► www.igus.com/CFSOFT2

36 month guarantee ... 1,354 types from stock ... no cutting charges















Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

Class 7.1.2.1

Properties and approvals

	UV resistance	Medium
	Oil resistance	Oil-resistant (following DIN EN 50363-4-1), Class 2
	Flame resistance	According to IEC 60332-1-2, FT1, VW-1
	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	300 V, +80 °C See data sheet for details ► www.igus.com/CFSOFT2
	NFPA 79	Complies to Electrical Standard for Industrial Machinery NFPA 79 Section 12.9
	EAC	Certificate No. RU C-DE.ME77.B.00300/19 (TR ZU)
	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

Guaranteed service life (details see page 26-27)

Cycles*	10 million	15 million	20 million
Temperature, from/to [°F]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
+41/+59	6.8	7.5	8.5
+59/+140	5	6	7
+140/+158	6.8	7.5	8.5

* Higher number of cycles? Online lifetime calculation ► www.chainflex.com/chainflexlife

Typical application areas

- For heaviest duty applications and especially 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
- Especially soft cable design, for reduced forces
- Pick and place machines, Automatic doors, Cleanroom, very quick handling

Part No.	AWG	Number of Conductors and rated cross section	Outer diameter max.		Copper index		Weight	
			[mm ²]	[in.] [mm]	[lbs/mft] [kg/km]	[lbs/mft] [kg/km]		
CFSOFT2-02-03	24	3 x 0.25	0.24	6.0	11.4	17	27.6	41
CFSOFT2-02-08	24	8 x 0.25	0.30	7.5	25.5	38	57.8	86
CFSOFT2-03-04	22	4 x 0.34	0.26	6.5	16.1	24	33.6	50
CFSOFT2-05-04	20	4 G 0.5	0.30	7.5	24.2	36	53.8	80
CFSOFT2-07-04	18	4 G 0.75	0.31	8.0	31.6	47	65.2	97

Note: The given outer diameters are maximum values.
G = with green-yellow earth core x = without earth core



UL-verified chainflex® guarantee ... www.igus.com/ul-verified



Control cable | iguPUR | chainflex® CF890

36 5,000,000
Cycles guaranteed

12.5 x d
Bend radius E-Chain®

32.8 ft
Travel distance E-Chain®

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

Optimized conductor insulation, reduced diameters

Dynamic Information

	Bend radius	E-Chain® linear	min. 12.5 x d
		flexible	min. 10 x d
		fixed	min. 7 x d
	Temperature	E-Chain® linear	-4 °F to +176 °F (-20 °C to +80 °C)
		flexible	-40 °F to +176 °F (-40 °C to +80 °C)
		fixed	-58 °F to +176 °F (-50 °C to +80 °C)
	v max.	unsupported	9.84 ft/s (3 m/s)
	a max.		65.6 ft/s² (20 m/s²)
	Travel distance		Unsupported travel distances up to 32.8 ft (10 m), Class 1

Cable structure

	Conductor	Conductor consisting of bare copper wires (according to DIN EN 60228).
	Conductor insulation	Mechanically high-quality TPE mixture.
	Conductor construction	Conductors cabled with an optimized pitch length.
	Color code	Black with white numbers, one conductor green-yellow.
	Outer jacket	Low-adhesion mixture on the basis of iguPUR, adapted to suit the requirements in E-Chains®. Color: Jet black (similar to RAL 9005)

Electrical Information

	Nominal voltage	600 V
	Test voltage	2000 V (following DIN EN 50395)

Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

Class 3.1.3.1

Properties and approvals

	UV resistance	Medium
	Oil resistance	Oil-resistant (following DIN EN 50363-10-2), Class 3
	Flame resistance	According to IEC 60332-1-2, FT1, VW-1
	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	600 V, +80 °C See data sheet for details ► www.igus.com/CF890
	EAC	Certificate No. RU C-DE.ME77.B.00300/19 (TR ZU)
	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

Guaranteed service life (details see page 26-27)

Cycles*	1 million	3 million	5 million
Temperature, from/to [°F]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-4/+14	15	16	17
+14/+158	12.5	13.5	14.5
+158/+176	15	16	17

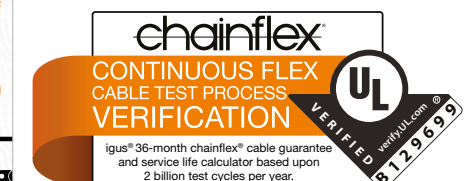
* Higher number of cycles? Online lifetime calculation ► www.chainflex.com/chainflexlife

Typical application areas

- For low duty flexing applications, Class 3
- Especially for unsupported travels, Class 1
- With influence of oil, Class 3
- Indoor and outdoor applications without direct sun radiation
- Machining units/machine tools, low temperature applications



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





igus® chainflex® CF890

Example image

Part No.	AWG	Number of Conductors and rated cross section	Outer diameter max.		Copper index		Weight	
			[mm²]	[in.]	[mm]	[lbs/mft]	[kg/km]	[lbs/mft]
CF890-05-02	20	2 x 0.5	0.20	5.0	7.4	11	20.2	30
CF890-05-03	20	3 G 0.5	0.22	5.5	10.8	16	22.8	34
CF890-05-04	20	4 G 0.5	0.24	6.0	14.1	21	29.6	44
CF890-05-05	20	5 G 0.5	0.26	6.5	17.5	26	35.6	53
CF890-05-07	20	7 G 0.5	0.30	7.5	24.9	37	47.0	70
CF890-05-12	20	12 G 0.5	0.33	8.5	42.3	63	70.6	105
CF890-05-18	20	18 G 0.5	0.39	10.0	63.2	94	104.2	155
CF890-05-25	20	25 G 0.5	0.47	12.0	86.0	128	149.2	222
CF890-07-02	18	2 x 0.75	0.22	5.5	10.8	16	25.5	38
CF890-07-03	18	3 G 0.75	0.24	6.0	16.1	24	30.9	46
CF890-07-04	18	4 G 0.75	0.26	6.5	21.5	32	39.0	58
CF890-07-05	18	5 G 0.75	0.28	7.0	26.9	40	47.7	71
CF890-07-07	18	7 G 0.75	0.31	8.0	37.6	56	64.5	96
CF890-07-12	18	12 G 0.75	0.39	10.0	63.2	94	98.1	146
CF890-07-18	18	18 G 0.75	0.45	11.5	94.1	140	108.9	162
CF890-07-25	18	25 G 0.75	0.53	13.5	130.4	194	186.8	278
CF890-10-02	17	2 x 1.0	0.24	6.0	14.1	21	30.9	46
CF890-10-03	17	3 G 1.0	0.26	6.5	21.5	32	37.6	56
CF890-10-04	17	4 G 1.0	0.28	7.0	28.2	42	39.0	58
CF890-10-05	17	5 G 1.0	0.30	7.5	34.9	52	59.8	89
CF890-10-07	17	7 G 1.0	0.33	8.5	49.1	73	78.6	117
CF890-10-12	17	12 G 1.0	0.41	10.5	83.3	124	119.6	178
CF890-10-18	17	18 G 1.0	0.49	12.5	125.0	186	183.4	273
CF890-10-25	17	25 G 1.0	0.59	15.0	173.4	258	252.0	375
CF890-15-02	16	2 x 1.5	0.26	6.5	21.5	32	41.7	62
CF890-15-03	16	3 G 1.5	0.28	7.0	31.6	47	51.1	76
CF890-15-04	16	4 G 1.5	0.30	7.5	42.3	63	65.2	97
CF890-15-05	16	5 G 1.5	0.33	8.5	52.4	78	78.6	117
CF890-15-07	16	7 G 1.5	0.39	10.0	73.2	109	109.5	163
CF890-15-12	16	12 G 1.5	0.47	12.0	125.0	186	172.0	256
CF890-15-18	16	18 G 1.5	0.57	14.5	187.5	279	243.3	362
CF890-15-25	16	25 G 1.5	0.69	17.5	260.1	387	337.3	502
CF890-25-03	14	3 G 2.5	0.33	8.5	79.3	118	91.4	136
CF890-25-04	14	4 G 2.5	0.35	9.0	69.2	103	97.4	145
CF890-25-05	14	5 G 2.5	0.39	10.0	86.7	129	117.6	175
CF890-25-07	14	7 G 2.5	0.47	12.0	121.6	181	165.3	246
CF890-25-12 ¹¹⁾	14	12 G 2.5	0.59	15.0	219.7	327	274.2	408
CF890-25-25 ¹¹⁾	14	25 G 2.5	0.85	21.5	428.7	638	528.2	786

¹¹⁾ Phase-out model
Note: The given outer diameters are maximum values.
G = with green-yellow earth core x = without earth core

Class 3.1.3.1

Order example: **CF890-05-02** – To your desired length
CF890 chainflex® series -05 Code nominal cross section -02 Number of conductors

Online order ► www.chainflex.com/CF890

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 now ...
www.igus.com/info/cable-price-check

... just one idea for you: Reduce bend radius with CF77.UL.D

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

CFRIP

UL LISTED

UL

NFPA

UL

EAC

REACH

RoHS

UL

CE

Guarantee
igus chainflex
36
up to 36 months guarantee

chainflex®
CONTINUOUS FLEX
CABLE TEST PROCESS
VERIFICATION

UL
VERIFIED
www.igus.com
8129699

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

Control cable | iguPUR | chainflex® CF891

36 5,000,000
Cycles guaranteed

12.5 x d
Bend radius E-Chain®

32.8 ft
Travel distance E-Chain®

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

Optimized conductor insulation, reduced diameters

Dynamic Information

	Bend radius	E-Chain® linear	min. 12.5 x d
		flexible	min. 10 x d
		fixed	min. 7 x d
	Temperature	E-Chain® linear	-4 °F to +176 °F (-20 °C to +80 °C)
		flexible	-40 °F to +176 °F (-40 °C to +80 °C)
		fixed	-58 °F to +176 °F (-50 °C to +80 °C)
	v max.	unsupported	9.84 ft/s (3 m/s)
	a max.		65.6 ft/s² (20 m/s²)
	Travel distance		Unsupported travel distances up to 32.8 ft (10 m), Class 1

Cable structure

	Conductor	Conductor consisting of bare copper wires (according to DIN EN 60228).
	Conductor insulation	Mechanically high-quality TPE mixture.
	Conductor construction	Conductors cabled with an optimized pitch length.
	Color code	Black with white numbers, one conductor green-yellow.
	Overall shield	aluminum/polyester tape and tinned cooper braid. 60 % optical coverage
	Outer jacket	Low-adhesion mixture on the basis of iguPUR, adapted to suit the requirements in E-Chains®. Color: Jet black (similar to RAL 9005)

Electrical Information

	Nominal voltage	600 V
	Test voltage	2000 V (following DIN EN 50395)

Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

Class 3.1.3.1

Properties and approvals

	UV resistance	Medium
	Oil resistance	Oil-resistant (following DIN EN 50363-10-2), Class 3
	Flame resistance	According to IEC 60332-1-2, FT1, VW-1
	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	600 V, +80 °C See data sheet for details ► www.igus.com/CF891
	EAC	Certificate No. RU C-DE.ME77.B.00300/19 (TR ZU)
	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

Guaranteed service life (details see page 26-27)

Cycles*	1 million	3 million	5 million
Temperature, from/to [°F]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-4/+14	15	16	17
+14/+158	12.5	13.5	14.5
+158/+176	15	16	17

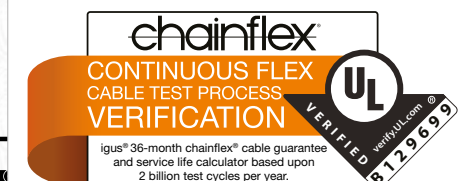
* Higher number of cycles? Online lifetime calculation ► www.chainflex.com/chainflexlife

Typical application areas

- For low duty flexing applications, Class 3
- Especially for unsupported travels, Class 1
- With influence of oil, Class 3
- Indoor and outdoor applications without direct sun radiation
- Machining units/machine tools, low temperature applications



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





igus chainflex CF891

Example image

Part No.	AWG	Number of Conductors and rated cross section	Outer diameter max.		Copper index		Weight	
			[mm²]	[in.] [mm]	[lbs/mft] [kg/km]	[lbs/mft] [kg/km]		
CF891-05-02	20	2 x 0.5	0.24	6.0	12.1	18	24.9	37
CF891-05-03	20	3 G 0.5	0.24	6.0	18.8	28	30.2	45
CF891-05-05	20	5 G 0.5	0.28	7.0	27.6	41	41.7	62
CF891-05-12	20	12 G 0.5	0.35	9.0	61.1	91	82.0	122
CF891-05-18	20	18 G 0.5	0.43	11.0	91.4	136	116.9	174
CF891-05-25	20	25 G 0.5	0.51	13.0	141.1	210	157.2	234
CF891-07-02	18	2 x 0.75	0.26	6.5	20.2	30	32.3	48
CF891-07-03	18	3 G 0.75	0.28	7.0	24.9	37	42.3	63
CF891-07-04	18	4 G 0.75	0.30	7.5	30.9	46	45.7	68
CF891-07-05	18	5 G 0.75	0.31	8.0	41.0	61	57.1	85
CF891-07-07	18	7 G 0.75	0.35	9.0	55.8	83	73.2	109
CF891-07-12	18	12 G 0.75	0.41	10.5	83.3	124	111.5	166
CF891-07-18	18	18 G 0.75	0.47	12.0	123.0	183	155.9	232
CF891-07-25	18	25 G 0.75	0.57	14.5	149.2	222	200.9	299
CF891-10-02	17	2 x 1.0	0.26	6.5	20.2	30	33.6	50
CF891-10-03	17	3 G 1.0	0.28	7.0	30.9	46	47.7	71
CF891-10-04	17	4 G 1.0	0.30	7.5	42.3	63	65.9	98
CF891-10-05	17	5 G 1.0	0.31	8.0	51.1	76	70.6	105
CF891-10-07	17	7 G 1.0	0.37	9.5	67.2	100	84.7	126
CF891-10-12	17	12 G 1.0	0.45	11.5	112.2	167	150.5	224
CF891-10-18	17	18 G 1.0	0.51	13.0	143.1	213	185.5	276
CF891-10-25	17	25 G 1.0	0.63	16.0	195.5	291	256.7	382
CF891-15-02	16	2 x 1.5	0.30	7.5	40.3	60	46.4	69
CF891-15-03	16	3 G 1.5	0.30	7.5	42.3	63	57.1	85
CF891-15-04	16	4 G 1.5	0.33	8.5	60.5	90	72.6	108
CF891-15-05	16	5 G 1.5	0.35	9.0	63.2	94	86.7	129
CF891-15-07	16	7 G 1.5	0.43	11.0	102.8	153	118.9	177
CF891-15-12	16	12 G 1.5	0.51	13.0	142.5	212	185.5	276
CF891-15-25	16	25 G 1.5	0.73	18.5	285.6	425	376.3	560
CF891-25-04	14	4 G 2.5	0.39	10.0	94.7	141	105.5	157
CF891-25-05	14	5 G 2.5	0.43	11.0	100.1	149	129.0	192
CF891-25-07	14	7 G 2.5	0.51	13.0	137.1	204	171.4	255
CF891-25-12 ¹¹⁾	14	12 G 2.5	0.63	16.0	229.8	342	282.2	420
CF891-25-25 ¹¹⁾	14	25 G 2.5	0.89	22.5	457.6	681	566.5	843

¹¹⁾ Phase-out model
Note: The given outer diameters are maximum values.
G = with green-yellow earth core x = without earth core

Order example: **CF891-05-02** – To your desired length
CF891 chainflex® series -05 Code nominal cross section -02 Number of conductors

Online order ► www.chainflex.com/CF891

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 now ...
www.igus.com/info/cable-price-check

... just one idea for you: Reduce bend radius with CF78.UL



chainflex® CF891 in adjustment device in process crane









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






36 10,000,000 Cycles guaranteed
6.8 x d Bend radius E-Chain®
328.1 ft Travel distance E-Chain®

- For high mechanical load requirements
- PUR outer jacket
- Oil-resistant and coolant-resistant
- Flame-retardant
- PVC and halogen-free
- Notch-resistant
- Hydrolysis and microbe-resistant



Dynamic Information

	Bend radius	E-Chain® linear flexible	min. 6.8 x d min. 5 x d
		fixed	min. 4 x d
	Temperature	E-Chain® linear flexible	-13 °F to +176 °F (-25 °C to +80 °C) -40 °F to +176 °F (-40 °C to +80 °C)
		fixed	-58 °F to +176 °F (-50 °C to +80 °C)
	v max.	unsupported	32.81 ft/s (10 m/s)
		gliding	16.41 ft/s (5 m/s)
	a max.		262.5 ft/s² (80 m/s²)
	Travel distance		Unsupported travel distances and for gliding applications up to 328.1 ft (100 m), Class 5
	Torsion		Torsion ±180°, with 3.281ft (1m) cable length, Class 3 (except for 5-conductor types ≥ 4.0 mm² ▶ Product range table)

Cable structure

	Conductor	Conductor consisting of bare copper wires (according to DIN EN 60228).
	Conductor insulation	Mechanically high-quality TPE mixture.
	Conductor construction	Number of conductors < 12: Conductors cabled in a layer with short pitch length. Number of conductors ≥ 12: Conductors combined in bundles and stranded together around a high-tensile strength core, using short pitch directions for a low-torsion cable structure.
	Color code	24-22 AWG: Color code in accordance with DIN 47100. 20-10 AWG: Black with white numbers, one conductor green-yellow. CF77-UL-03-04-INI: brown, blue, black, white
	Outer jacket	Low-adhesion, halogen-free, highly abrasion-resistant mixture on the basis of PUR, adapted to suit the requirements in E-Chains® (following DIN EN 50363-10-2). Color: Gray (similar to RAL 7040) Variants ▶ See P/N Table

Electrical Information

	Nominal voltage	Number of conductors < 12: 24-22 AWG: 300 V 20-10 AWG: 1000 V Number of conductors ≥ 12: 1000 V
	Test voltage	2000 V (following DIN EN 50395)

Configurators ▶ www.igus.com/CF77-UL-D




36 month guarantee ... 1,354 types from stock ... no cutting charges

Basic requirements
 Travel distance
 Oil resistance
 Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

Class 5.5.3.3

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 2009
	Flame resistance	According to IEC 60332-1-2, FT1, VW-1
	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	24-22 AWG: 300 V, +80 °C 20-10 AWG: 1000 V, +80 °C See data sheet for details ▶ www.igus.com/CF77-UL-D
	NFPA 79	Complies to Electrical Standard for Industrial Machinery NFPA 79 Section 12.9
	DNV-GL	Type approval certificate No. TAE00003X1
	EAC	Certificate No. RU C-DE.ME77.B.00300/19 (TR ZU)
	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 standardization.
	CE	Following 2014/35/EU

Guaranteed service life (details see page 26-27)

Cycles*	5 million		7.5 million		10 million	
	< 10 m	≥ 10 m	< 10 m	≥ 10 m	< 10 m	≥ 10 m
Temperature, from/to [°F]	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]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.
-13/+5	8.5	10	9.5	11	10.5	12
+5/+158	6.8	7.5	7.5	8.5	8.5	9.5
+158/+176	8.5	10	9.5	11	10.5	12

* Higher number of cycles? Online lifetime calculation ▶ www.chainflex.com/chainflexlife

Typical application areas

- For high mechanical load requirements, Class 5
- Unsupported travel distances and for gliding applications up to 328 ft (100 m), Class 5
- Almost unlimited resistance to oil, Class 3
- Torsion ±180°, with 3.281ft (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

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

CF77-UL-D
 PUR
 6.8 x d

UL LISTED
 UL
 LISTED

UL
 LISTED

NFPA
 79

DNV-GL
 DNV-GL

EAC
 EAC

REACH
 REACH

RoHS
 RoHS

Cleanroom
 Cleanroom

DESINA
 DESINA

CE
 CE

Example image

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

Class 5.5.3.3

Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			



igus® chainflex® CF77.UL.D

Example image

Part No.	AWG	Number of Conductors and rated cross section	Outer diameter max.		Copper index		Weight	
			[mm²]	[in.] [mm]	[lbs/mft] [kg/km]	[lbs/mft] [kg/km]		
CF77-UL-02-03-INI ¹²⁾	24	3 x 0.25	0.20	5.0	6.0	9	19.5	29
CF77-UL-02-04-D	24	4 x 0.25	0.22	5.5	7.4	11	23.5	35
CF77-UL-02-05-D	24	5 x 0.25	0.24	6.0	8.7	13	26.2	39
CF77-UL-02-07-D	24	7 x 0.25	0.26	6.5	12.1	18	34.3	51
CF77-UL-02-12-D	24	12 x 0.25	0.35	9.0	21.5	32	52.4	78
CF77-UL-02-18-D	24	18 x 0.25	0.41	10.5	31.6	47	85.3	127
CF77-UL-02-25-D	24	25 x 0.25	0.45	11.5	42.3	63	104.2	155
CF77-UL-03-04-INI ¹²⁾	22	4 x 0.34	0.24	6.0	9.4	14	24.9	37
CF77-UL-05-04-D	20	4 G 0.5	0.24	6.0	14.1	21	30.9	46
CF77-UL-05-05-D	20	5 G 0.5	0.26	6.5	17.5	26	35.6	53
CF77-UL-05-07-D	20	7 G 0.5	0.30	7.5	26.2	39	52.4	78
CF77-UL-05-12-D	20	12 G 0.5	0.39	10.0	42.3	63	87.4	130
CF77-UL-05-18-D	20	18 G 0.5	0.47	12.0	63.2	94	123.6	184
CF77-UL-05-25-D	20	25 G 0.5	0.55	14.0	86.7	129	163.3	243
CF77-UL-05-30-D	20	30 G 0.5	0.59	15.0	104.2	155	211.7	315
CF77-UL-07-03-D	18	3 G 0.75	0.26	6.5	15.5	23	34.9	52
CF77-UL-07-04-D	18	4 G 0.75	0.28	7.0	20.8	31	39.6	59
CF77-UL-07-05-D	18	5 G 0.75	0.30	7.5	25.5	38	47.7	71
CF77-UL-07-07-D	18	7 G 0.75	0.33	8.5	36.3	54	67.2	100
CF77-UL-07-12-D	18	12 G 0.75	0.47	12.0	61.1	91	121.0	180
CF77-UL-07-18-D	18	18 G 0.75	0.53	13.5	90.0	134	160.6	239
CF77-UL-07-20-D	18	20 G 0.75	0.57	14.5	100.1	149	180.8	269
CF77-UL-07-25-D	18	25 G 0.75	0.63	16.0	125.0	186	225.8	336
CF77-UL-07-36-D	18	36 G 0.75	0.75	19.0	187.5	279	340.0	506
CF77-UL-07-42-D	18	42 G 0.75	0.83	21.0	229.1	341	389.7	580
CF77-UL-10-02-D	17	2 x 1.0	0.26	6.5	14.1	21	34.3	51
CF77-UL-10-03-D	17	3 G 1.0	0.26	6.5	20.8	31	39.0	58
CF77-UL-10-04-D	17	4 G 1.0	0.28	7.0	27.6	41	49.1	73
CF77-UL-10-05-D	17	5 G 1.0	0.31	8.0	33.6	50	60.5	90
CF77-UL-10-07-D	17	7 G 1.0	0.35	9.0	47.7	71	80.6	120
CF77-UL-10-12-D	17	12 G 1.0	0.49	12.5	80.6	120	147.8	220
CF77-UL-10-18-D	17	18 G 1.0	0.59	15.0	120.3	179	211.0	314
CF77-UL-10-25-D	17	25 G 1.0	0.69	17.5	166.6	248	289.6	431
CF77-UL-10-42-D	17	42 G 1.0	0.89	22.5	291.0	433	469.7	699

¹²⁾ Color outer jacket: Yellow (similar to RAL 1021)
Note: The given outer diameters are maximum values.
G = with green-yellow earth core x = without earth core

Part No.	AWG	Number of Conductors and rated cross section	Outer diameter max.		Copper index		Weight	
			[mm²]	[in.] [mm]	[lbs/mft] [kg/km]	[lbs/mft] [kg/km]		
CF77-UL-15-03-D	16	3 G 1.5	0.28	7.0	30.9	46	47.7	71
CF77-UL-15-04-D	16	4 G 1.5	0.30	7.5	41.0	61	59.1	88
CF77-UL-15-05-D	16	5 G 1.5	0.31	8.0	50.4	75	70.6	105
CF77-UL-15-07-D ¹⁷⁾	16	7 G 1.5	0.37	9.5	70.6	105	102.1	152
CF77-UL-15-12-D	16	12 G 1.5	0.51	13.0	120.3	179	199.6	297
CF77-UL-15-18-D	16	18 G 1.5	0.67	17.0	180.1	268	272.1	405
CF77-UL-15-25-D	16	25 G 1.5	0.77	19.5	199.6	297	379.0	564
CF77-UL-15-36-D	16	36 G 1.5	0.93	23.5	370.3	551	569.8	848
CF77-UL-25-03-D	14	3 G 2.5	0.33	8.5	50.4	75	88.7	132
CF77-UL-25-04-D	14	4 G 2.5	0.37	9.5	63.8	95	112.2	167
CF77-UL-25-05-D	14	5 G 2.5	0.39	10.0	83.3	124	131.7	196
CF77-UL-25-07-D ¹⁷⁾	14	7 G 2.5	0.47	12.0	116.9	174	181.4	270
CF77-UL-25-12-D	14	12 G 2.5	0.67	17.0	199.6	297	321.9	479
CF77-UL-40-04-D ⁹⁰⁾	12	4 G 4.0	0.45	11.5	110.9	165	164.6	245
CF77-UL-40-05-D ⁹⁰⁾	12	5 G 4.0	0.47	12.0	133.0	198	190.8	284
CF77-UL-60-05-D ⁹⁰⁾	10	5 G 6.0	0.53	13.5	199.6	297	276.9	412

¹⁷⁾ When using the cables with "7G1.5mm²" and "G2.5mm²" minimum bend radius must be 17.5xd with gliding travel distance ≥ 5m.
⁹⁰⁾ Torsion ±90°
Note: The given outer diameters are maximum values.
G = with green-yellow earth core x = without earth core

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www.igus.com/info/cable-price-check

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

CFRIP

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CE

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EAC

REACH

RoHS

Clean Room

DESMA

CE

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CABLE TEST PROCESS
VERIFICATION

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

UL VERIFIED
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B129699

Control cable | PUR | chainflex® CF78-UL

36 10,000,000
Cycles guaranteed

6.8 x d
Bend radius E-Chain®

328.1 ft
Travel distance E-Chain®

- For high mechanical load requirements
- 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 flexible	min. 6.8 x d min. 5 x d
		fixed	min. 4 x d
	Temperature	E-Chain® linear flexible	-13 °F to +176 °F (-25 °C to +80 °C) -40 °F to +176 °F (-40 °C to +80 °C)
		fixed	-58 °F to +176 °F (-50 °C to +80 °C)
	v max.	unsupported	32.81 ft/s (10 m/s)
		gliding	16.41 ft/s (5 m/s)
	a max.		262.5 ft/s² (80 m/s²)
	Travel distance		Unsupported travel distances and for gliding applications up to 328.1 ft (100 m), Class 5

Cable structure

	Conductor	Conductor consisting of bare copper wires (according to DIN EN 60228).
	Conductor insulation	Mechanically high-quality TPE mixture.
	Conductor construction	Number of conductors < 12: Conductors cabled in a layer with short pitch length. Number of conductors ≥ 12: Conductors combined in bundles and stranded together around a high-tensile strength core, using short pitch directions for a low-torsion cable structure.
	Color code	Black with white numbers, one conductor green-yellow.
	Inner jacket	TPE mixture adapted to suit the requirements in E-Chains®.
	Overall shield	Bending-resistant tinned copper braid. 80 % optical coverage
	Outer jacket	Low-adhesion, halogen-free, highly abrasion-resistant mixture on the basis of PUR, adapted to suit the requirements in E-Chains® (following DIN EN 50363-10-2). Color: Gray (similar to RAL 7040)
	CFRIP®	Strip 50% faster: a tear strip is molded into the inner jacket Video ► www.igus.com/CFRIP

Electrical Information

	Nominal voltage	1000 V
	Test voltage	2000 V (following DIN EN 50395)

Example image

Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

Class 5.5.3.1

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 2009
	Flame resistance	According to IEC 60332-1-2, FT1, VW-1
	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	1000 V, +80 °C See data sheet for details ► www.igus.com/CF78-UL
	NFPA 79	Complies to Electrical Standard for Industrial Machinery NFPA 79 Section 12.9
	DNV-GL	Type approval certificate No. TAE00003X1
	EAC	Certificate No. RU C-DE.ME77.B.00300/19 (TR ZU)
	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

Guaranteed service life (details see page 26-27)

Cycles*	5 million		7.5 million		10 million	
	< 10 m	≥ 10 m	< 10 m	≥ 10 m	< 10 m	≥ 10 m
Temperature, from/to [°F]	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]
-13/+5	8.5	10	9.5	11	10.5	12
+5/+158	6.8	7.5	7.5	8.5	8.5	9.5
+158/+176	8.5	10	9.5	11	10.5	12

* Higher number of cycles? Online lifetime calculation ► www.chainflex.com/chainflexlife

Typical application areas

- For high mechanical load requirements, Class 5
- Unsupported travel distances and for gliding applications up to 328 ft (100 m), Class 5
- Almost unlimited resistance to oil, 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

Guarantee
igus chainflex
36
months

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

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DNV-GL

EAC

REACH

RoHS

Clean-Room

igus

CE

Control cable | PUR | chainflex® CF78-UL

Strip cables 50 % faster

igus® chainflex® CF78.UL

Example image

Part No.	AWG	Number of Conductors and rated cross section	Outer diameter max.		Copper index		Weight	
			[mm²]	[in.] [mm]	[lbs/mft] [kg/km]	[lbs/mft] [kg/km]		
CF78-UL-05-04	20	4 G 0.5	0.31	8.0	25.5	38	51.7	77
CF78-UL-05-05	20	5 G 0.5	0.31	8.0	30.2	45	61.1	91
CF78-UL-05-07	20	7 G 0.5	0.37	9.5	39.6	59	77.3	115
CF78-UL-05-09	20	9 G 0.5	0.43	11.0	51.7	77	96.1	143
CF78-UL-05-12	20	12 G 0.5	0.49	12.5	61.8	92	135.7	202
CF78-UL-05-18	20	18 G 0.5	0.57	14.5	98.1	146	166.6	248
CF78-UL-05-25	20	25 G 0.5	0.63	16.0	112.9	168	237.9	354
CF78-UL-07-03	18	3 G 0.75	0.31	8.0	28.2	42	53.1	79
CF78-UL-07-04	18	4 G 0.75	0.33	8.5	32.9	49	64.5	96
CF78-UL-07-05	18	5 G 0.75	0.37	9.5	41.0	61	75.3	112
CF78-UL-07-07	18	7 G 0.75	0.41	10.5	55.8	83	101.5	151
CF78-UL-07-12	18	12 G 0.75	0.53	13.5	91.4	136	167.3	249
CF78-UL-07-18	18	18 G 0.75	0.61	15.5	130.4	194	237.9	354
CF78-UL-07-36	18	36 G 0.75	0.87	22.0	262.1	390	471.7	702
CF78-UL-10-03	17	3 G 1.0	0.33	8.5	33.6	50	64.5	96
CF78-UL-10-04	17	4 G 1.0	0.35	9.0	41.7	62	75.3	112
CF78-UL-10-05	17	5 G 1.0	0.37	9.5	49.7	74	86.7	129
CF78-UL-10-07	17	7 G 1.0	0.43	11.0	69.9	104	118.3	176
CF78-UL-10-12	17	12 G 1.0	0.57	14.5	111.5	166	201.6	300
CF78-UL-10-18	17	18 G 1.0	0.67	17.0	161.3	240	273.5	407
CF78-UL-10-25	17	25 G 1.0	0.79	20.0	218.4	325	366.2	545
CF78-UL-15-03	16	3 G 1.5	0.37	9.5	45.7	68	82.0	122
CF78-UL-15-04	16	4 G 1.5	0.39	10.0	57.8	86	97.4	145
CF78-UL-15-05	16	5 G 1.5	0.37	9.5	72.6	108	106.8	159
CF78-UL-15-07 ¹⁷⁾	16	7 G 1.5	0.45	11.5	96.8	144	145.8	217
CF78-UL-15-12	16	12 G 1.5	0.63	16.0	156.6	233	260.1	387
CF78-UL-15-18	16	18 G 1.5	0.75	19.0	232.5	346	363.5	541
CF78-UL-15-25	16	25 G 1.5	0.89	22.5	311.8	464	486.5	724
CF78-UL-15-36	16	36 G 1.5	1.04	26.5	445.5	663	735.8	1095
CF78-UL-15-42 ¹¹⁾	16	42 G 1.5	1.16	29.5	551.0	820	870.9	1296
CF78-UL-25-03	14	3 G 2.5	0.39	10.0	71.2	106	116.9	174
CF78-UL-25-04	14	4 G 2.5	0.45	11.5	94.1	140	136.4	203
CF78-UL-25-05	14	5 G 2.5	0.47	12.0	111.5	166	157.9	235
CF78-UL-25-07 ¹⁷⁾	14	7 G 2.5	0.57	14.5	154.6	230	224.4	334
CF78-UL-25-12	14	12 G 2.5	0.75	19.0	256.7	382	393.1	585
CF78-UL-40-04	12	4 G 4.0	0.51	13.0	136.4	203	220.4	328

¹¹⁾ Phase-out model

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

Note: The given outer diameters are maximum values.
G = with green-yellow earth core x = without earth core

Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

Class 5.5.3.1

- Order example: **CF78-UL-05-04** – To your desired length
CF78-UL chainflex® series -05 Code nominal cross section -04 Number of conductors
- Online order ► www.chainflex.com/CF78-UL
- Delivery time 24hrs or today.
Delivery time means time until goods are shipped.

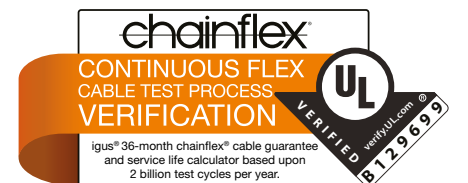
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Do the chainflex® price check now ...
www.igus.com/info/cable-price-check

... just one idea for you: **Reduce cost with CF6**



Control cable | PUR | chainflex® CF2






36 10,000,000
Cycles guaranteed

5 x d
Bend radius E-Chain®








328.1 ft
Travel distance E-Chain®

- For very high mechanical load requirements
- PUR outer jacket
- Shielded
- Oil-resistant and coolant-resistant
- Flame-retardant
- Notch-resistant
- Hydrolysis and microbe-resistant



Dynamic Information

 Bend radius	E-Chain® linear flexible	min. 5 x d
	fixed	min. 4 x d
	fixed	min. 3 x d
 Temperature	E-Chain® linear flexible	-4 °F to +176 °F (-20 °C to +80 °C)
	flexible	-40 °F to +176 °F (-40 °C to +80 °C)
	fixed	-58 °F to +176 °F (-50 °C to +80 °C)
 v max.	unsupported	32.81 ft/s (10 m/s)
	gliding	16.41 ft/s (5 m/s)
 a max.		262.5 ft/s ² (80 m/s ²)
 Travel distance		Unsupported travel distances and for gliding applications up to 328.1 ft (100 m), Class 5

Cable structure

 Conductor	Conductor consisting of bare copper wires (according to DIN EN 60228).
 Conductor insulation	Mechanically high-quality TPE mixture.
 Conductor construction	Number of conductors < 12: Conductors cabled in a layer with short pitch length. Number of conductors ≥ 12: Conductors combined in bundles and stranded together around a high-tensile strength core, using short pitch directions for a low-torsion cable structure.
 Color code	Color code in accordance with DIN 47100.
 Inner jacket	PVC mixture adapted to suit the requirements in E-Chains®.
 Overall shield	Extremely bending-resistant tinned copper braid. 90 % optical coverage
 Outer jacket	Low-adhesion, halogen-free, highly abrasion-resistant mixture on the basis of PUR, adapted to suit the requirements in E-Chains® (following DIN EN 50363-10-2). Color: Gray (similar to RAL 7016)

Electrical Information

 Nominal voltage	300 V
 Test voltage	2000 V (following DIN EN 50395)

Example image

Configurators ► www.igus.com/CF2

36 month guarantee ... 1,354 types from stock ... no cutting charges
















Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

Class 6.5.3.1

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 2009
 Flame resistance	According to IEC 60332-1-2, FT1, VW-1
 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	300 V, +80 °C See data sheet for details ► www.igus.com/CF2
 NFPA 79	Complies to Electrical Standard for Industrial Machinery NFPA 79 Section 12.9
 EAC	Certificate No. RU C-DE.ME77.B.00300/19 (TR ZU)
 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

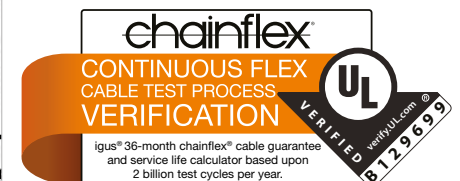
Guaranteed service life (details see page 26-27)

Cycles*	5 million	7.5 million	10 million
Temperature, from/to [°F]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-4/+14	6.8	7.5	8.5
+14/+158	5	6.8	7.5
+158/+176	6.8	7.5	8.5

* Higher number of cycles? Online lifetime calculation ► www.chainflex.com/chainflexlife

Typical application areas

- For maximum mechanical load requirements, Class 6
- Unsupported travel distances and for gliding applications up to 328 ft (100 m), Class 5
- Almost unlimited resistance to oil, Class 3
- Indoor and outdoor applications
- Storage and retrieval units for high-bay warehouses, machining units/packaging machines, quick handling, indoor cranes, refrigerating sector





igus® chainflex® CF2

Example image

Part No.	AWG	Number of Conductors and rated cross section	Outer diameter max.		Copper index		Weight	
			[mm²]	[in.]	[mm]	[lbs/mft]	[kg/km]	[lbs/mft]
CF2-01-04	26	4 x 0.14	0.26	6.5	12.1	18	32.9	49
CF2-01-08	26	8 x 0.14	0.30	7.5	20.8	31	44.3	66
CF2-01-12	26	12 x 0.14	0.37	9.5	34.3	51	68.5	102
CF2-01-18	26	18 x 0.14	0.41	10.5	37.6	56	90.7	135
CF2-01-24 ³⁾	26	24 x 0.14	0.45	11.5	45.7	68	108.9	162
CF2-01-36	26	36 x 0.14	0.57	14.5	61.8	92	161.3	240
CF2-02-04	24	4 x 0.25	0.28	7.0	16.8	25	39.6	59
CF2-02-08	24	8 x 0.25	0.31	8.0	28.9	43	56.4	84
CF2-02-18	24	18 x 0.25	0.47	12.0	67.2	100	116.3	173
CF2-02-24 ³⁾	24	24 x 0.25	0.53	13.5	83.3	124	205.0	305
CF2-02-48	24	48 x 0.25	0.69	17.5	128.3	191	260.1	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.
G = with green-yellow earth core x = without earth core



chainflex® CF2 cables are resistant to oil and coolants. E-Chain®: System E4/00

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...life up

Reduce cost, improve technology, now!


Do the chainflex® price check now ...

www.igus.com/info/cable-price-check

... just one idea for you: Reduce cost with CF240.PUR

 **Order example: CF2-01-04 – To your desired length**
CF2 chainflex® series -01 Code nominal cross section -04 Number of conductors

 Online order ► www.chainflex.com/CF2

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

Configurators ► www.igus.com/CF2

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

CFRIP

UL LISTED

UL US

NFPA

EAC

REACH

RoHS

Clean Room

CE

Guarantee
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36
up to 36 months guarantee

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CONTINUOUS FLEX
CABLE TEST PROCESS
VERIFICATION

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

Control cable | TPE | chainflex® CF9

36 10,000,000
Cycles guaranteed

5 x d
Bend radius E-Chain®

1312.4 ft
Travel distance E-Chain®

- For maximum mechanical load requirements
- TPE outer jacket
- Oil and bio-oil-resistant
- PVC and halogen-free
- Low-temperature-flexibility
- Hydrolysis and microbe-resistant

Dynamic Information

	Bend radius	E-Chain® linear	min. 5 x d
		flexible	min. 4 x d
		fixed	min. 3 x d
	Temperature	E-Chain® linear	-31 °F to +212 °F (-35 °C to +100 °C)
		flexible	-58 °F to +212 °F (-50 °C to +100 °C)
		fixed	-67 °F to +212 °F (-55 °C to +100 °C)
	v max.	unsupported	32.81 ft/s (10 m/s)
		gliding	19.69 ft/s (6 m/s)
	a max.	328.1 ft/s² (100 m/s²)	
	Travel distance	Unsupported travel distances and for gliding applications up to 1312 ft (400 m) and more, Class 6	
	Torsion	Torsion ±90°, with 3.281ft (1m) cable length, Class 2	

Cable structure

	Conductor	Conductor consisting of bare copper wires (according to DIN EN 60228).
	Conductor insulation	Mechanically high-quality TPE mixture.
	Conductor construction	Number of conductors < 12: Conductors cabled in a layer with short pitch length. Number of conductors ≥ 12: Conductors combined in bundles and stranded together around a high-tensile strength core, using short pitch directions for a low-torsion cable structure.
	Color code	24-20 AWG: Color code in accordance with DIN 47100.: 18-6 AWG: Black with white numbers, one conductor green-yellow. 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: 22 AWG: violet/red/gray/red-blue, green/gray-pink/white-green/white-yellow, white-gray/black/yellow-brown/brown-green, white/yellow/pink/gray-brown 18 AWG: blue/green-yellow/brown
	Outer jacket	Low-adhesion mixture on the basis of TPE, especially abrasion-resistant and highly flexible, adapted to suit the requirements in E-Chains®. Color: Dark blue (similar to RAL 5011)
	CFRIP®	Strip 50% faster: a tear strip is molded into the outer jacket Video ▶ www.igus.com/CFRIP

Configurators ▶ www.igus.com/CF9

36 month guarantee ... 1,354 types from stock ... no cutting charges



Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

Class 7.6.4.2

Electrical Information

	Nominal voltage	300 V
	Test voltage	2000 V (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
	EAC	Certificate No. RU C-DE.ME77.B.00300/19 (TR ZU)
	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

Guaranteed service life (details see page 26-27)

Cycles*	5 million	7.5 million	10 million
Temperature, from/to [°F]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-31/-13	6.8	7.5	8.5
-13/+194	5	6	7
+194/+212	6.8	7.5	8.5

* Higher number of cycles? Online lifetime calculation ▶ www.chainflex.com/chainflexlife

Typical application areas

- For maximum mechanical load requirements, Class 7
- Unsupported travel distances and for gliding applications up to 1312 ft (400 m) and more, Class 6
- Almost unlimited resistance to oil, also with bio-oils, Class 4
- Torsion ±90°, with 3.281 ft (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



chainflex® CF9 for outdoor crane systems.
E-Chain®: Series E4/00



Control cable | TPE | chainflex® CF9

Strip cables 50 % faster

igus chainflex CF9

Example image

Class 7.6.4.2

Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

Part No.	AWG	Number of Conductors and rated cross section	Outer diameter max.		Copper index		Weight	
			[mm²]	[in.] [mm]	[lbs/mft] [kg/km]	[lbs/mft] [kg/km]		
CF9-02-02	24	2 x 0.25	0.18	4.5	4.0	6	12.1	18
CF9-02-03-INI	24	3 x 0.25	0.18	4.5	6.0	9	14.8	22
CF9-02-06	24	6 x 0.25	0.22	5.5	10.8	16	24.2	36
CF9-02-07	24	7 x 0.25	0.26	6.5	12.1	18	28.2	42
CF9-02-08	24	8 x 0.25	0.26	6.5	14.1	21	32.3	48
CF9-02-12	24	12 x 0.25	0.31	8.0	20.8	31	47.7	71
CF9-02-18	24	18 x 0.25	0.35	9.0	30.9	46	67.2	100
CF9-02-20	24	20 x 0.25	0.37	9.5	33.6	50	72.6	108
CF9-02-25	24	25 x 0.25	0.41	10.5	42.3	63	92.1	137
CF9-03-04-INI	22	4 x 0.34	0.20	5.0	10.1	15	20.8	31
CF9-03-05-INI	22	5 x 0.34	0.22	5.5	12.1	18	24.9	37
CF9-03-06	22	6 x 0.34	0.24	6.0	14.1	21	28.2	42
CF9-03-08	22	8 x 0.34	0.28	7.0	19.5	29	37.6	56
CF9-03-16-07-03-INI	22	4 x 4 x 0.34	0.43	11.0	51.7	77	102.1	152
	18	3 x 0.75						
CF9-05-02	20	2 x 0.5	0.20	5.0	7.4	11	17.5	26
CF9-05-03	20	3 x 0.5	0.20	5.0	10.8	16	21.5	32
CF9-05-04	20	4 x 0.5	0.22	5.5	14.1	21	26.2	39
CF9-05-05	20	5 x 0.5	0.24	6.0	16.8	25	31.6	47
CF9-05-07	20	7 x 0.5	0.28	7.0	24.2	36	43.7	65
CF9-05-12	20	12 x 0.5	0.39	10.0	41.0	61	77.3	115
CF9-05-18	20	18 x 0.5	0.45	11.5	61.1	91	113.6	169
CF9-05-25	20	25 x 0.5	0.51	13.0	83.3	124	149.8	223
CF9-05-36	20	36 x 0.5	0.61	15.5	120.3	179	212.3	316
CF9-07-04	18	4 G 0.75	0.24	6.0	20.8	31	37.0	55
CF9-07-05	18	5 G 0.75	0.26	6.5	25.5	38	43.7	65
CF9-07-07	18	7 G 0.75	0.31	8.0	36.3	54	60.5	90
CF9-07-12	18	12 G 0.75	0.41	10.5	61.1	91	108.9	162
CF9-07-20	18	20 G 0.75	0.51	13.0	100.1	149	170.0	253
CF9-07-25	18	25 G 0.75	0.57	14.5	125.0	186	211.7	315
CF9-10-03	17	3 G 1.0	0.24	6.0	20.8	31	34.9	52
CF9-10-04	17	4 G 1.0	0.26	6.5	27.6	41	45.0	67
CF9-10-05	17	5 G 1.0	0.30	7.5	33.6	50	54.4	81
CF9-10-12	17	12 G 1.0	0.45	11.5	80.6	120	136.4	203
CF9-10-18	17	18 G 1.0	0.55	14.0	120.3	179	199.6	297
CF9-10-25	17	25 G 1.0	0.65	16.5	166.6	248	282.2	420

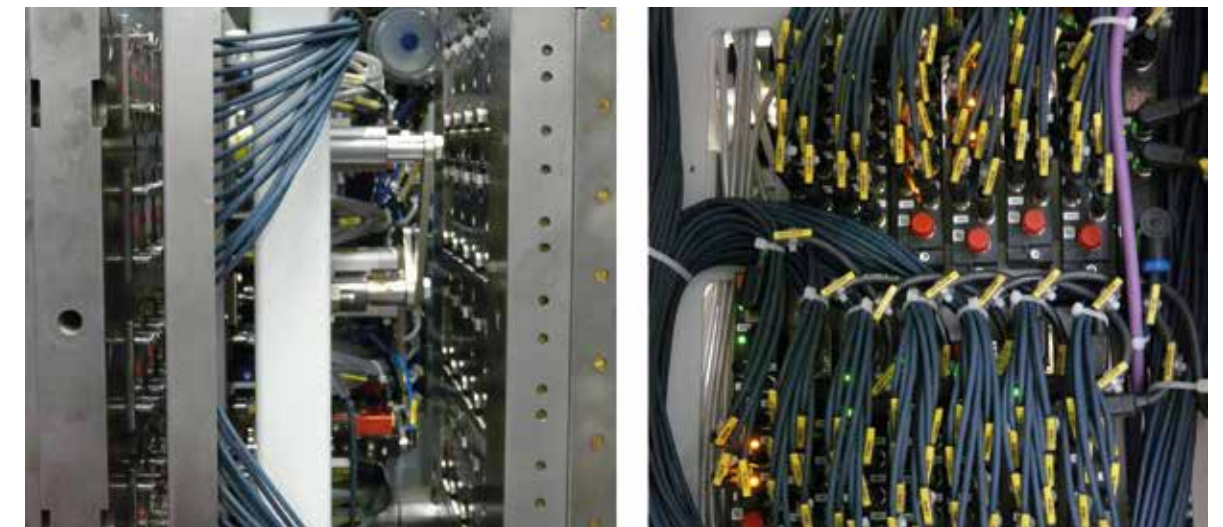
Note: The given outer diameters are maximum values.
G = with green-yellow earth core x = without earth core

Part No.	AWG	Number of Conductors and rated cross section	Outer diameter max.		Copper index		Weight	
			[mm²]	[in.] [mm]	[lbs/mft] [kg/km]	[lbs/mft] [kg/km]		
CF9-15-02	16	2 x 1.5	0.26	6.5	20.8	31	37.6	56
CF9-15-04	16	4 G 1.5	0.30	7.5	41.0	61	61.8	92
CF9-15-05	16	5 G 1.5	0.31	8.0	51.1	76	73.9	110
CF9-15-07 ¹⁷⁾	16	7 G 1.5	0.37	9.5	71.9	107	105.5	157
CF9-15-12	16	12 G 1.5	0.53	13.5	120.3	179	190.8	284
CF9-15-18	16	18 G 1.5	0.65	16.5	180.1	268	283.6	422
CF9-15-25	16	25 G 1.5	0.79	20.0	249.3	371	403.2	600
CF9-15-36	16	36 G 1.5	0.93	23.5	356.1	530	569.2	847
CF9-25-04	14	4 G 2.5	0.33	8.5	67.2	100	101.5	151
CF9-25-05	14	5 G 2.5	0.39	10.0	83.3	124	125.0	186
CF9-25-07 ¹⁷⁾	14	7 G 2.5	0.47	12.0	118.3	176	180.8	269
CF9-25-12	14	12 G 2.5	0.69	17.5	199.6	297	330.6	492
CF9-25-16	14	16 G 2.5	0.77	19.5	266.1	396	439.5	654
CF9-25-18 ⁷⁾	14	18 G 2.5	0.89	22.5	299.0	445	514.7	766
CF9-25-25	14	25 G 2.5	0.93	23.5	411.2	612	658.5	980
CF9-40-04	12	4 G 4.0	0.41	10.5	106.8	159	152.5	227
CF9-60-04	10	4 G 6.0	0.49	12.5	159.9	238	213.0	317
CF9-60-05	10	5 G 6.0	0.53	13.5	199.6	297	261.4	389
CF9-100-04	8	4 G 10.0	0.65	16.5	266.1	396	368.9	549
CF9-160-04	6	4 G 16.0	0.81	20.5	422.0	628	586.6	873

⁷⁾ Nominal voltage 600/1000 V

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

Note: The given outer diameters are maximum values.
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)

Guarantee
igus chainflex
36
months

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

CFRIP
iF

UL LISTED

UL LISTED

UL LISTED

NFPA

UL LISTED

UL LISTED

EAC

REACH

RoHS

Clean Room

UL LISTED

UL LISTED

CE

Control cable | TPE | chainflex® CF10






36 10,000,000
Cycles guaranteed

5 x d
Bend radius E-Chain®









1312.4 ft
Travel distance E-Chain®

- For maximum mechanical load requirements
- TPE outer jacket
- Shielded
- Oil and bio-oil-resistant
- PVC and halogen-free
- Low-temperature-flexibility
- Hydrolysis and microbe-resistant



Dynamic Information

 Bend radius	E-Chain® linear	min. 5 x d
	flexible	min. 4 x d
	fixed	min. 3 x d
 Temperature	E-Chain® linear	-31 °F to +212 °F (-35 °C to +100 °C)
	flexible	-58 °F to +212 °F (-50 °C to +100 °C)
	fixed	-67 °F to +212 °F (-55 °C to +100 °C)
 v max.	unsupported	32.81 ft/s (10 m/s)
	gliding	19.69 ft/s (6 m/s)
 a max.		328.1 ft/s² (100 m/s²)
 Travel distance		Unsupported travel distances and for gliding applications up to 1312 ft (400 m) and more, Class 6

Cable structure

 Conductor	Conductor consisting of bare copper wires (according to DIN EN 60228).
 Conductor insulation	Mechanically high-quality TPE mixture.
 Conductor construction	Number of conductors < 12: Conductors cabled in a layer with short pitch length. Number of conductors ≥ 12: Conductors combined in bundles and stranded together around a high-tensile strength core, using short pitch directions for a low-torsion cable structure.
 Color code	24-20 AWG: Color code in accordance with DIN 47100. 18-12 AWG: Black with white numbers, one conductor green-yellow. CF10-03-05-INI: brown, blue, black, white, green-yellow
 Inner jacket	TPE mixture adapted to suit the requirements in E-Chains®.
 Overall shield	Extremely bending-resistant tinned copper braid. 90 % optical coverage
 Outer jacket	Low-adhesion mixture on the basis of TPE, especially abrasion-resistant and highly flexible, adapted to suit the requirements in E-Chains®. Color: Dark blue (similar to RAL 5011)
 CFRIP®	Strip 50% faster: a tear strip is molded into the inner jacket Video ► www.igus.com/CFRIP

Electrical Information

 Nominal voltage	300 V
 Test voltage	2000 V (following DIN EN 50395)

Configurators ► www.igus.com/CF10











36 month guarantee ... 1,354 types from stock ... no cutting charges

Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

Class 7.6.4.1

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 Certificate No. RU C-DE.ME77.B.00300/19 (TR ZU)
 EAC	
 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

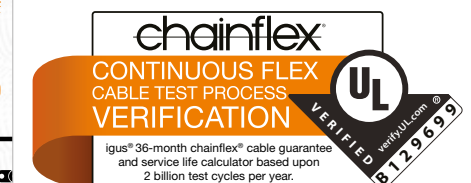
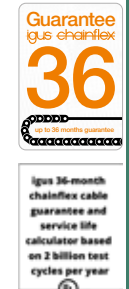
Guaranteed service life (details see page 26-27)

Cycles*	5 million	7.5 million	10 million
Temperature, from/to [°F]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-31/-13	6.8	7.5	8.5
-13/+194	5	6	7
+194/+212	6.8	7.5	8.5

* Higher number of cycles? Online lifetime calculation ► www.chainflex.com/chainflexlife

Typical application areas

- For maximum mechanical load requirements, Class 7
- Unsupported travel distances and for gliding applications up to 1312 ft (400 m) and more, Class 6
- Almost unlimited resistance to oil, also with bio-oils, Class 4
- 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

igus® chainflex® CF10

Example image

Class 7.6.4.1

Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

Order example: CF10-01-12 – To your desired length
CF10 chainflex® series -01 Code nominal cross section -12 Number of conductors

Online order ► www.chainflex.com/CF10

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



Control cable chainflex® CF10 in storage and retrieval units for high-bay warehouses. E-Chain®: System E2

Part No.	AWG	Number of Conductors and rated cross section	Outer diameter max.		Copper index		Weight	
			[mm²]	[in.]	[mm]	[lbs/mft]	[kg/km]	[lbs/mft]
CF10-01-12	26	12 x 0.14	0.31	8.0	25.5	38	52.4	78
CF10-01-18	26	18 x 0.14	0.37	9.5	43.0	64	81.3	121
CF10-02-04	24	4 x 0.25	0.26	6.5	16.1	24	32.9	49
CF10-02-08	24	8 x 0.25	0.31	8.0	26.9	40	52.4	78
CF10-02-12	24	12 x 0.25	0.37	9.5	44.3	66	82.0	122
CF10-02-25	24	25 x 0.25	0.49	12.5	75.3	112	142.5	212
CF10-03-05-INI	22	5 x 0.34	0.28	7.0	22.8	34	42.3	63
CF10-05-04	20	4 x 0.5	0.28	7.0	24.9	37	45.0	67
CF10-05-05	20	5 x 0.5	0.30	7.5	28.9	43	51.1	76
CF10-05-07	20	7 x 0.5	0.33	8.5	38.3	57	66.5	99
CF10-05-12	20	12 x 0.5	0.45	11.5	71.2	106	124.3	185
CF10-05-18	20	18 x 0.5	0.53	13.5	96.8	144	168.7	251
CF10-05-25	20	25 x 0.5	0.59	15.0	125.0	186	213.7	318
CF10-07-04	18	4 G 0.75	0.30	7.5	32.3	48	55.8	83
CF10-07-05	18	5 G 0.75	0.31	8.0	39.0	58	63.8	95
CF10-07-07	18	7 G 0.75	0.37	9.5	59.8	89	94.1	140
CF10-07-12	18	12 G 0.75	0.47	12.0	91.4	136	154.6	230
CF10-07-20	18	20 G 0.75	0.59	15.0	142.5	212	231.8	345
CF10-07-25	18	25 G 0.75	0.63	16.0	170.0	253	282.2	420
CF10-10-02	17	2 x 1.0	0.30	7.5	24.9	37	47.0	70
CF10-10-03	17	3 G 1.0	0.30	7.5	32.3	48	53.8	80
CF10-10-04	17	4 G 1.0	0.31	8.0	41.0	61	66.5	99
CF10-10-05	17	5 G 1.0	0.33	8.5	47.0	70	77.9	116
CF10-10-07	17	7 G 1.0	0.39	10.0	73.2	109	114.2	170
CF10-10-12	17	12 G 1.0	0.53	13.5	117.6	175	192.2	286
CF10-10-18	17	18 G 1.0	0.61	15.5	165.3	246	262.7	391
CF10-10-25	17	25 G 1.0	0.71	18.0	216.4	322	349.4	520
CF10-15-04	16	4 G 1.5	0.35	9.0	63.2	94	95.4	142
CF10-15-05	16	5 G 1.5	0.39	10.0	75.3	112	111.5	166
CF10-15-07 ¹⁷⁾	16	7 G 1.5	0.45	11.5	100.1	149	155.2	231
CF10-15-12	16	12 G 1.5	0.61	15.5	163.3	243	257.4	383
CF10-15-18	16	18 G 1.5	0.75	19.0	250.0	372	389.1	579
CF10-25-04	14	4 G 2.5	0.43	11.0	94.1	140	147.8	220
CF10-25-07 ¹⁷⁾	14	7 G 2.5	0.53	13.5	153.2	228	233.2	347
CF10-25-12	14	12 G 2.5	0.77	19.5	252.0	375	415.9	619
CF10-40-04	12	4 G 4.0	0.49	12.5	139.8	208	205.0	305
CF10-40-05	12	5 G 4.0	0.53	13.5	170.7	254	248.6	370

¹⁷⁾ When using the cables with "7G1.5mm²" and "G2.5mm²" minimum bend radius must be 17.5xd with gliding travel distance ≥ 5m.
Note: The given outer diameters are maximum values.
G = with green-yellow earth core x = without earth core

Configurators ► www.igus.com/CF10



Control cable | TPE | chainflex® CF9-UL







36 10,000,000
Cycles guaranteed

5 x d
Bend radius E-Chain®







1312.4 ft
Travel distance E-Chain®

- For very high mechanical load requirements
- TPE outer jacket
- Oil and bio-oil-resistant
- Flame-retardant
- PVC-free
- Low-temperature-flexibility
- Hydrolysis and microbe-resistant

Dynamic Information

 Bend radius	E-Chain® linear	min. 5 x d
	flexible	min. 4 x d
	fixed	min. 3 x d
 Temperature	E-Chain® linear	-31 °F to +212 °F (-35 °C to +100 °C)
	flexible	-49 °F to +212 °F (-45 °C to +100 °C)
	fixed	-58 °F to +212 °F (-50 °C to +100 °C)
 v max.	unsupported	32.81 ft/s (10 m/s)
	gliding	19.69 ft/s (6 m/s)
 a max.		328.1 ft/s ² (100 m/s ²)
 Travel distance		Unsupported travel distances and for gliding applications up to 1312 ft (400 m) and more, Class 6
 Torsion		Torsion ±90°, with 3.281ft (1m) cable length, Class 2

Cable structure

 Conductor	Conductor consisting of bare copper wires (according to DIN EN 60228).
 Conductor insulation	Mechanically high-quality TPE mixture.
 Conductor construction	Number of conductors < 12: Conductors cabled in a layer with short pitch length. Number of conductors ≥ 12: Conductors combined in bundles and stranded together around a high-tensile strength core, using short pitch directions for a low-torsion cable structure.
 Color code	24-20 AWG Color code in accordance with DIN 47100. 18-10 AWG Black with white numbers, one conductor green-yellow. CF9-UL-02-03-INI: brown, blue, black CF9-UL-03-04-INI: brown, blue, black, white CF9-UL-03-05-INI: brown, blue, black, white, green-yellow
 Outer jacket	Low-adhesion mixture on the basis of TPE, especially abrasion-resistant and highly flexible, adapted to suit the requirements in E-Chains®. Color: Gray (similar to RAL 7015)
 CFRIP®	Strip 50% faster: a tear strip is molded into the outer jacket Video ► www.igus.com/CFRIP

Electrical Information

 Nominal voltage	24-22 AWG: 300 V 20-10 AWG: 1000 V
 Test voltage	2000 V (following DIN EN 50395)

Configurators ► www.igus.com/CF9-UL

36 month guarantee ... 1,354 types from stock ... no cutting charges
















Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

Class 6.6.4.2

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 resistance	According to IEC 60332-1-2, FT1, VW-1
 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	24-22 AWG: 300 V, +90 °C 20-10 AWG: 1000 V, +90 °C See data sheet for details ► www.igus.com/CF9-UL
 NFPA 79	Complies to Electrical Standard for Industrial Machinery NFPA 79 Section 12.9
 DNV-GL	Type approval certificate No. TAE00003X2
 EAC	Certificate No. RU C-DE.ME77.B.00300/19 (TR ZU)
 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

Guaranteed service life (details see page 26-27)

Cycles*	5 million	7.5 million	10 million
Temperature, from/to [°F]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-31/-13	6.8	7.5	8.5
-13/+194	5	6	7
+194/+212	6.8	7.5	8.5

* Higher number of cycles? Online lifetime calculation ► www.chainflex.com/chainflexlife

Typical application areas

- For very high mechanical load requirements, Class 6
- Unsupported travel distances and for gliding applications up to 1312 ft (400 m) and more, Class 6
- Almost unlimited resistance to oil, also with bio-oils, Class 4
- Torsion ±90°, with 3.281ft (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



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Control cable | TPE | chainflex® CF9-UL

Strip cables 50 % faster

igus® chainflex® CF9.UL

Example image

Part No.	AWG	Number of Conductors and rated cross section	Outer diameter max.		Copper index		Weight	
			[mm²]	[in.] [mm]	[lbs/mft] [kg/km]	[lbs/mft] [kg/km]		
CF9-UL-02-02	24	2 x 0.25	0.20	5.0	3.4	5	16.1	24
CF9-UL-02-03-INI	24	3 x 0.25	0.20	5.0	5.4	8	18.8	28
CF9-UL-02-04	24	4 x 0.25	0.22	5.5	6.7	10	22.2	33
CF9-UL-02-06	24	6 x 0.25	0.24	6.0	10.1	15	28.2	42
CF9-UL-02-08	24	8 x 0.25	0.28	7.0	13.4	20	39.0	58
CF9-UL-02-12	24	12 x 0.25	0.30	7.5	20.2	30	55.1	82
CF9-UL-03-04-INI	22	4 x 0.34	0.22	5.5	9.4	14	25.5	38
CF9-UL-03-05-INI	22	5 x 0.34	0.24	6.0	11.4	17	29.6	44
CF9-UL-03-06	22	6 x 0.34	0.26	6.5	14.1	21	34.9	52
CF9-UL-03-08	22	8 x 0.34	0.30	7.5	18.1	27	45.0	67
CF9-UL-05-02	20	2 x 0.5	0.22	5.5	6.7	10	23.5	35
CF9-UL-05-03	20	3 x 0.5	0.24	6.0	10.1	15	27.6	41
CF9-UL-05-04	20	4 x 0.5	0.24	6.0	13.4	20	33.6	50
CF9-UL-05-05	20	5 x 0.5	0.26	6.5	16.8	25	37.6	56
CF9-UL-05-07	20	7 x 0.5	0.30	7.5	23.5	35	52.4	78
CF9-UL-05-12	20	12 x 0.5	0.37	9.5	40.3	60	91.4	136
CF9-UL-05-18	20	18 x 0.5	0.47	12.0	60.5	90	134.4	200
CF9-UL-05-25 ¹¹⁾	20	25 x 0.5	0.53	13.5	83.3	124	174.7	260
CF9-UL-07-05	18	5 G 0.75	0.28	7.0	25.5	38	52.4	78
CF9-UL-07-07	18	7 G 0.75	0.33	8.5	35.6	53	69.9	104
CF9-UL-07-12	18	12 G 0.75	0.43	11.0	60.5	90	128.3	191
CF9-UL-07-25	18	25 G 0.75	0.59	15.0	125.0	186	245.9	366
CF9-UL-10-03	17	3 G 1.0	0.26	6.5	20.2	30	41.7	62
CF9-UL-10-04	17	4 G 1.0	0.28	7.0	26.9	40	53.1	79
CF9-UL-10-12	17	12 G 1.0	0.45	11.5	80.0	119	153.9	229
CF9-UL-10-18	17	18 G 1.0	0.57	14.5	119.6	178	223.1	332
CF9-UL-10-25	17	25 G 1.0	0.63	16.0	166.6	248	295.0	439
CF9-UL-15-04	16	4 G 1.5	0.31	8.0	40.3	60	68.5	102
CF9-UL-15-05	16	5 G 1.5	0.33	8.5	50.4	75	82.7	123
CF9-UL-15-07 ¹⁷⁾	16	7 G 1.5	0.39	10.0	69.9	104	112.2	167
CF9-UL-15-12	16	12 G 1.5	0.51	13.0	119.6	178	206.3	307
CF9-UL-15-18	16	18 G 1.5	0.63	16.0	179.4	267	301.0	448
CF9-UL-15-25	16	25 G 1.5	0.75	19.0	249.3	371	438.1	652

¹¹⁾ Phase-out model

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

Note: The given outer diameters are maximum values.
G = with green-yellow earth core x = without earth core

Configurators ► www.igus.com/CF9-UL



Class 6.6.4.2

Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

Part No.	AWG	Number of Conductors and rated cross section	Outer diameter max.		Copper index		Weight	
			[mm²]	[in.] [mm]	[lbs/mft] [kg/km]	[lbs/mft] [kg/km]		
CF9-UL-25-04	14	4 G 2.5	0.35	9.0	67.2	100	110.9	165
CF9-UL-25-05	14	5 G 2.5	0.39	10.0	84.0	125	135.7	202
CF9-UL-25-07 ¹⁷⁾	14	7 G 2.5	0.47	12.0	116.9	174	189.5	282
CF9-UL-25-12	14	12 G 2.5	0.63	16.0	199.6	297	350.1	521
CF9-UL-25-18	14	18 G 2.5	0.79	20.0	299.0	445	516.7	769
CF9-UL-25-25	14	25 G 2.5	0.93	23.5	411.2	612	702.2	1045
CF9-UL-40-04	12	4 G 4.0	0.41	10.5	106.8	159	149.2	222
CF9-UL-60-04 ¹¹⁾	10	4 G 6.0	0.49	12.5	159.9	238	224.4	334

¹¹⁾ Phase-out model

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

Note: The given outer diameters are maximum values.
G = with green-yellow earth core x = without earth core

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igus® chainflex® cables in a drilling application.



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



Control cable | TPE | chainflex® CF10-UL

36 10,000,000
Cycles guaranteed






5 x d
Bend radius E-Chain®

1312.4 ft
Travel distance E-Chain®









- For very high mechanical load requirements
- TPE outer jacket
- Shielded
- Oil and bio-oil-resistant

- Flame-retardant
- PVC-free
- Low-temperature-flexibility
- Hydrolysis and microbe-resistant

Dynamic Information

 Bend radius	E-Chain® linear	min. 5 x d
	flexible	min. 4 x d
	fixed	min. 3 x d
 Temperature	E-Chain® linear	-31 °F to +212 °F (-35 °C to +100 °C)
	flexible	-49 °F to +212 °F (-45 °C to +100 °C)
	fixed	-58 °F to +212 °F (-50 °C to +100 °C)
 v max.	unsupported	32.81 ft/s (10 m/s)
	gliding	19.69 ft/s (6 m/s)
 a max.		328.1 ft/s ² (100 m/s ²)
 Travel distance		Unsupported travel distances and for gliding applications up to 1312 ft (400 m) and more, Class 6

Cable structure

 Conductor	Conductor consisting of bare copper wires (according to DIN EN 60228).
 Conductor insulation	Mechanically high-quality TPE mixture.
 Conductor construction	Number of conductors < 12: Conductors cabled in a layer with short pitch length. Number of conductors ≥ 12: Conductors combined in bundles and stranded together around a high-tensile strength core, using short pitch directions for a low-torsion cable structure.
 Color code	24-20 AWG: Color code in accordance with DIN 47100. 18-12 AWG: Black with white numbers, one conductor green-yellow.
 Inner jacket	TPE mixture adapted to suit the requirements in E-Chains®.
 Overall shield	Extremely bending-resistant tinned copper braid. 90 % optical coverage
 Outer jacket	Low-adhesion mixture on the basis of TPE, especially abrasion-resistant and highly flexible, adapted to suit the requirements in E-Chains®. Color: Gray (similar to RAL 7015)
 CFRIP®	Strip 50% faster: a tear strip is molded into the inner jacket Video ► www.igus.com/CFRIP

Electrical Information

 Nominal voltage	24-22 AWG: 300 V 20-10 AWG: 1000 V
 Test voltage	2000 V (following DIN EN 50395)

Configurators ► www.igus.com/CF10-UL














36 month guarantee ... 1,354 types from stock ... no cutting charges

Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

Class 6.6.4.1

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 resistance	According to IEC 60332-1-2, FT1, VW-1
 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 24-22 AWG: 300 V, +90 °C 20-10 AWG: 1000 V, +90 °C See data sheet for details ► www.igus.com/CF10-UL
 UL/CSA AWM	
 NFFPA 79	Complies to Electrical Standard for Industrial Machinery NFFPA 79 Section 12.9
 DNV-GL	Type approval certificate No. TAE00003X2
 EAC	Certificate No. RU C-DE.ME77.B.00300/19 (TR ZU)
 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

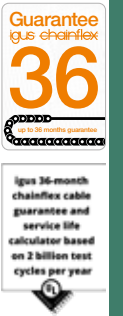
Guaranteed service life (details see page 26-27)

Cycles*	5 million	7.5 million	10 million
Temperature, from/to [°F]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-31/-13	6.8	7.5	8.5
-13/+194	5	6	7
+194/+212	6.8	7.5	8.5

* Higher number of cycles? Online lifetime calculation ► www.chainflex.com/chainflexlife

Typical application areas

- For very high mechanical load requirements, Class 6
- Unsupported travel distances and for gliding applications up to 1312 ft (400 m) and more, Class 6
- Almost unlimited resistance to oil, also with bio-oils, Class 4
- 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

Class 6.6.4.1

Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			



Example image

Part No.	AWG	Number of Conductors and rated cross section	Outer diameter max.		Copper index		Weight	
			[mm²]	[in.]	[mm]	[lbs/mft]	[kg/km]	[lbs/mft]
CF10-UL-02-04	24	4 x 0.25	0.26	6.5	16.1	24	41	61
CF10-UL-02-08	24	8 x 0.25	0.33	8.5	26.9	40	63.2	94
CF10-UL-02-12	24	12 x 0.25	0.37	9.5	43.0	64	92.7	138
CF10-UL-02-25	24	25 x 0.25	0.49	12.5	73.2	109	160.6	239
CF10-UL-05-04	20	4 x 0.5	0.30	7.5	24.9	37	56.4	84
CF10-UL-05-05	20	5 x 0.5	0.31	8	29.6	44	64.5	96
CF10-UL-05-12	20	12 x 0.5	0.45	11.5	69.2	103	141.8	211
CF10-UL-05-25	20	25 x 0.5	0.61	15.5	125.0	186	253.3	377
CF10-UL-07-04	18	4 G 0.75	0.31	8	32.9	49	68.5	102
CF10-UL-07-05	18	5 G 0.75	0.33	8.5	39.0	58	80	119
CF10-UL-07-07	18	7 G 0.75	0.39	10	59.8	89	115.6	172
CF10-UL-07-12	18	12 G 0.75	0.49	12.5	90.7	135	184.1	274
CF10-UL-07-20	18	20 G 0.75	0.61	15.5	141.1	210	265.4	395
CF10-UL-07-25	18	25 G 0.75	0.67	17	171.4	255	330.6	492
CF10-UL-10-02	17	2 x 1.0	0.30	7.5	25.5	38	59.1	88
CF10-UL-10-03	17	3 G 1.0	0.31	8	32.3	48	66.5	99
CF10-UL-10-04	17	4 G 1.0	0.33	8.5	41.0	61	79.3	118
CF10-UL-10-05	17	5 G 1.0	0.35	9	48.4	72	92.1	137
CF10-UL-10-07	17	7 G 1.0	0.43	11	73.9	110	137.1	204
CF10-UL-10-18 ¹¹⁾	17	18 G 1.0	0.63	16	164.0	244	299.7	446
CF10-UL-10-25 ¹¹⁾	17	25 G 1.0	0.73	18.5	233.8	348	408.6	608
CF10-UL-15-04	16	4 G 1.5	0.35	9	55.8	83	96.8	144
CF10-UL-15-05	16	5 G 1.5	0.39	10	74.6	111	122.3	182
CF10-UL-15-07 ¹⁷⁾	16	7 G 1.5	0.47	12	99.5	148	165.3	246
CF10-UL-15-12	16	12 G 1.5	0.57	14.5	158.6	236	274.2	408
CF10-UL-15-18	16	18 G 1.5	0.73	18.5	243.9	363	408.6	608
CF10-UL-25-04	14	4 G 2.5	0.43	11	94.1	140	159.3	237
CF10-UL-25-07 ¹⁷⁾	14	7 G 2.5	0.55	14	151.9	226	256	381
CF10-UL-25-12	14	12 G 2.5	0.73	18.5	265.4	395	459.6	684
CF10-UL-40-04	12	4 G 4.0	0.49	12.5	137.8	205	211.7	315

¹¹⁾ Phase-out model

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

Note: The given outer diameters are maximum values.
G = with green-yellow earth core x = without earth core

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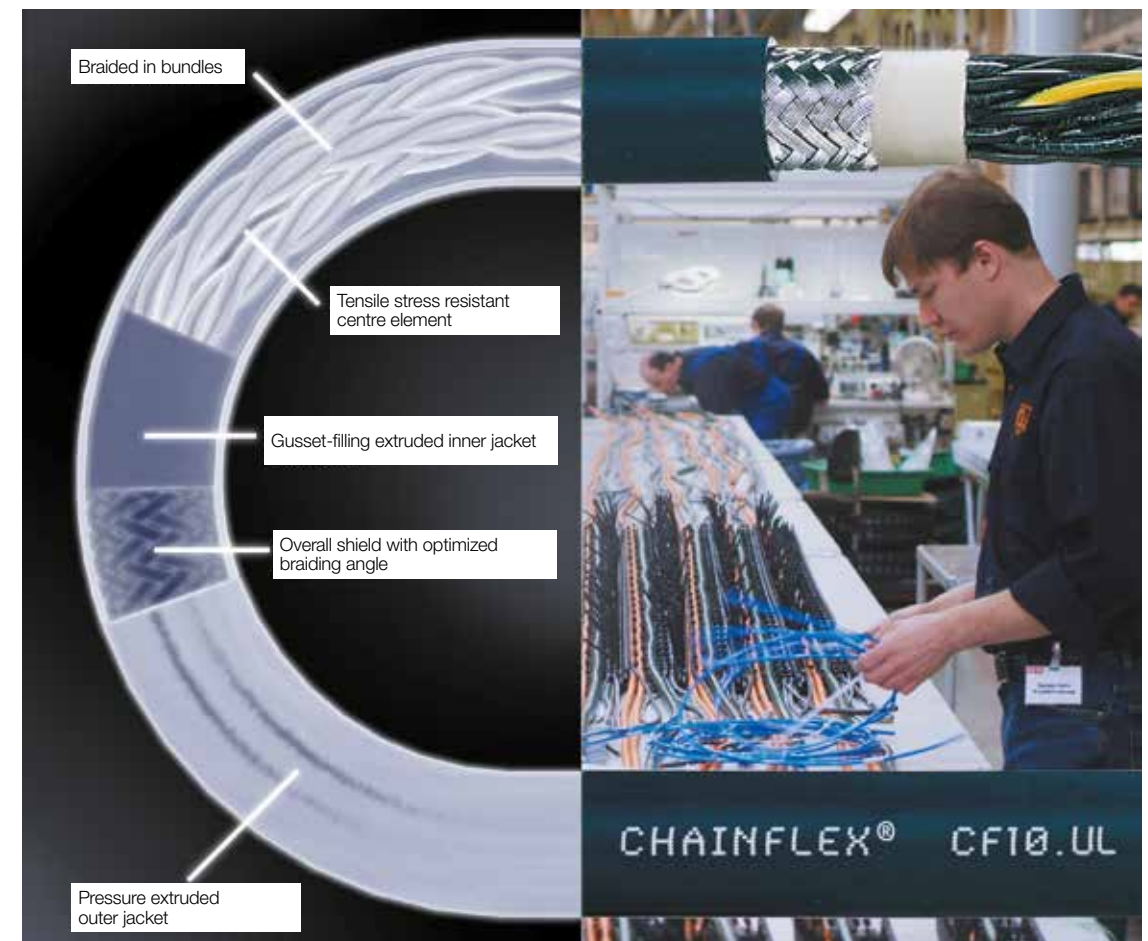
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The special cable structure of chainflex® CF10.UL guarantees quality – offered by igus® fully harnessed.



Control cable | TPE | chainflex® CF98

36 40,000,000
Cycles guaranteed







4 x d
Bend radius E-Chain®

328.1 ft
Travel distance E-Chain®






- For maximum mechanical load requirements and especially small bend radii to 4 x d
- TPE outer jacket

- Oil and bio-oil-resistant
- PVC and halogen-free
- Low-temperature-flexibility
- Hydrolysis and microbe-resistant


Dynamic Information

 Bend radius	E-Chain® linear	min. 4 x d
	flexible	min. 4 x d
	fixed	min. 3 x d
 Temperature	E-Chain® linear	-31 °F to +194 °F (-35 °C to +90 °C)
	flexible	-58 °F to +194 °F (-50 °C to +90 °C)
	fixed	-67 °F to +194 °F (-55 °C to +90 °C)
 v max.	unsupported	32.81 ft/s (10 m/s)
	gliding	19.69 ft/s (6 m/s)
 a max.		328.1 ft/s ² (100 m/s ²)
 Travel distance		Short, very fast applications with small radii and restricted installation space, Class 5
 Torsion		Torsion ±90°, with 3.281ft (1m) cable length, Class 2





Cable structure

 Conductor	Conductor consisting of a highly flexible stranded special alloy.
 Conductor insulation	Mechanically high-quality TPE mixture.
 Conductor construction	Conductors cabled in one layer with especially short pitch length.
 Color code	Color 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 mixture on the basis of TPE, especially abrasion-resistant and highly flexible, adapted to suit the requirements in E-Chains®. Color: Dark blue (similar to RAL 5011)

Electrical Information

 Nominal voltage	300 V
 Test voltage	1500 V







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

Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

Class 7.5.4.2

-  **UL verified**
-  **EAC**
-  **REACH**
-  **Lead-free**
-  **Cleanroom**
-  **CE**

Certificate No. B129699: igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year
Certificate No. RU C-DE.ME77.B.00300/19 (TR ZU)

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

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

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
Following 2014/35/EU

Guaranteed service life (details see page 26-27)

Cycles*	20 million	30 million	40 million
Temperature, from/to [°F]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-31/-13	5	6	7
-13/+176	4	5	6
+176/+194	5	6	7

* Higher number of cycles? Online lifetime calculation ► www.chainflex.com/chainflexlife

Typical application areas

- For maximum mechanical load requirements and especially small bend radii 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 3.281ft (1m) cable length, Class 2
- Indoor and outdoor applications, UV-resistant
- Pick and place machines, Automatic doors, Cleanroom, very quick handling

Part No.	AWG	Number of Conductors and rated cross section	Outer diameter max.		Copper index		Weight	
			[mm ²]	[in.] [mm]	[lbs/mft] [kg/km]	[lbs/mft] [kg/km]		
CF98-01-02	26	2 x 0.14	0.18	4.5	3.4	5	12.1	18
CF98-01-03	26	3 x 0.14	0.18	4.5	4.0	6	13.4	20
CF98-01-04	26	4 x 0.14	0.20	5.0	5.4	8	16.8	25
CF98-01-08	26	8 x 0.14	0.26	6.5	10.1	15	28.9	43
CF98-02-03-INI	24	3 x 0.25	0.20	5.0	7.4	11	19.5	29
CF98-02-04	24	4 x 0.25	0.22	5.5	10.1	15	24.2	36
CF98-02-07¹¹⁾	24	7 x 0.25	0.28	7.0	16.8	25	39.6	59
CF98-02-08	24	8 x 0.25	0.30	7.5	20.2	30	45.0	67
CF98-03-04-INI	22	4 x 0.34	0.24	6.0	10.1	15	26.2	39
CF98-05-04	20	4 x 0.5	0.24	6.0	22.2	33	35.6	53

¹¹⁾ Phase-out model

Note: The given outer diameters are maximum values.
G = with green-yellow earth core x = without earth core

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... just one idea for you: Reduce cost with CF298

igus ...life up

UL-verified chainflex® guarantee ... www.igus.com/ul-verified

Guarantee
igus chainflex
36
months

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

CF98

UL LISTED

UL US

NFPA

CE

EAC

REACH

RoHS

Clean Room

CE

Control cable | TPE | chainflex® CF99

36 40,000,000
Cycles guaranteed






4 x d
Bend radius E-Chain®

328.1 ft
Travel distance E-Chain®








- For maximum mechanical load requirements and especially small bend radii to 4 x d
- TPE outer jacket
- Shielded

- Oil and bio-oil-resistant
- PVC and halogen-free
- Low-temperature-flexibility
- Hydrolysis and microbe-resistant



Dynamic Information

 Bend radius	E-Chain® linear	min. 4 x d
	flexible	min. 4 x d
	fixed	min. 3 x d
 Temperature	E-Chain® linear	-31 °F to +194 °F (-35 °C to +90 °C)
	flexible	-58 °F to +194 °F (-50 °C to +90 °C)
	fixed	-67 °F to +194 °F (-55 °C to +90 °C)
 v max.	unsupported	32.81 ft/s (10 m/s)
	gliding	19.69 ft/s (6 m/s)
 a max.		328.1 ft/s ² (100 m/s ²)
 Travel distance		Short, very fast applications with small radii and restricted installation space, Class 5



Cable structure

 Conductor	Conductor consisting of a highly flexible stranded special alloy.
 Conductor insulation	Mechanically high-quality TPE mixture.
 Conductor construction	Conductors cabled in one layer with especially short pitch length.
 Color code	Color code in accordance with DIN 47100.
 Inner jacket	TPE mixture adapted to suit the requirements in E-Chains®.
 Overall shield	Highly flexible, alloyed special shield. 90 % optical coverage
 Outer jacket	Low-adhesion mixture on the basis of TPE, especially abrasion-resistant and highly flexible, adapted to suit the requirements in E-Chains®. Color: Dark blue (similar to RAL 5011)

Electrical Information

 Nominal voltage	300 V
 Test voltage	1500 V

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

Configurators ► www.igus.com/CF99









36 month guarantee ... 1,354 types from stock ... no cutting charges



Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

Class 7.5.4.1

-  **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 (TR ZU)
-  **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

Guaranteed service life (details see page 26-27)

Cycles*	20 million	30 million	40 million
Temperature, from/to [°F]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-31/-13	5	6	7
-13/+176	4	5	6
+176/+194	5	6	7

* Higher number of cycles? Online lifetime calculation ► www.chainflex.com/chainflexlife

Typical application areas

- For maximum mechanical load requirements and especially small bend radii 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
- Indoor and outdoor applications, UV-resistant
- Pick and place machines, Automatic doors, Cleanroom, very quick handling

Part No.	AWG	Number of Conductors and rated cross section	Outer diameter max.		Copper index		Weight	
			[in.]	[mm]	[lbs/mft]	[kg/km]	[lbs/mft]	[kg/km]
CF99-01-02	26	2 x 0.14	0.24	6.0	8.1	12	24.9	37
CF99-01-04	26	4 x 0.14	0.26	6.5	11.4	17	31.6	47
CF99-01-08	26	8 x 0.14	0.31	8.0	19.5	29	51.1	76
CF99-02-04	24	4 x 0.25	0.28	7.0	16.1	24	40.3	60
CF99-03-08	22	8 x 0.34	0.37	9.5	30.2	45	72.6	108

Note: The given outer diameters are maximum values.
G = with green-yellow earth core x = without earth core

cost down...



...life up

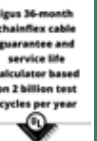
Reduce cost, improve technology, now!

Do the chainflex® price check now ...
www.igus.com/info/cable-price-check

... just one idea for you: Reduce cost with CF299



UL-verified chainflex® guarantee ... www.igus.com/ul-verified



Data cables

Coax cables



chainflex® cable	Jacket	Shield	Bending radius min., E-Chain® [factor x d]	Temperature, E-Chain® from/to [°F]	UL	FM	NFPA	ERAC	REACH	RoHS	CE	Oil-resistant	Torsion resistant v max. [ft/s] unsupported	v max. [ft/s] gliding	a max. [ft/s²]	Page
Data cables – Stranded in layers																
CF8821	PVC	✓	12.5	+41 /+158	UL	FM	NFPA	ERAC	REACH	RoHS	CE		9.84		65.6	130
CF240	PVC	✓	10	+41 /+158	UL	FM	NFPA	ERAC	REACH	RoHS	CE	✓	9.84	6.56	65.6	132
CF240-PUR	PUR	✓	10	-13 /+176	UL	FM	NFPA	ERAC	REACH	RoHS	CE	✓	9.84	6.56	65.6	136
Data cables – Twisted Pair																
CF211	PVC	✓	7.5	+41 /+158	UL	FM	NFPA	ERAC	REACH	RoHS	CE	✓	16.41	9.84	164.1	140
CF211-PUR	PUR	✓	7.5	-13 /+176	UL	FM	NFPA	ERAC	REACH	RoHS	CE	✓	16.41	9.84	164.1	144
CF11	TPE	✓	6.8	-31 /+212	UL	FM	NFPA	ERAC	REACH	RoHS	CE	✓	32.81	19.69	328.1	148
Data cables – Twisted Pair/Pair shield																
CF112	PUR	✓	10	-13 /+176	UL	FM	NFPA	ERAC	REACH	RoHS	CE	✓	32.81	16.41	262.5	152
CF12	TPE	✓	10	-31 /+212	UL	FM	NFPA	ERAC	REACH	RoHS	CE	✓	32.81	19.69	328.1	156
Data cables – Stranded in layers																
CF298	TPE		4	-31 /+194	UL	FM	NFPA	ERAC	REACH	RoHS	CE	✓ ✓	32.81	19.69	328.1	158 New
CF299	TPE	✓	4	-31 /+194	UL	FM	NFPA	ERAC	REACH	RoHS	CE	✓	32.81	19.69	328.1	160 New
Coax cables																
CFKCoax	TPE		10	-31/+212- -31/+158	UL	FM	NFPA	ERAC	REACH	RoHS	CE	✓	32.81	16.41	328.1	162
Torsion Data cables (Chapter Torsion cables) ▶ Page 366)																
CFROBOT3	PUR	✓	10	-13 /+176	UL	FM	NFPA	ERAC	REACH	RoHS	CE	✓ ✓				378












36 months chainflex® guarantee
Guaranteed lifetime for predictable reliability
 ▶ Selection table page 128

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.com/chainflexlife





chainflex® cable	Temperature, from/to [°F]	v max. [ft/s]		a max. [ft/s²]	Travel distance [ft]	Bending radius min. [factor x d]		Bending radius min. [factor x d]		Bending radius min. [factor x d]		Page				
		unsupported	gliding			< 32.81 ft	≥ 32.81 ft	< 32.81 ft	≥ 32.81 ft	< 32.81 ft	≥ 32.81 ft					
Data cables																
	CF8821	+41 / +59 +59 / +140 +140 / +158	9.84	-	65.6	≤ 32.81	5 million (1 million) cycles *	15 12.5 15	- - -	7.5 million (3 million) cycles *	16 13.5 16	- - -	10 million (5 million) cycles *	17 14.5 17	- - -	130
	CF240	+41 / +59 +59 / +140 +140 / +158	9.84	6.56	65.6	≤ 164.1	5 million (10 million) cycles *	12.5 10 12.5	15 12.5 15	7.5 million (15 million) cycles *	13.5 11 13.5	16 13.5 16	10 million (20 million) cycles *	14.5 12 14.5	17 14.5 17	132
	CF240-PUR	-13 / +5 +5 / +158 +158 / +176	9.84	6.56	65.6	≤ 164.1	12.5 10 12.5	15 12.5 15		13.5 11 13.5	16 13.5 16		14.5 12 14.5	17 14.5 17		136
	CF211	+41 / +59 +59 / +140 +140 / +158	16.41	9.84	164.1	≤ 328.1	10 7.5 10			11 8.5 11			12 9.5 12			140
	CF211-PUR	-13 / +5 +5 / +158 +158 / +176	16.41	9.84	164.1	≤ 328.1	10 7.5 10			11 8.5 11			12 9.5 12			144
	CF11	-31 / -13 -13 / +194 +194 / +212	32.81	19.69	328.1	≤ 1,312	7.5 6.8 7.5			8.5 7.5 8.5			9.5 8.5 9.5			148
	CF112	-13 / +5 +5 / +158 +158 / +176	32.81	16.41	262.5	≤ 328.1	12.5 10 12.5			13.5 11 13.5			14.5 12 14.5			152
	CF12	-31 / -13 -13 / +194 +194 / +212	32.81	19.69	328.1	≤ 1,312	12.5 10 12.5			13.5 11 13.5			14.5 12 14.5			156
	CF298	New! -31 / -13 -13 / +176 +176 / +194	32.81	19.69	328.1	≤ 328.1	20 million NEW! 5 4 5			30 million NEW! 6 5 6			40 million NEW! 7 6 7			158
	CF299	New! -31 / -13 -13 / +176 +176 / +194	32.81	19.69	328.1	≤ 328.1	5 4 5			6 5 6			7 6 7			160
Coax Cables																
	CFKoax1/3	-31 / -13 -13 / +194 +194 / +212	32.81	16.41	328.1	≤ 1,312	12.5 10 12.5			13.5 11 13.5			14.5 12 14.5			162
	CFKoax2	-31 / -13 -13 / +140 +140 / +158	32.81	16.41	328.1	≤ 1,312	12.5 10 12.5			13.5 11 13.5			14.5 12 14.5			162

⁽¹⁾ Exclusive! Guaranteed lifetime for this series according to the guarantee conditions ► Page 26-27

* Higher number of cycles? Online lifetime calculation ► www.igus.com/chainflexlife
Figures in brackets refer to chainflex® series CF8821 and CF298/CF299

Data cable | PVC | chainflex® CF8821






36 5,000,000
Cycles guaranteed

12.5 x d
Bend radius E-Chain®







32.8 ft
Travel distance E-Chain®

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



Dynamic Information

	Bend radius	E-Chain® linear	min. 12.5 x d
		flexible	min. 10 x d
		fixed	min. 7 x d
	Temperature	E-Chain® linear	+41 °F to +158 °F (+5 °C to +70 °C)
		flexible	+23 °F to +158 °F (-5 °C to +70 °C)
		fixed	+5 °F to +158 °F (-15 °C to +70 °C)
	v max.	unsupported	9.84 ft/s (3 m/s)
	a max.		65.6 ft/s ² (20 m/s ²)
	Travel distance		Unsupported travel distances up to 32.8 ft (10 m), Class 1




Cable structure

	Conductor	Conductor consisting of bare copper wires (according to DIN EN 60228).
	Conductor insulation	Mechanically high-quality TPE mixture.
	Conductor construction	Conductors cabled with an optimized pitch length.
	Color code	Color code in accordance with DIN 47100.
	Overall shield	Aluminum/polyester tape and tinned cooper braid. 60 % optical coverage
	Outer jacket	Low-adhesion mixture on the basis of PVC, adapted to suit the requirements in E-Chains®. Color: Jet black (similar to RAL 9005)

Electrical Information

	Nominal voltage	300 V
	Test voltage	1500 V (following DIN EN 50395)

Properties and approvals

	Flame resistance	According to IEC 60332-1-2, FT1, VW-1
	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

Configurators ► www.igus.com/CF8821







36 month guarantee ... 1,354 types from stock ... no cutting charges



Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

Class 3.1.1.1

-  **UL/CSA AWM** 300 V, +80 °C
See data sheet for details ► www.igus.com/CF8821
Complies to Electrical Standard for Industrial Machinery NFPA 79 Section 12.9
-  **NFPA 79**
-  **EAC** EAC Certificate No. RU C-DE.ME77.B.00300/19 (TR ZU)
-  **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

Guaranteed service life (details see page 26-27)

Cycles*	1 million	3 million	5 million
Temperature, from/to [°F]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
+41/+59	15	16	17
+59/+140	12.5	13.5	14.5
+140/+158	15	16	17

* Higher number of cycles? Online lifetime calculation ► www.chainflex.com/chainflexlife

Typical application areas

- For low duty flexing applications, Class 3
- Especially for unsupported travels, Class 1
- Without influence of oil, Class 1
- Preferably indoor applications
- Wood/stone processing, Packaging industry, supply systems, Handling, adjusting equipment

Part No.	AWG	Number of Conductors and rated cross section	Outer diameter max.		Copper index		Weight	
			[mm ²]	[in.]	[mm]	[mm]	[lbs/mft]	[kg/km]
CF8821-01-02	26	2 x 0.14	0.20	5.0	7.4	11	20.8	31
CF8821-01-03	26	3 x 0.14	0.22	5.5	8.7	13	23.5	35
CF8821-01-04	26	4 x 0.14	0.22	5.5	10.1	15	27.6	41
CF8821-01-05	26	5 x 0.14	0.24	6.0	12.1	18	30.9	46
CF8821-01-07	26	7 x 0.14	0.26	6.5	15.5	23	38.3	57
CF8821-02-02	24	2 x 0.25	0.22	5.5	8.7	13	22.8	34
CF8821-02-03	24	3 x 0.25	0.22	5.5	10.8	16	26.9	40
CF8821-02-04	24	4 x 0.25	0.24	6.0	13.4	20	30.9	46
CF8821-02-05	24	5 x 0.25	0.24	6.0	15.5	23	35.6	53
CF8821-02-07	24	7 x 0.25	0.28	7.0	20.2	30	44.3	66

Note: The given outer diameters are maximum values.
G = with green-yellow earth core x = without earth core

cost down...

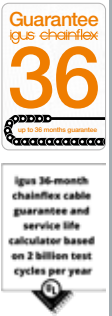


Reduce cost, improve technology, now!

Do the chainflex® price check now ...
www.igus.com/info/cable-price-check

... just one idea for you: Reduce bend radius with CF240 ...

UL-verified chainflex® guarantee ... www.igus.com/ul-verified



Data cable | PVC | chainflex® CF240






36 10,000,000
Cycles guaranteed

10 x d
Bend radius E-Chain®








164.1 ft
Travel distance E-Chain®

- For medium mechanical load requirements
- PVC outer jacket
- Shielded
- Oil-resistant
- Flame-retardant



Dynamic Information

	Bend radius	E-Chain® linear flexible	min. 10 x d min. 8 x d
		fixed	min. 5 x d
	Temperature	E-Chain® linear flexible	+41 °F to +158 °F (+5 °C to +70 °C) +23 °F to +158 °F (-5 °C to +70 °C)
		fixed	+5 °F to +158 °F (-15 °C to +70 °C)
	v max.	unsupported	9.84 ft/s (3 m/s)
		gliding	6.56 ft/s (2 m/s)
	a max.		65.6 ft/s ² (20 m/s ²)
	Travel distance		Unsupported travel distances and for gliding applications up to 164.1 ft (50 m), Class 4

Cable structure

	Conductor	Conductor consisting of bare copper wires.
	Conductor insulation	Mechanically high-quality TPE mixture.
	Conductor construction	Conductors are cabled in layers with short pitch lengths.
	Color code	Color code in accordance with DIN 47100.
	Intermediate layer	Polyester tape over external layer
	Overall shield	Extremely bending-resistant tinned copper braid. 90 % optical coverage
	Outer jacket	Low-adhesion, oil-resistant mixture on the basis of PVC, adapted to suit the requirements in E-Chains® (following DIN EN 50363-4-1). Color: Gray (similar to RAL 7001)

Electrical Information












	Nominal voltage	300 V
	Test voltage	1500 V (following DIN EN 50395)

Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

Class 4.4.2.1

Properties and approvals

	Oil resistance	Oil-resistant (following DIN EN 50363-4-1), Class 2
	Flame resistance	According to IEC 60332-1-2, FT1, VW-1
	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	300 V, +80 °C See data sheet for details ► www.igus.com/CF240
	NFPA 79	Complies to Electrical Standard for Industrial Machinery NFPA 79 Section 12.9
	EAC	Certificate No. RU C-DE.ME77.B.00300/19 (TR ZU)
	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

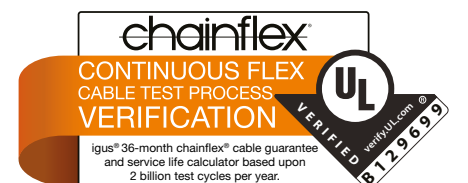
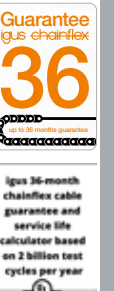
Guaranteed service life (details see page 26-27)

Cycles*	5 million		7.5 million		10 million	
	< 10 m	≥ 10 m	< 10 m	≥ 10 m	< 10 m	≥ 10 m
Temperature, from/to [°F]	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]
+41/+59	12.5	15	13.5	16	14.5	17
+59/+140	10	12.5	11	13.5	12	14.5
+140/+158	12.5	15	13.5	16	14.5	17

* Higher number of cycles? Online lifetime calculation ► www.chainflex.com/chainflexlife

Typical application areas

- For medium mechanical load requirements, Class 4
- Unsupported travel distances and for gliding applications up to 164 ft (50 m), Class 4
- Light oil influence, Class 2
- Preferably indoor applications, can be used in outdoor applications with temperatures > 41 °F
- Storage and retrieval units for high-bay warehouses, machining units/ packaging machines, Handling, indoor cranes



Example image

Configurators ► www.igus.com/CF240

36 month guarantee ... 1,354 types from stock ... no cutting charges



UL-verified chainflex® guarantee ... www.igus.com/ul-verified

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			



Example image

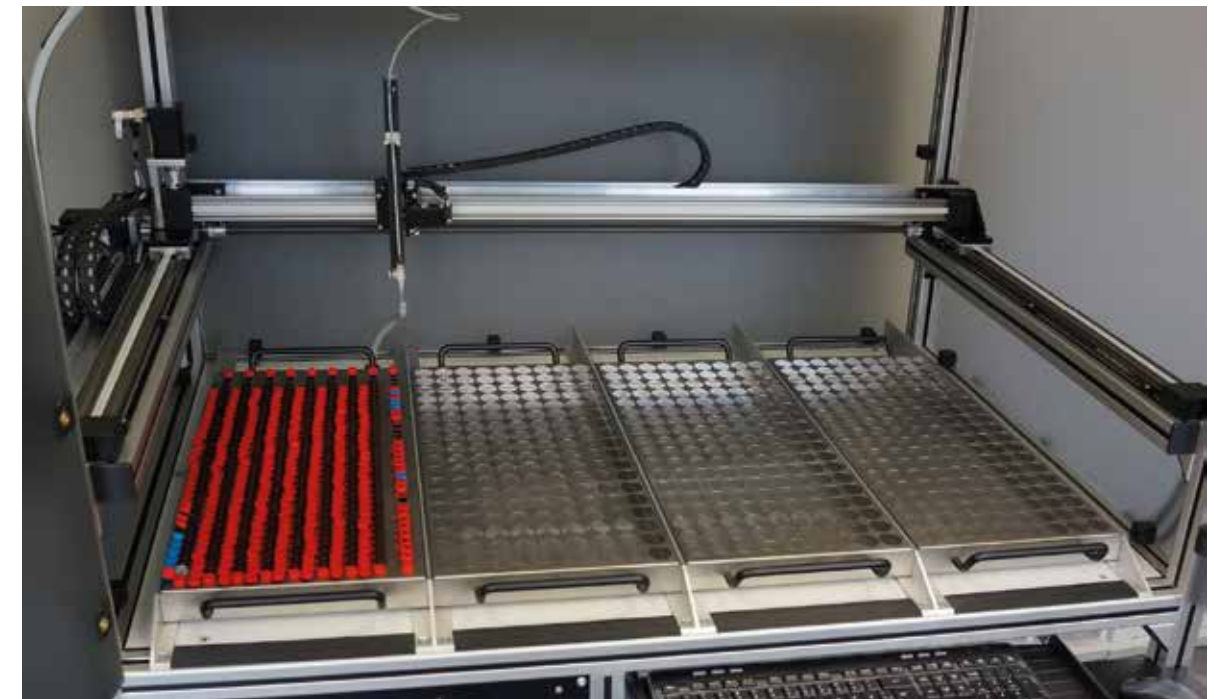
Part No.	AWG	Number of Conductors and rated cross section	Outer diameter max.		Copper index		Weight	
			[mm²]	[in.]	[mm]	[lbs/mft]	[kg/km]	[lbs/mft]
CF240-01-03	26	3 x 0.14	0.22	5.5	8.1	12	18.8	28
CF240-01-04	26	4 x 0.14	0.20	5.0	11.4	17	21.5	32
CF240-01-05	26	5 x 0.14	0.22	5.5	12.8	19	24.9	37
CF240-01-07	26	7 x 0.14	0.24	6.0	16.8	25	31.6	47
CF240-01-14	26	14 x 0.14	0.28	7.0	27.6	41	50.4	75
CF240-01-18	26	18 x 0.14	0.30	7.5	34.3	51	60.5	90
CF240-01-24	26	24 x 0.14	0.33	8.5	43.0	64	84.0	125
CF240-02-03	24	3 x 0.25	0.20	5.0	12.8	19	23.5	35
CF240-02-04	24	4 x 0.25	0.22	5.5	15.5	23	30.2	45
CF240-02-05	24	5 x 0.25	0.24	6.0	18.8	28	32.9	49
CF240-02-07	24	7 x 0.25	0.26	6.5	23.5	35	41.0	61
CF240-02-08	24	8 x 0.25	0.28	7.0	26.2	39	45.7	68
CF240-02-14	24	14 x 0.25	0.30	7.5	40.3	60	61.8	92
CF240-02-18	24	18 x 0.25	0.33	8.5	47.7	71	82.0	122
CF240-02-24	24	24 x 0.25	0.39	10.0	63.8	95	108.2	161
CF240-03-02	22	2 x 0.34	0.22	5.5	14.1	21	24.9	37
CF240-03-03	22	3 x 0.34	0.22	5.5	19.5	29	28.2	42
CF240-03-04	22	4 x 0.34	0.24	6.0	22.2	33	34.3	51
CF240-03-05	22	5 x 0.34	0.26	6.5	25.5	38	37.6	56
CF240-03-07	22	7 x 0.34	0.30	7.5	33.6	50	51.7	77
CF240-03-10	22	10 x 0.34	0.31	8.0	39.0	58	65.2	97
CF240-03-14	22	14 x 0.34	0.31	8.0	49.7	74	75.3	112
CF240-03-18	22	18 x 0.34	0.35	9.0	61.1	91	93.4	139
CF240-03-24	22	24 x 0.34	0.39	10.0	80.0	119	118.9	177

Note: The given outer diameters are maximum values.
G = with green-yellow earth core x = without earth core

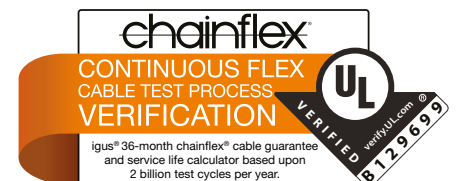
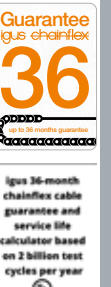
Order example: CF240-01-03 – To your desired length
CF240 chainflex® series -01 Code nominal cross section -03 Number of conductors

Online order ► www.chainflex.com/CF240

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



chainflex® CF240 data cables in small handling devices



Data cable | PUR | chainflex® CF240-PUR

36 10,000,000
Cycles guaranteed

10 x d
Bend radius E-Chain®

164.1 ft
Travel distance E-Chain®

- For medium mechanical load requirements
- 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	min. 10 x d
		flexible	min. 8 x d
		fixed	min. 5 x d
	Temperature	E-Chain® linear	-13 °F to +176 °F (-25 °C to +80 °C)
		flexible	-40 °F to +176 °F (-40 °C to +80 °C)
		fixed	-58 °F to +176 °F (-50 °C to +80 °C)
	v max.	unsupported	9.84 ft/s (3 m/s)
		gliding	6.56 ft/s (2 m/s)
	a max.	65.6 ft/s ² (20 m/s ²)	
	Travel distance	Unsupported travel distances and for gliding applications up to 164.1 ft (50 m), Class 4	

Cable structure

	Conductor	Conductor consisting of bare copper wires.
	Conductor insulation	Mechanically high-quality TPE mixture.
	Conductor construction	Conductors are cabled in layers with short pitch lengths.
	Color code	Color code in accordance with DIN 47100.
	Intermediate layer	Polyester tape over external layer
	Overall shield	Extremely bending-resistant tinned copper braid. 90 % optical coverage
	Outer jacket	Low-adhesion, halogen-free, highly abrasion-resistant mixture on the basis of PUR, adapted to suit the requirements in E-Chains® (following DIN EN 50363-10-2). Color: Gray (similar to RAL 7040)

Electrical Information

	Nominal voltage	300 V
	Test voltage	1500 V (following DIN EN 50395)

Configurators ► www.igus.com/CF240-PUR

36 month guarantee ... 1,354 types from stock ... no cutting charges

Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

Class 4.4.3.1

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 2009
	Flame resistance	According to IEC 60332-1-2, FT1, VW-1
	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	300 V, +80 °C See data sheet for details ► www.igus.com/CF240-PUR
	NFFPA 79	Complies to Electrical Standard for Industrial Machinery NFFPA 79 Section 12.9
	DNV-GL	Type approval certificate No. TAE00003X3 NEW
	EAC	Certificate No. RU C-DE.ME77.B.00300/19 (TR ZU)
	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

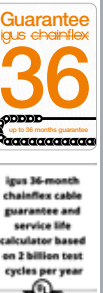
Guaranteed service life (details see page 26-27)

Cycles*	5 million		7.5 million		10 million	
	< 10 m	≥ 10 m	< 10 m	≥ 10 m	< 10 m	≥ 10 m
Temperature, from/to [°F]	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]
-13/+5	12.5	15	13.5	16	14.5	17
+5/+158	10	12.5	11	13.5	12	14.5
+158/+176	12.5	15	13.5	16	14.5	17

* Higher number of cycles? Online lifetime calculation ► www.chainflex.com/chainflexlife

Typical application areas

- For medium mechanical load requirements, Class 4
- Unsupported travel distances and for gliding applications up to 164 ft (50 m), Class 4
- Almost unlimited resistance to oil, 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



low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			



Example image

Part No.	AWG	Number of Conductors and rated cross section	Outer diameter max.		Copper index		Weight	
			[mm²]	[in.] [mm]	[lbs/mft] [kg/km]	[lbs/mft] [kg/km]		
CF240-PUR-01-04	26	4 x 0.14	0.22	5.5	10.1	15	26.2	39
CF240-PUR-01-07	26	7 x 0.14	0.26	6.5	16.1	24	36.3	54
CF240-PUR-01-08	26	8 x 0.14	0.28	7.0	17.5	26	43.0	64
CF240-PUR-01-14	26	14 x 0.14	0.30	7.5	27.6	41	53.1	79
CF240-PUR-01-18	26	18 x 0.14	0.31	8.0	34.3	51	65.2	97
CF240-PUR-01-25	26	25 x 0.14	0.33	8.5	44.3	66	67.9	101
CF240-PUR-02-03	24	3 x 0.25	0.22	5.5	12.1	18	27.6	41
CF240-PUR-02-04	24	4 x 0.25	0.24	6.0	14.8	22	30.2	45
CF240-PUR-02-05	24	5 x 0.25	0.24	6.0	16.8	25	33.6	50
CF240-PUR-02-07	24	7 x 0.25	0.28	7.0	22.2	33	43.7	65
CF240-PUR-02-08	24	8 x 0.25	0.28	7.0	26.2	39	48.4	72
CF240-PUR-02-14	24	14 x 0.25	0.31	8.0	40.3	60	69.2	103
CF240-PUR-02-18	24	18 x 0.25	0.35	9.0	47.7	71	82.0	122
CF240-PUR-02-25	24	25 x 0.25	0.41	10.5	65.2	97	102.1	152
CF240-PUR-03-03	22	3 x 0.34	0.20	5.0	16.8	25	31.6	47
CF240-PUR-03-04	22	4 x 0.34	0.22	5.5	20.2	30	36.3	54
CF240-PUR-03-05	22	5 x 0.34	0.24	6.0	22.8	34	40.3	60
CF240-PUR-03-07	22	7 x 0.34	0.26	6.5	30.2	45	56.4	84
CF240-PUR-03-14	22	14 x 0.34	0.31	8.0	49.7	74	84.7	126
CF240-PUR-03-18	22	18 x 0.34	0.33	8.5	61.1	91	104.8	156

Note: The given outer diameters are maximum values.
G = with green-yellow earth core x = without earth core

Order example: CF240-PUR-01-04 – To your desired length
CF240-PUR chainflex® series -01 Code nominal cross section -04 Number of conductors

Online order ► www.chainflex.com/CF240-PUR

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

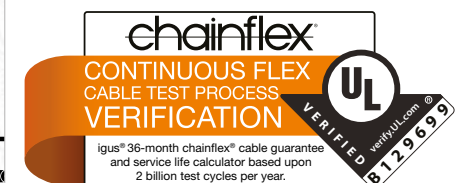
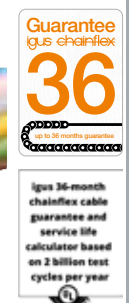
cost down...

...life up

Reduce cost, improve technology, now!

Do the chainflex® price check now ...
www.igus.com/info/cable-price-check

... just one idea for you: **Reduce cost with CF240 ...**



Data cable | PVC | chainflex® CF211






36 10,000,000
Cycles guaranteed

7.5 x d
Bend radius E-Chain®








328.1 ft
Travel distance E-Chain®

- For high mechanical load requirements
- PVC outer jacket
- Shielded
- Twisted pair
- Oil-resistant
- Flame-retardant



Dynamic Information

 Bend radius	E-Chain® linear	min. 7.5 x d
	flexible	min. 6 x d
	fixed	min. 4 x d
 Temperature	E-Chain® linear	+41 °F to +158 °F (+5 °C to +70 °C)
	flexible	+23 °F to +158 °F (-5 °C to +70 °C)
	fixed	+5 °F to +158 °F (-15 °C to +70 °C)
 v max.	unsupported	16.41 ft/s (5 m/s)
	gliding	9.84 ft/s (3 m/s)
 a max.		164.1 ft/s² (50 m/s²)
 Travel distance		Unsupported travel distances and for gliding applications up to 328.1 ft (100 m), Class 5

Cable structure

 Conductor	Conductor consisting of bare copper wires.
 Conductor insulation	Mechanically high-quality TPE mixture.
 Conductor construction	Twisted Pairs cabled together with short pitch lengths.
 Color code	Color code in accordance with DIN 47100.
 Intermediate layer	Polyester tape over external layer
 Overall shield	Extremely bending-resistant tinned copper braid. 90 % optical coverage
 Outer jacket	Low-adhesion, oil-resistant mixture on the basis of PVC, adapted to suit the requirements in E-Chains® (following DIN EN 50363-4-1). Color: Gray (similar to RAL 7001)

Electrical Information

 Nominal voltage	300 V
 Test voltage	1500 V (following DIN EN 50395)

Example image

Configurators ► www.igus.com/CF211

36 month guarantee ... 1,354 types from stock ... no cutting charges














Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

Class 5.5.2.1

Properties and approvals

 Oil resistance	Oil-resistant (following DIN EN 50363-4-1), Class 2
 Flame resistance	According to IEC 60332-1-2, FT1, VW-1
 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	300 V, +80 °C See data sheet for details ► www.igus.com/CF211
 NFPA 79	Complies to Electrical Standard for Industrial Machinery NFPA 79 Section 12.9
 EAC	Certificate No. RU C-DE.ME77.B.00300/19 (TR ZU)
 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

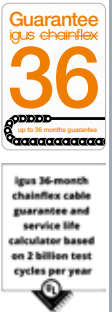
Guaranteed service life (details see page 26-27)

Cycles*	5 million	7.5 million	10 million
Temperature, from/to [°F]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
+41/+59	10	11	12
+59/+140	7.5	8.5	9.5
+140/+158	10	11	12

* Higher number of cycles? Online lifetime calculation ► www.chainflex.com/chainflexlife

Typical application areas

- For high mechanical load requirements, Class 5
- Unsupported travel distances and for gliding applications up to 328 ft (100 m), Class 5
- Light oil influence, Class 2
- Preferably indoor applications, can be used in outdoor applications with temperatures > 41°F
- Storage and retrieval units for high-bay warehouses, machining units/ packaging machines, Handling, indoor cranes



low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			



Example image

Part No.	AWG	Number of Conductors and rated cross section	Outer diameter max.		Copper index		Weight	
			[mm²]	[in.] [mm]	[lbs/mft] [kg/km]	[lbs/mft] [kg/km]		
CF211-02-01-02	24	1 PR x 0.25	0.20	5.0	12.1	18	22.2	33
CF211-02-02-02 ²⁾	24	2 PR x 0.25	0.26	6.5	16.8	25	34.3	51
CF211-02-03-02	24	3 PR x 0.25	0.28	7.0	24.2	36	42.3	63
CF211-02-04-02	24	4 PR x 0.25	0.30	7.5	29.6	44	51.1	76
CF211-02-05-02	24	5 PR x 0.25	0.33	8.5	34.9	52	61.8	92
CF211-02-06-02	24	6 PR x 0.25	0.35	9.0	41.7	62	70.6	105
CF211-02-08-02	24	8 PR x 0.25	0.41	10.5	52.4	78	92.1	137
CF211-02-10-02	24	10 PR x 0.25	0.47	12.0	60.5	90	114.2	170
CF211-02-14-02	24	14 PR x 0.25	0.47	12.0	80.0	119	137.1	204
CF211-03-03-02	22	3 PR x 0.34	0.31	8.0	29.6	44	57.8	86
CF211-03-08-02	22	8 PR x 0.34	0.47	12.0	68.5	102	138.4	206
CF211-05-01-02	20	1 PR x 0.5	0.24	6.0	17.5	26	34.3	51
CF211-05-02-02 ²⁾	20	2 PR x 0.5	0.28	7.0	30.9	46	60.5	90
CF211-05-03-02	20	3 PR x 0.5	0.35	9.0	41.0	61	73.2	109
CF211-05-04-02	20	4 PR x 0.5	0.37	9.5	49.7	74	84.0	125
CF211-05-05-02	20	5 PR x 0.5	0.43	11.0	61.1	91	102.8	153
CF211-05-06-02	20	6 PR x 0.5	0.45	11.5	69.2	103	127.0	189
CF211-05-08-02	20	8 PR x 0.5	0.53	13.0	92.1	137	157.2	234
CF211-05-10-02	20	10 PR x 0.5	0.61	15.5	121.6	181	219.1	326
CF211-05-14-02	20	14 PR x 0.5	0.63	16.0	129.7	193	229.1	341

The chainflex® types marked with ²⁾ are cables designed as a star-quad.
Note: The given outer diameters are maximum values.
G = with green-yellow earth core x = without earth core

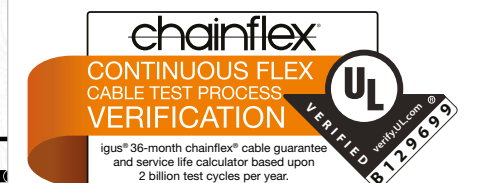
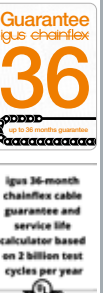
Order example: CF211-02-01-02 – To your desired length
CF211 chainflex® series -02 Code nominal cross section -01 Number of pairs -02 Identification pairs

Online order ► www.chainflex.com/CF211

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



Data cable | PUR | chainflex® CF211-PUR






36 10,000,000
Cycles guaranteed

7.5 x d
Bend radius E-Chain®








328.1 ft
Travel distance E-Chain®

- For high mechanical load requirements
- PUR outer jacket
- 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 flexible	min. 7.5 x d min. 6 x d
	fixed	min. 4 x d
 Temperature	E-Chain® linear flexible	-13 °F to +176 °F (-25 °C to +80 °C) -40 °F to +176 °F (-40 °C to +80 °C)
	fixed	-58 °F to +176 °F (-50 °C to +80 °C)
 v max.	unsupported	16.41 ft/s (5 m/s)
	gliding	9.84 ft/s (3 m/s)
 a max.		164.1 ft/s ² (50 m/s ²)
 Travel distance		Unsupported travel distances and for gliding applications up to 328.1 ft (100 m), Class 5

Cable structure

 Conductor	Conductor consisting of bare copper wires.
 Conductor insulation	Mechanically high-quality TPE mixture.
 Conductor construction	Twisted Pairs cabled together with short pitch lengths.
 Color code	Color code in accordance with DIN 47100.
 Intermediate layer	Polyester tape over external layer
 Overall shield	Extremely bending-resistant tinned copper braid. 90 % optical coverage
 Outer jacket	Low-adhesion, halogen-free, highly abrasion-resistant mixture on the basis of PUR, adapted to suit the requirements in E-Chains® (following DIN EN 50363-10-2). Color: Gray (similar to RAL 7040)

Electrical Information

 Nominal voltage	300 V
 Test voltage	1500 V (following DIN EN 50395)

Configurators ► www.igus.com/CF211-PUR

















36 month guarantee ... 1,354 types from stock ... no cutting charges

Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

Class 5.5.3.1

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 2009
 Flame resistance	According to IEC 60332-1-2, FT1, VW-1
 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	300 V, +80 °C
 NFPA 79	See data sheet for details ► www.igus.com/CF211-PUR
 NFPA	Complies to Electrical Standard for Industrial Machinery NFPA 79 Section 12.9
 DNV-GL	Type approval certificate No. 13 656-14 HH
 EAC	Certificate No. RU C-DE.ME77.B.00295/19 (TR ZU)
 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

Guaranteed service life (details see page 26-27)

Cycles*	5 million	7.5 million	10 million
Temperature, from/to [°F]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-13/+5	10	11	12
+5/+158	7.5	8.5	9.5
+158/+176	10	11	12

* Higher number of cycles? Online lifetime calculation ► www.chainflex.com/chainflexlife

Typical application areas

- For high mechanical load requirements, Class 5
- Unsupported travel distances and for gliding applications up to 328 ft (100 m), Class 5
- Almost unlimited resistance to oil, 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

Guarantee
igus chainflex
36
months

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

CFRIP

UL LISTED

UL US

NFPA

DNV-GL

DNV-GL

EAC

REACH

RoHS

Clean-Room

CE

CE

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			



Example image

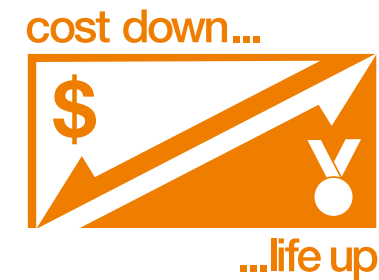
Part No.	AWG	Number of Conductors and rated cross section	Outer diameter max.		Copper index		Weight	
			[mm²]	[in.] [mm]	[lbs/mft] [kg/km]	[lbs/mft] [kg/km]		
CF211-PUR-02-01-02	24	1 PR x 0.25	0.20	5.0	12.1	18	21.5	32
CF211-PUR-02-02-02 ²⁾	24	2 PR x 0.25	0.26	6.5	16.8	25	32.9	49
CF211-PUR-02-03-02	24	3 PR x 0.25	0.28	7.0	24.2	36	43.7	65
CF211-PUR-02-04-02	24	4 PR x 0.25	0.30	7.5	29.6	44	51.1	76
CF211-PUR-02-05-02	24	5 PR x 0.25	0.33	8.5	34.9	52	59.8	89
CF211-PUR-02-06-02	24	6 PR x 0.25	0.35	9.0	41.7	62	68.5	102
CF211-PUR-02-08-02	24	8 PR x 0.25	0.41	10.5	52.4	78	87.4	130
CF211-PUR-02-10-02	24	10 PR x 0.25	0.47	12.0	60.5	90	112.9	168
CF211-PUR-02-14-02	24	14 PR x 0.25	0.47	12.0	80.0	119	137.1	204
CF211-PUR-03-03-02	22	3 PR x 0.34	0.31	8.0	29.6	44	55.8	83
CF211-PUR-03-08-02	22	8 PR x 0.34	0.47	12.0	63.8	95	109.5	163
CF211-PUR-05-01-02	20	1 PR x 0.5	0.24	6.0	17.5	26	34.3	51
CF211-PUR-05-02-02 ²⁾	20	2 PR x 0.5	0.33	8.5	27.6	41	57.8	86
CF211-PUR-05-03-02	20	3 PR x 0.5	0.35	9.0	41.0	61	70.6	105
CF211-PUR-05-04-02	20	4 PR x 0.5	0.37	9.5	49.7	74	82.7	123
CF211-PUR-05-05-02	20	5 PR x 0.5	0.43	11.0	61.1	91	102.1	152
CF211-PUR-05-06-02	20	6 PR x 0.5	0.45	11.5	69.2	103	127.0	189
CF211-PUR-05-08-02	20	8 PR x 0.5	0.51	13.0	92.1	137	148.5	221
CF211-PUR-05-10-02	20	10 PR x 0.5	0.61	15.5	114.2	170	199.6	297
CF211-PUR-05-14-02	20	14 PR x 0.5	0.61	15.5	124.3	185	209.0	311

The chainflex® types marked with ²⁾ are cables designed as a star-quad.
Note: The given outer diameters are maximum values.
G = with green-yellow earth core x = without earth core

Order example: CF211-PUR-02-01-02 – To your desired length
CF211-PUR chainflex® series -02 Code nominal cross section -01 Number of pairs -02 Identification pairs

Online order ► www.chainflex.com/CF211-PUR

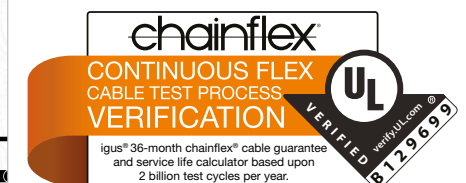
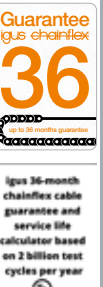
Delivery time 24hrs or today.
Delivery time means time until goods are shipped.



Reduce cost, improve technology, now!

Do the chainflex® price check now ...
www.igus.com/info/cable-price-check

... just one idea for you: **Reduce cost with CF211**



Data cable | TPE | chainflex® CF11

36 10,000,000
Cycles guaranteed

6.8 x d
Bend radius E-Chain®

1312.4 ft
Travel distance E-Chain®

- For very high mechanical load requirements
- TPE outer jacket
- Shielded
- Twisted pair
- Oil and bio-oil-resistant
- PVC and halogen-free
- Hydrolysis and microbe-resistant

Dynamic Information

	Bend radius	E-Chain® linear	min. 6.8 x d
		flexible	min. 5 x d
		fixed	min. 4 x d
	Temperature	E-Chain® linear	-31 °F to +212 °F (-35 °C to +100 °C)
		flexible	-58 °F to +212 °F (-50 °C to +100 °C)
		fixed	-67 °F to +212 °F (-55 °C to +100 °C)
	v max.	unsupported	32.81 ft/s (10 m/s)
		gliding	19.69 ft/s (6 m/s)
	a max.	328.1 ft/s² (100 m/s²)	
	Travel distance	Unsupported travel distances and for gliding applications up to 1312 ft (400 m) and more, Class 6	

Cable structure

	Conductor	Conductor consisting of bare copper wires (according to DIN EN 60228).
	Conductor insulation	Mechanically high-quality TPE mixture.
	Conductor construction	Twisted Pairs cabled together with short pitch lengths.
	Color code	26-18 AWG: Color code in accordance with DIN 47100. 17-14 AWG: Black with white numbers.
	Inner jacket	TPE mixture adapted to suit the requirements in E-Chains®.
	Overall shield	Extremely bending-resistant tinned copper braid. 90 % optical coverage
	Outer jacket	Low-adhesion mixture on the basis of TPE, especially abrasion-resistant and highly flexible, adapted to suit the requirements in E-Chains®. Color: Dark blue (similar to RAL 5011)

Electrical Information

	Nominal voltage	300 V
	Test voltage	1500 V (following DIN EN 50395)

Example image

Configurators ► www.igus.com/CF11

36 month guarantee ... 1,354 types from stock ... no cutting charges



Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

Class 6.6.4.1

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 (TR ZU)
	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

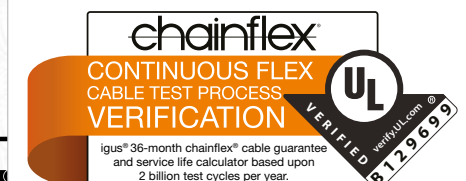
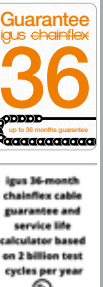
Guaranteed service life (details see page 26-27)

Cycles*	5 million	7.5 million	10 million
Temperature, from/to [°F]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-31/-13	7.5	8.5	9.5
-13/+194	6.8	7.5	8.5
+194/+212	7.5	8.5	9.5

* Higher number of cycles? Online lifetime calculation ► www.chainflex.com/chainflexlife

Typical application areas

- For very high mechanical load requirements, Class 6
- Unsupported travel distances and for gliding applications up to 1312 ft (400 m) and more, Class 6
- Almost unlimited resistance to oil, also with bio-oils, Class 4
- 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



UL-verified chainflex® guarantee ... www.igus.com/ul-verified

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			



Example image

Part No.	AWG	Number of Conductors and rated cross section	Outer diameter max.		Copper index		Weight	
			[mm ²]	[in.] [mm]	[lbs/mft] [kg/km]	[lbs/mft] [kg/km]		
CF11-01-04-02	26	4 PR x 0.14	0.30	7.5	20.2	30	42.3	63
CF11-01-18-02	26	18 PR x 0.14	0.49	12.5	67.9	101	135.7	202
CF11-02-01-02	24	1 PR x 0.25	0.24	6.0	11.4	17	26.2	39
CF11-02-02-02 ²⁾	24	2 PR x 0.25	0.26	6.5	17.5	26	31.6	47
CF11-02-03-02	24	3 PR x 0.25	0.31	8.0	23.5	35	52.4	78
CF11-02-04-02	24	4 PR x 0.25	0.33	8.5	28.2	42	60.5	90
CF11-02-05-02	24	5 PR x 0.25	0.35	9.0	32.9	49	67.2	100
CF11-02-06-02	24	6 PR x 0.25	0.39	10.0	46.4	69	84.0	125
CF11-02-10-02	24	10 PR x 0.25	0.53	13.5	69.2	103	139.1	207
CF11-02-14-02	24	14 PR x 0.25	0.55	14.0	83.3	124	153.2	228
CF11-03-08-02	22	8 PR x 0.34	0.51	13.0	71.2	106	140.4	209
CF11-05-04-02	20	4 PR x 0.5	0.37	9.5	51.7	77	94.1	140
CF11-05-06-02	20	6 PR x 0.5	0.47	12.0	69.2	103	133.0	198
CF11-05-08-02	20	8 PR x 0.5	0.57	14.5	90.7	135	168.7	251
CF11-07-03-02	18	3 PR x 0.75	0.41	10.5	55.8	83	104.2	155
CF11-10-04-02	17	4 PR x 1.0	0.49	12.5	84.0	125	155.9	232
CF11-15-06-02	16	6 PR x 1.5	0.65	16.5	166.0	247	282.2	420

The chainflex® types marked with ²⁾ are cables designed as a star-quad.
 Note: The given outer diameters are maximum values.
 G = with green-yellow earth core x = without earth core

- Order example: CF11-01-04-02 – To your desired length**
CF11 chainflex® series -01 Code nominal cross section -04 Number of pairs -02 Identification pairs
- Online order ► www.chainflex.com/CF11
- 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 now ...
www.igus.com/info/cable-price-check

... just one idea for you: **Reduce cost with CF211.PUR**

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

CFRIP

UL LISTED

UL

NFPA

UL

UL

EAC

REACH

RoHS

Clean-Room

UL

CE

Guarantee
igus chainflex
36
up to 36 months guarantee

chainflex
CONTINUOUS FLEX
CABLE TEST PROCESS
VERIFICATION

UL
VERIFIED
www.igus.com
8129699

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

Data cable | PUR | chainflex® CF112

36 10,000,000
Cycles guaranteed

10 x d
Bend radius E-Chain®

328.1 ft
Travel distance E-Chain®

- For very high mechanical load requirements
- PUR outer jacket
- Shielded twisted Pairs with an overall shield
- Oil-resistant and coolant-resistant
- Flame-retardant
- PVC and halogen-free
- Notch-resistant
- Hydrolysis and microbe-resistant

Dynamic Information

	Bend radius	E-Chain® linear	min. 10 x d
		flexible	min. 8 x d
		fixed	min. 5 x d
	Temperature	E-Chain® linear	-13 °F to +176 °F (-25 °C to +80 °C)
		flexible	-40 °F to +176 °F (-40 °C to +80 °C)
		fixed	-58 °F to +176 °F (-50 °C to +80 °C)
	v max.	unsupported	32.81 ft/s (10 m/s)
		gliding	16.41 ft/s (5 m/s)
	a max.	262.5 ft/s² (80 m/s²)	
	Travel distance	Unsupported travel distances and for gliding applications up to 328.1 ft (100 m), Class 5	

Cable structure

	Conductor	Conductor consisting of bare copper wires.
	Conductor insulation	Mechanically high-quality TPE mixture.
	Conductor construction	Twisted Pairs cabled together with short pitch lengths.
	Color code	Color code in accordance with DIN 47100.
	Element shield	Extremely bending-resistant tinned copper braid. 90 % optical coverage
	Inner jacket	TPE mixture adapted to suit the requirements in E-Chains®.
	Overall shield	Extremely bending-resistant tinned copper braid. 90 % optical coverage
	Outer jacket	Low-adhesion, halogen-free, highly abrasion-resistant mixture on the basis of PUR, adapted to suit the requirements in E-Chains® (following DIN EN 50363-10-2). Color: Gray (similar to RAL 7016)

Electrical Information

	Nominal voltage	300 V
	Test voltage	1500 V (following DIN EN 50395)

Configurators ► www.igus.com/CF112

36 month guarantee ... 1,354 types from stock ... no cutting charges

Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

Class 6.5.3.1

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 2009
	Flame resistance	According to IEC 60332-1-2, FT1, VW-1
	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 300 V, +80 °C See data sheet for details ► www.igus.com/CF112
	UL/CSA AWM	Complies to Electrical Standard for Industrial Machinery NFPA 79 Section 12.9
	NFPA 79	Complies to Electrical Standard for Industrial Machinery NFPA 79 Section 12.9
	DNV-GL	Type approval certificate No. 13 656-14 HH
	EAC	Certificate No. RU C-DE.ME77.B.00300/19 (TR ZU)
	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

Guaranteed service life (details see page 26-27)

Cycles*	5 million	7.5 million	10 million
Temperature, from/to [°F]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-13/+5	12.5	13.5	14.5
+5/+158	10	11	12
+158/+176	12.5	13.5	14.5

* Higher number of cycles? Online lifetime calculation ► www.chainflex.com/chainflexlife

Typical application areas

- For very high mechanical load requirements, Class 6
- Unsupported travel distances and for gliding applications up to 328 ft (100 m), Class 5
- Almost unlimited resistance to oil, 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




low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			




Example image

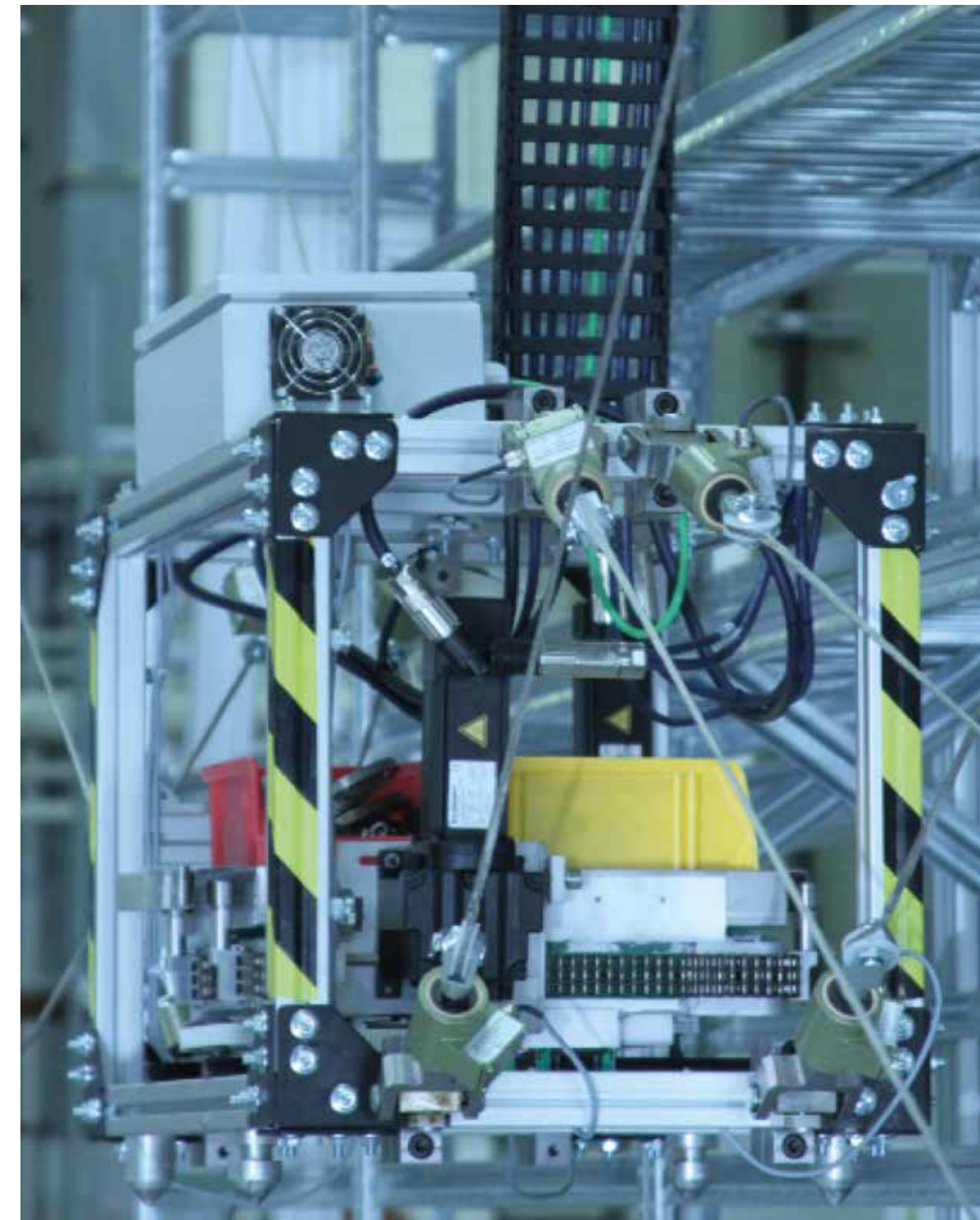
Part No.	AWG	Number of Conductors and rated cross section	Outer diameter max.		Copper index		Weight	
			[mm²]	[in.]	[mm]	[lbs/mft]	[kg/km]	[lbs/mft]
CF112-02-02-02	24	2 STP x 0.25	0.37	9.5	38.3	57	79.3	118
CF112-02-03-02	24	3 STP x 0.25	0.39	10.0	47.7	71	89.4	133
CF112-02-04-02	24	4 STP x 0.25	0.43	11.0	52.4	78	102.8	153
CF112-02-05-02	24	5 STP x 0.25	0.45	11.5	66.5	99	119.6	178
CF112-05-02-02	20	2 STP x 0.5	0.45	11.5	50.4	75	109.5	163
CF112-05-04-02	20	4 STP x 0.5	0.51	13.0	78.6	117	145.8	217
CF112-05-06-02	20	6 STP x 0.5	0.57	14.5	107.5	160	191.5	285

Note: The given outer diameters are maximum values.
G = with green-yellow earth core x = without earth core
STP = Shielded Twisted Pairs

 **Order example: CF112-02-02-02 – To your desired length**
CF112 chainflex® series -2 Code nominal cross section -02 Number of pairs -02 Identification pairs

 Online order ► www.chainflex.com/CF112

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



Hanging application with chainflex® CF112 data cables



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



Data cable | TPE | chainflex® CF12






36 10,000,000
Cycles guaranteed

10 x d
Bend radius E-Chain®










1312.4 ft
Travel distance E-Chain®

- For very high mechanical load requirements
- TPE outer jacket
- shielded twisted pairs
- with an overall shield
 - Oil and bio-oil-resistant
 - PVC and halogen-free
 - Hydrolysis and microbe-resistant



Dynamic Information

	Bend radius	E-Chain® linear	min. 10 x d
		flexible	min. 8 x d
		fixed	min. 5 x d
	Temperature	E-Chain® linear	-31 °F to +212 °F (-35 °C to +100 °C)
		flexible	-58 °F to +212 °F (-50 °C to +100 °C)
		fixed	-67 °F to +212 °F (-55 °C to +100 °C)
	v max.	unsupported	32.81 ft/s (10 m/s)
		gliding	19.69 ft/s (6 m/s)
	a max.		328.1 ft/s² (100 m/s²)
	Travel distance		Unsupported travel distances and for gliding applications up to 1312 ft (400 m) and more, Class 6

Cable structure

	Conductor	Conductor consisting of bare copper wires (according to DIN EN 60228).
	Conductor insulation	Mechanically high-quality TPE mixture.
	Conductor construction	Twisted Pairs cabled together with short pitch lengths.
	Color code	24AWG: Color code in accordance with DIN 47100. 20-17AWG: Black with white numbers.
	Element shield	Extremely bending-resistant tinned copper braid. 90 % optical coverage
	Element jacket	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 galvanized steel wire braid. 90 % optical coverage
	Outer jacket	Low-adhesion mixture on the basis of TPE, especially abrasion-resistant and highly flexible, adapted to suit the requirements in E-Chains®. Color: Dark blue (similar to RAL 5011)

Electrical Information

	Nominal voltage	300 V
	Test voltage	1500 V (following DIN EN 50395)

Configurators ► www.igus.com/CF12

36 month guarantee ... 1,354 types from stock ... no cutting charges













Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

Class 6.6.4.1

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 (TR ZU)
	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

Guaranteed service life (details see page 26-27)

Cycles*	5 million	7.5 million	10 million
Temperature, from/to [°F]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-31/-13	12.5	13.5	14.5
-13/+194	10	11	12
+194/+212	12.5	13.5	14.5

* Higher number of cycles? Online lifetime calculation ► www.chainflex.com/chainflexlife

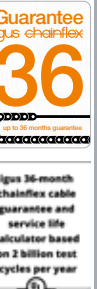
Typical application areas

- For very high mechanical load requirements, Class 6
- Unsupported travel distances and for gliding applications up to 1312 ft (400 m) and more, Class 6
- Almost unlimited resistance to oil, also with bio-oils, Class 4
- 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.	AWG	Number of Conductors and rated cross section	Outer diameter max.		Copper index	Weight	
			[in.]	[mm]		[lbs/mft]	[kg/km]
CF12-02-04-02	24	4 STP x 0.25	0.45	11.5	34.9	52	115.6 172
CF12-05-03-02	20	3 STP x 0.5	0.53	13.5	43.7	65	150.5 224
CF12-05-04-02	20	4 STP x 0.5	0.57	14.5	55.8	83	179.4 267
CF12-05-06-02	20	6 STP x 0.5	0.67	17.0	86.0	128	252.7 376
CF12-05-08-02	20	8 STP x 0.5	0.81	20.5	109.5	163	338.0 503
CF12-05-10-02	20	10 STP x 0.5	0.89	22.5	136.4	203	406.5 605
CF12-05-14-02	20	14 STP x 0.5	0.89	22.5	199.6	297	456.3 679
CF12-10-06-02	17	6 STP x 1.0	0.79	20.0	133.0	198	355.5 529

Note: The given outer diameters are maximum values.
G = with green-yellow earth core x = without earth core
STP = Shielded Twisted Pairs

UL-verified chainflex® guarantee ... www.igus.com/ul-verified



Data cable | TPE | chainflex® CF298

36 40,000,000
Cycles guaranteed

4 x d
Bend radius E-Chain®

328.1 ft
Travel distance E-Chain®

100% more cycles guaranteed

- For maximum mechanical load requirements and especially small bend radii to 4 x d
- TPE outer jacket
- Oil and bio-oil-resistant
- PVC and halogen-free
- Low-temperature-flexibility
- Hydrolysis and microbe-resistant

Dynamic Information

	Bend radius	E-Chain® linear flexible	min. 4 x d
		fixed	min. 3 x d
	Temperature	E-Chain® linear flexible	-31 °F to +194 °F (-35 °C to +90 °C)
		fixed	-58 °F to +194 °F (-50 °C to +90 °C)
	v max.	unsupported	32.81 ft/s (10 m/s)
		gliding	19.69 ft/s (6 m/s)
	a max.		328.1 ft/s² (100 m/s²)
	Travel distance	Short, very fast applications with small radii and restricted installation space, Class 5	
	Torsion	Torsion ±90°, with 3.281ft (1m) cable length, Class 2	

Cable structure

	Conductor	Conductor consisting of a highly flexible stranded special alloy.
	Conductor insulation	Mechanically high-quality TPE mixture.
	Conductor construction	Conductors cabled in one layer with especially short pitch length.
	Color code	Color code in accordance with DIN 47100. CF298-02-03: brown, blue, black CF298-03-04: brown, blue, black, white
	Outer jacket	Low-adhesion mixture on the basis of TPE, especially abrasion-resistant and highly flexible, adapted to suit the requirements in E-Chains®. Color: Dark blue (similar to RAL 5011)

Electrical Information

	Nominal voltage	300 V
	Test voltage	1500 V

Configurators ► www.igus.com/CF298

36 month guarantee ... 1,354 types from stock ... no cutting charges



Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

Class 7.5.4.2

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.02806 (TR ZU)
	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

Guaranteed service life (details see page 26-27)

Cycles*	20 million	30 million	40 million
Temperature, from/to [°F]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-31/-13	5	6	7
-13/+176	4	5	6
+176/+194	5	6	7

* Higher number of cycles? Online lifetime calculation ► www.chainflex.com/chainflexlife

Typical application areas

- For maximum mechanical load requirements and especially small bend radii 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 3.281ft (1m) cable length, Class 2
- Indoor and outdoor applications, UV-resistant
- Pick and place machines, Automatic doors, Cleanroom, very quick handling

Part No.	AWG	Number of Conductors and rated cross section	Outer diameter max.		Copper index		Weight	
			[in.]	[mm]	[lbs/mft]	[kg/km]	[lbs/mft]	[kg/km]
CF298-01-02	26	2 x 0.14	0.18	4.5	3.4	5	11.4	17
CF298-01-04	26	4 x 0.14	0.22	5.5	6.0	9	18.8	28
CF298-01-08	26	8 x 0.14	0.28	7.0	11.4	17	32.9	49
CF298-02-03	24	3 x 0.25	0.22	5.5	8.1	12	18.8	28
CF298-02-04	24	4 x 0.25	0.24	6.0	10.8	16	22.8	34
CF298-02-07	24	7 x 0.25	0.28	7.0	18.8	28	34.9	52
CF298-02-08	24	8 x 0.25	0.30	7.5	21.5	32	40.3	60
CF298-03-04	22	4 x 0.34	0.24	6.0	12.8	19	24.9	37
CF298-03-07	22	7 x 0.34	0.30	7.5	22.8	34	41.7	62
CF298-05-04	20	4 x 0.5	0.26	6.5	18.8	28	32.9	49

Note: The given outer diameters are maximum values.
G = with green-yellow earth core x = without earth core

UL-verified chainflex® guarantee ... www.igus.com/ul-verified



Data cable | TPE | chainflex® CF299

36 40,000,000
Cycles guaranteed






4 x d
Bend radius E-Chain®

328.1 ft
Travel distance E-Chain®








100% more cycles guaranteed

- For maximum mechanical load requirements and especially small bend radii to 4 x d
- TPE outer jacket
- Shielded
- Oil and bio-oil-resistant
- PVC and halogen-free
- Low-temperature-flexibility
- Hydrolysis and microbe-resistant



Dynamic Information

	Bend radius	E-Chain® linear flexible	min. 4 x d
		fixed	min. 3 x d
	Temperature	E-Chain® linear flexible	-31 °F to +194 °F (-35 °C to +90 °C)
		fixed	-58 °F to +194 °F (-50 °C to +90 °C)
		fixed	-67 °F to +194 °F (-55 °C to +90 °C)
	v max.	unsupported	32.81 ft/s (10 m/s)
		gliding	19.69 ft/s (6 m/s)
	a max.		328.1 ft/s ² (100 m/s ²)
	Travel distance	Short, very fast applications with small radii and restricted installation space, Class 5	

Cable structure

	Conductor	Conductor consisting of a highly flexible stranded special alloy.
	Conductor insulation	Mechanically high-quality TPE mixture.
	Conductor construction	Conductors cabled in one layer with especially short pitch length.
	Color code	Color code in accordance with DIN 47100.
	Inner jacket	TPE mixture adapted to suit the requirements in E-Chains®.
	Overall shield	Highly flexible, alloyed special shield. 90 % optical coverage
	Outer jacket	Low-adhesion mixture on the basis of TPE, especially abrasion-resistant and highly flexible, adapted to suit the requirements in E-Chains®. Color: Dark blue (similar to RAL 5011)

Electrical Information

	Nominal voltage	300 V
	Test voltage	1500 V

Configurators ► www.igus.com/CF299

36 month guarantee ... 1,354 types from stock ... no cutting charges













Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

Class 7.5.4.1

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.02806 (TR ZU)
	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

Guaranteed service life (details see page 26-27)

Cycles*	20 million	30 million	40 million
Temperature, from/to [°F]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-31/-13	5	6	7
-13/+176	4	5	6
+176/+194	5	6	7

* Higher number of cycles? Online lifetime calculation ► www.chainflex.com/chainflexlife

Typical application areas

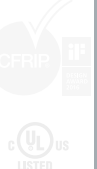
- For maximum mechanical load requirements and especially small bend radii to 4 x d, Class 7
- Especially for short, very fast applications with small radii and restricted installation space, Class 5
- Almost unlimited resistance to oil, also with bio-oils, Class 4
- Indoor and outdoor applications, UV-resistant
- Pick and place machines, Automatic doors, Cleanroom, very quick handling

Part No.	AWG	Number of Conductors and rated cross section	Outer diameter max.		Copper index	Weight		
			[in.]	[mm]		[lbs/mft]	[kg/km]	
CF299-01-02	26	2 x 0.14	0.24	6.0	11.4	17	24.9	37
CF299-01-04	26	4 x 0.14	0.26	6.5	14.8	22	31.6	47
CF299-01-08	26	8 x 0.14	0.33	8.5	23.5	35	53.8	80
CF299-02-04	24	4 x 0.25	0.28	7.0	21.5	32	37.6	56
CF299-02-07	24	7 x 0.25	0.33	8.5	30.9	46	55.1	82

Note: The given outer diameters are maximum values.
G = with green-yellow earth core x = without earth core



UL-verified chainflex® guarantee ... www.igus.com/ul-verified



Coax cable | TPE | chainflex® CFKCoax

36 10,000,000
Cycles guaranteed

10 x d
Bend radius E-Chain®

1312.4 ft
Travel distance E-Chain®

- For very high mechanical load requirements
- TPE outer jacket
- Oil and bio-oil-resistant
- UV-resistant
- Hydrolysis and microbe-resistant

Dynamic Information

	Bend radius	E-Chain® linear	min. 10 x d
		flexible	min. 8 x d
		fixed	min. 5 x d
	Temperature	E-Chain® linear	-31 °F to +212 °F (-35 °C to +100 °C) (CFKCoax1/3)
			-31 °F to +158 °F (-35 °C to +70 °C) (CFKCoax2)
		flexible	-58 °F to +212 °F (-50 °C to +100 °C) (CFKCoax1/3)
			-58 °F to +158 °F (-50 °C to +70 °C) (CFKCoax2)
		fixed	-67 °F to +212 °F (-55 °C to +100 °C) (CFKCoax1/3)
			-67 °F to +158 °F (-55 °C to +70 °C) (CFKCoax2)
	v max.	unsupported	32.81 ft/s (10 m/s)
		gliding	16.41 ft/s (5 m/s)
	a max.	328.1 ft/s² (100 m/s²)	
	Travel distance	Unsupported travel distances and for gliding applications up to 1312 ft (400 m) and more, Class 6	

Cable structure

	Conductor	CFKCoax1: Silvered copper wires. CFKCoax2: Tinned copper wires. CFKCoax3: Silvered copper wires.
	Conductor insulation	Special FEP mixture (CFKCoax1/3) Special PE-isolating mixture (CFKCoax2)
	Conductor construction	Conductors cabled in one layer with especially short pitch length.
	Color code	Coaxial elements ► See Table
	Element shield	Extremely bending-resistant tinned copper braid. Coverage approx. 70% linear, approx. 90 % optical
	Element jacket	TPE mixture adapted to suit the requirements in E-Chains®.
	Outer jacket	Low-adhesion mixture on the basis of TPE, especially abrasion-resistant and highly flexible, adapted to suit the requirements in E-Chains®. Color: ► See P/N Table

Electrical Information

	Nominal voltage	500 V
	Test voltage	1500 V (following DIN EN 50395)

Configurators ► www.igus.com/CFKCOAX

36 month guarantee ... 1,354 types from stock ... no cutting charges



Basic requirements	low	1	2	3	4	5	6	7	highest
Travel distance	unsupported	1	2	3	4	5	6	≥ 1312 ft	
Oil resistance	none	1	2	3	4	highest			
Torsion	none	1	2	3	4	±360°			

Class 6.6.4.1

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 Certificate No. RU C-DE.ME77.B.00300/19 (TR ZU)
	EAC	
	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
	Info	CFKCoax1 series are comparable with a HF75-0.3/1.6 according to MIL-C-17/94-RG179 and thus fit into an RG179 plug CFKCoax2 series are comparable with a HF50-0.9/2.95 according to MIL-C-17/28-RG58 and thus fit into an RG58 plug CFKCoax3 series are comparable with a HF50-0.3/0.84 according to MIL-C-17/93-RG178 and thus fit into an RG178 plug

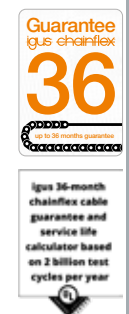
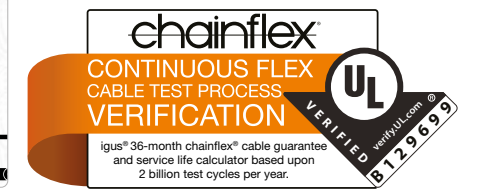
Guaranteed service life (details see page 26-27)

Cycles*	5 million	7.5 million	10 million
Temperature, from/to [°F]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-31/-13	12.5	13.5	14.5
-13/+140 (CFKCoax2)	10	11	12
-13/+194 (CFKCoax1/3)	10	11	12
+140/+158 (CFKCoax2)	12.5	13.5	14.5
+194/+212 (CFKCoax1/3)	12.5	13.5	14.5

* Higher number of cycles? Online lifetime calculation ► www.chainflex.com/chainflexlife

Typical application areas

- For very high mechanical load requirements, Class 6
- Unsupported travel distances and for gliding applications up to 1312 ft (400 m) and more, Class 6
- Almost unlimited resistance to oil, also with bio-oils, Class 4
- 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



Example image

Basic requirements	low	1	2	3	4	5	6	7	highest
Travel distance	unsupported	1	2	3	4	5	6	≥ 1312 ft	
Oil resistance	none	1	2	3	4	highest			
Torsion	none	1	2	3	4	±360°			

Class 6.6.4.1



Example image

Part No.	AWG	Compatible with plug type	Coaxial elements	Outer diameter max.		Copper index		Weight	
				[in.]	[mm]	[lbs/mft]	[kg/km]	[lbs/mft]	[kg/km]
CFK coax1-01	30	RG 179	1	0.18	4.5	5.4	8	15.5	23
CFK coax1-05	30	RG 179	5	0.39	10.0	22.8	34	73.9	110
CFK coax2-01	20	RG 58	1	0.22	5.5	12.8	19	24.2	36
CFK coax3-01	30	RG 178	1	0.14	3.5	4.0	6	8.1	12

Part No.	Characteristic Impedance Ω	Conductor/Core diameter nominal [mm]	Color code	Color outer jacket (similar to RAL)
CFK coax1-01	75	0.3/1.6	red	Dark blue (similar to RAL 5011)
CFK coax1-05	75	0.3/1.6	red, green, blue, white, black	Dark blue (similar to RAL 5011)
CFK coax2-01	50	0.9/2.95	-	Jet black (similar to RAL 9005)
CFK coax3-01	50	0.3/0.85	-	Gray (similar to RAL 7040)

Note: The given outer diameters are maximum values.
G = with green-yellow earth core x = without earth core

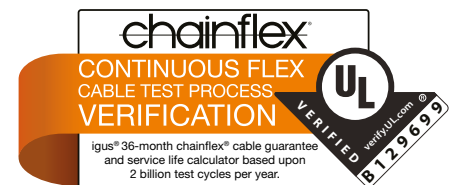
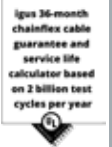
Order example: CFK coax1-01 – To your desired length
CFK coax chainflex® series -01 Number of coaxial elements

Online order ► www.chainflex.com/CFK coax

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



Coax cable and other chainflex® cables in stage technology. E-Chain®: System E4/4



Bus cables

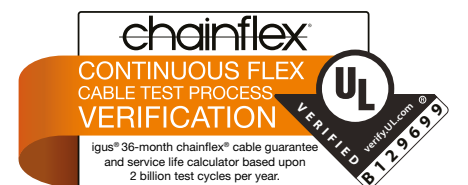


chainflex® cable	Jacket	Shield	Bending radius min., E-Chain® [factor x d]	Temperature, E-Chain® from/to [°F]	Approvals and standards	Oil-resistant	Torsion resistant v max. [ft/s] unsupported v max. [ft/s] gliding a max. [ft/s²]	Page	
Bus cables									
Selection chart for chainflex® Bus cables								170	
Selection chart for chainflex® Ethernet cables								173	
CF888	PVC ✓	15	+41/ +158		9.84	65.62	174	New	
CFBUS-PVC	PVC ✓	12.5	+41/ +158		9.84	6.56	98.43	178	New
CF898	iguPUR ✓	15	-4/ +158		9.84	65.62	182	New	
CFBUS-PUR	PUR ✓	12.5	-4/ +158		9.84	6.56	98.43	186	New
CF14US	PUR ✓	12.5	-4/ +176		32.81	19.69	328.1	190	
CFBUS	TPE ✓	10-12.5-31	+158		32.81	19.69	328.1	192	New
CFBUS-LB	TPE ✓	7.5	-31/ +158		32.81	19.69	328.1	198	
Torsion Bus cables (Chapter Torsion cables) ▶ Page 366									
CFROBOT8	PUR ✓	10	+13/ +158					394	
CFROBOT8-PLUS	PUR ✓	10	+13/ +158					398	










36 months chainflex® guarantee
Guaranteed lifetime for predictable reliability
 ▶ Selection table page 168

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.com/chainflexlife

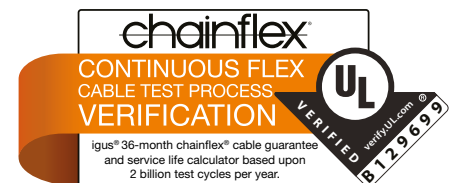




chainflex® cable	Temperature, from/to [°F]	v max. [ft/s]		a max. [ft/s²]	Travel distance [ft]	Bending radius min. [factor x d]		Bending radius min. [factor x d]		Bending radius min. [factor x d]		Page
		unsupported	gliding			5 million (1 million) cycles *	7.5 million (3 million) cycles *	10 million (5 million) cycles *				
 CF888 New!	+41 / +59 +59 / +140 +140 / +158	9.84	-	65.62	≤ 32.81	17.5 15 17.5	18.5 16 18.5	19.5 17 19.5	174			
 CFBUS-PVC New!	+41 / +59 +59 / +140 +140 / +158	9.84	6.56	98.43	≤ 65.62	15 12.5 15	16 13.5 16	17 14.5 17	178			
 CF898 New!	-4 / +14 +14 / +140 +140 / +158	9.84	-	65.62	≤ 32.81	17.5 15 17.5	18.5 16 18.5	19.5 17 19.5	182			
 CFBUS-PUR New!	-4 / +14 +14 / +140 +140 / +158	9.84	6.56	98.43	≤ 65.62	15 12.5 15	16 13.5 16	17 14.5 17	186			
 CF14US	-4 / +14 +14 / +140 +140 / +158	32.81	19.69	328.1	≤ 1,312	12.5 10 12.5	13.5 11 13.5	14.5 12 14.5	190			
 CFBUS-001 to -049 New! CFBUS-060	-31 / -13 -13 / +140 +140 / +158	32.81	19.69	328.1	≤ 1,312	12.5 10 12.5	13.5 11 13.5	14.5 12 14.5	192			
 CFBUS-050 to -055 New! CFBUS-065 to -070	-31 / -13 -13 / +140 +140 / +158	32.81	19.69	328.1	≤ 1,312	15 12.5 15	16 13.5 16	17 14.5 17	192			
 CFBUS-LB -001 to -022	-31 / -13 -13 / +140 +140 / +158	32.81	19.69	328.1	≤ 1,312	12.5 10 12.5	13.5 11 13.5	14.5 12 14.5	198			
 CFBUS-LB -040 to -049	-31 / -13 -13 / +140 +140 / +158	32.81	19.69	328.1	≤ 1,312	10 7.5 10	11 8.5 11	12 9.5 12	198			

⁽¹⁾ **Exclusive!** Guaranteed lifetime for this series according to the guarantee conditions ► Page 26-27

* Higher number of cycles? Online lifetime calculation ► www.igus.com/Chainflexlife
 Figures in brackets refer to chainflex® series CF888 and CF898



The right cable for every bus system ... Product range of chainflex® Bus cables at a glance

Bus types	PVC 15 x d	PVC oil-res. 12.5 x d	iguPUR 15 x d	PUR 12.5 x d	TPE UL 10-12.5 x d	TPE 7.5 x d	Torsion 10 x d	Special applications
DVI					NEW chainflex® CFBUS Page 192			
CC Link		NEW chainflex® CFBUS-PVC Page 178			NEW chainflex® CFBUS-PUR Page 186	NEW chainflex® CFBUS Page 192		
SPE					NEW chainflex® CFBUS-PUR Page 186			
Ethercat*	NEW chainflex® CF888 Page 174	NEW chainflex® CFBUS-PVC Page 178	NEW chainflex® CF898 Page 182	NEW chainflex® CFBUS-PUR Page 186	NEW chainflex® CFBUS Page 192	chainflex® CFBUS-LB Page 198	chainflex® CFROBOT8 Page 394	
Ethernet*	NEW chainflex® CF888 Page 174	NEW chainflex® CFBUS-PVC Page 178	NEW chainflex® CF898 Page 182	NEW chainflex® CFBUS-PUR Page 186	NEW chainflex® CFBUS Page 192	chainflex® CFBUS-LB Page 198	CFROBOT8 Page 394 CFROBOT8-PLUS Page 398	CFSPECIAL-182 Page 412 CFSPECIAL-484 Page 416
Profinet*	NEW chainflex® CF888 Page 174	NEW chainflex® CFBUS-PVC Page 178	NEW chainflex® CF898 Page 182	NEW chainflex® CFBUS-PUR Page 186	NEW chainflex® CFBUS Page 192	chainflex® CFBUS-LB Page 198	CFROBOT8 Page 394 CFROBOT8-PLUS Page 398	chainflex® CFSPECIAL-182 Page 412
USB		NEW chainflex® CFBUS-PVC Page 178			NEW chainflex® CFBUS-PUR Page 186	NEW chainflex® CFBUS Page 192		
FireWire		NEW chainflex® CFBUS-PVC Page 178			NEW chainflex® CFBUS-PUR Page 186	NEW chainflex® CFBUS Page 192		
CAN-Bus	NEW chainflex® CF888 Page 174	NEW chainflex® CFBUS-PVC Page 178	NEW chainflex® CF898 Page 182	NEW chainflex® CFBUS-PUR Page 186	NEW chainflex® CFBUS Page 192	chainflex® CFBUS-LB Page 198	chainflex® CFROBOT8 Page 394	
ASI			NEW chainflex® CF898 Page 182					
Device Net					NEW chainflex® CFBUS Page 192			
Interbus					NEW chainflex® CFBUS Page 192			
Profibus	NEW chainflex® CF888 Page 174	NEW chainflex® CFBUS-PVC Page 178	NEW chainflex® CF898 Page 182	NEW chainflex® CFBUS-PUR Page 186	NEW chainflex® CFBUS Page 192		CFROBOT8 Page 394 CFROBOT8-PLUS Page 398	chainflex® CFSPECIAL-182 Page 412

* Detailed selection for Ethernet types on page 171

Bus system/ chainflex® type	Jacket	Number of cores and conductor nominal cross section [mm²]	Page
Profibus (1x2x0.64 mm)			
New CF888-001	PVC	(2x0.25)C	176
New CFBUS-PVC-001	PVC	(2x0.25)C	180
New CF898-001	iguPUR	(2x0.25)C	184
New CFBUS-PUR-001	PUR	(2x0.25)C	188
New CFBUS-001	TPE	(2x0.25)C	194
New CFBUS-002	TPE	(2x0.25)C+4x1.5	194
New CFBUS-003	TPE	(2x0.25)C+3G0.75	194
CFBUS-LB-001	TPE	(2x0.25)C	200
CFROBOT8-001	PUR	(2x0.35)	396
CFROBOT8-PLUS-001	PUR	(2x0.25)C	400
CFSPECIAL-182-001	PUR	(2x0.25)C	412
Interbus			
New CFBUS-010	TPE	(3x(2x0.25))C	194
New CFBUS-011	TPE	(3x(2x0.25)+(3G1.0))C	194
CAN-Bus			
New CF888-021	PVC	(2x0.5)C	176
New CFBUS-PVC-020	PVC	(4x0.25)C	180
New CFBUS-PVC-021	PVC	(2x0.5)C	180
New CFBUS-PVC-022	PVC	(4x0.5)C	180
New CF898-021	iguPUR	(2x0.5)C	184
New CFBUS-PUR-020	PUR	(4x0.25)C	188
New CFBUS-PUR-021	PUR	(2x0.5)C	188
New CFBUS-PUR-022	PUR	(4x0.5)C	188
New CFBUS-020	TPE	(4x0.25)C	194
New CFBUS-021	TPE	(2x0.5)C	194
New CFBUS-022	TPE	(4x0.5)C	194
CFBUS-LB-020	TPE	(4x0.25)C	200
CFBUS-LB-021	TPE	(2x0.5)C	200
CFBUS-LB-022	TPE	(4x0.5)C	200
CFROBOT8-022	PUR	(4x0.5)	396
Device-Net			
New CFBUS-030	TPE	((2xAWG24)C+2xAWG22)C	194
New CFBUS-031	TPE	((2xAWG18)C+2xAWG15)C	194
CC-Link			
New CFBUS-PVC-035	PVC	(3x0.5)C	180
New CFBUS-PUR-035	PUR	(3x0.5)C	188
New CFBUS-035	TPE	(3xAWG20)C	194
Ethernet/CAT5			
New CFBUS-PVC-040	PVC	(4x0.25)C	180
New CFBUS-PUR-040	PUR	(4x0.25)C	188
New CFBUS-040	TPE	(4x0.25)C	196
New CFBUS-044	TPE	(4x(2x0.15))C	196
CFBUS-LB-040	TPE	(4x(0.25)C)	200
Single Pair Ethernet			
New CFBUS-PUR-042	PUR	(2x0.15)C	188
Ethernet/CAT5e			
New CF888-045	PVC	(4x(2x0.14))C	176
New CFBUS-PVC-045	PVC	(4x(2x0.15))C	180
New CF898-045	iguPUR	(4x(2x0.14))C	184
New CFBUS-PUR-045	PUR	(4x(2x0.15))C	188
New CFBUS-045	TPE	(4x(2x0.15))C	196
CFBUS-LB-045	TPE	(4x(2x0.15))C	200
CFROBOT8-045	PUR	4x(2x0.14)C	396
CFROBOT8-PLUS-045	PUR	(4x(2x0.15))C	400
CFSPECIAL-182-045	PUR	(4x(2x0.15))C	412
Ethernet/CAT6			
New CFBUS-PVC-049	PVC	(4x(2x0.15))C	180
New CFBUS-PUR-049	PUR	(4x(2x0.15))C	188
New CFBUS-PUR-H01-049	PUR	(4x(2x0.15))C+4x1.5	188
New CFBUS-049	TPE	(4x(2x0.15))C	196
CFBUS-LB-049	TPE	(4x(2x0.15))C	200
CFROBOT8-049	PUR	4x(2x0.14)C	396
CFSPECIAL-484-049	-	(4x(2x0.15))C	416
Ethernet/CAT6A			
New CFBUS-PVC-050	PVC	4x(2x0.20)C	180
New CFBUS-PUR-050	PUR	4x(2x0.20)C	188
New CFBUS-050	TPE	(4x(2x0.15))C)C	196
Ethernet/CAT7			
New CFBUS-PVC-052	PVC	(4x(2x0.15))C)C	180
New CFBUS-PUR-052	PUR	(4x(2x0.15))C)C	188
New CFBUS-052	TPE	(4x(2x0.15))C)C	196
FireWire IEEE 1394a/b			
New CFBUS-PVC-056	PVC	(2x(2x0.15)C+2x0.38)C	180
New CFBUS-PUR-056	PUR	(2x(2x0.15)C+2x0.38)C	188
New CFBUS-055	TPE	2x(2x0.15)C+2x(0.34)C	196
Profinet			
New CF888-060	PVC	(4x0.38)C	176
New CFBUS-PVC-060	PVC	(4x0.38)C	180
New CF898-060	iguPUR	(4x0.38)C	184
New CFBUS-PUR-060	PUR	(4x0.38)C	188
New CFBUS-PUR-H01-060	PUR	(4x0.38)C+4x1.5	188
New CFBUS-060	TPE	(4x0.38)C	196
CFBUS-LB-060	TPE	(4x0.38)C	200
CFROBOT8-060	PUR	(2x(2x0.34))C	396
CFROBOT8-PLUS-060	PUR	(4x0.38)C	400
USB			
New CFBUS-065	TPE	((2xAWG28)+2xAWG20)C	196
New CFBUS-066	TPE	((2xAWG24)+2xAWG20)C	196
USB 3.0			
New CFBUS-PVC-068	PVC	(2x(2xAWG28)+2x(2xAWG28))C	180
New CFBUS-PUR-068	PUR	(2x(2xAWG28)+2x(2xAWG28))C	188
DVI			
New CFBUS-070	TPE	(4x(2xAWG28)C +(2xAWG28)+3xAWG28)C	196
ASI BUS (flat cables)			
New CF898-082 (yellow)	iguPUR	2x2.5	184
New CF898-083 (black)	iguPUR	2x2.5	184

* Details for chainflex® Ethernet cables can be found on page 173!

For all data and motion requirements... Networking 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.

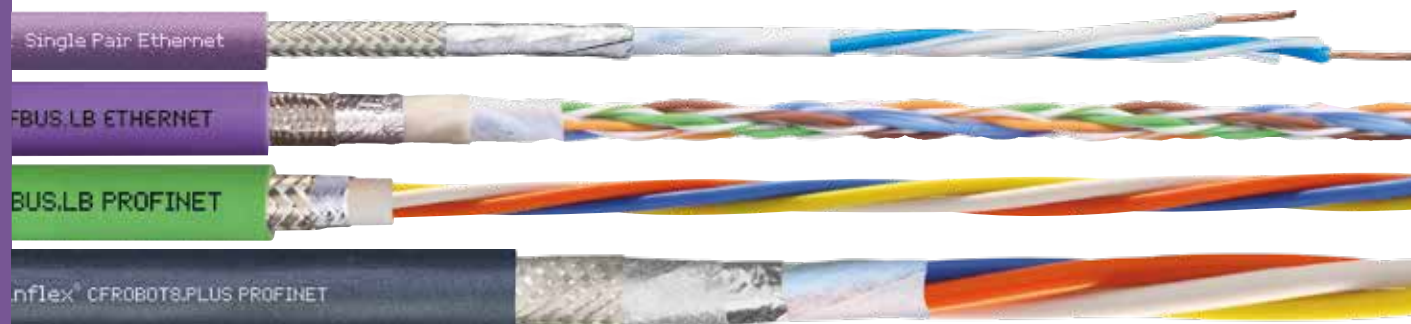
Our online tools also enable you to reduce process costs and help you to find the right cable with just a few clicks.

Also visit our Ethernet website:



www.chainflex.com/ethernet

All common Bus types in different cable quality levels for your diverse applications. From stock. Tested. With guarantee.



Bus cable | PVC | chainflex® CF888

36 5,000,000
Cycles guaranteed

15 x d
Bend radius E-Chain®

32.8 ft
Travel distance E-Chain®

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

Now with 300 V
UL approval

Dynamic Information

	Bend radius	E-Chain® linear	min. 15 x d
		flexible	min. 12 x d
		fixed	min. 8 x d
	Temperature	E-Chain® linear	+41 °F to +158 °F (+5 °C to +70 °C)
		flexible	+23 °F to +158 °F (-5 °C to +70 °C)
		fixed	+5 °F to +158 °F (-15 °C to +70 °C)
	v max.	unsupported	9.84 ft/s (3 m/s)
		a max.	65.6 ft/s² (20 m/s²)
	Travel distance	Unsupported travel distances up to 32.8 ft (10 m), Class 1	

Cable structure

	Conductor	Conductor consisting of bare copper wires (according to DIN EN 60228).
	Conductor insulation	According to bus specification.
	Conductor construction	According to bus specification.
	Color code	According to bus specification. ▶ See P/N Table
	Overall shield	aluminum/polyester tape and tinned cooper braid. 60 % optical coverage
	Outer jacket	Low-adhesion mixture on the basis of PVC, adapted to suit the requirements in E-Chains®. Color: Violet (similar to RAL 4001) Variants ▶ See P/N Table

Electrical Information

	Nominal voltage	300 V, except CF888-001: 30 V
	Test voltage	500 V

Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

Class 3.1.1.1

Properties and approvals

	Flame resistance	According to IEC 60332-1-2, FT1, VW-1
	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	300 V, +60 °C See data sheet for details ▶ www.igus.com/CF888
	NFPA 79	Complies to Electrical Standard for Industrial Machinery NFPA 79 Section 12.9
	EAC	Certificate No. RU C-DE.ME77.B.00295/19 (TR ZU)
	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

Guaranteed service life (details see page 26-27)

Cycles*	1 million	3 million	5 million
Temperature, from/to [°F]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
+41/+59	17.5	18.5	19.5
+59/+140	15	16	17
+140/+158	17.5	18.5	19.5

* Higher number of cycles? Online lifetime calculation ▶ www.chainflex.com/chainflexlife

Typical application areas

- For low duty flexing applications, Class 3
- Especially for unsupported travels, Class 1
- Without influence of oil, Class 1
- Preferably indoor applications
- Wood/stone processing, Packaging industry, supply systems, Handling, adjusting equipment

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

CFRIP

UL LISTED

UL US

NFPA

CE

EAC

REACH

RoHS

Chainflex

UL

VERIFIED B129699

CE

Guarantee
igus chainflex
36
up to 36 months guarantee

chainflex
CONTINUOUS FLEX
CABLE TEST PROCESS
VERIFICATION
igus® 36-month chainflex® cable guarantee and service life calculator based upon 2 billion test cycles per year.

Example image

Configurators ▶ www.igus.com/CF888

36 month guarantee ... 1,354 types from stock ... no cutting charges



Example image

Part No.	AWG	Number of Conductors and rated cross section	Outer diameter max.		Copper index		Weight		Part No.	Characteristic Impedance	Core group	Color code
			[in.]	[mm]	lbs/mft	[kg/km]	lbs/mft	[kg/km]		[Ω]		
Profibus (1x2x0.64 mm)												
CF888-001	24	1 PR x 0.25	0.31	8.0	12.1	18	39.6	59	CF888-001	150	2x0.25	red, green
CAN-Bus												
CF888-021	20	1 PR x 0.5	0.33	8.5	16.1	24	49.1	73	CF888-021	120	2x0.5	white, brown
Ethernet/CAT5e												
CF888-045	26	4 PR x 0.14	0.28	7.0	16.8	25	41.7	62	CF888-045	100	4x(2x0.14)	white-blue/blue, white-orange/orange, white-green/green, white-brown/brown
Profinet												
CF888-060 ^{2) 13)}	22	2 PR x 0.34	0.28	7.0	16.8	25	39.6	59	CF888-060 ^{2) 13)}	100	4x0.34	white, orange, blue, yellow (Star-quad)

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

¹³⁾ Color outer jacket: Yellow-green (similar to RAL 6018)

Note: The given outer diameters are maximum values.

G = with green-yellow earth core x = without earth core

PR = Twisted Pair

cost down...



Reduce cost, improve technology, now!

Do the chainflex® price check now ...

www.igus.com/info/cable-price-check

... just one idea for you: Reduce bend radius with CFBUS ...

...life up



chainflex® CF888 bus cables in a handling application

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 different media.

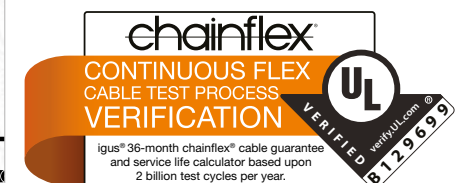
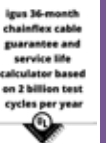
The cables have been electrically designed in such a way that, on the one hand, the electrical requirements of the respective bus specification are reliably met and, on the other, there is a high degree of EMC reliability.

It is also ensured that the electrical values remain stable over the long term in spite of constant 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 its extensive tests, helps you to ensure the process reliability of your system from the very beginning.



Bus cable | PVC | chainflex® CFBUS-PVC

36 10,000,000
Cycles guaranteed






12.5 x d
Bend radius E-Chain®

65.6 ft
Travel distance E-Chain®







- For medium mechanical load requirements
- PVC outer jacket
- Shielded
- Oil-resistant
- Flame-retardant

Now with 300 V
UL approval



Dynamic Information

 Bend radius	E-Chain® linear	min. 12.5 x d
	flexible	min. 10 x d
	fixed	min. 7 x d
 Temperature	E-Chain® linear	+41 °F to +158 °F (+5 °C to +70 °C)
	flexible	+23 °F to +158 °F (-5 °C to +70 °C)
	fixed	+5 °F to +158 °F (-15 °C to +70 °C)
 v max.	unsupported	9.84 ft/s (3 m/s)
	gliding	6.56 ft/s (2 m/s)
 a max.		98.4 ft/s ² (30 m/s ²)
 Travel distance		Unsupported travel distances and for gliding applications up to 65.6 ft (20 m), Class 3

Cable structure

 Conductor	Conductor consisting of bare copper wires (according to DIN EN 60228).
 Conductor insulation	According to bus specification.
 Conductor construction	According to bus specification.
 Color code	According to bus specification. ► See P/N Table
 Overall shield	Bending-resistant tinned copper braid. 80 % optical coverage
 Outer jacket	Low-adhesion, oil-resistant mixture on the basis of PVC, adapted to suit the requirements in E-Chains® (following DIN EN 50363-4-1). Color: Violet (similar to RAL 4001) Variants ► See P/N Table

Electrical Information

 Nominal voltage	300 V, except CFBUS-PVC-020: 30 V
 Test voltage	500 V

Configurators ► www.igus.com/CFBUS-PVC

36 month guarantee ... 1,354 types from stock ... no cutting charges

















Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

Class 4.3.2.1

Properties and approvals

 UV resistance	Medium
 Oil resistance	Oil-resistant (following DIN EN 50363-4-1), Class 2
 Flame resistance	According to IEC 60332-1-2, FT1, VW-1
 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 CMX, 75°C (except CFBUS.PVC.068)
 UL-Listed	
 UL/CSA AWM	30 V, +80 °C See data sheet for details ► www.igus.com/CFBUS-PVC
 NFPA 79	Complies to Electrical Standard for Industrial Machinery NFPA 79 Section 12.9
 CLPA	CFBUS-PVC-045: CC-Link IE Field , Reference no. 153 CFBUS-PVC-049: CC-Link IE Field , Reference no. 154 Certificate No. RU C-DE.ME77.B.00295/19 (TR ZU)
 EAC	
 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

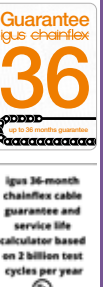
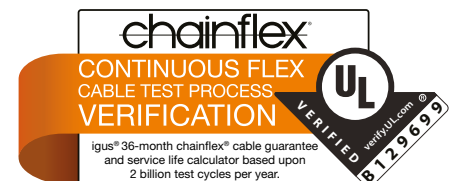
Guaranteed service life (details see page 26-27)

Cycles*	5 million	7.5 million	10 million
Temperature, from/to [°F]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
+41/+59	15	16	17
+59/+140	12.5	13.5	14.5
+140/+158	15	16	17

* Higher number of cycles? Online lifetime calculation ► www.chainflex.com/chainflexlife

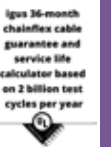
Typical application areas

- For medium mechanical load requirements, Class 4
- Unsupported travel distances and for gliding applications up to 66 ft (20 m), Class 3
- Light oil influence, Class 2
- Preferably indoor applications, can be used in outdoor applications with temperatures > 41°F
- machining units/packaging machines, Handling, indoor cranes



igus® chainflex® CFBUS.PVC.049

Example image



Part No.	AWG	Number of Conductors and rated cross section	Outer diameter max.		Copper index		Weight		Part No.	Characteristic Impedance	Core group	Color code
			[in.]	[mm]	lbs/mft	[kg/km]	lbs/mft	[kg/km]				
Profibus (1x2x0.64 mm)												
CFBUS-PVC-001	24	1 PR x 0.25	0.33	8.5	16.8	25	51.7	77	CFBUS-PVC-001	150	(2x0.25)C	red, green
CAN-Bus												
CFBUS-PVC-020 ²⁾	24	2 PR x 0.25	0.28	7.0	15.5	23	38.3	57	CFBUS-PVC-020 ²⁾	120	(4x0.25)C	white, green, brown, yellow (Star-quad)
CFBUS-PVC-021	20	1 PR x 0.5	0.33	8.5	21.5	32	57.8	86	CFBUS-PVC-021	120	(2x0.5)C	white, brown
CFBUS-PVC-022 ²⁾	20	2 PR x 0.5	0.33	8.5	28.9	43	63.2	94	CFBUS-PVC-022 ²⁾	120	(4x0.5)C	white, green, brown, yellow (Star-quad)
CC-Link												
CFBUS-PVC-035	20	3 x 0.5	0.31	8.0	26.9	40	55.1	82	CFBUS-PVC-035	110	(3x0.5)C	white, blue, yellow
Ethernet/CAT5												
EtherCAT [➔] CFBUS-PVC-040 ²⁾	24	2 PR x 0.25	0.26	6.5	19.5	29	47.0	70	CFBUS-PVC-040 ²⁾	100	(4x0.25)C	white, green, brown, yellow (Star-quad)
Ethernet/CAT5e												
CC-Link IE [➔] CFBUS-PVC-045	26	4 PR x 0.15	0.30	7.5	22.2	33	45.0	67	CFBUS-PVC-045	100	(4x(2x0.15))C	white-blue/blue, white-orange/orange, white-green/green, white-brown/brown
Ethernet/CAT6												
CC-Link IE [➔] CFBUS-PVC-049	26	4 PR x 0.15	0.30	7.5	22.2	33	45.0	67	CFBUS-PVC-049	100	(4x(2x0.15))C	white-blue/blue, white-orange/orange, white-green/green, white-brown/brown
Ethernet/CAT6A												
CFBUS-PVC-050	26	4 STP x 0.15	0.39	10.0	43.7	65	82.7	123	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	26	4 STP x 0.15	0.37	9.5	59.8	89	91.4	136	CFBUS-PVC-052	100	(4x(2x0.15))C	white-blue/blue, white-orange/orange, white-green/green, white-brown/brown
FireWire IEEE 1394b												
CFBUS-PVC-056	26	2 STP x 0.15	0.35	9.0	39.6	59	64.5	96	CFBUS-PVC-056	110	2x(2x0.15)C 2x0.38	orange/blue, blue/red black, white
Profinet												
EtherCAT [➔] CFBUS-PVC-060 ^{2) 13)}	22	2 PR x 0.38	0.28	7.0	22.2	33	45.0	67	CFBUS-PVC-060 ^{2) 13)}	100	(4x0.38)C	white, orange, blue, yellow (Star-quad)
USB 3.0												
CFBUS-PVC-068	28	2 PR x AWG28	0.28	7.0	26.2	39	45.7	68	CFBUS-PVC-068	90	2x(2xAWG28) 2x(2xAWG28)C	red/black, green/white-green blue/yellow, orange/violet

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

¹³⁾ Color outer jacket: Yellow-green (similar to RAL 6018)

Note: The given outer diameters are maximum values.

G = with green-yellow earth core x = without earth core

STP = Individually shielded Twisted Pair

PR = Twisted Pair

Order example: CFBUS-PVC-052 – To your desired length
CFBUS-PVC chainflex® series -052 Code Bus type

Online order ► www.chainflex.com/CFBUS-PVC

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

Configurators ► www.igus.com/CFBUS-PVC

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 different 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, there is a high degree of EMC reliability.

It is also ensured that the electrical values remain stable over the long term in spite of constant 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 its extensive tests, helps you to ensure the process reliability of your system from the very beginning.

Bus cable | iguPUR | chainflex® CF898

36 5,000,000
Cycles guaranteed

15 x d
Bend radius E-Chain®

32.8 ft
Travel distance E-Chain®

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

Now with 300 V
UL approval

Dynamic Information

	Bend radius	E-Chain® linear	min. 15 x d
		flexible	min. 12 x d
		fixed	min. 8 x d
	Temperature	E-Chain® linear	-4 °F to +158 °F (-20 °C to +70 °C)
		flexible	-40 °F to +158 °F (-40 °C to +70 °C)
		fixed	-58 °F to +158 °F (-50 °C to +70 °C)
	v max.	unsupported	9.84 ft/s (3 m/s)
	a max.		65.6 ft/s² (20 m/s²)
	Travel distance		Unsupported travel distances up to 32.8 ft (10 m), Class 1

Cable structure

	Conductor	Conductor consisting of bare copper wires (according to DIN EN 60228).
	Conductor insulation	According to bus specification.
	Conductor construction	According to bus specification.
	Color code	According to bus specification. ► See P/N Table
	Overall shield	aluminum/polyester tape and tinned cooper braid. 60 % optical coverage
	Outer jacket	Low-adhesion mixture on the basis of iguPUR, adapted to suit the requirements in E-Chains®. Color: Violet (similar to RAL 4001) Variants ► See P/N Table

Electrical Information

	Nominal voltage	300 V, except CF898-001: 30 V
	Test voltage	500 V

Example image

Configurators ► www.igus.com/CF898

36 month guarantee ... 1,354 types from stock ... no cutting charges



Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

Class 3.1.3.1

Properties and approvals

	UV resistance	Medium
	Oil resistance	Oil-resistant (following DIN EN 50363-10-2), Class 3
	Flame resistance	CF898-001-CF898-060: According to IEC 60332-1-2, FT1, VW-1 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	300 V, +80 °C See data sheet for details ► www.igus.com/CF898
	NFPA 79	CF898-001-CF898-060: Complies to Electrical Standard for Industrial Machinery NFPA 79 Section 12.9
	EAC	Certificate No. RU C-DE.ME77.B.00295/19 (TR ZU)
	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

Guaranteed service life (details see page 26-27)

Cycles*	1 million	3 million	5 million
Temperature, from/to [°F]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-4/+14	17.5	18.5	19.5
+14/+140	15	16	17
+140/+158	17.5	18.5	19.5

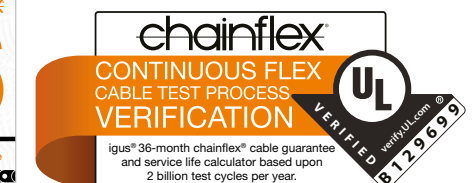
* Higher number of cycles? Online lifetime calculation ► www.chainflex.com/chainflexlife

Typical application areas

- For low duty flexing applications, Class 3
- Especially for unsupported travels, Class 1
- With influence of oil, Class 3
- Indoor and outdoor applications without direct sun radiation
- Machining units/machine tools, low temperature applications



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



UL-verified chainflex® guarantee ... www.igus.com/ul-verified



Example image

Part No.	AWG	Number of Conductors and rated cross section	Outer diameter max.		Copper index		Weight		Part No.	Characteristic Impedance	Core group	Color code
			[in.]	[mm]	lbs/mft	[kg/km]	lbs/mft	[kg/km]		[Ω]		
Profibus (1x2x0.64 mm)												
CF898-001	24	1 PR x 0.25	0.31	8.0	12.1	18	37.6	56	CF898-001	150	(2x0.25)C	red, green
CAN-Bus												
CF898-021	20	1 PR x 0.5	0.33	8.5	16.1	24	53.8	80	CF898-021	120	(2x0.5)C	white, brown
Ethernet/CAT5e												
CF898-045	26	4 PR x 0.14	0.28	7.0	16.8	25	36.3	54	CF898-045	100	(4x(2x0.14)C	white-blue/blue, white-orange/orange, white-green/green, white-brown/brown
Profinet												
CF898-060 ¹³⁾	22	2 PR x 0.34	0.28	7.0	16.8	25	39.0	58	CF898-060 ¹³⁾	100	(4x0.34)C	white, orange, blue, yellow (Star-quad)
ASI BUS (flat cables)												
CF898-082 ¹⁴⁾	14	1 PR x 2.5	acc. to ASI		33.6	50	55.1	82	CF898-082 ¹⁴⁾		2x2.5	blue, brown
CF898-083 ¹⁵⁾	14	1 PR x 2.5	acc. to ASI		33.6	50	53.1	79	CF898-083 ¹⁵⁾		2x2.5	blue, brown

¹³⁾ Color outer jacket: Yellow-green (similar to RAL 6018)

¹⁴⁾ Color outer jacket: Yellow (similar to RAL 1021)

¹⁵⁾ Color outer jacket: Black (similar to RAL 9005)

Note: The given outer diameters are maximum values.
G = with green-yellow earth core x = without earth core

PR = Twisted Pair

Order example: CF898.045 – To your desired length
CF898 chainflex® series -045 Code Bus type

Online order ► www.chainflex.com/CF898

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

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 different 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, there is a high degree of EMC reliability.

It is also ensured that the electrical values remain stable over the long term in spite of constant movement.

The overall quality of transmission in a complete bus communication system, however, is not solely dependent on the cable used.

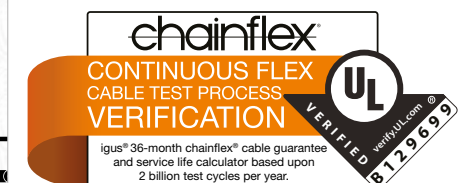
What is also essential is that all components (electronic parts, connecting system and cable) are precisely matched to each other and that the maximum transmission lengths, which are dependent on the respective system, are adhered to with regard to the data transmission rates needed. A cable is thus 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 its extensive tests, helps you to ensure the process reliability of your system from the very beginning.

Configurators ► www.igus.com/CF898



Adjusting device with chainflex® CF898 bus cables



Bus cable | PUR | chainflex® CFBUS-PUR

36 10,000,000
Cycles guaranteed

12.5 x d
Bend radius E-Chain®

65.6 ft
Travel distance E-Chain®

- For medium mechanical load requirements
- 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®



Dynamic Information

	Bend radius	E-Chain® linear	min. 12.5 x d
		flexible	min. 10 x d
		fixed	min. 7 x d
	Temperature	E-Chain® linear	-4 °F to +158 °F (-20 °C to +70 °C)
		flexible	-40 °F to +158 °F (-40 °C to +70 °C)
		fixed	-58 °F to +158 °F (-50 °C to +70 °C)
	v max.	unsupported	9.84 ft/s (3 m/s)
		gliding	6.56 ft/s (2 m/s)
	a max.		98.4 ft/s² (30 m/s²)
	Travel distance	Unsupported travel distances and for gliding applications up to 65.6 ft (20 m), Class 3	

Cable structure

	Conductor	Conductor consisting of bare copper wires (according to DIN EN 60228).
	Conductor insulation	According to bus specification.
	Conductor construction	According to bus specification.
	Color code	According to bus specification. ► See P/N Table
	Overall shield	Bending-resistant tinned copper braid. 80 % optical coverage
	Outer jacket	Low-adhesion, halogen-free, highly abrasion-resistant mixture on the basis of PUR, adapted to suit the requirements in E-Chains® (following DIN EN 50363-10-2). Color: Violet (similar to RAL 4001) Variants ► See P/N Table

Electrical Information

	Nominal voltage	300 V, except CFBUS-PUR-020: 30 V
	Test voltage	500 V

Configurators ► www.igus.com/CFBUS-PUR

36 month guarantee ... 1,354 types from stock ... no cutting charges



Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

Class 4.3.3.1

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 2009
	Flame resistance	According to IEC 60332-1-2, FT1, VW-1
	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	300 V, +80 °C See data sheet for details ► www.igus.com/CFBUS-PUR
	NFPA 79	Complies to Electrical Standard for Industrial Machinery NFPA 79 Section 12.9
	CLPA	CFBUS-PUR-045: CC-Link IE Field , Reference no. 151 CFBUS-PUR-049: CC-Link IE Field , Reference no. 152 Type approval certificate No. TAE00003X6
	DNV-GL	CFBUS-PUR-040-CFBUS-PUR-052: Type approval certificate No. TAE00003X8 Certificate No. RU C-DE.ME77.B.00295/19 (TR ZU)
	EAC	
	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 standardization.
	CE	Following 2014/35/EU

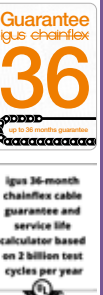
Guaranteed service life (details see page 26-27)

Cycles*	5 million	7.5 million	10 million
Temperature, from/to [°F]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-4/+14	15	16	17
+14/+140	12.5	13.5	14.5
+140/+158	15	16	17

* Higher number of cycles? Online lifetime calculation ► www.chainflex.com/chainflexlife

Typical application areas

- For medium mechanical load requirements, Class 4
- Unsupported travel distances and for gliding applications up to 66 ft (20 m), Class 3
- Almost unlimited resistance to oil, Class 3
- Indoor and outdoor applications without direct sun radiation
- Machining units/machine tools, low temperature applications





Example image

Part No.	AWG	Number of Conductors and rated cross section	Outer diameter max.		Copper index		Weight		Part No.	Characteristic Impedance [Ω]	Core group	Color code
			[in.]	[mm]	lbs/mft	[kg/km]	lbs/mft	[kg/km]				
Profibus (1x2x0.64 mm)												
CFBUS-PUR-001	24	1 PR x 0.25	0.33	8.5	16.8	25	50.4	75	CFBUS-PUR-001	150	(2x0.25)C	red, green
CAN-Bus												
CFBUS-PUR-020 ²⁾	24	2 PR x 0.25	0.30	7.5	15.5	23	43.0	64	CFBUS-PUR-020 ²⁾	120	(4x0.25)C	white, green, brown, yellow (Star-quad)
CFBUS-PUR-021	20	1 PR x 0.5	0.33	8.5	21.5	32	55.1	82	CFBUS-PUR-021	120	(2x0.5)C	white, brown
CFBUS-PUR-022 ²⁾	20	2 PR x 0.5	0.33	8.5	28.9	43	61.1	91	CFBUS-PUR-022 ²⁾	120	(4x0.5)C	white, green, brown, yellow (Star-quad)
CC-Link												
CFBUS-PUR-035	20	3 x 0.5	0.31	8.0	26.9	40	51.1	76	CFBUS-PUR-035	110	(3x0.5)C	white, blue, yellow
Ethernet/CAT5												
CFBUS-PUR-040 ²⁾	24	2 PR x 0.25	0.26	6.5	19.5	29	46.4	69	CFBUS-PUR-040 ²⁾	100	(4x0.25)C	white, green, brown, yellow (Star-quad)
New Single Pair Ethernet												
CFBUS-PUR-042	26	1 PR x 0.15	0.22	5.5	8.1	12	22.2	33	CFBUS-PUR-042	100	(2x0.15)C	white/blue
Ethernet/CAT5e												
CFBUS-PUR-045	26	4 PR x 0.15	0.30	7.5	22.2	33	44.3	66	CFBUS-PUR-045	100	(4x(2x0.15))C	white-blue/blue, white-orange/orange, white-green/green, white-brown/brown
Ethernet/CAT6												
CFBUS-PUR-049	26	4 PR x 0.15	0.30	7.5	22.2	33	44.3	66	CFBUS-PUR-049	100	(4x(2x0.15))C	white-blue/blue, white-orange/orange, white-green/green, white-brown/brown
CFBUS-PUR-H01-049	26	4 PR x 0.5	0.49	12.5	84.0	125	135.7	202	CFBUS-PUR-H01-049	100	(4x(2x0.15))C	white-blue/blue, white-orange/orange, white-green/green, white-brown/brown
	16	4 x 1.5									4x1.5	black, brown, gray, blue
Ethernet/CAT6A												
CFBUS-PUR-050	26	4 STP x 0.15	0.39	10.0	43.7	65	80.6	120	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	26	4 STP x 0.15	0.37	9.5	59.8	89	86.7	129	CFBUS-PUR-052	100	(4x(2x0.15))C	white-blue/blue, white-orange/orange, white-green/green, white-brown/brown
FireWire IEEE 1394b												
CFBUS-PUR-056	26	2 STP x 0.15	0.35	9.0	39.6	59	61.1	91	CFBUS-PUR-056	110	2x(2x0.15)C	orange/blue, blue/red
	22	2 x 0.38									2x0.38	black, white
Profinet												
CFBUS-PUR-060 ^{2) 13)}	22	2 PR x 0.38	0.28	7.0	22.2	33	43.0	64	CFBUS-PUR-060 ^{2) 13)}	100	(4x0.38)C	white, orange, blue, yellow (Star-quad)
CFBUS-PUR-H01-060	22	2 PR x 0.38	0.45	11.5	80.6	120	131.7	196	CFBUS-PUR-H01-060	100	(4x0.38)C	white, orange, blue, yellow (Star-quad)
	16	4 x 1.5									4x1.5	black, brown, gray, blue
USB 3.0												
CFBUS-PUR-068	28	2 PR x AWG28	0.28	7.0	26.2	39	43.0	64	CFBUS-PUR-068	90	2x(2xAWG28)	red/black, green/white-green
	28	2 STP x AWG28									2x(2xAWG28)C	

The chainflex® types marked with ²⁾ are cables designed as a star-quad.
¹³⁾ Color outer jacket: Yellow-green (similar to RAL 6018)
Note: The given outer diameters are maximum values.
G = with green-yellow earth core **x** = without earth core

STP = Individually shielded Twisted Pair
PR = Twisted Pair

Guarantee
igus chainflex
36
months

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

CFRIP

UL LISTED

UL

NFPA

CLPA

EAC

REACH

RoHS

Clean Room

DESMA

CE

Ethernet Bus cable | PUR | chainflex® CF14US

36 10,000,000 Cycles guaranteed **12.5 x d** Bend radius E-Chain® **164 ft** Travel distance E-Chain®

- For high mechanical load applications
- PUR outer jacket
- Shielded
- Oil-resistant
- UV-resistant
- Flame-retardant
- Abrasion and tear resistant
- Hydrolysis/microbe-resistant

Dynamic Information

Bend radius	E-Chain® linear flexible	min. 12.5 x d min. 10 x d
	fixed	min. 7.5 x d
Temperature	E-Chain® linear flexible	-4 °F to +158 °F (-20 °C to +70 °C) -40 °F to +158 °F (-40 °C to +70 °C)
	fixed	-50 °F to +158 °F (-45 °C to +70 °C)
a max.		328.1 ft/s ² (100 m/s ²)
Travel distance		Especially for unsupported and gliding travel up to 164 ft (50m)

Cable structure

Conductors	Conductor consisting of bare copper wires (according to EN 60228).
Conductor insulation	Foam polyethylene
Conductor construction	4 pairs twisted together
Color code	See Table
Inner jacket	TPE
Overall shield	Tinned copper braid 90 % optical coverage
Outer jacket	Low adhesion PUR blend adapted to the requirements of the Energy Chain® Color: See P/N Tables

Electrical Information

Nominal voltage	300 V
Test voltage	2500 V

Properties and approvals

UV resistance	CF14US-02-04-02: Medium CF14US-02-04-02-UV: High
Oil resistance	High
Flame resistance	According to IEC 60332-1-2, CEI 20-35, FT1
UL/CSA	UL AWM: Style 20233, 80 °C, 300V CSA AWM: I/II A/B 80 °C, 300V, FT1

Example image

CHAINFLEX® CF14US.CATS

36 month guarantee ... 1,354 types from stock ... no cutting charges



Basic requirements	low	1	2	3	4	5	6	7	highest
Travel distance	unsupported	1	2	3	4	5	6	1,312 ft +	
Oil resistance	none	1	2	3	4	highest			
Torsion	none	1	2	3	4	±360°			

Class 6.3.4.1

- NFPA 79** Complies to NFPA 79 2018 chapter 12.9
- Lead-free** Complies to 2011/65/EU (RoHS-II)
- CE** 2006/95/EG

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

Cycles*	5 million	7.5 million	10 million
Temperature, from/to [°F]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-4/-13	12.5	13.5	14.5
-14/+140	10	11	12
+140/+158	12.5	13.5	14.5

* Higher number of cycles? Online lifetime calculation ► www.chainflex.com/chainflexlife

Typical application areas

- CF14US-02-04-02-UV is good for direct sunlight
- For extremely heavy duty applications
- Suitable for indoor/outdoor applications without direct sunlight
- Especially for unsupported and gliding travel up to 164 ft (50m)
- For application lengths > 164 ft (50m) use igus® P/N CFBUS-045
- Storage and retrieval units for high-bay warehouses, machine tools, quick handling, cleanroom, semiconductor insertion, indoor cranes, low temperature applications

Part No.	AWG	Number of Conductors and rated cross section [mm ²]	Outer diameter max.		Copper index		Weight		Jacket color
			[in.]	[mm]	[lbs/mft] [kg/km]	[lbs/mft] [kg/km]			
CF14US-02-04-02	26	4 PR x 0.14	0.30	7.6	7.4	11	59.8	89	Violet
CF14US-02-04-02-UV	26	4 PR x 0.14	0.30	7.6	7.4	11	59.8	89	Black

Note: The given outer diameters are maximum values.
PR = Twisted Pair

Part No.	Characteristic Impedance [Ω]	Core group	Color code
CF14US-02-04-02	100	4 PR x 0.14	Blue & White/Blue, Orange & White/Orange,
CF14US-02-04-02-UV	100	4 PR x 0.14	Green & White/Green, Brown & White/Brown

Order example: CF14US-02-04-02 – To your desired length
CF14US chainflex® series -02 Code nominal cross section -04 Number of pairs
-02 Identification pairs

Online order ► www.chainflex.com/CF14US

Delivery time 24hr or today.
Delivery time means time until shipping of goods.



UL-verified chainflex® guarantee ... www.igus.com/ul-verified

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



Bus cable | TPE | chainflex® CFBUS

36 10,000,000
Cycles guaranteed

10 x d
Bend radius E-Chain®

1312.4 ft
Travel distance E-Chain®

- For very high mechanical load requirements
- TPE outer jacket
- Shielded
- Oil and bio-oil-resistant
- Flame-retardant
- Hydrolysis and microbe-resistant

Now with 600 V
UL approval

Dynamic Information

	Bend radius	E-Chain® linear	minimum 10 x d (CFBUS.001-.049 and CFBUS.060) minimum 12.5 x d (CFBUS.050-.055 and CFBUS.070)
		flexible	min. 8 x d
		fixed	min. 5 x d
	Temperature	E-Chain® linear	-31 °F to +158 °F (-35 °C to +70 °C)
		flexible	-49 °F to +158 °F (-45 °C to +70 °C)
		fixed	-58 °F to +158 °F (-50 °C to +70 °C)
	v max.	unsupported	32.81 ft/s (10 m/s)
		gliding	19.69 ft/s (6 m/s)
	a max.	328.1 ft/s² (100 m/s²)	
	Travel distance	Unsupported travel distances and for gliding applications up to 1312 ft (400 m) and more, Class 6	

Cable structure

	Conductor	Conductor consisting of bare copper wires (according to DIN EN 60228).
	Conductor insulation	According to bus specification.
	Conductor construction	According to bus specification.
	Color code	According to bus specification. ► See P/N Table
	Inner jacket	TPE mixture adapted to suit the requirements in E-Chains®.
	Overall shield	Extremely bending-resistant tinned copper braid. 90 % optical coverage
	Outer jacket	Low-adhesion mixture on the basis of TPE, especially abrasion-resistant and highly flexible, adapted to suit the requirements in E-Chains®. Color: Violet (similar to RAL 4001) Variants ► See P/N Table

Electrical Information

	Nominal voltage	300 V, except CFBUS-065/-066: 30 V
	Test voltage	500 V (following DIN EN 50289-1-3)

Configurators ► www.igus.com/CFBUS

36 month guarantee ... 1,354 types from stock ... no cutting charges

Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

Class 6.6.4.1

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
	Flame resistance	According to IEC 60332-1-2, FT1, VW-1 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	300 V, +80 °C See data sheet for details ► www.igus.com/CFBUS
	NFFPA 79	Complies to Electrical Standard for Industrial Machinery NFFPA 79 Section 12.9
	CLPA	CFBUS-045: <i>CC-Link IE Field</i> , Reference no. 130 CFBUS-049: <i>CC-Link IE Field</i> , Reference no. 137
	DNV-GL	Type approval certificate No. TAE00003X5
	EAC	CFBUS-040-CFBUS-052: Type approval certificate No. TAE00003X7 Certificate No. RU C-DE.ME77.B.00295/19 (TR ZU)
	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 standardization.
	CE	Following 2014/35/EU

Guaranteed service life (details see page 26-27)

Cycles*	5 million		7.5 million		10 million	
	CFBUS .001-.049	CFBUS .050-.070	CFBUS .001-.049	CFBUS .050-.070	CFBUS .001-.049	CFBUS .050-.070
Temperature, from/to [°F]	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]					
-31/-13	12.5	15	13.5	16	14.5	17
-13/+140	10	12.5	11	13.5	12	14.5
+140/+158	12.5	15	13.5	16	14.5	17

* Higher number of cycles? Online lifetime calculation ► www.chainflex.com/chainflexlife

Typical application areas

- For very high mechanical load requirements, Class 6
- Unsupported travel distances and for gliding applications up to 1312 ft (400 m) and more, Class 6
- Almost unlimited resistance to oil, also with bio-oils, Class 4
- 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

Guarantee
igus chainflex
36
months

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

CFBUS

UL LISTED

UL

NFFPA

CLPA

DNV-GL

EAC

REACH

RoHS

Clean-Room

DESINA

CE

igus® chainflex® CFBUS.049

Example image

Part No.	AWG	Number of Conductors and rated cross section	Outer diameter max.		Copper index		Weight		Part No.	Characteristic Impedance	Core group	Color code
			[in.]	[mm]	lbs/mft	[kg/km]	lbs/mft	[kg/km]				
Profibus (1x2x0.64 mm)												
CFBUS-001	24	1 PR x 0.25	0.35	9.0	22.2	33	61.8	92	CFBUS-001	150	(2x0.25)C	red, green
CFBUS-002	24	1 PR x 0.25	0.49	12.5	63.2	94	128.3	191	CFBUS-002	150	(2x0.25)C	red/green
	16	4 x 1.5									4x1.5	black with white numbers 1-4
CFBUS-003	24	1 PR x 0.25	0.45	11.5	37.0	55	97.4	145	CFBUS-003	150	(2x0.25)C	red/green
	18	3G 0.75									3G0.75	black, blue, green-yellow
Interbus												
CFBUS-010	24	3 PR x 0.25	0.35	9.0	31.6	47	61.1	91	CFBUS-010	100	3x(3x0.25)	white/brown, green/yellow, gray/pink
CFBUS-011	24	3 PR x 0.25	0.41	10.5	58.5	87	102.1	152	CFBUS-011	100	3x(2x0.25)	white/brown, green/yellow, gray/pink
	17	3G 1.0									3G1.0	red, blue, green-yellow
CAN-Bus/Feldbus												
CFBUS-020 ²⁾	24	2 PR x 0.25	0.26	6.5	18.8	28	39.0	58	CFBUS-020 ²⁾	120	(4x0.25)C	white, green, brown, yellow (Star-quad)
CFBUS-021	20	1 PR x 0.5	0.31	8.0	26.2	39	54.4	81	CFBUS-021	120	(2x0.5)C	white, brown
CFBUS-022 ²⁾	20	2 PR x 0.5	0.31	8.0	28.9	43	58.5	87	CFBUS-022 ²⁾	120	(4x0.5)C	white, green, brown, yellow (Star-quad)
DeviceNet												
CFBUS-030 ⁴⁾	24	1 PR 24 AWG	0.28	7.0	24.2	36	38.3	57	CFBUS-030 ⁴⁾	120	(2xAWG24)C	white/blue
	22	1 PR 22 AWG									2xAWG22	red, black
CFBUS-031 ⁴⁾	18	1 PR 18 AWG	0.45	11.5	69.2	103	116.9	174	CFBUS-031 ⁴⁾	120	(2xAWG18)C	white/blue
	15	1 PR 15 AWG									2xAWG15	red, black
CC-Link												
CFBUS-035	20	3 x 20 AWG	0.33	8.5	28.9	43	64.5	96	CFBUS-035	110	3xAWG20	white, blue, yellow

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.


G = with green-yellow earth core x = without earth core

PR = Twisted Pair

Other types ► page 194

 **Order example: CFBUS.035 – To your desired length**
CFBUS chainflex® series -035 Code Bus type

 Online order ► www.chainflex.com/CFBUS

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

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 different 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, there is a high degree of EMC reliability.

It is also ensured that the electrical values remain stable over the long term in spite of constant 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 its extensive tests, helps you to ensure the process reliability of your system from the very beginning.



Bus cable | TPE | chainflex® CFBUS-LB

36 10,000,000
Cycles guaranteed

7.5 x d
Bend radius E-Chain®

1312.4 ft
Travel distance E-Chain®

- For maximum mechanical load requirements
- TPE outer jacket
- Shielded
- Oil and bio-oil-resistant
- Low-temperature-flexibility
- PVC and halogen-free
- Hydrolysis and microbe-resistant

Dynamic Information

	Bend radius	E-Chain® linear	minimum 7.5 x d (CFBUS-LB.040-.060) minimum 10 x d (CFBUS-LB.001-.022)
		flexible	min. 6 x d
	Temperature	E-Chain® linear	-31 °F to +158 °F (-35 °C to +70 °C)
		flexible	-58 °F to +158 °F (-50 °C to +70 °C)
		fixed	-67 °F to +158 °F (-55 °C to +70 °C)
	v max.	unsupported	32.81 ft/s (10 m/s)
		gliding	19.69 ft/s (6 m/s)
	a max.	328.1 ft/s² (100 m/s²)	
	Travel distance	Unsupported travel distances and for gliding applications up to 1312 ft (400 m) and more, Class 6	

Cable structure

	Conductor	Conductor consisting of bare copper wires (according to DIN EN 60228).
	Conductor insulation	According to bus specification.
	Conductor construction	According to bus specification.
	Color code	According to bus specification. ▶ See P/N Table
	Inner jacket	TPE mixture adapted to suit the requirements in E-Chains®.
	Overall shield	Extremely bending-resistant tinned copper braid. 90 % optical coverage
	Outer jacket	Low-adhesion mixture on the basis of TPE, especially abrasion-resistant and highly flexible, adapted to suit the requirements in E-Chains®. Color: Violet (similar to RAL 4001) Variants ▶ See P/N Table

Electrical Information

	Nominal voltage	50 V
	Test voltage	500 V (following DIN EN 50289-1-3)

Example image

Configurators ▶ www.igus.com/CFBUS-LB

36 month guarantee ... 1,354 types from stock ... no cutting charges



Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

Class 7.6.4.1

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
	CLPA	CFBUS-LB-045: CC-Link IE Field , Reference no. 131 CFBUS-LB-049: CC-Link IE Field , Reference no. 138 Certificate No. RU C-DE.ME77.B.02806 (TR ZU)
	EAC	
	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 standardization.
	CE	Following 2014/35/EU

Guaranteed service life (details see page 26-27)

Cycles*	5 million		7.5 million		10 million	
	CFBUS-LB .040-.060	CFBUS-LB .001-.022	CFBUS-LB .040-.060	CFBUS-LB .001-.022	CFBUS-LB .040-.060	CFBUS-LB .001-.022
Temperature, from/to [°F]	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]					
-31/-13	10	12.5	11	13.5	12	14.5
-13/+140	7.5	10	8.5	11	9.5	12
+140/+158	10	12.5	11	13.5	12	14.5

* Higher number of cycles? Online lifetime calculation ▶ www.chainflex.com/chainflexlife

Typical application areas

- For maximum mechanical load requirements, Class 7
- Unsupported travel distances and for gliding applications up to 1312 ft (400 m) and more, Class 6
- Almost unlimited resistance to oil, also with bio-oils, Class 4
- 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



igus® chainflex® CFBUS.LB.049

Example image

Part No.	AWG	Number of Conductors and rated cross section	Outer diameter max.		Copper index		Weight		Part No.	Characteristic Impedance	Core group	Color code
			[in.]	[mm]	lbs/mft	[kg/km]	lbs/mft	[kg/km]				
Profibus (1x2x0.64 mm)												
CFBUS-LB-001	24	1 PR x 0.25	0.35	9.0	22.2	33	52.4	78	CFBUS-LB-001	150	(2x0.25)C	red, green
CAN-Bus												
CFBUS-LB-020 ²⁾	24	2 PR x 0.25	0.26	6.5	18.8	28	32.9	49	CFBUS-LB-020 ²⁾	120	(4x0.25)C	white, green, brown, yellow (Star-quad)
CFBUS-LB-021	20	1 PR x 0.5	0.31	8.0	26.2	39	45.0	67	CFBUS-LB-021	120	(2x0.5)C	white, brown
CFBUS-LB-022 ²⁾	20	2 PR x 0.5	0.31	8.0	28.9	43	52.4	78	CFBUS-LB-022 ²⁾	120	(4x0.5)C	white, green, brown, yellow (Star-quad)
Ethernet/CAT5												
EtherCAT [®] CFBUS-LB-040 ²⁾	24	2 PR x 0.25	0.28	7.0	22.2	33	33.6	50	CFBUS-LB-040 ²⁾	100	(4x0.25)C	white, green, brown, yellow (Star-quad)
Ethernet/CAT5e												
CC-Link IE [®] CFBUS-LB-045	26	4 PR x 0.15	0.33	8.5	28.2	42	47.7	71	CFBUS-LB-045	100	(4x(2x0.15))C	white-blue/blue, white-orange/orange, white-green/green, white-brown/brown
Ethernet/CAT6												
CC-Link IE [®] CFBUS-LB-049	26	4 PR x 0.15	0.33	8.5	28.2	42	47.7	71	CFBUS-LB-049	100	(4x(2x0.15))C	white-blue/blue, white-orange/orange, white-green/green, white-brown/brown
Profinet												
EtherCAT [®] CFBUS-LB-060 ^{2) 13)}	22	2 PR x 0.38	0.30	7.5	26.2	39	45.0	67	CFBUS-LB-060 ^{2) 13)}	100	(4x0.38)C	white, orange, blue, yellow (Star-quad)

The chainflex® types marked with ²⁾ are cables designed as a star-quad.
¹³⁾ Color outer jacket: Yellow-green (similar to RAL 6018)
Note: The given outer diameters are maximum values.
G = with green-yellow earth core **x** = without earth core

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 different 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, there is a high degree of EMC reliability.

It is also ensured that the electrical values remain stable over the long term in spite of constant 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 its extensive tests, helps you to ensure the process reliability of your system from the very beginning.



chainflex® CFBUS.LB bus cables in machine tools

cost down...



Reduce cost, improve technology, now!

Do the chainflex® price check now ...
www.igus.com/info/cable-price-check

... just one idea for you: Reduce cost with CFBUS.PUR ...

...life up

Configurators ► www.igus.com/CFBUS-LB

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

CFRIP
UL LISTED
UL LISTED
NFPA
UL PA
EAC
REACH
RoHS
Clean Room
DESMA
CE

Guarantee
igus chainflex
36
up to 36 months guarantee

chainflex
CONTINUOUS FLEX
CABLE TEST PROCESS
VERIFICATION
UL
igus® 36-month chainflex® cable guarantee and service life calculator based upon 2 billion test cycles per year.

Fiber optic cables



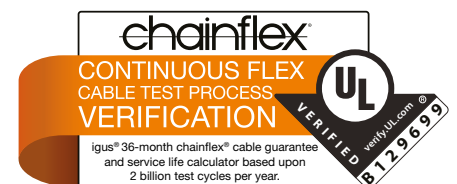
chainflex® cable	Jacket	Shield	Bend radius min., E-Chain® [factor x dj]	Temperature, E-Chain® from/to [°F]	Approvals and standards	oil-resistant	torsion resistant v max. [ft/s] unsupported v max. [ft/s] gliding a max. [ft/s²]	Page
Fiber optic cables								
Information Fiber optic cables 204								
CFLK	PUR		12.5	-4/ +140	UL, CE, REACH, RoHS, etc.		32.81 16.41 65.62	208
CFLG88	PVC		7.5	+41/ +158	UL, CE, REACH, RoHS, etc.		9.84 65.62	210
CFLG-LB-PUR	PUR		5-7.5	-31/ +176	UL, CE, REACH, RoHS, etc.		32.81 19.69 65.62	212
CFLG-LB	TPE		5	-31/ +176	UL, CE, REACH, RoHS, etc.		32.81 19.69 65.62	216
CFLG-G	TPE		10	-40/ +176	UL, CE, REACH, RoHS, etc.		32.81 19.69 65.62	220
Torsional Fiber Optic Cables (Chapter Torsional cables) ▶ Page 366								
CFROBOT5	TPE		10	-4/ +176	UL, CE, REACH, RoHS, etc.	✓	180°/s 60°/s	384

Overview to find the right Fiber optic cable				
	POF Plastic FOC 980/1000 µm	PCF Glass fiber FOC 200/230 µm	GOF Multimode Glass fibre FOC 50/125 µm 62.5/125 µm	GOF Singlemode Glass fiber FOC 9/125 µm
CFLK	✓			
CFLG88			✓	
CFLG-LB-PUR			✓	✓
CFLG-LB		✓	✓	
CFLG-G			✓	✓
CFROBOT5			✓	

36 months chainflex® guarantee
Guaranteed lifetime for predictable reliability
 ▶ Selection table page 206

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.com/chainflexlife



The safest and often cheapest way to transfer data to machines and plant.

Fault-free communication between all systems in machines and plant that is becoming more and more complex all the time should be a matter of importance these days.

However, many plant manufacturers or operators have major EMC problems that occur sporadically or even only years later.

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® glass fiber optic cables provide further advantages for even greater data safety.

Fiber 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, fiber optic cables can be used independently of the system, since a special bus cable is not required for every bus system, 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 fiber 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 fiber types can be used for industrial data communication, completely independent of the type of field bus used. The fiber type and number depends only on which converters are used and which fiber type the respective manufacturer prescribes. The fibers are defined on the basis of diameter and result in a clear and limited choice.

Important fiber types:

- **Multimode Fibers**

50/125 µm

62.5/125 µm

The ideal fiber for large data volumes and longer transmission lengths in the field of automation. On account of the very low output attenuation (0.8-3 db/km per fiber and light wave length) of these fiber types, transmission lengths of several hundred metres are possible.

- **POF (Plastic Fibers)**

980/1000 µm

The ideal and low-cost fiber for short transmission paths. On account of the high output attenuation of the fiber type of 160-230 dB/km, lengths over 15 mm must be avoided in permanent-motion energy chains®.

- **PCF (Polymer Cladded Fiber)**

200/230 µm

The ideal compromise for POF fiber. This plasticcoated quartz glass fiber is a viable alternative for many terminal devices that have been designed for POF. This means greater transmission lengths (100 m 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 thanks to

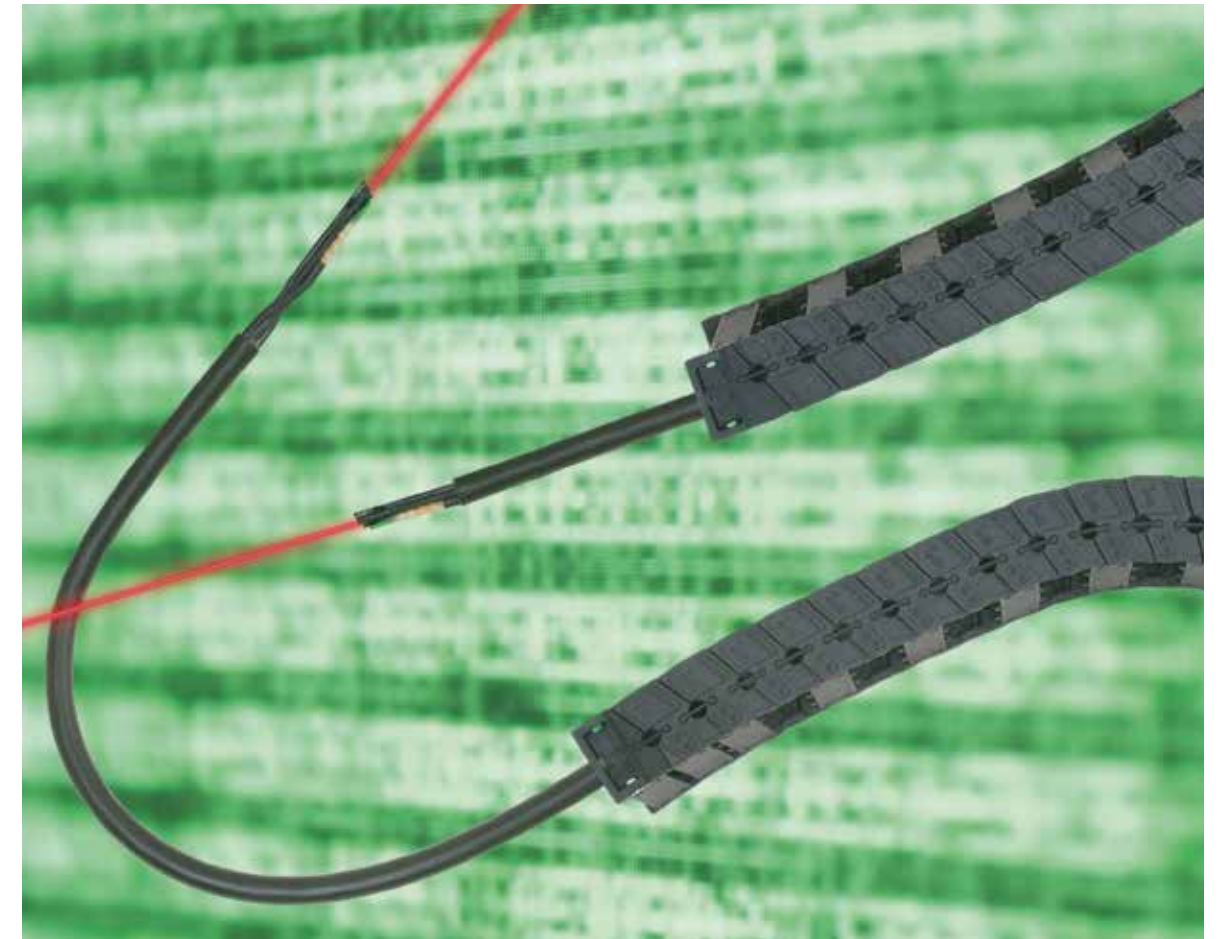
- FOC-typical better transmission characteristics
- Greater possible transmission lengths of several 100 meters
- Greater possible data volumes thanks to lower attenuation values
- Maximum EMC protection for the data transmitted
- Future-proof installation (no cable replacement with new bus systems)

2. Greater mechanical protection through

- The FOC designed for permanent mechanical movement
- The igus®-typical highly abrasion-proof and chemical resistant sheathing materials
- The special chainflex® design concept (tested at 30 million cycles without a significant increase in attenuation)

3. Future-oriented cost reduction through







- Bus-independent bus cable wiring
- Longer service life in E-Chains®
- Extendable without transmission limits



chainflex® guarantee

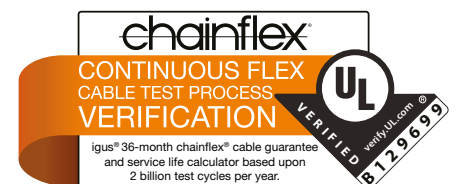


Guaranteed lifetime⁽¹⁾

chainflex® cable	Temperature, from/to [°F]	v max. [ft/s]		a max. [ft/s²]	Travel distance [ft]	Bend radius min. [factor x d]		Bend radius min. [factor x d]		Bend radius min. [factor x d]		Page
		unsupported	gliding			5 million (1 million) cycles *	7.5 million (3 million) cycles *	10 million (5 million) cycles *				
 CFLK	-4 / +14 +14 / +122 +122 / +140	32.81	16.41	65.62	≤ 65.62	15 12.5 15	16 13.5 16	17 14.5 17	208			
 CFLG88	+41 / +59 +59 / +140 +140 / +158	9.84	-	65.62	≤ 32.81	10 7.5 10	11 8.5 11	12 9.5 12	210			
 CFLG-LB-PUR	-31 / -13 -13 / +158 +158 / +176	32.81	19.69	65.62	≤ 328.1	7.5 5 7.5	8.5 6 8.5	9.5 7 9.5	212			
 CFLG-LB	-31 / -13 -13 / +158 +158 / +176	32.81	19.69	65.62	≤ 328.1	7.5 5 7.5	8.5 6 8.5	9.5 7 9.5	216			
 CFLG-LB-CU	-31 / -13 -13 / +158 +158 / +176	32.81	19.69	65.62	≤ 328.1	10 7.5 10	11 8.5 11	12 9.5 12	216			
 CFLG-G	-40 / -22 -22 / +158 +158 / +176	32.81	19.69	65.62	> 1,312	12.5 10 12.5	13.5 11 13.5	14.5 12 14.5	220			

⁽¹⁾ Exclusive! Guaranteed lifetime for this series according to the guarantee conditions ► Page 26-27

* Higher number of cycles? Online lifetime calculation ► www.igus.com/chainflexlife
 Figures in brackets refer to chainflex® series CFLG88



Fiber optic cable | PUR | chainflex® CFLK






36 10,000,000

12.5 x d
Bend radius E-Chain®





65.6 ft
Travel distance E-Chain®

- Plastic Optical Fibers (POF) for high mechanical load requirements and interference-free transmission
- PUR outer jacket
- Oil-resistant and coolant-resistant









Dynamic Information

	Bend radius	E-Chain® linear	min. 12.5 x d
		flexible	min. 10 x d
		fixed	min. 7 x d
	Temperature	E-Chain® linear	-4 °F to +140 °F (-20 °C to +60 °C)
		flexible	-40 °F to +140 °F (-40 °C to +60 °C)
		fixed	-58 °F to +140 °F (-50 °C to +60 °C)
	v max.	unsupported	32.81 ft/s (10 m/s)
		gliding	16.41 ft/s (5 m/s)
	a max.		65.6 ft/s ² (20 m/s ²)
	Travel distance		Unsupported travel distances and for gliding applications up to 65.6 ft (20 m), Class 3

Cable structure

	Fibre Optic Cable	980/1000 µm fiber with PE Insulation.
	Conductor construction	Polymer Optical Fiber cabled with high-tensile plastic reinforcement.
	Color code	► See P/N Table
	Outer jacket	Low-adhesion PUR mixture, adapted to suit the requirements in E-Chains® (following DIN EN 50363-10-2). Color: Violet (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

Configurators ► www.igus.com/CFLK

36 month guarantee ... 1,354 types from stock ... no cutting charges



Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

Class 5.3.3.1

Guaranteed service life (details see page 26-27)

Cycles*	5 million	7.5 million	10 million
Temperature, from/to [°F]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-4/+14	15	16	17
+14/+122	12.5	13.5	14.5
+122/+140	15	16	17

* Higher number of cycles? Online lifetime calculation ► www.chainflex.com/chainflexlife

Typical application areas

- For high mechanical load requirements, Class 5
- Unsupported travel distances and for gliding applications up to 66 ft (20 m), Class 3
- Almost unlimited resistance to oil, Class 3
- Highest EMC safety
- Preferably indoor applications
- Wood/stone processing, Packaging industry, supply systems, Handling, adjusting equipment

Part No.	Fiber Count	Fiber Diameter approx.	Outer diameter max.		Weight	
			[in.]	[mm]	[lbs/mft]	[kg/km]
CFLK-L1-01	1	980/1000	0.24	6.0	18.1	27
CFLK-L1-02	2	980/1000	0.28	7.0	20.8	31

Note: The given outer diameters are maximum values.

Part No.	Bandwidth [MHz x km] @ 650 nm	Attenuation [dB/km] @ 650 nm	Fiber identification
CFLK-L1-01	2	200	black
CFLK-L1-02	2	200	black, blue



Woodworking machines with e-chains® and chainflex® cables



UL-verified chainflex® guarantee ... www.igus.com/ul-verified

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

CFRIP
UL LISTED
UL US
NFPA
GMA
EAC
RoHS
Clean Room
UL



Guarantee igus chainflex
36
up to 36 months guarantee

chainflex
CONTINUOUS FLEX
CABLE TEST PROCESS
VERIFICATION
UL
igus® 36-month chainflex® cable guarantee and service life calculator based upon 2 billion test cycles per year.
B129699

Fiber optic cable | PVC | chainflex® CFLG88

36 5,000,000 Cycles guaranteed
7.5 x d Bend radius E-Chain®
32.8 ft Travel distance E-Chain®

- Graded index glass-fibre cable for flexing applications
- PVC outer jacket
- Flame-retardant

Dynamic Information

	Bend radius	E-Chain® linear	min. 7.5 x d
		flexible	min. 6 x d
		fixed	min. 4 x d
	Temperature	E-Chain® linear	+41 °F to +158 °F (+5 °C to +70 °C)
		flexible	+23 °F to +158 °F (-5 °C to +70 °C)
		fixed	+5 °F to +158 °F (-15 °C to +70 °C)
	v max.	unsupported	9.84 ft/s (3 m/s)
	a max.		65.6 ft/s² (20 m/s²)
	Travel distance		Unsupported travel distances up to 32.8 ft (10 m), Class 1

Cable structure

	Fibre Optic Cable	50/125 µm, 62.5/125 µm special fixed fiber elements with aramid strain relief
	Conductor construction	Optical Fibers cabled with high-tensile aramid dampers and especially short pitch length.
	Color code	Optical Fibers: Orange or blue with black numbers.
	Outer jacket	Low-adhesion mixture on the basis of PVC, adapted to suit the requirements in E-Chains®. Color: Jet black (similar to RAL 9005)

Properties and approvals

	Flame resistance	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)
	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

Configurators ► www.igus.com/CFLG88

36 month guarantee ... 1,354 types from stock ... no cutting charges



Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

Class 3.1.1.1

Guaranteed service life (details see page 26-27)

Cycles*	1 million	3 million	5 million
Temperature, from/to [°F]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
+41/+59	10	11	12
+59/+140	7.5	8.5	9.5
+140/+158	10	11	12

* Higher number of cycles? Online lifetime calculation ► www.chainflex.com/chainflexlife

Typical application areas

- For low duty flexing applications, Class 3
- Especially for unsupported travels, Class 1
- Without influence of oil, Class 1
- Highest EMC safety
- Preferably indoor applications
- Wood/stone processing, Packaging industry, supply systems, Handling, adjusting equipment

Part No.	Fiber Count	Fiber Diameter approx.	Outer diameter max.		Weight	
			[in.]	[mm]	[lbs/mft]	[kg/km]
CFLG88-2-50/125	2	50/125	0.28	7.0	29.6	44
CFLG88-2-62.5/125 ¹⁾	2	62,5/125	0.28	7.0	29.6	44

¹⁾ Phase-out model

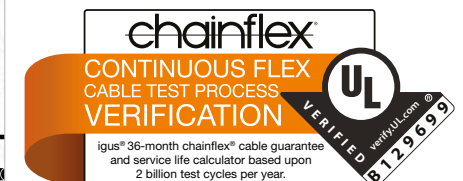
Note: The given outer diameters are maximum values.

Part No.	Bandwidth [MHz x km] @ 850 nm	Bandwidth [MHz x km] @ 1300 nm	Attenuation [dB/km] @ 850 nm	Attenuation [dB/km] @ 1300 nm	Fiber identification
	CFLG88-2-50/125	≥ 500	≥ 500	≤ 3.0	≤ 1.0
CFLG88-2-62.5/125	≥ 200	≥ 500	≤ 3.5	≤ 1.5	orange with black numbers

Order example: CFLG88-2-62.5/125 – To your desired length
CFLG88 chainflex® series .2 Number of fibers .62,5/125 Fiber diameter

Online order ► www.chainflex.com/CFLG88

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



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



Fiber optic cable | PUR | chainflex® CFLG-LB-PUR

36 10,000,000
Cycles guaranteed

5 x d
Bend radius E-Chain®

328.1 ft
Travel distance E-Chain®

- Gradient glass-fiber cable for maximum mechanical load requirements
- PUR outer jacket
- Metal-free
- Oil-resistant
- Low-temperature-flexibility
- PVC and halogen-free
- UV-resistant

Dynamic Information

	Bend radius	E-Chain® linear	min. 5 x d
		flexible	min. 4 x d
		fixed	min. 3 x d
	Temperature	E-Chain® linear	-31 °F to +176 °F (-35 °C to +80 °C)
		flexible	-40 °F to +176 °F (-40 °C to +80 °C)
		fixed	-58 °F to +176 °F (-50 °C to +80 °C)
	v max.	unsupported	32.81 ft/s (10 m/s)
		gliding	19.69 ft/s (6 m/s)
	a max.	65.6 ft/s² (20 m/s²)	
	Travel distance	Unsupported travel distances and for gliding applications up to 328.1 ft (100 m), Class 5	

Cable structure

	Fibre Optic Cable	50/125 µm, 62.5/125 µm, 9/125 µm.
	Conductor construction	Optical Fibers cabled with high-tensile aramid dampers and especially short pitch length.
	Color code	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 mixture on the basis of PUR, adapted to suit the requirements in E-Chains® (following DIN EN 50363-10-2). Color: Jet black (similar to RAL 9005)

Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

Class 6.5.3.1

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 2009
	Flame resistance	According to IEC 60332-1-2, FT1, VW-1
	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-GL	Type approval certificate No. 13 655-14 HH
	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

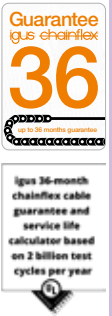
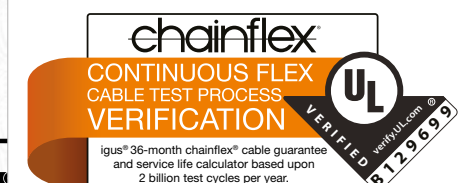
Guaranteed service life (details see page 26-27)

Cycles*	5 million	7.5 million	10 million
Temperature, from/to [°F]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-13/+5	7.5	8.5	9.5
+5/+158	5	6	7
+158/+176	7.5	8.5	9.5

* Higher number of cycles? Online lifetime calculation ► www.chainflex.com/chainflexlife

Typical application areas

- For maximum mechanical load requirements with 5 x d, Class 6
- Unsupported travel distances and for gliding applications (horizontal + vertical) up to 328 ft (100 m), Class 5
- Almost unlimited resistance to oil, Class 3
- Maximum EMC protection, with high transmission qualities
- Indoor and outdoor applications
- Offshore, ship, Storage and retrieval units for high-bay warehouses, machining units/ packaging machines, quick handling, semiconductor insertion, refrigerating sector



Example image
igus® chainflex® CFLG.LB.PUR

Configurators ► www.igus.com/CFLG-LB-PUR

36 month guarantee ... 1,354 types from stock ... no cutting charges



UL-verified chainflex® guarantee ... www.igus.com/ul-verified

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			



igus® chainflex® CFLG.LB.PUR

Example image

Part No.	Fiber Count	Fiber Diameter approx.	Outer diameter max.		Weight	
		[µm]	[in.]	[mm]	[lbs/mft]	[kg/km]
CFLG-2LB-PUR-62-5/125	2	62,5/125	0.33	8.5	41.7	62
CFLG-4LB-PUR-62-5/125	4	62,5/125	0.35	9.0	45.7	68
CFLG-6LB-PUR-62-5/125	6	62,5/125	0.43	11.0	64.5	96
CFLG-12LB-PUR-62-5/125	12	62,5/125	0.55	14.0	100.8	150
CFLG-2LB-PUR-50/125	2	50/125	0.33	8.5	43.7	65
CFLG-6LB-PUR-50/125	6	50/125	0.43	11.0	63.8	95
CFLG-12LB-PUR-50/125	12	50/125	0.55	14.0	107.5	160
CFLG-6LB-PUR-9/125	6	9/125	0.43	11.0	63.8	95

Note: The given outer diameters are maximum values.
G = with green-yellow earth core x = without earth core

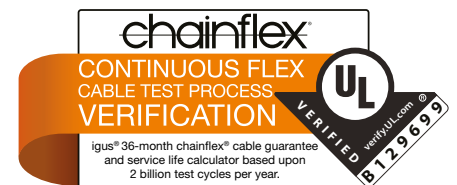
Part No.	Bandwidth [MHz x km] @ 850 nm	Bandwidth [MHz x km] @ 1300 nm	Attenuation [dB/km] @ 850 nm	Attenuation [dB/km] @ 1300 nm	Fiber identification
	CFLG-2LB-PUR-62-5/125	≥ 200	≥ 500	≤ 3.5	≤ 1.5
CFLG-4LB-PUR-62-5/125	≥ 200	≥ 500	≤ 3.5	≤ 1.5	orange with black numbers
CFLG-6LB-PUR-62-5/125	≥ 200	≥ 500	≤ 3.5	≤ 1.5	orange with black numbers
CFLG-12LB-PUR-62-5/125	≥ 200	≥ 500	≤ 3.0	≤ 0.7	orange with black numbers
CFLG-2LB-PUR-50/125	≥ 500	≥ 500	≤ 3.0	≤ 1.0	blue with black numbers
CFLG-6LB-PUR-50/125	≥ 500	≥ 500	≤ 3.0	≤ 1.0	blue with black numbers
CFLG-12LB-PUR-50/125	≥ 500	≥ 500	≤ 3.0	≤ 1.0	blue with black numbers

Part No.	Attenuation [dB/km] @ 1310 nm	Attenuation [dB/km] @ 1550 nm	Chromatic dispersion [ps/nm/km] @ 1310 nm	Chromatic dispersion [ps/nm/km] @ 1550 nm	Fiber identification
	CFLG-6LB-PUR-9/125	≤ 0.35	≤ 0.25	3.5	18

Order example: CFLG-4LB-PUR-62,5/125 – To your desired length
CFLG-LB-PUR chainflex® series -4 Number of fibers -62,5/125 Fiber diameter

Online order ► www.chainflex.com/CFLG-LB-PUR

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



Fiber optic cable | TPE | chainflex® CFLG-LB

36 10,000,000
Cycles guaranteed

5 x d
Bend radius E-Chain®

328.1 ft
Travel distance E-Chain®

- Gradient glass-fiber cable for maximum mechanical load requirements
- TPE outer jacket
- Metal-free
- Oil and bio-oil-resistant
- Low-temperature-flexibility
- PVC and halogen-free
- UV-resistant

Dynamic Information

	Bend radius	E-Chain® linear	min. 5 x d
		flexible	min. 4 x d
		fixed	min. 3 x d
	Temperature	E-Chain® linear	-31 °F to +176 °F (-35 °C to +80 °C)
		flexible	-58 °F to +176 °F (-50 °C to +80 °C)
		fixed	-67 °F to +176 °F (-55 °C to +80 °C)
	v max.	unsupported	32.81 ft/s (10 m/s)
		gliding	19.69 ft/s (6 m/s)
	a max.	65.6 ft/s² (20 m/s²)	
	Travel distance	Unsupported travel distances and for gliding applications up to 328.1 ft (100 m), Class 5	

Cable structure

	Fibre Optic Cable	50/125 µm, 62.5/125 µm, 200/230 µm special fixed fiber elements with aramid strain relief
	Conductor construction	Optical Fibers cabled with high-tensile aramid dampers and especially short pitch length.
	Color code	Orange or blue with black numbers or black with white numbers.
	Overall shield	Extremely bending-resistant aramid braid for torsion-protection. optical coverage
	Outer jacket	Low-adhesion mixture on the basis of TPE, especially abrasion-resistant and highly flexible, adapted to suit the requirements in E-Chains®. Color: Jet black (similar to RAL 9005)

Class 7.5.4.1

Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
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

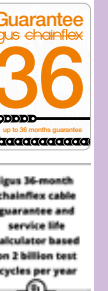
Guaranteed service life (details see page 26-27)

Cycles*	5 million	7.5 million	10 million
Temperature, from/to [°F]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-31/-13	7.5	8.5	9.5
-13/+158	5	6	7
+158/+176	7.5	8.5	9.5

* Higher number of cycles? Online lifetime calculation ► www.chainflex.com/chainflexlife

Typical application areas

- For maximum mechanical load requirements with 5 x d, Class 7
- Unsupported travel distances and for gliding applications (horizontal + vertical) up to 328 ft (100 m), Class 5
- Almost unlimited resistance to oil, also with bio-oils, Class 4
- Maximum EMC protection, with high transmission qualities
- Indoor and outdoor applications
- crane applications, Material handling, Storage and retrieval units for high-bay warehouses, machining units/packaging machines, quick handling, semiconductor insertion, refrigerating sector



igus® chainflex® CFLG.LB

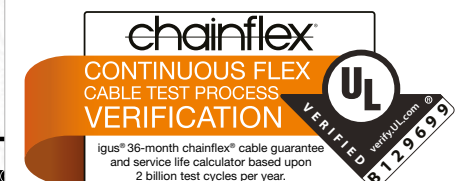
Example image

Configurators ► www.igus.com/CFLG-LB

36 month guarantee ... 1,354 types from stock ... no cutting charges



UL-verified chainflex® guarantee ... www.igus.com/ul-verified



low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			



igus® chainflex® CFLG-LB

Example image

Part No.	Fiber Count	Fiber Diameter approx.	Outer diameter max.		Weight	
		[µm]	[in.]	[mm]	[lbs/mft]	[kg/km]
CFLG-2LB-62-5/125	2	62,5/125	0.33	8.5	38.3	57
CFLG-4LB-62-5/125	4	62,5/125	0.35	9.0	45.7	68
CFLG-6LB-62-5/125	6	62,5/125	0.43	11.0	61.1	91
CFLG-12LB-62-5/125	12	62,5/125	0.55	14.0	100.8	150
CFLG-2LB-50/125	2	50/125	0.33	8.5	36.3	54
CFLG-4LB-50/125	4	50/125	0.35	9.0	43.0	64
CFLG-6LB-50/125	6	50/125	0.43	11.0	57.8	86
CFLG-12LB-50/125	12	50/125	0.55	14.0	100.8	150
CFLG-2LB-200/230	2	200/230	0.33	8.5	36.3	54

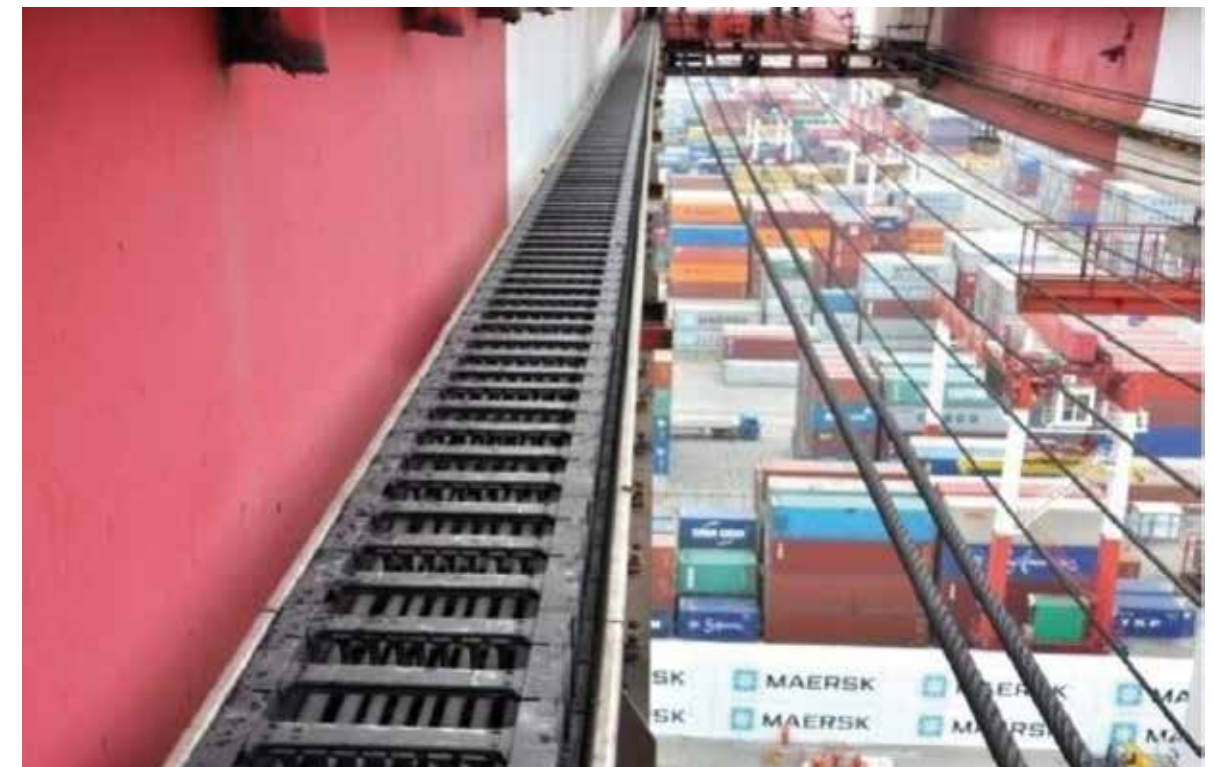
Note: The given outer diameters are maximum values.
G = with green-yellow earth core x = without earth core

Part No.	Bandwidth [MHz x km] @ 850 nm	Bandwidth [MHz x km] @ 1300 nm	Attenuation [dB/km] @ 850 nm	Attenuation [dB/km] @ 1300 nm	Fiber identification
	CFLG-2LB-62-5/125	≥ 200	≥ 500	≤ 3.5	≤ 1.5
CFLG-4LB-62-5/125	≥ 200	≥ 500	≤ 3.5	≤ 1.5	orange with black numbers
CFLG-6LB-62-5/125	≥ 200	≥ 500	≤ 3.5	≤ 1.5	orange with black numbers
CFLG-12LB-62-5/125	≥ 200	≥ 500	≤ 3.0	≤ 0.7	orange with black numbers
CFLG-2LB-50/125	≥ 500	≥ 500	≤ 3.0	≤ 1.0	blue with black numbers
CFLG-4LB-50/125	≥ 500	≥ 500	≤ 3.0	≤ 1.0	blue with black numbers
CFLG-6LB-50/125	≥ 500	≥ 500	≤ 3.0	≤ 1.0	blue with black numbers
CFLG-12LB-50/125	≥ 500	≥ 500	≤ 3.0	≤ 1.0	blue with black numbers
CFLG-2LB-200/230	≥ 20		≤ 6.0		black with white numbers

Order example: CFLG-4LB-62,5/125 – To your desired length
CFLG-LB chainflex® series -4 Number of fibers -2,5/125 Fiber diameter

Online order ► www.chainflex.com/CFLG-LB

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



chainflex® Fiber Optic Cables on STS crane



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



Fiber optic cable | TPE | chainflex® CFLG-G

36 10,000,000
Cycles guaranteed

5 x d
Bend radius E-Chain®

328.1 ft
Travel distance E-Chain®

- Glass-fiber cable for maximum mechanical load requirements
- TPE outer jacket
- Oil and bio-oil-resistant
- PVC and halogen-free
- Low-temperature-flexibility
- Hydrolysis and microbe-resistant

Dynamic Information

	Bend radius	E-Chain® linear	min. 10 x d
		flexible	min. 8 x d
	Temperature	E-Chain® linear	-40 °F to +176 °F (-40 °C to +80 °C)
		flexible	-58 °F to +176 °F (-50 °C to +80 °C)
		fixed	-67 °F to +176 °F (-55 °C to +80 °C)
	v max.	unsupported	32.81 ft/s (10 m/s)
		gliding	19.69 ft/s (6 m/s)
	a max.	65.6 ft/s² (20 m/s²)	
	Travel distance	Unsupported travel distances and for gliding applications up to 1312 ft (400 m) and more, Class 6	

Cable structure

	Fibre Optic Cable	9/125 µm, 50/125 µm, 62.5/125 µm fibers in gel-filled hollow cores.
	Conductor construction	Strengthening rods with integrated torsion-protection braid in the outer jacket over a central gel-filled fiber tube.
	Color code	Fibers ▶ See P/N Table
	Outer jacket	Low-adhesion mixture on the basis of TPE, especially abrasion-resistant and highly flexible, adapted to suit the requirements in E-Chains®. Color: Jet black (similar to RAL 9005)

Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

Class 7.6.4.1

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
	Info	For hanging applications, please use cables of the series CFLG-LB – see page 216!

Guaranteed service life (details see page 26-27)

Cycles*	5 million	7.5 million	10 million
Temperature, from/to [°F]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-40/-22	12.5	13.5	14.5
-22/+158	10	11	12
+158/+176	12.5	13.5	14.5

* Higher number of cycles? Online lifetime calculation ▶ www.chainflex.com/chainflexlife

Typical application areas

- For maximum mechanical load requirements, Class 7
- Unsupported travel distances and for gliding applications (horizontal) up to 1312 ft (400 m) and more, Class 6
- Almost unlimited resistance to oil, also with bio-oils, Class 4
- Maximum EMC protection, with high transmission qualities
- Indoor and outdoor applications
- crane applications, Material handling, low temperature applications

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

CFRIP
UL LISTED
UL US

UL US
NFPA
UL A

EAC
RoHS
Clean-Room

CE

igus chainflex CFLG.G

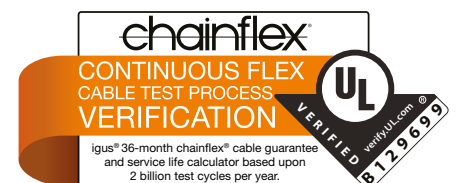
Example image

Configurators ▶ www.igus.com/CFLG-G

36 month guarantee ... 1,354 types from stock ... no cutting charges



UL-verified chainflex® guarantee ... www.igus.com/ul-verified



low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			



Example image

Part No.	Fiber Count	Fiber Diameter approx.	Outer diameter max.		Weight	
		[µm]	[in.]	[mm]	[lbs/mft]	[kg/km]
CFLG-6G-62.5/125-TC	6	62,5/125	0.39	10.0	53.8	80
CFLG-12G-62.5/125-TC	12	62,5/125	0.39	10.0	53.8	80
CFLG-6G-50/125-TC	6	50/125	0.39	10.0	40.3	60
CFLG-12G-50/125-TC	12	50/125	0.39	10.0	50.4	75
CFLG-12E-9/125-TC	12	9/125	0.39	10.0	50.4	75

Note: The given outer diameters are maximum values.
G = with green-yellow earth core x = without earth core

Part No.	Bandwidth [MHz x km] @ 850 nm	Bandwidth [MHz x km] @ 1300 nm	Attenuation [dB/km] @ 850 nm	Attenuation [dB/km] @ 1300 nm
	CFLG-6G-62.5/125-TC	≥ 200	≥ 500	≤ 3.5
CFLG-12G-62.5/125-TC	≥ 200	≥ 500	≤ 3.5	≤ 1.0
CFLG-6G-50/125-TC	≥ 500	≥ 500	≤ 3.0	≤ 1.0
CFLG-12G-50/125-TC	≥ 500	≥ 500	≤ 3.0	≤ 1.0

Part No.	Attenuation [dB/km] @ 1310 nm	Attenuation [dB/km] @ 1550 nm	Chromatic dispersion [ps/nm/km] @ 1310 nm	Chromatic dispersion [ps/nm/km] @ 1550 nm
	CFLG-12E-9/125-TC	≤ 0.35	≤ 0.25	3.5

Part No.	Fiber identification	Hollow core identification
CFLG-12E-9/125-TC	ecru, yellow, green, red, violet, blue, lightblue, grey, brown, black, orange, pink	yellow
CFLG-12G-50/125-TC	ecru, yellow, green, red, violet, blue, lightblue, grey, brown, black, orange, pink	blue
CFLG-12G-62.5/125-TC	ecru, yellow, green, red, violet, blue, lightblue, grey, brown, black, orange, pink	orange
CFLG-6G-50/125-TC	ecru, yellow, green, red, violet, blue	blue
CFLG-6G-62.5/125-TC	ecru, yellow, green, red, violet, blue	orange

Order example: CFLG-6G-62,5/125-TC – To your desired length
CFLG-G chainflex® series -6G Number of fibers -62,5/125 Fiber diameter -TC Special identification

Online order ► www.chainflex.com/CFLG-G

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 now ...
www.igus.com/info/cable-price-check

... just one idea for you: Reduce bend radius with CFLG.LB ...



chainflex® Fiber Optic Cable in sea lock



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



Measuring system cables



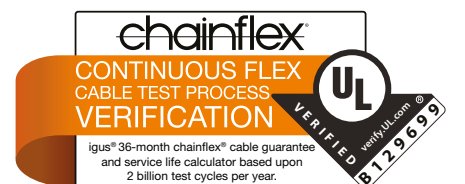
chainflex® cable	Jacket	Shield	Bending radius min., E-Chain® [factor x d]	Temperature, E-Chain® from/to [°F]	UL	FM	NFPA	Approvals and standards	Oil-resistant	Torsion resistant v max. [ft/s] unsupported	v max. [ft/s] gliding	a max. [ft/s²]	Page
Measuring system cables													
Selection chart for chainflex® measuring system cables													228
CF884	PVC	✓	15	+41/ +158	UL	FM	NFPA	EAC REACH RoHS CE		9.84		65.62	230
CF211	PVC	✓	10	+41/ +158	UL	FM	NFPA	EAC REACH RoHS CE		16.41	9.84	98.43	234
CF894	iguPUR	✓	15	-4/ +176	UL	FM	NFPA	EAC REACH RoHS CE		9.84		65.62	240
CF111-D	PUR	✓	10	-13/ +176	UL	FM	NFPA	EAC REACH RoHS CE		16.41	9.84	98.43	244
CF113-D	PUR	✓	7.5	-13/ +176	UL	FM	NFPA	EAC REACH RoHS CE		32.81	16.41	164.05	250 New
CF11-D	TPE	✓	7.5	-31/ +194	UL	FM	NFPA	EAC REACH RoHS CE		32.81	19.69	328.1	256
Torsion Measuring system cables (Chapter Torsion cables) ▶ Page 366													
CFROBOT4	PUR	✓	10	-13/ +176	UL	FM	NFPA	EAC REACH RoHS CE	✓				380

Measuring System Cable: A cable that provides signal, feedback, and low voltage power between a drive or controller and a motor. This cable will combine multiple numbers of conductor sizes and components to control encoder, resolver or other means of position feedback loop. The respective motor manufacturers will each have their own cable configuration for this cable function. See Selection chart for Chainflex measuring system cables on page 228-229.

36 months chainflex® guarantee
Guaranteed lifetime for predictable reliability
 ▶ Selection table page 226

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.com/chainflexlife



chainflex® guarantee

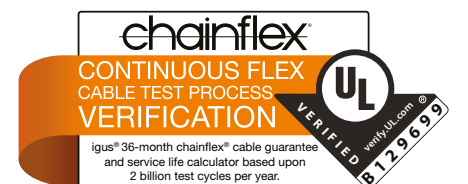


Guaranteed lifetime⁽¹⁾

chainflex® cable	Temperature, from/to [°F]	v max. [ft/s]		a max. [ft/s²]	Travel distance [ft]	Bending radius min. [factor x d]			Page	
		unsupported	gliding			5 million (1 million) cycles *	7.5 million (3 million) cycles *	10 million (5 million) cycles *		
Measuring system cables										
 CF884	+41 / +59 +59 / +140 +140 / +158	9.84	-	65.62	≤ 32.81	17.5 15 17.5	18.5 16 18.5	19.5 17 19.5	230	
 CF211	+41 / +59 +59 / +140 +140 / +158	16.41	9.84	98.43	≤ 32.81	12.5 10 12.5	13.5 11 13.5	14.5 12 14.5	234	
 CF894	-4 / +14 +14 / +158 +158 / +176	9.84	-	65.62	≤ 32.81	17.5 15 17.5	18.5 16 18.5	19.5 17 19.5	240	
 CF111-D	-13 / +5 +5 / +158 +158 / +176	16.41	9.84	98.43	≤ 32.81	12.5 10 12.5	13.5 11 13.5	14.5 12 14.5	244	
 CF113-D New!	-13 / +5 +5 / +158 +158 / +176	32.81	16.41	164.05	≤ 328.1	10 7.5 10	11 8.5 11	12 9.5 12	250	
 CF11-D	-31 / -13 -13 / +176 +176 / +194	32.81	19.69	328.1	≤ 1,312	10 7.5 10	11 8.5 11	12 9.5 12	256	

⁽¹⁾ **Exclusive!** Guaranteed lifetime for this series according to the guarantee conditions ► Page 26-27

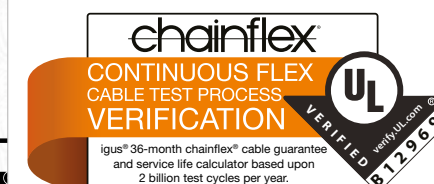
* Higher number of cycles? Online lifetime calculation ► www.igus.com/chainflexlife
 Figures in brackets refer to chainflex® series CF884 and CF894



Selection chart for chainflex® measuring system cables

Drive Technology System	chainflex® series Class Jacket Page	CF884-yyy	CF211-yyy	CF894-yyy	CF111-yyy-D	CF113-yyy-D	CF11-yyy-D
		3.1.1.1 PVC 230	4.2.2.1 PVC 234	3.1.3.1 PUR 240	4.2.3.1 PUR 244	6.5.3.1 PUR 250	6.6.4.1 TPE 256
Number of cores and conductor nominal cross section [mm²]							
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	✓		✓	✓	✓	✓
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					✓	✓

Drive Technology System	chainflex® series Class Jacket Page	CF884-yyy	CF211-yyy	CF894-yyy	CF111-yyy-D	CF113-yyy-D	CF11-yyy-D
		3.1.1.1 PVC 230	4.2.2.1 PVC 234	3.1.3.1 PUR 240	4.2.3.1 PUR 244	6.5.3.1 PUR 250	6.6.4.1 TPE 256
Number of cores and conductor nominal cross section [mm²]							
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				✓		✓



Measuring system cable | PVC | chainflex® CF884






36 5,000,000
Cycles guaranteed

15 x d
Bend radius E-Chain®








32.8 ft
Travel distance E-Chain®

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


Dynamic Information

 Bend radius	E-Chain® linear	min. 15 x d
	flexible	min. 12 x d
	fixed	min. 8 x d
 Temperature	E-Chain® linear	+41 °F to +158 °F (+5 °C to +70 °C)
	flexible	+23 °F to +158 °F (-5 °C to +70 °C)
	fixed	+5 °F to +158 °F (-15 °C to +70 °C)
 v max.	unsupported	9.84 ft/s (3 m/s)
 a max.		65.6 ft/s ² (20 m/s ²)
 Travel distance		Unsupported travel distances up to 32.8 ft (10 m), Class 1

Cable structure

 Conductor	Conductor consisting of bare copper wires (according to DIN EN 60228).
 Conductor insulation	Mechanically high-quality TPE mixture.
 Conductor construction	According to measuring system specification.
 Color code	According to measuring system specification. ▶ See P/N Table
 Element shield	Foil taping of optimized, bending-resistant foil shield. 100 % optical coverage
 Overall shield	Aluminum/polyester tape and tinned cooper braid. 60 % optical coverage
 Outer jacket	Low-adhesion mixture on the basis of PVC, adapted to suit the requirements in E-Chains®. Color: Green (similar to RAL 6018)

Electrical Information










 Nominal voltage	30 V
 Test voltage	500 V

Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

Class 3.1.1.1

Properties and approvals

 Flame resistance	According to IEC 60332-1-2, FT1, VW-1
 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	30 V, +60 °C See data sheet for details ▶ www.igus.com/CF884
 NFPA 79	Complies to Electrical Standard for Industrial Machinery NFPA 79 Section 12.9
 EAC	Certificate No. RU C-DE.ME77.B.00295/19 (TR ZU)
 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

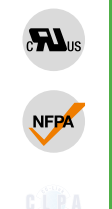
Guaranteed service life (details see page 26-27)

Cycles*	1 million	3 million	5 million
Temperature, from/to [°F]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
+41/+59	17.5	18.5	19.5
+59/+140	15	16	17
+140/+158	17.5	18.5	19.5

* Higher number of cycles? Online lifetime calculation ▶ www.chainflex.com/chainflexlife

Typical application areas

- For low duty flexing applications, Class 3
- Especially for unsupported travels, Class 1
- Without influence of oil, Class 1
- Preferably indoor applications
- Wood/stone processing, Packaging industry, supply systems, Handling, adjusting equipment



igus® chainflex® CF884

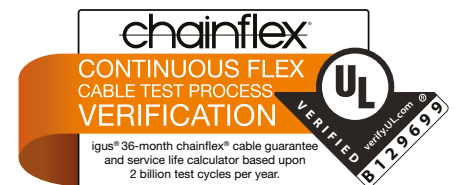
Example image

Configurators ▶ www.igus.com/CF884

36 month guarantee ... 1,354 types from stock ... no cutting charges



UL-verified chainflex® guarantee ... www.igus.com/ul-verified





Example image

Part No.	AWG	Number of Conductors and rated cross section	Outer diameter max.		Copper index		Weight		Part No.	Core group	Color code
			[in.]	[mm]	lbs/mft	[kg/km]	lbs/mft	[kg/km]			
CF884-001	26	3 STP x 0.14	0.33	8.5	27.6	41	61.1	91	CF884-001	3x(2x0.14)C 4x0.14 2x0.5	green/yellow, black/brown, red/orange gray, blue, white-yellow, white-black brown-red, brown-blue
	26	4 x 0.14									
	20	2 x 0.5									
CF884-006	26	3 STP x 0.14	0.35	9.0	33.6	50	67.9	101	CF884-006	3x(2x0.14)C 4x0.14 4x0.22 2x0.5	green/yellow, black/brown, red/orange gray, blue, white-yellow, white-black yellow-brown, gray-brown, green-black, green-red brown-red, brown-blue
	26	4 x 0.14									
	24	4 x 0.22									
	20	2 x 0.5									
CF884-009	24	4 PR x 0.25	0.31	8.0	29.6	44	61.1	91	CF884-009	4x(2x0.25) 2x0.5	brown/green, blue/violet, gray/pink, red/black white, brown
	20	2 x 0.5									
CF884-011	22	4 PR x 0.34	0.37	9.5	43.0	64	78.6	117	CF884-011	4x(2x0.34) 4x0.5	black/brown, red/orange, yellow/green, blue/violet blue-white, black-white, red-white, yellow-white
	20	4 x 0.5									
CF884-015	26	4 PR x 0.14	0.33	8.5	29.6	44	61.8	92	CF884-015	4x(2x0.14) 4x0.5	brown/green, yellow/violet, gray/pink, red/black blue, white, brown-green, white-green
	20	4 x 0.5									
CF884-022	24	1 PR x 0.25	0.31	8.0	29.6	44	53.1	79	CF884-022	2x0.25 5x0.5	white, brown green, yellow, gray, pink, blue
	20	5 x 0.5									
CF884-028	26	2 PR x 0.15	0.30	7.5	27.6	41	39.0	58	CF884-028	2x(2x0.15) 2x0.38	green/yellow, pink/blue red/black
	22	2 x 0.38									

Note: The given outer diameters are maximum values.
G = with green-yellow earth core x = without earth core

Order example: **CF884.015** – To your desired length
CF884 chainflex® series -015 Code measuring system type

Online order ► www.chainflex.com/CF884

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

cost down...



...life up

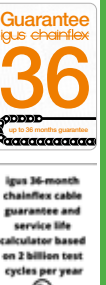
Reduce cost, improve technology, now!

Do the chainflex® price check now ...

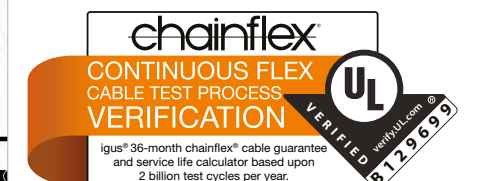
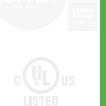
www.igus.com/info/cable-price-check

... just one idea for you: Reduce bend radius with CF113.D ...

Configurators ► www.igus.com/CF884



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



Measuring system cable | PVC | chainflex® CF211

36 10,000,000
Cycles guaranteed

10 x d
Bend radius E-Chain®

32.8 ft
Travel distance E-Chain®

- For medium mechanical load requirements
- PVC outer jacket
- Shielded
- Oil-resistant
- Flame-retardant

Dynamic Information

	Bend radius	E-Chain® linear flexible	min. 10 x d min. 8 x d
		fixed	min. 5 x d
	Temperature	E-Chain® linear flexible	+41 °F to +158 °F (+5 °C to +70 °C) +23 °F to +158 °F (-5 °C to +70 °C)
		fixed	+5 °F to +158 °F (-15 °C to +70 °C)
	v max.	unsupported	16.41 ft/s (5 m/s)
		gliding	9.84 ft/s (3 m/s)
	a max.		98.4 ft/s² (30 m/s²)
	Travel distance		Unsupported travel distances and for gliding applications up to 32.8 ft (10 m), Class 2

Cable structure

	Conductor	Conductor consisting of bare copper wires (according to DIN EN 60228).
	Conductor insulation	Mechanically high-quality TPE mixture.
	Conductor construction	According to measuring system specification.
	Color code	According to measuring system specification. ► See P/N Table
	Element shield	Extremely bending-resistant, tinned copper. 85 % optical coverage
	Element jacket	TPE mixture on pair shielding adapted to suit the requirements in E-Chains®.
	Intermediate layer	Polyester tape over external layer
	Overall shield	Extremely bending-resistant tinned copper braid. 80 % optical coverage
	Outer jacket	Low-adhesion, oil-resistant mixture on the basis of PVC, adapted to suit the requirements in E-Chains® (following DIN EN 50363-4-1). Color: Green (similar to RAL 6018)

Electrical Information

	Nominal voltage	300 V
	Test voltage	500 V

Configurators ► www.igus.com/CF211

36 month guarantee ... 1,354 types from stock ... no cutting charges



Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

Class 4.2.2.1

Properties and approvals

	Oil resistance	Oil-resistant (following DIN EN 50363-4-1), Class 2
	Flame resistance	According to IEC 60332-1-2, FT1, VW-1
	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	300 V, +60 °C See data sheet for details ► www.igus.com/CF211
	NFPA 79	Complies to Electrical Standard for Industrial Machinery NFPA 79 Section 12.9
	EAC	Certificate No. RU C-DE.ME77.B.00295/19 (TR ZU)
	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

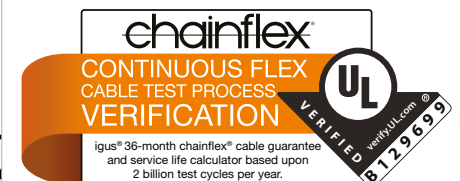
Guaranteed service life (details see page 26-27)

Cycles*	5 million	7.5 million	10 million
Temperature, from/to [°F]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
+41/+59	12.5	13.5	14.5
+59/+140	10	11	12
+140/+158	12.5	13.5	14.5

* Higher number of cycles? Online lifetime calculation ► www.chainflex.com/chainflexlife

Typical application areas

- For medium mechanical load requirements, Class 4
- Unsupported travel distances and for gliding applications up to 33 ft (10 m), Class 2
- Light oil influence, Class 2
- Preferably indoor applications, can be used in outdoor applications with temperatures > 41°F
- Storage and retrieval units for high-bay warehouses, machining units/packaging machines, Handling, indoor cranes, Wood/stone processing



UL-verified chainflex® guarantee ... www.igus.com/ul-verified



Example image

Part No.	AWG	Number of Conductors and rated cross section	Outer diameter max.		Copper index		Weight		Part No.	Core group	Color code
			[in.]	[mm]	lbs/mft	[kg/km]	lbs/mft	[kg/km]			
CF211-001	26	3 STP x 0.14	0.35	9.0	43.0	64	67.2	100	CF211-001	3x(2x0.14)C (4x0.14) (2x0.5)	green/yellow, black/brown, red/orange gray/blue/white-yellow/white-black brown-red, brown-blue
	26	4 x 0.14									
	20	2 x 0.5									
CF211-002	26	3 STP x 0.14	0.37	9.5	44.3	66	71.2	106	CF211-002	3x(2x0.14)C 2x(0.5)C	green/yellow, black/brown, red/orange black, red
	20	2 SC x 0.5									
CF211-004	26	4 PR x 0.14	0.39	10.0	47.0	70	77.3	115	CF211-004	2x(2x(2x0.14)) (4x0.14)C (4x0.5)	(brown/green)/(yellow/violet), (gray/pink)/(red/black) yellow-black/red-black/green-black/blue-black brown-green/white-green/blue/white
	26	4 C x 0.14 SHLD									
	20	4 x 0.5									
CF211-006	26	3 STP x 0.14	0.39	10.0	51.1	76	82.0	122	CF211-006	3x(2x0.14)C (4x0.14) (4x0.25) (2x0.5)	green/yellow, black/brown, red/orange gray/blue/white-yellow/white-black yellow-brown/gray-brown/green-black/green-red brown-red, brown-blue
	26	4 x 0.14									
	24	4 x 0.25									
	20	2 x 0.5									
CF211-009	24	4 PR x 0.25	0.31	8.0	32.9	49	53.1	79	CF211-009	4x(2x0.25) 2x0.5	brown/green, blue/violet, gray/pink, red/black white, brown
	20	2 x 0.5									
CF211-010	24	4 PR x 0.25	0.33	8.5	41.0	61	61.8	92	CF211-010	4x(2x0.25) 2x1.0	brown/green, blue/violet, gray/pink, red/black white, brown
	17	2 x 1.0									
CF211-011	22	4 PR x 0.34	0.37	9.5	48.4	72	73.2	109	CF211-011	4x(2x0.34) 4x0.5	black/brown, red/orange, green/yellow, blue/violet black-white, red-white, yellow-white, blue-white
	20	4 x 0.5									
CF211-014	24	4 STP x 0.25	0.41	10.5	51.7	77	83.3	124	CF211-014	4x(2x0.25)C (2x0.5)	white/brown, green/yellow, gray/pink, blue/red black no. 1/black no. 2
	20	2 x 0.5									
CF211-015	26	4 PR x 0.14	0.33	8.5	36.3	54	57.8	86	CF211-015	4x(2x0.14) 4x0.5	brown/green, yellow/violet, gray/pink, red/black blue, white, brown-green, white-green
	20	4 x 0.5									
CF211-016	24	3 STP x 0.25	0.35	9.0	34.3	51	59.8	89	CF211-016	3x(2x0.25)C	white/brown, green/yellow, gray/pink
CF211-017	26	4 PR x 0.14	0.39	10.0	61.8	92	90.0	134	CF211-017	4x(2x0.14) (4x0.14)C 4x1.0	red/black, brown/green, yellow/violet, gray/pink blue-black/yellow-black/red-black/green-black white-green, brown-green, blue, white
	26	4 x 0.14 SHLD									
	17	4 x 1.0									
CF211-018	24	2 PR x 0.25	0.26	6.5	22.8	34	36.3	54	CF211-018	2x(2x0.25) 2x0.5	red/black, gray/pink white, brown
	20	2 x 0.5									
CF211-019	24	3 STP x 0.25	0.39	10.0	57.8	86	84.0	125	CF211-019	3x(2x0.25)C (3x0.25) 2x1.0	brown/green, gray/pink, red/black blue/violet/yellow white, brown
	24	3 x 0.25									
	17	2 x 1.0									
CF211-022	24	1 PR x 0.25	0.28	7.0	30.9	46	47.7	71	CF211-022	(2x0.25) 5x0.5	white/brown green, yellow, gray, pink, blue
	20	5 x 0.5									
CF211-024	26	4 x 0.14	0.28	7.0	24.2	36	41.0	61	CF211-024	(4x0.14) 2x(2x0.34)	yellow/gray/violet/pink white-green/white, brown-green/blue
	22	2 PR x 0.34									
CF211-027	26	5 PR x 0.14	0.31	8.0	30.2	45	50.4	75	CF211-027	5x(2x0.14) 2x0.5	brown/green, yellow/gray, white/violet, red/black, pink/blue white-green, white-red
	20	1 PR x 0.5									

Note: The given outer diameters are maximum values.
G = with green-yellow earth core x = without earth core

Other types ► page 238

Configurators ► www.igus.com/CF211

Guarantee
igus chainflex
36
months

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

CFRIP
UL LISTED
UL US
NFPA
CE

Measuring system cable | PVC | chainflex® CF211

Class 4.2.2.1



Example image

Part No.	AWG	Number of Conductors and rated cross section	Outer diameter max.		Copper index		Weight		Part No.	Core group	Color code
			[in.]	[mm]	lbs/mft	[kg/km]	lbs/mft	[kg/km]			
CF211-028	26	2 PR x 0.15	0.30	7.5	26.9	40	51.7	77	CF211-028	2x(2x0.15) (2x0.38)	green/yellow, pink/blue red/black
	22	2 x 0.38									
CF211-032	26	3 STP x 0.14	0.31	8.0	23.5	35	53.1	79	CF211-032	3x(2x0.14)C (3x0.14)C	green/black, yellow/black, red/black gray/pink/black
	26	3 x 0.14 SHLD									
CF211-033	26	4 STP x 0.14	0.37	9.5	43.0	64	75.3	112	CF211-033	4x(2x0.14)C 2x(1.0)C	yellow/black, red/black, blue/black, green/black white, brown
	17	2 x 1.0									
CF211-036	24	5 PR x 0.25	0.31	8.0	28.2	42	46.4	69	CF211-036	5x(2x0.25)	white/brown, green/yellow, gray/pink, blue/red, black/violet
CF211-037	24	6 PR x 0.25	0.33	8.5	34.3	51	55.8	83	CF211-037	6x(2x0.25)	white/brown, green/yellow, gray/pink, blue/red, black/violet, gray-pink/red-blue
CF211-038	26	3 PR x 0.14	0.30	7.5	22.2	33	41.7	62	CF211-038	3x(2x0.14) (2x0.34)	white/brown, green/yellow, gray/pink blue/red
	22	1 PR x 0.34									
CF211-039	26	4 STP x 0.14	0.39	10.0	51.7	77	84.0	125	CF211-039	(4x(2x0.14)C 2x(0.5)C)C	green/yellow, gray/pink, blue/red, black/violet white, brown
	20	2 x 0.5 SC									

Note: The given outer diameters are maximum values.
G = with green-yellow earth core x = without earth core

Other types ► page 236

cost down...

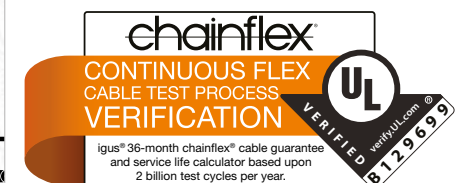


...life up

Reduce cost, improve technology, now!

Do the chainflex® price check now ...
www.igus.com/info/cable-price-check

... just one idea for you: Reduce cost with CF884 ...



Measuring system cable | iguPUR | chainflex® CF894

36 5,000,000
Cycles guaranteed

15 x d
Bend radius E-Chain®

32.8 ft
Travel distance E-Chain®

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

Dynamic Information

	Bend radius	E-Chain® linear	min. 15 x d
		flexible	min. 12 x d
		fixed	min. 8 x d
	Temperature	E-Chain® linear	-4 °F to +176 °F (-20 °C to +80 °C)
		flexible	-40 °F to +176 °F (-40 °C to +80 °C)
		fixed	-58 °F to +176 °F (-50 °C to +80 °C)
	v max.	unsupported	9.84 ft/s (3 m/s)
	a max.		65.6 ft/s ² (20 m/s ²)
	Travel distance		Unsupported travel distances up to 32.8 ft (10 m), Class 1

Cable structure

	Conductor	Conductor consisting of bare copper wires (according to DIN EN 60228).
	Conductor insulation	Mechanically high-quality TPE mixture.
	Conductor construction	According to measuring system specification.
	Color code	According to measuring system specification. ► See P/N Table
	Element shield	Foil taping of optimized, bending-resistant foil shield. 100 % optical coverage
	Overall shield	Aluminum/polyester tape and tinned cooper braid. 60 % optical coverage
	Outer jacket	Low-adhesion mixture on the basis of iguPUR, adapted to suit the requirements in E-Chains®. Color: Green (similar to RAL 6018)

Electrical Information

	Nominal voltage	30 V
	Test voltage	500 V

Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

Class 3.1.3.1

Properties and approvals

	UV resistance	Medium
	Oil resistance	Oil-resistant (following DIN EN 50363-10-2), Class 3
	Flame resistance	According to IEC 60332-1-2, FT1, VW-1
	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	30 V, +80C See data sheet for details ► www.igus.com/CF894
	NFPA 79	Complies to Electrical Standard for Industrial Machinery NFPA 79 Section 12.9
	EAC	Certificate No. RU C-DE.ME77.B.00295/19 (TR ZU)
	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

Guaranteed service life (details see page 26-27)

Cycles*	1 million	3 million	5 million
Temperature, from/to [°F]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-4/+14	17.5	18.5	19.5
+14/+158	15	16	17
+158/+176	17.5	18.5	19.5

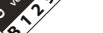
* Higher number of cycles? Online lifetime calculation ► www.chainflex.com/chainflexlife

Typical application areas

- For low duty flexing applications, Class 3
- Especially for unsupported travels, Class 1
- With influence of oil, Class 3
- Indoor and outdoor applications without direct sun radiation
- Machining units/machine tools, low temperature applications



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



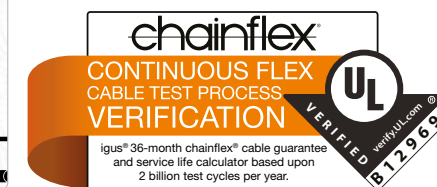
Example image

Configurators ► www.igus.com/CF894

36 month guarantee ... 1,354 types from stock ... no cutting charges



UL-verified chainflex® guarantee ... www.igus.com/ul-verified





igus® chainflex® CF894

Example image

Part No.	AWG	Number of Conductors and rated cross section	Outer diameter max.		Copper index		Weight		Part No.	Core group	Color code
			[in.]	[mm]	lbs/mft	[kg/km]	lbs/mft	[kg/km]			
CF894-001	26	3 STP x 0.14	0.33	8.5	27.6	41	53.8	80	CF894-001	3x(2x0.14)C 4x0.14 2x0.5	green/yellow, black/brown, red/orange gray, blue, white-yellow, white-black brown-red, brown-blue
	26	4 x 0.14									
	20	2 x 0.5									
CF894-006	26	3 STP x 0.14	0.35	9.0	33.6	50	70.6	105	CF894-006	3x(2x0.14)C 4x0.14 4 x 0.22 2x0.5	green/yellow, black/brown, red/orange gray, blue, white-yellow, white-black yellow-brown, gray-brown, green-black, green-red brown-red, brown-blue
	26	4 x 0.14									
	24	4 x 0.22									
	20	2 x 0.5									
CF894-009	24	4 PR x 0.25	0.31	8.0	29.6	44	53.8	80	CF894-009	4x(2x0.25) 2x0.5	brown/green, blue/violet, gray/pink, red/black white/brown
	20	2 x 0.5									
CF894-011	22	4 PR x 0.34	0.37	9.5	43.0	64	84.7	126	CF894-011	4x(2x0.34) 4x0.5	black/brown, red/orange, yellow/green, blue/violet blue-white, black-white, red-white, yellow-white
	20	4 x 0.5									
CF894-015	26	4 PR x 0.14	0.33	8.5	29.6	44	56.4	84	CF894-015	4x(2x0.14) 4x0.5	brown/green, yellow/violet, gray/pink, red/black blue, white, brown-green, white-green
	20	4 x 0.5									
CF894-022	24	1 PR x 0.25	0.31	8.0	29.6	44	52.4	78	CF894-022	2x0.25 5x0.5	white, brown green, yellow, gray, pink, blue
	20	5 x 0.5									
CF894-028	26	2 PR x 0.15	0.30	7.5	27.6	41	38.3	57	CF894-028	2x(2x0.15) 2x0.38	green/yellow, pink/blue red/black
	22	2 x 0.38									

Note: The given outer diameters are maximum values.
G = with green-yellow earth core x = without earth core

Order example: **CF894.011** – To your desired length
CF894 chainflex® series -011 Code measuring system type

Online order ► www.chainflex.com/CF894

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

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Reduce cost, improve technology, now!

Do the chainflex® price check now ...

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... just one idea for you: Reduce bend radius with CF113.D ...

Configurators ► www.igus.com/CF894

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

CFRIP
UL LISTED
UL US
NFPA
EAC
RoHS
Clean Room
UL



Guarantee
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36
up to 36 months guarantee

chainflex®
CONTINUOUS FLEX
CABLE TEST PROCESS
VERIFICATION
UL
igus® 36-month chainflex® cable guarantee and service life calculator based upon 2 billion test cycles per year.
VERIFIED
www.igus.com
B129699

Measuring system cable | PUR | chainflex® CF111-D

36 10,000,000 Cycles guaranteed
10 x d Bend radius E-Chain®
32.8 ft Travel distance E-Chain®

- For medium mechanical load requirements
- 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 flexible	min. 10 x d min. 8 x d
		fixed	min. 5 x d
	Temperature	E-Chain® linear flexible	-13 °F to +176 °F (-25 °C to +80 °C) -40 °F to +176 °F (-40 °C to +80 °C)
		fixed	-58 °F to +176 °F (-50 °C to +80 °C)
	v max.	unsupported	16.41 ft/s (5 m/s)
		gliding	9.84 ft/s (3 m/s)
	a max.		98.4 ft/s ² (30 m/s ²)
	Travel distance		Unsupported travel distances and for gliding applications up to 32.8 ft (10 m), Class 2

Cable structure

	Conductor	Conductor consisting of bare copper wires (according to DIN EN 60228).
	Conductor insulation	Mechanically high-quality TPE mixture.
	Conductor construction	According to measuring system specification.
	Color code	According to measuring system specification. ▶ See P/N Table
	Element shield	Extremely bending-resistant, tinned copper. 95 % optical coverage
	Element jacket	TPE mixture on pair shielding adapted to suit the requirements in E-Chains®.
	Intermediate layer	Polyester tape over external layer
	Overall shield	Bending-resistant tinned copper braid. 80 % optical coverage
	Outer jacket	Low-adhesion, halogen-free, highly abrasion-resistant mixture on the basis of PUR, adapted to suit the requirements in E-Chains® (following DIN EN 50363-10-2). Color: Green (similar to RAL 6018)

Electrical Information

	Nominal voltage	300 V
	Test voltage	500 V

Configurators ▶ www.igus.com/CF111-D

36 month guarantee ... 1,354 types from stock ... no cutting charges



Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

Class 4.2.3.1

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 2009
	Flame resistance	According to IEC 60332-1-2, FT1, VW-1
	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	300 V, +80C See data sheet for details ▶ www.igus.com/CF111-D
	NFPA 79	Complies to Electrical Standard for Industrial Machinery NFPA 79 Section 12.9
	DNV-GL	Type approval certificate No. TAE00003X4
	EAC	Certificate No. RU C-DE.ME77.B.00295/19 (TR ZU)
	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 standardization.
	CE	Following 2014/35/EU

Guaranteed service life (details see page 26-27)

Cycles*	5 million	7.5 million	10 million
Temperature, from/to [°F]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-13/+5	12.5	13.5	14.5
+5/+158	10	11	12
+158/+176	12.5	13.5	14.5

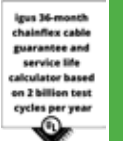
* Higher number of cycles? Online lifetime calculation ▶ www.chainflex.com/chainflexlife

Typical application areas

- For medium mechanical load requirements, Class 4
- Unsupported travel distances and for gliding applications up to 33 ft (10 m), Class 2
- Almost unlimited resistance to oil, Class 3
- Indoor and outdoor applications without direct sun radiation
- Machining units/machine tools, low temperature applications



UL-verified chainflex® guarantee ... www.igus.com/ul-verified



Measuring system cable | PUR | chainflex® CF111-D

Class 4.2.3.1

Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			



igus® chainflex® CF111.D

Example image

Part No.	AWG	Number of Conductors and rated cross section	Outer diameter max.		Copper index		Weight		Part No.	Core group	Color code
			[in.]	[mm]	lbs/mft	[kg/km]	lbs/mft	[kg/km]			
CF111-001-D	26	3 STP x 0.14	0.37	9.5	43.0	64	69.9	104	CF111-001-D	3x(2x0.14)C (4x0.14) (2x0.5)	green/yellow, black/brown, red/orange gray/blue/white-yellow/white-black brown-red/brown-blue
	26	4 x 0.14									
	20	2 x 0.5									
CF111-002-D	26	3 STP x 0.14	0.37	9.5	44.3	66	73.2	109	CF111-002-D	3x(2x0.14)C 2x(0.5)C	green/yellow, black/brown, red/orange black, red
	20	2 SC x 0.5									
CF111-004-D	26	4 PR x 0.14	0.41	10.5	47.0	70	77.9	116	CF111-004-D	2x(2x(2x0.14)) (4x0.14)C (4x0.5)	(brown/green)/(yellow/violet), (gray/pink)/(red/black) yellow-black/red-black/green-black/blue-black brown-green/white-green/blue/white
	26	4 x 0.14 SHLD									
	20	4 x 0.5									
CF111-006-D	26	3 STP x 0.14	0.39	10.0	51.1	76	82.0	122	CF111-006-D	3x(2x0.14)C (4x0.14) (4x0.25) (2x0.5)	green/yellow, black/brown, red/orange gray/blue/white-yellow/white-black yellow-brown/gray-brown/green-black/green-red brown-red/brown-blue
	26	4 x 0.14									
	24	4 x 0.25									
	20	2 x 0.5									
CF111-009-D	24	4 PR x 0.25	0.31	8.0	32.9	49	53.1	79	CF111-009-D	4x(2x0.25) 2x0.5	brown/green, blue/violet, gray/pink, red/black white, brown
	20	2 x 0.5									
CF111-010-D	24	4 PR x 0.25	0.33	8.5	41.0	61	63.2	94	CF111-010-D	4x(2x0.25) 2x1.0	brown/green, blue/violet, gray/pink, red/black white, brown
	17	2 x 1.0									
CF111-011-D	22	4 PR x 0.34	0.37	9.5	48.4	72	77.3	115	CF111-011-D	4x(2x0.34) 4x0.5	black/brown, red/orange, green/yellow, blue/violet black-white, red-white, yellow-white, blue-white
	20	4 x 0.5									
CF111-014-D	24	4 STP x 0.25	0.41	10.5	51.7	77	83.3	124	CF111-014-D	4x(2x0.25)C (2x0.5)	white/brown, green/yellow, gray/pink, blue/red black no. 1/black no. 2
	20	2 x 0.5									
CF111-015-D	26	4 PR x 0.14	0.33	8.5	36.3	54	58.5	87	CF111-015-D	4x(2x0.14) 4x0.5	brown/green, yellow/violet, gray/pink, red/black blue, white, brown-green, white-green
	20	4 x 0.5									
CF111-020-D	26	3 PR x 0.14	0.33	8.5	34.9	52	58.5	87	CF111-020-D	3x(2x0.14) 2x(4x0.14) (2x0.5)	blue/red, black/violet, gray-pink/red-blue green/gray/yellow/pink, white-green/white-yellow/brown-green/yellow-brown white/brown
	26	4 PR x 0.14									
	20	2 x 0.5									
CF111-021-D	24	6 x 0.50	0.37	9.5	53.8	80	78.6	117	CF111-021-D	(4x0.25) 3x2x0.25 3x2x0.5	white/brown/gray/black white/yellow, white/gray, black/orange black no. 1/black no. 2, black no. 3/black no. 4, black no. 5/black no. 6
	24	3 PR x 0.25									
	20	3 PR x 0.5									
CF111-022-D	24	1 PR x 0.25	0.28	7.0	30.9	46	50.4	75	CF111-022-D	(2x0.25) 5x0.5	white/brown green, yellow, gray, pink, blue
	20	5 x 0.5									
CF111-024-D	26	4 x 0.14	0.28	7.0	24.2	36	41.0	61	CF111-024-D	(4x0.14) 2x(2x0.34)	yellow/gray/violet/pink white-green/white, brown-green/blue
	22	2 PR x 0.34									
CF111-026-D	24	6 PR x 0.25	0.41	10.5	49.7	74	80.0	119	CF111-026-D	6x(2x0.25) (2x0.34)C (2x0.5)	green/yellow, gray/pink, blue/red, black/violet, gray-pink/red-blue, white-green/brown-green white/brown blue/red
	22	1 STP x 0.34									
	20	2 x 0.5									

Note: The given outer diameters are maximum values.
G = with green-yellow earth core x = without earth core

Other types ► page 248

Configurators ► www.igus.com/CF111-D

Guarantee
igus chainflex
36
month guarantee

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

Measuring system cable | PUR | chainflex® CF111-D

Class 4.2.3.1

Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			



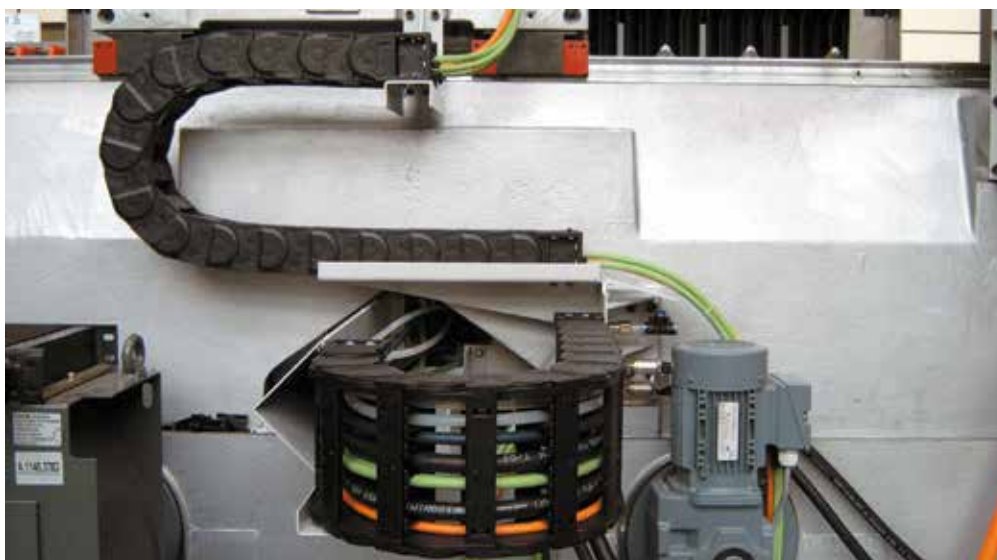
igus® chainflex® CF111.D

Example image

Part No.	AWG	Number of Conductors and rated cross section	Outer diameter max.		Copper index		Weight		Part No.	Core group	Color code
			[in.]	[mm]	lbs/mft	[kg/km]	lbs/mft	[kg/km]			
CF111-027-D	26	5 PR x 0.14	0.31	8.0	30.2	45	51.1	76	CF111-027-D	5x(2x0.14) 2x0.5	brown/green, yellow/gray, white/violet, red/black, pink/blue white-green, white-red
	20	1 PR x 0.5									
CF111-028-D	26	2 PR x 0.15	0.30	7.5	26.9	40	49.1	73	CF111-028-D	2x(2x0.15) (2x0.38)	green/yellow, pink/blue red/black
	22	2 x 0.38									
CF111-032-D	26	3 STP x 0.14	0.33	8.5	23.5	35	55.1	82	CF111-032-D	3x(2x0.14)C (3x0.14)C	green/black, yellow/black, red/black gray/pink/black
	26	3 x 0.14 SHLD									
CF111-040-D	26	14 x 0.14	0.35	9.0	54.4	81	79.3	118	CF111-040-D	3x(4x0.14) (2x0.14+2x0.34) 2x1.5	black/red/white-black/white-red, green/blue/white-green/ white-blue, yellow/brown/white-yellow/white-brown violet/orange/white-violet/white-orange white-gray, gray
	22	2 x 0.34									
	16	2 x 1.5									

Note: The given outer diameters are maximum values.
G = with green-yellow earth core x = without earth core

Other types ► page 246



readychain® systems from igus® are completely pre-harnessed with chainflex® cables, hoses, metal parts etc.

- Order example: **CF111.021.D** – To your desired length
CF111-D chainflex® series -021 Code measuring system type
- Online order ► www.chainflex.com/CF111-D
- Delivery time 24hrs or today.
Delivery time means time until goods are shipped.

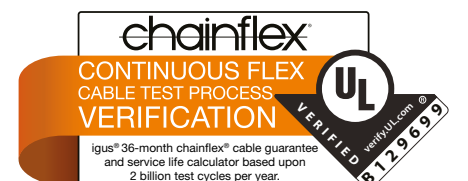
cost down...



Reduce cost, improve technology, now!

Do the chainflex® price check now ...
www.igus.com/info/cable-price-check

... just one idea for you: Reduce cost with CF211 ...



Configurators ► www.igus.com/CF111-D

Guarantee igus chainflex **36** months

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

CFRIP

UL LISTED

UL

NFPA

DNV-GL

EAC

RoHS

Clean Room

DESMA

CE

Measuring system cable | PUR | CF113-D

36 10,000,000
Cycles guaranteed

7.5 x d
Bend radius E-Chain®

328.1 ft
Travel distance E-Chain®

- For very high mechanical load requirements
- 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

Dynamic Information

	Bend radius	E-Chain® linear	min. 7.5 x d
		flexible	min. 6 x d
		fixed	min. 4 x d
	Temperature	E-Chain® linear	-13 °F to +176 °F (-25 °C to +80 °C)
		flexible	-40 °F to +176 °F (-40 °C to +80 °C)
		fixed	-58 °F to +176 °F (-50 °C to +80 °C)
	v max.	unsupported	32.81 ft/s (10 m/s)
		gliding	16.41 ft/s (5 m/s)
	a max.	164.1 ft/s² (50 m/s²)	
	Travel distance	Unsupported travel distances and for gliding applications up to 328.1 ft (100 m), Class 5	

Cable structure

	Conductor	Stranded conductor in especially bending-resistant version consisting of tinned copper wires (following DIN EN 60228).
	Conductor insulation	Mechanically high-quality TPE mixture.
	Conductor construction	According to measuring system specification.
	Color code	According to measuring system specification. ▶ See P/N Table
	Element shield	Extremely bending-resistant tinned copper braid. 95 % optical coverage
	Element jacket	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 tinned copper braid. 90 % optical coverage
	Outer jacket	Low-adhesion, halogen-free, highly abrasion-resistant mixture on the basis of PUR, adapted to suit the requirements in E-Chains® (following DIN EN 50363-10-2). Color: Green (similar to RAL 6018)
	CFRIP®	Strip 50% faster: a tear strip is molded into the inner jacket Video ▶ www.igus.com/CFRIP

Electrical Information

	Nominal voltage	300 V
	Test voltage	500 V

Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

Class 6.5.3.1

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 2009
	Flame resistance	According to IEC 60332-1-2, FT1, VW-1
	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 300 V, +80C See data sheet for details ▶ www.igus.com/CF113-D
	UL/CSA AWM	Complies to Electrical Standard for Industrial Machinery NFPA 79 Section 12.9
	NFPA 79	
	DNV-GL	Type approval certificate No. TAE00003X4
	EAC	Certificate No. RU C-DE.ME77.B.00295/19 (TR ZU)
	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 standardization.
	CE	Following 2014/35/EU

Guaranteed service life (details see page 26-27)

Cycles*	5 million	7.5 million	10 million
Temperature, from/to [°F]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-13/+5	10	11	12
+5/+158	7.5	8.5	9.5
+158/+176	10	11	12

* Higher number of cycles? Online lifetime calculation ▶ www.chainflex.com/chainflexlife

Typical application areas

- For very high mechanical load requirements, Class 6
- Unsupported travel distances and for gliding applications up to 328 ft (100 m), Class 5
- Almost unlimited resistance to oil, Class 3
- 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



Example image

Measuring system cable | PUR | chainflex® CF113-D

Strip cables 50 % faster

igus® chainflex® CF113.D

Example image



Class 6.5.3.1

Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

Part No.	AWG	Number of Conductors and rated cross section	Outer diameter max.		Copper index		Weight		Part No.	Core group	Color code
			[in.]	[mm]	lbs/mft	[kg/km]	lbs/mft	[kg/km]			
CF113-001-D	26	3 STP x 0.14	0.39	10.0	47.7	71	92.1	137	CF113-001-D	3x(2x0.14)C (4x0.14) (2x0.5)	green/yellow, black/brown, red/orange gray/blue/white-yellow/white-black brown-red/brown-blue
	26	4 x 0.14									
	20	2 x 0.5									
CF113-002-D	26	3 STP x 0.14	0.39	10.0	49.7	74	96.8	144	CF113-002-D	3x(2x0.14)C 2x(0.5)C	green/yellow, black/brown, red/orange black, red
	20	2 SC x 0.5									
CF113-003-D	26	3 PR x 0.14	0.31	8.0	37.6	56	69.2	103	CF113-003-D	3x(2x0.14) 2x1.0	white/brown, green/yellow, gray/pink blue, red
	17	2 x 1.0									
CF113-004-D	26	4 PR x 0.14	0.43	11.0	52.4	78	102.1	152	CF113-004-D	2x(2x(2x0.14)) (4x0.14)C (4x0.5)	(brown/green)/(yellow/violet), (gray/pink)/(red/black) yellow-black/red-black/green-black/blue-black brown-green/white-green/blue/white
	26	4 x 0.14 SHLD									
	20	4 x 0.5									
CF113-005-D	26	4 PR x 0.14	0.35	9.0	40.3	60	77.3	115	CF113-005-D	4x(2x0.14) 4x0.5	white/brown, green/yellow, gray/pink, blue/red black, violet, gray-pink, red-blue
	20	4 x 0.5									
CF113-006-D	26	3 STP x 0.14	0.43	11.0	57.1	85	106.2	158	CF113-006-D	3x(2x0.14)C (4x0.14) (4x0.25) (2x0.5)	green/yellow, black/brown, red/orange gray/blue/white-yellow/white-black yellow-brown/gray-brown/green-black/green-red brown-red/brown-blue
	26	4 x 0.14									
	24	4 x 0.25									
	20	2 x 0.5									
CF113-007-D ²⁾	22	2 PR x 0.34	0.26	6.5	20.8	31	36.3	54	CF113-007-D ²⁾	4x0.34	white, green, brown, yellow(Star-quad)
CF113-008-D	24	3 PR x 0.25	0.30	7.5	24.2	36	51.1	76	CF113-008-D	3x(2x0.25)	white/brown, green/yellow, gray/pink
CF113-009-D	24	4 PR x 0.25	0.33	8.5	38.3	57	66.5	99	CF113-009-D	4x(2x0.25) 2x0.5	brown/green, blue/violet, gray/pink, red/black white, brown
	20	2 x 0.5									
CF113-010-D	24	4 PR x 0.25	0.35	9.0	45.7	68	82.0	122	CF113-010-D	4x(2x0.25) 2x1.0	brown/green, blue/violet, gray/pink, red/black white, brown
	17	2 x 1.0									
CF113-011-D	22	4 PR x 0.34	0.39	10.0	54.4	81	95.4	142	CF113-011-D	4x(2x0.34) 4x0.5	black/brown, red/orange, green/yellow, blue/violet black-white, red-white, yellow-white, blue-white
	20	4 x 0.5									
CF113-013-D	26	3 STP x 0.14	0.35	9.0	41.7	62	81.3	121	CF113-013-D	3x(2x0.14)C 2x0.5	white/brown, green/yellow, gray/pink blue, red
	20	2 x 0.5									
CF113-014-D	24	4 STP x 0.25	0.43	11.0	57.8	86	109.5	163	CF113-014-D	4x(2x0.25)C (2x0.5)	white/brown, green/yellow, gray/pink, blue/red black no. 1/black no. 2
	20	2 x 0.5									
CF113-015-D	26	4 PR x 0.14	0.35	9.0	40.3	60	76.6	114	CF113-015-D	4x(2x0.14) 4x0.5	brown/green, yellow/violet, gray/pink, red/black blue, white, brown-green, white-green
	20	4 x 0.5									
CF113-016-D	24	3 STP x 0.25	0.39	10.0	40.3	60	84.7	126	CF113-016-D	3x(2x0.25)C	white/brown, green/yellow, gray/pink
CF113-017-D ⁴⁾	26	4 PR x 0.14	0.39	10.0	67.2	100	100.8	150	CF113-017-D ⁴⁾	4x(2x0.14) (4x0.14)C 4x1.0	red/black, brown/green, yellow/violet, gray/pink blue-black/yellow-black/red-black/green-black white-green, brown-green, blue, white
	26	4 x 0.14 SHLD									
	17	4 x 1.0									
CF113-018-D ⁴⁾	24	2 PR 0.25	0.26	6.5	27.6	41	43.7	65	CF113-018-D ⁴⁾	2x(2x0.25) 2x0.5	red/black, gray/pink white, brown
	20	2 x 0.5									
CF113-019-D ⁴⁾	24	3 STP x 0.25	0.39	10.0	62.5	93	96.1	143	CF113-019-D ⁴⁾	3x(2x0.25)C (3x0.25) 2x1.0	brown/green, gray/pink, red/black blue/violet/yellow white, brown
	24	3 x 0.25									
	17	2 x 1.0									

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.
G = with green-yellow earth core **x** = without earth core

Other types ► page 254

Guarantee
igus chainflex
36
months

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

CFRIP
UL LISTED
UL US
NFPA
CE

Measuring system cable | PUR | CF113-D

Strip cables 50 % faster

igus® chainflex® CF113.D

Example image

Part No.	AWG	Number of Conductors and rated cross section	Outer diameter max.		Copper index		Weight	
			[in.]	[mm]	lbs/mft	[kg/km]	lbs/mft	[kg/km]
CF113-022-D	24	1 PR x 0.25	0.31	8.0	36.3	54	63.2	94
	20	5 x 0.5						
CF113-025-D	26	3 STP x 0.14	0.39	10.0	48.4	72	94.7	141
	20	1 STP x 0.5						
CF113-027-D	26	5 PR x 0.14	0.35	9.0	34.9	52	70.6	105
	20	1 PR x 0.5						
New CF113-028-D ⁴⁾	24	2 PR x 0.20	0.30	7.5	29.6	44	46.4	69
	22	2 x 0.38						
CF113-029-D	24	5 STP x 0.25	0.47	12.0	70.6	105	129.0	192
	24	2 x 0.25						
CF113-031-D	24	2 STP x 0.25	0.37	9.5	46.4	69	89.4	133
	17	2 x 1.0						
CF113-032-D ⁵⁾	26	3 STP x 0.14	0.33	8.5	23.5	35	55.1	82
	26	3 x 0.14 SHLD						
CF113-033-D ⁵⁾	26	4 STP x 0.14	0.37	9.5	43.0	64	74.6	111
	17	2 x 1.0						
CF113-036-D	24	5 PR x 0.25	0.33	8.5	34.3	51	69.2	103
CF113-037-D	24	6 PR x 0.25	0.35	9.0	39.0	58	76.6	114
CF113-038-D	26	3 PR x 0.14	0.33	8.5	24.2	36	58.5	87
	22	1 PR x 0.34						
CF113-040-D	26	14 x 0.14	0.39	10.0	59.1	88	104.2	155
	22	2 x 0.34						
	16	2 x 1.5						

⁴⁾ Manufactured without inner jacket

⁵⁾ Manufactured without overall shield

Note: The given outer diameters are maximum values.

G = with green-yellow earth core **x** = without earth core

Class 6.5.3.1

Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

Part No.	Core group	Color code
CF113-022-D	(2x0.25)	white/brown
	5x0.5	green, yellow, gray, pink, blue
CF113-025-D	3x(2x0.14)C	green/yellow, blue/red, gray/pink
	(2x0.5)C	white/brown
CF113-027-D	5x(2x0.14)	brown/green, yellow/gray, 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, gray/pink, blue/red, black/violet
	(2x0.25+2x0.5)	gray-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	gray/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, gray/pink, blue/red, black/violet
CF113-037-D	6x(2x0.25)	white/brown, green/yellow, gray/pink, blue/red, black/violet, gray-pink/red-blue
CF113-038-D	3x(2x0.14)	white/brown, green/yellow, gray/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)	violet/orange/white-violet/white-orange
	2x1.5	white-gray, gray



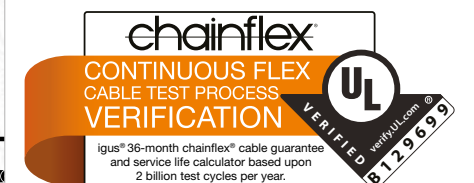
chainflex® measuring system cables in a double-spindle horizontal machining centre.

Other types ► page 252

Configurators ► www.igus.com/CF113-D



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

36 10,000,000
Cycles guaranteed

7.5 x d
Bend radius E-Chain®

1312.4 ft
Travel distance E-Chain®

- For very high mechanical load requirements
- TPE outer jacket
- Shielded
- Oil and bio-oil-resistant
- PVC and halogen-free
- Hydrolysis and microbe-resistant

Dynamic Information

	Bend radius	E-Chain® linear	min. 7.5 x d
		flexible	min. 6 x d
		fixed	min. 4 x d
	Temperature	E-Chain® linear	-31 °F to +194 °F (-35 °C to +90 °C)
		flexible	-58 °F to +194 °F (-50 °C to +90 °C)
		fixed	-67 °F to +194 °F (-55 °C to +90 °C)
	v max.	unsupported	32.81 ft/s (10 m/s)
		gliding	19.69 ft/s (6 m/s)
	a max.	328.1 ft/s² (100 m/s²)	
	Travel distance	Unsupported travel distances and for gliding applications up to 1312 ft (400 m) and more, Class 6	

Cable structure

	Conductor	Conductor consisting of bare copper wires (according to DIN EN 60228)
	Conductor insulation	Mechanically high-quality TPE mixture.
	Conductor construction	According to measuring system specification.
	Color code	According to measuring system specification. ► See P/N Table
	Element shield	Extremely bending-resistant tinned copper braid. 95 % optical coverage
	Element jacket	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 tinned copper braid. 90 % optical coverage
	Outer jacket	Low-adhesion mixture on the basis of TPE, especially abrasion-resistant and highly flexible, adapted to suit the requirements in E-Chains®. Color: Green (similar to RAL 6018)
	CFRIP®	Strip 50% faster: a tear strip is molded into the inner jacket Video ► www.igus.com/CFRIP

Electrical Information

	Nominal voltage	50 V
	Test voltage	500 V

Configurators ► www.igus.com/CF11-D

36 month guarantee ... 1,354 types from stock ... no cutting charges



Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

Class 6.6.4.1

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
	EAC	Certificate No. RU C-DE.ME77.B.00295/19 (TR ZU)
	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 standardization.
	CE	Following 2014/35/EU

Guaranteed service life (details see page 26-27)

Cycles*	5 million	7.5 million	10 million
Temperature, from/to [°F]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-31/-13	10	11	12
-13/+176	7.5	8.5	9.5
+176/+194	10	11	12

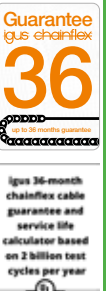
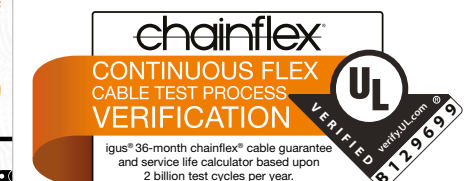
* Higher number of cycles? Online lifetime calculation ► www.chainflex.com/chainflexlife

Typical application areas

- For very high mechanical load requirements, Class 6
- Unsupported travel distances and for gliding applications up to 1312 ft (400 m) and more, Class 6
- Almost unlimited resistance to oil, also with bio-oils, Class 4
- 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



Pre-harnessed igus® energy supply systems for machine tool manufacture. E-Chain®: System E4/4



Measuring system cable | TPE | chainflex® CF11-D

Class 6.6.4.1

Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	7	≥ 1312 ft
none	1	2	3	4	highest			
none	1	2	3	4				±360°

Strip cables 50 % faster

igus® chainflex® CF11.D

Example image



Part No.	AWG	Number of Conductors and rated cross section	Outer diameter max.		Copper index		Weight		Part No.	Core group	Color code
			[in.]	[mm]	lbs/mft	[kg/km]	lbs/mft	[kg/km]			
CF11-001-D	26	3 STP x 0.14	0.39	10.0	47.7	71	80.0	119	CF11-001-D	3x(2x0.14)C (4x0.14) (2x0.5)	green/yellow, black/brown, red/orange gray/blue/white-yellow/white-black brown-red/brown-blue
	26	4 x 0.14									
	20	2 x 0.5									
CF11-002-D	26	3 STP x 0.14	0.39	10.0	49.7	74	84.0	125	CF11-002-D	3x(2x0.14)C 2x(0.5)C	green/yellow, black/brown, red/orange black, red
	20	2 SC x 0.5									
CF11-003-D	26	3 PR x 0.14	0.31	8.0	37.6	56	57.8	86	CF11-003-D	3x(2x0.14) 2x1.0	white/brown, green/yellow, gray/pink blue, red
	17	2 x 1.0									
CF11-004-D	26	4 PR x 0.14	0.43	11.0	52.4	78	85.3	127	CF11-004-D	2x(2x(2x0.14)) (4x0.14)C (4x0.5)	(brown/green)/(yellow/violet), (gray/pink)/(red/black) yellow-black/red-black/green-black/blue-black brown-green/white-green/blue/white
	26	4 x 0.14 SHLD									
	20	4 x 0.5									
CF11-005-D	26	4 PR x 0.14	0.35	9.0	40.3	60	65.2	97	CF11-005-D	4x(2x0.14) 4x0.5	white/brown, green/yellow, gray/pink, blue/red black, violet, gray-pink, red-blue
	20	4 x 0.5									
CF11-006-D	26	3 STP x 0.14	0.41	10.5	57.1	85	93.4	139	CF11-006-D	3x(2x0.14)C (4x0.14) (4x0.25) (2x0.5)	green/yellow, black/brown, red/orange gray/blue/white-yellow/white-black yellow-brown/gray-brown/green-black/green-red brown-red/brown-blue
	26	4 x 0.14									
	24	4 x 0.25									
	20	2 x 0.5									
CF11-007-D ²⁾	22	2 PR x 0.34	0.24	6.0	20.8	31	32.3	48	CF11-007-D ²⁾	4x0.34	white, green, brown, yellow (Star-quad)
CF11-008-D	24	3 PR x 0.25	0.30	7.5	24.2	36	40.3	60	CF11-008-D	3x(2x0.25)	white/brown, green/yellow, gray/pink
CF11-009-D	24	4 PR x 0.25	0.33	8.5	38.3	57	61.1	91	CF11-009-D	4x(2x0.25) 2x0.5	brown/green, blue/violet, gray/pink, red/black white, brown
	20	2 x 0.5									
CF11-010-D	24	4 PR x 0.25	0.35	9.0	45.7	68	70.6	105	CF11-010-D	4x(2x0.25) 2x1.0	brown/green, blue/violet, gray/pink, red/black white, brown
	17	2 x 1.0									
CF11-011-D	22	4 PR x 0.34	0.39	10.0	54.4	81	83.3	124	CF11-011-D	4x(2x0.34) 4x0.5	black/brown, red/orange, green/yellow, blue/violet black-white, red-white, yellow-white, blue-white
	20	4 x 0.5									
CF11-012-D	26	3 STP x 0.14	0.43	11.0	59.8	89	94.1	140	CF11-012-D	3x(2x0.14)C (3x0.14)C (4x0.14) (2x0.14+2x0.5)	green/yellow, white/gray, blue/red red/green/brown gray/yellow/pink/violet blue/brown-blue/gray/brown-red
	26	3 x 0.14 SHLD									
	26	6 x 0.14									
	20	2 x 0.5									
CF11-013-D	26	3 STP x 0.14	0.35	9.0	41.7	62	69.9	104	CF11-013-D	3x(2x0.14)C 2x0.5	white/brown, green/yellow, gray/pink blue, red
	20	2 x 0.5									
CF11-014-D	24	4 STP x 0.25	0.43	11.0	57.8	86	92.7	138	CF11-014-D	4x(2x0.25)C (2x0.5)	white/brown, green/yellow, gray/pink, blue/red black no. 1/black no. 2
	20	2 x 0.5									
CF11-015-D	26	4 PR x 0.14	0.35	9.0	40.3	60	65.2	97	CF11-015-D	4x(2x0.14) 4x0.5	brown/green, yellow/violet, gray/pink, red/black blue, white, brown-green, white-green
	20	4 x 0.5									
CF11-016-D	24	3 STP x 0.25	0.37	9.5	40.3	60	72.6	108	CF11-016-D	3x(2x0.25)C	white/brown, green/yellow, gray/pink
CF11-017-D ⁴⁾	26	4 PR x 0.14	0.39	10.0	67.2	100	84.7	126	CF11-017-D ⁴⁾	4x(2x0.14) (4x0.14)C 4x1.0	red/black, brown/green, yellow/violet, gray/pink blue-black/yellow-black/red-black/green-black white-green, brown-green, blue, white
	26	4 x 0.14 SHLD									
	17	4 x 1.0									

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.
G = with green-yellow earth core **x** = without earth core

Other types ▶ page 260

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

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DESIGN

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Measuring system cable | TPE | chainflex® CF11-D

Class 6.6.4.1

Strip cables 50 % faster



Example image

Part No.	AWG	Number of Conductors and rated cross section	Outer diameter max.		Copper index		Weight		Part No.	Core group	Color code
			[in.]	[mm]	lbs/mft	[kg/km]	lbs/mft	[kg/km]			
CF11-018-D ⁴⁾	24	2 PR x 0.25	0.26	6.5	27.6	41	34.3	51	CF11-018-D ⁴⁾	2x(2x0.25) 2x0.5	red/black, gray/pink white, brown
	20	2 x 0.5									
CF11-019-D ⁴⁾	24	3 STP x 0.25	0.39	10.0	62.5	93	80.6	120	CF11-019-D ⁴⁾	3x(2x0.25)C (3x0.25) 2x1.0	brown/green, gray/pink, red/black blue/violet/yellow white, brown
	24	3 x 0.25									
	17	2 x 1.0									
CF11-021-D	24	6 x 0.5	0.39	10.0	59.1	88	87.4	130	CF11-021-D	(4x0.25) 3x2x0.25 3x2x0.5	white/brown/gray/black white/yellow, white/gray, black/orange black no. 1/black no. 2, black no. 3/black no. 4, black no. 5/black no. 6
	24	5 PR x 0.25									
	20	5 PR x 0.5									
CF11-022-D	24	1 PR x 0.25	0.30	7.5	36.3	54	53.1	79	CF11-022-D	(2x0.25) 5x0.5	white/brown green, yellow, gray, pink, blue
	20	5 x 0.5									
CF11-025-D	26	3 STP x 0.14	0.39	10.0	48.4	72	82.7	123	CF11-025-D	3x(2x0.14)C (2x0.5)	green/yellow, blue/red, gray/pink white/brown
	20	1 STP x 0.5									
CF11-027-D	26	5 PR x 0.14	0.33	8.5	34.9	52	59.1	88	CF11-027-D	5x(2x0.14) 2x0.5	brown/green, yellow/gray, white/violet, red/black, pink/blue white-green, white-red
	20	1 PR x 0.5									
CF11-028-D	24	2 PR x 0.20	0.30	7.5	29.6	44	42.3	63	CF11-028-D	2x(2x0.20) (2x0.38)	green/yellow, pink/blue red/black
	22	2 x 0.38									
CF11-031-D	24	2 STP x 0.25	0.37	9.5	46.4	69	77.9	116	CF11-031-D	2x(2x0.25)C 2x1.0	white/brown, green/yellow black no. 1, black no. 2
	17	2 x 1.0									
CF11-032-D ⁵⁾	26	3 STP x 0.14	0.31	8.0	23.5	35	47.7	71	CF11-032-D ⁵⁾	3x(2x0.14)C (3x0.14)C	green/black, yellow/black, red/black gray/pink/black
	26	3 x 0.14 SHLD									
CF11-033-D ⁵⁾	26	4 STP x 0.14	0.37	9.5	43.0	64	69.9	104	CF11-033-D ⁵⁾	4x(2x0.14)C 2x(1.0)C	yellow/black, red/black, blue/black, green/black white, brown
	17	2 x 1.0									
CF11-034-D ^{5) 11)}	26	3 STP x 0.14	0.43	11.0	47.7	71	80.0	119	CF11-034-D ^{5) 11)}	3x(2x0.14)C (4x0.14)C 2x(2x0.5)C	green/black, violet/black, blue/black red/yellow/black-red/black-yellow black/white, black/brown
	26	4 x 0.14 SHLD									
	20	2 STP x 0.5									
CF11-035-D ¹¹⁾	24	4 STP x 0.25	0.47	12.0	66.5	99	103.5	154	CF11-035-D ¹¹⁾	4x(2x0.25)C 2x(2x0.5)	white/brown, green/yellow, gray/pink, blue/red black no. 1/black no. 2, black no. 3/black no. 4
	20	2 PR x 0.5									
CF11-038-D	26	3 PR x 0.14	0.31	8.0	24.2	36	47.7	71	CF11-038-D	3x(2x0.14) (2x0.34)	white/brown, green/yellow, gray/pink blue/red
	22	1 PR x 0.34									
CF11-040-D	26	14 x 0.14	0.39	10.0	59.1	88	87.4	130	CF11-040-D	3x(4x0.14) (2x0.14+ 2x0.34) 2x1.5	black/red/white-black/white-red, green/blue/white-green/ white-blue, yellow/brown/white-yellow/white-brown violet/orange/white-violet/white-orange white-gray, gray
	22	2 x 0.34									
	16	2 x 1.5									

⁴⁾ Manufactured without inner jacket
⁵⁾ Manufactured without overall shield
¹¹⁾ Phase-out model
Note: The given outer diameters are maximum values.
G = with green-yellow earth core **x** = without earth core

Other types ► page 258

Configurators ► www.igus.com/CF11-D

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

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Servo cables

Hybrid servo cables

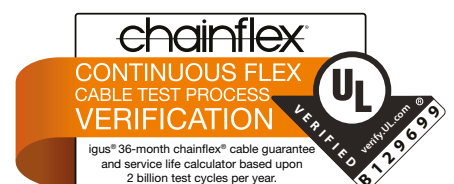


chainflex® cable	Jacket	Shield	Bending radius min., E-Chain® [factor x d]	Temperature, E-Chain® from/to [°F]	Approvals and standards	Oil-resistant	Torsion resistant v max. [ft/s] unsupported v max. [ft/s] gliding a max. [ft/s²]	Page
Servo cables								
Information and selection chart for Hybrid Servo cables 266								
CF887	PVC	✓	15	+41/ +158		9.84	65.62	268 New
CF210-UL	PVC	✓	10	+41/ +158		32.81	6.56	164.05 270
CF21-UL	PVC	✓	7.5	+41/ +158		32.81	16.41	262.48 274
CF897	iguPUR	✓	15	-4/ +176		9.84	65.62	278
CF270-UL-D	PUR	✓	10	-13/ +176		32.81	6.56	164.05 280
CF27-D	PUR	✓	7.5	-13/ +176		32.81	16.41	262.48 284
CF29-D	TPE	✓	6.8	-31/ +212		32.81	16.41	262.48 288
Hybrid servo cables								
CF220-UL-H	PVC	✓	10	+41/ +158		32.81	6.56	164.05 290
CF280-UL-H	PUR	✓	10	-13/ +176		32.81	6.56	164.05 294










36 months chainflex® guarantee
Guaranteed lifetime for predictable reliability
► Selection table page 264

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.com/chainflexlife

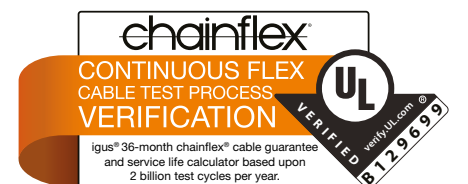




chainflex® cable	Temperature, from/to [°F]	v max. [ft/s]		a max. [ft/s²]	Travel distance [ft]	Bending radius min. [factor x d]		Bending radius min. [factor x d]		Bending radius min. [factor x d]		Page
		unsupported	gliding			< 32.81 ft	≥ 32.81 ft	< 32.81 ft	≥ 32.81 ft	< 32.81 ft	≥ 32.81 ft	
Servo cables												
 CF887 New!	+41 / +59 +59 / +140 +140 / +158	9.84	-	65.6	≤ 32.81	5 million (1 million) cycles *		7.5 million (3 million) cycles *		10 million (5 million) cycles *		268
 CF210-UL	+41 / +59 +59 / +140 +140 / +158	32.81	6.56	164.1	≤ 32.81	17.5 15 17.5	12.5 10 12.5	18.5 16 18.5	13.5 11 13.5	19.5 17 19.5	14.5 12 14.5	270
 CF21-UL	+41 / +59 +59 / +140 +140 / +158	32.81	16.41	262.5	≤ 328.1	10 7.5 10	10 7.5 10	11 8.5 11	11 8.5 11	12 9.5 12	12 9.5 12	274
 CF897	-4 / +14 +14 / +158 +158 / +176	9.84	-	65.6	≤ 32.81	17.5 15 17.5	12.5 10 12.5	18.5 16 18.5	13.5 11 13.5	19.5 17 19.5	14.5 12 14.5	278
 CF270-UL-D	-13 / +5 +5 / +158 +158 / +176	32.81	6.56	164.1	≤ 32.81	10 7.5 10	10 7.5 10	11 8.5 11	11 8.5 11	12 9.5 12	12 9.5 12	280
 CF27-D	-13 / +5 +5 / +158 +158 / +176	32.81	16.41	262.5	≤ 328.1	8.5 6.8 7.5	10 7.5 10	9.5 7.5 9.5	11 8.5 11	10.5 8.5 10.5	12 9.5 12	284
 CF29-D	-31 / -13 -13 / +194 +194 / +212	32.81	16.41	262.5	> 1,312	8.5 6.8 7.5	10 7.5 10	9.5 7.5 9.5	11 8.5 11	10.5 8.5 10.5	12 9.5 12	288
Hybrid servo cables												
 CF220-UL-H	+41 / +59 +59 / +140 +140 / +158	32.81	6.56	164.1	≤ 32.81	12.5 10 12.5	12.5 10 12.5	13.5 11 13.5	13.5 11 13.5	14.5 12 14.5	14.5 12 14.5	290
 CF280-UL-H	-13 / +5 +5 / +158 +158 / +176	32.81	6.56	164.1	≤ 32.81	12.5 10 12.5	12.5 10 12.5	13.5 11 13.5	13.5 11 13.5	14.5 12 14.5	14.5 12 14.5	294

⁽¹⁾ **Exclusive!** Guaranteed lifetime for this series according to the guarantee conditions ► Page 26-27

* Higher number of cycles? Online lifetime calculation ► www.igus.com/chainflexlife
 Figures in brackets refer to chainflex® series CF887 and CF897



In the chainflex® series **CF220-UL-H** and **CF280-UL-H**, you will see system cables for intelligent drive concepts of renowned system manufacturers.

To save installation space in the E-Chain system® some manufacturers combine the servo cable for power transmission with the measuring system cable for position data transmission 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 connecting these two cables into a hybrid cable, it is necessary to guarantee the necessary data transmission properties and the EMC behavior of the cable for many million cycles.

Due to the proximity to the power cores often operated with interference-intensive square-wave signals, in the igus® chainflex® servo hybrid cables, mechanically optimized shield concepts with a very high optical coverage are used.

A secure transmission of bus signals at maximum cable length at maximum speed makes special demands on the used insulating materials of the bus or data conductors.

In the 2,750m² large igus® laboratory, the electrical parameters such as capacitance, impedance, attenuation and crosstalk are measured over the entire test period of several million cycles and monitored for compliance with 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 cycles for the servo hybrid cables and 5 million for chainflex® M.

In the table on the right page you will find an overview of all currently available hybrid cables grouped by manufacturers.

The listed companies are drive systems manufacturers or technology providers whose rotation sensors are used in the most varied systems.



Two become one: Hybrid Servo cables combine Servo and Measuring system cables.

Selection table Hybrid Servo cables

Manufacturer	Hybrid technology	CF220-UL-H	CF280-UL-H
		PVC 10 x d UL page 290	PUR 10 x d oil-resistant page 294
ABB	Sick "Hiperface DSL"	CF220-UL-H10x	CF280-UL-H10x
AMK	Sick "Hiperface DSL"	CF220-UL-H10x	CF280-UL-H10x
B&R	Sick "Hiperface DSL"	CF220-UL-H10x	CF280-UL-H10x
B&R	Heidenhain	CF220-UL-H50x	CF280-UL-H50x
Baumüller	Sick "Hiperface DSL"	CF220-UL-H10x	CF280-UL-H10x
BCB	Sick "Hiperface DSL"	CF220-UL-H10x	CF280-UL-H10x
Beckhoff	Sick "Hiperface DSL"	CF220-UL-H10x	CF280-UL-H10x
BMP	Sick "Hiperface DSL"	CF220-UL-H10x	CF280-UL-H10x
Bosch-Rexroth	IndraDrive	-	CF280-UL-H40x
CEDS	Sick "Hiperface DSL"	CF220-UL-H10x	CF280-UL-H10x
ELAU/Schneider Electric	isH Servo	CF220-UL-H60x	CF280-UL-H60x
Fertig	Sick "Hiperface DSL"	CF220-UL-H10x	CF280-UL-H10x
Fine	Sick "Hiperface DSL"	CF220-UL-H10x	CF280-UL-H10x
Han's	Sick "Hiperface DSL"	CF220-UL-H10x	CF280-UL-H10x
Harmonic Drive AG	Sick "Hiperface DSL"	CF220-UL-H10x	CF280-UL-H10x
Heidrive	Sick "Hiperface DSL"	CF220-UL-H10x	CF280-UL-H10x
Infranor	Sick "Hiperface DSL"	CF220-UL-H10x	CF280-UL-H10x
IRT	Sick "Hiperface DSL"	CF220-UL-H10x	CF280-UL-H10x
Jetter	Sick "Hiperface DSL"	CF220-UL-H10x	CF280-UL-H10x
KEBA	Sick "Hiperface DSL"	CF220-UL-H10x	CF280-UL-H10x
Kinavo	Sick "Hiperface DSL"	CF220-UL-H10x	CF280-UL-H10x
Kollmorgen	Sick "Hiperface DSL"	CF220-UL-H10x	CF280-UL-H10x
Lafert	Sick "Hiperface DSL"	CF220-UL-H10x	CF280-UL-H10x
LTI DRIVES	Sick "Hiperface DSL"	CF220-UL-H10x	CF280-UL-H10x
Mavilor	Sick "Hiperface DSL"	CF220-UL-H10x	CF280-UL-H10x
Maxsine	Sick "Hiperface DSL"	CF220-UL-H10x	CF280-UL-H10x
metronix	Sick "Hiperface DSL"	CF220-UL-H10x	CF280-UL-H10x
PowerMotor	Sick "Hiperface DSL"	CF220-UL-H10x	CF280-UL-H10x
NUM	Sick "Hiperface DSL"	CF220-UL-H10x	CF280-UL-H10x
Parker	Sick "Hiperface DSL"	CF220-UL-H10x	CF280-UL-H10x
ROBOX	Sick "Hiperface DSL"	CF220-UL-H10x	CF280-UL-H10x
Selema	Sick "Hiperface DSL"	CF220-UL-H10x	CF280-UL-H10x
SEW	SEW Cable type A, B, C, D, E	CF220-UL-H20x	CF280-UL-H20x
Siemens	SINAMICS S210	-	CF280-UL-H30x
Siboni	Sick "Hiperface DSL"	CF220-UL-H10x	CF280-UL-H10x
Sigmatek	Sick "Hiperface DSL"	CF220-UL-H10x	CF280-UL-H10x
STEP	Sick "Hiperface DSL"	CF220-UL-H10x	CF280-UL-H10x
TG-Drives	Sick "Hiperface DSL"	CF220-UL-H10x	CF280-UL-H10x
WEG	Sick "Hiperface DSL"	CF220-UL-H10x	CF280-UL-H10x
Witthur Drive	Sick "Hiperface DSL"	CF220-UL-H10x	CF280-UL-H10x

Servo cable | PVC | chainflex® CF887

36 5,000,000
Cycles guaranteed

15 x d
Bend radius E-Chain®

32.8 ft
Travel distance E-Chain®

- For low duty flexing applications
- PVC outer jacket
- Shielded
- Flame-retardant
- Variable Frequency Drives

Dynamic Information

Bend radius	E-Chain® linear	min. 15 x d
	flexible	min. 12 x d
	fixed	min. 8 x d
Temperature	E-Chain® linear	+41 °F to +158 °F (+5 °C to +70 °C)
	flexible	+23 °F to +158 °F (-5 °C to +70 °C)
	fixed	+5 °F to +158 °F (-15 °C to +70 °C)
v max.	unsupported	9.84 ft/s (3 m/s)
a max.		65.6 ft/s ² (20 m/s ²)
Travel distance		Unsupported travel distances up to 32.8 ft (10 m), Class 1

Cable structure

Conductor	Conductor consisting of bare copper wires (according to DIN EN 60228).
Conductor insulation	Mechanically high-quality, especially low-capacitance TPE mixture.
Conductor construction	Power conductors and signal pairs cabled together with an optimized pitch length.
Color code	Power conductors: Black with white numbers, one conductor green-yellow. 1. U / L1 / C / L+ 2. V / L2 3. W / L3 / D / L- 1 Control pair: Black with white numbers. Control Pair Printed 5 and 6 2 Control pairs: Black with white numbers. Control Pair 1: Printed 5 and 6, Control Pair 2: Printed 7 and 8
Element shield	Foil taping of optimized, bending-resistant foil shield.
Overall shield	Coverage approx. 100% optical aluminum/polyester tape and tinned cooper braid.
Outer jacket	60 % optical coverage Low-adhesion mixture on the basis of PVC, adapted to suit the requirements in E-Chains®. Color: Orange (similar to RAL 2003)

Electrical Information

Nominal voltage	1000 V
Test voltage	4000 V (following DIN EN 50395)

Properties and approvals

Flame resistance	According to IEC 60332-1-2, FT1, VW-1
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)

Example image



Class 3.1.1.1

- UL verified**
- UL/CSA AWM**
- NFPA 79**
- EAC**
- REACH**
- Lead-free**
- CE**

Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

Certificate No. B129699: igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year
1000 V, +80C
See data sheet for details ► www.igus.com/CF887
Complies to Electrical Standard for Industrial Machinery NFPA 79 Section 12.9

Certificate No. RU C-DE.ME77.B.00302/19 (TR ZU)

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

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

Following 2014/35/EU

Guaranteed service life (details see page 26-27)

Cycles*	1 million	3 million	5 million
Temperature, from/to [°F]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
+41/+59	17.5	18.5	19.5
+59/+140	15	16	17
+140/+158	17.5	18.5	19.5

* Higher number of cycles? Online lifetime calculation ► www.chainflex.com/chainflexlife

Typical application areas

- For low duty flexing applications, Class 3
- Especially for unsupported travels, Class 1
- Without influence of oil, Class 1
- Preferably indoor applications
- Wood/stone processing, Packaging industry, supply systems, Handling, adjusting equipment

Part No.	AWG	Number of Conductors and rated cross section [mm ²]	Outer diameter max. [in.] [mm]	Copper index lbs/mft [kg/km]	Weight lbs/mft [kg/km]
1 Control pair shielded					
New CF887-07-05-02-01	18	4 G 0.75	0.39	10.0	46.4 69 80.0 119
	20	1 STP 0.5			
CF887-15-15-02-01	16	4 G 1.5	0.49	12.5	83.3 124 134.4 200
	16	1 STP x 1.5			
CF887-25-15-02-01	14	4 G 2.5	0.53	13.5	122.3 182 170.7 254
	16	1 STP x 1.5			
CF887-40-15-02-01	12	4 G 4.0	0.57	14.5	158.6 236 228.5 340
	16	1 STP x 1.5			
2 Control pairs shielded					
CF887-10-07-02-02	17	4 G 1.0	0.45	11.5	73.9 110 123.6 184
	18	2 STP x 0.75			
CF887-15-15-02-02	16	4 G 1.5	0.53	13.5	110.2 164 170.0 253
	16	2 STP x 1.5			
CF887-25-15-02-02	14	4 G 2.5	0.57	14.5	145.8 217 218.4 325
	16	2 STP x 1.5			

Note: The given outer diameters are maximum values.
G = with green-yellow earth core x = without earth core



Servo cable | PVC | chainflex® CF210-UL

36 10,000,000
Cycles guaranteed






10 x d
Bend radius E-Chain®

32.8 ft
Travel distance E-Chain®









- For medium mechanical load requirements
- PVC outer jacket
- Shielded

- Oil-resistant
- Flame-retardant
- Variable Frequency Drives



Dynamic Information

	Bend radius	E-Chain® linear flexible	min. 10 x d min. 8 x d
		fixed	min. 5 x d
	Temperature	E-Chain® linear flexible	+41 °F to +158 °F (+5 °C to +70 °C) +23 °F to +158 °F (-5 °C to +70 °C)
		fixed	+5 °F to +158 °F (-15 °C to +70 °C)
	v max.	unsupported	32.81 ft/s (10 m/s)
		gliding	6.56 ft/s (2 m/s)
	a max.		164.1 ft/s² (50 m/s²)
	Travel distance		Unsupported travel distances and for gliding applications up to 32.8 ft (10 m), Class 2

Cable structure

	Conductor	Stranded conductor in bending-resistant version consisting of bare copper wires (following DIN EN 60228).
	Conductor insulation	Mechanically high-quality, especially low-capacitance XLPE mixture.
	Conductor construction	Power cores and control pair elements wound with a short pitch length around a high tensile strength centre element.
	Color code	Power conductors: Black with white numbers, one conductor green-yellow. 1. U / L1 / C / L+ 2. V / L2 3. W / L3 / D / L- 1 Control pair: Black with white numbers. Control Pair Printed 4 and 5 2 Control pairs: Black with white numbers. Control Pair 1: Printed 5 and 6 Control Pair 2: Printed 7 and 8
	Element shield	Bending-resistant tinned copper braid. 80% optical coverage
	Intermediate layer	Polyester tape over external layer Barrier tape, 100% coverage
	Overall shield	Bending-resistant tinned copper braid. 80 % optical coverage
	Outer jacket	Low-adhesion, oil-resistant mixture on the basis of PVC, adapted to suit the requirements in E-Chains® (following DIN EN 50363-4-1). Color: Orange (similar to RAL 2003)

Electrical Information

	Nominal voltage	1000 V
	Test voltage	4000 V (following DIN EN 50395)

Configurators ► www.igus.com/CF210-UL














36 month guarantee ... 1,354 types from stock ... no cutting charges

Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

Class 4.2.2.1

Properties and approvals

	UV resistance	Medium
	Oil resistance	Oil-resistant (following DIN EN 50363-4-1), Class 2
	Flame resistance	According to IEC 60332-1-2, FT1, VW-1
	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	1000 V, +80C See data sheet for details ► www.igus.com/CF210-UL
	NFPA 79	Complies to Electrical Standard for Industrial Machinery NFPA 79 Section 12.9
	EAC	Certificate No. RU C-DE.ME77.B.02324 (TR ZU)
	CTP	Certificate No. C-DE.PB49.B.00420 (Fire protection)
	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

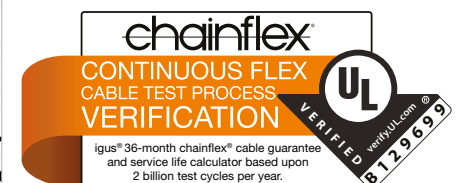
Guaranteed service life (details see page 26-27)

Cycles*	5 million	7.5 million	10 million
Temperature, from/to [°F]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
+41/+59	12.5	13.5	14.5
+59/+140	10	11	12
+140/+158	12.5	13.5	14.5

* Higher number of cycles? Online lifetime calculation ► www.chainflex.com/chainflexlife

Typical application areas

- For medium mechanical load requirements, Class 4
- Unsupported travel distances and for gliding applications up to 33 ft (10 m), Class 2
- Light oil influence, Class 2
- Preferably indoor applications, can be used in outdoor applications with temperatures > 41°F
- Wood/stone processing, Packaging industry, supply systems, Handling, adjusting equipment



Example image

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			



Example image

Part No.	AWG	Number of Conductors and rated cross section [mm²]	Outer diameter max.		Copper index		Weight	
			[in.]	[mm]	lbs/mft	[kg/km]	lbs/mft	[kg/km]
1 Control pair shielded								
CF210-UL-15-15-02-01	16	4 G 1.5	0.49	12.5	103.5	154	164.6	245
	16	1 STP x 1.5						
CF210-UL-25-15-02-01	14	4 G 2.5	0.55	14.0	141.1	210	200.9	299
	16	1 STP x 1.5						
CF210-UL-40-15-02-01	12	4 G 4.0	0.59	15.0	171.4	255	257.4	383
	16	1 STP x 1.5						
CF210-UL-60-15-02-01	10	4 G 6.0	0.65	16.5	230.5	343	327.9	488
	16	1 STP x 1.5						
2 Control pairs shielded								
CF210-UL-15-07-02-02	16	4 G 1.5	0.53	13.5	108.2	161	186.8	278
	18	2 STP x 0.75						
CF210-UL-25-15-02-02	14	4 G 2.5	0.63	16.0	164.0	244	256.0	381
	16	2 STP x 1.5						
CF210-UL-40-15-02-02	12	4 G 4.0	0.67	17.0	223.1	332	287.6	428
	16	2 STP x 1.5						
CF210-UL-60-15-02-02	10	4 G 6.0	0.75	19.0	270.8	403	401.8	598
	16	2 STP x 1.5						
without control pair								
CF210-UL-15-04	16	4 G 1.5	0.39	10.0	57.8	86	94.1	140
CF210-UL-25-04	14	4 G 2.5	0.45	11.5	98.1	146	140.4	209
CF210-UL-40-04	12	4 G 4.0	0.51	13.0	131.0	195	193.5	288

Note: The given outer diameters are maximum values.
G = with green-yellow earth core x = without earth core

Order example: CF210-UL-40-15-02-01 – To your desired length
CF210-UL chainflex® series -40 Code nominal cross section -15 Code nominal cross section
signal pairs -02 Identification pairs -01 Number of pairs

Online order ► www.chainflex.com/CF210-UL

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 now ...
www.igus.com/info/cable-price-check

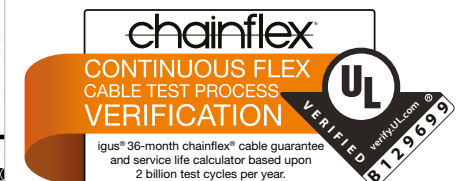
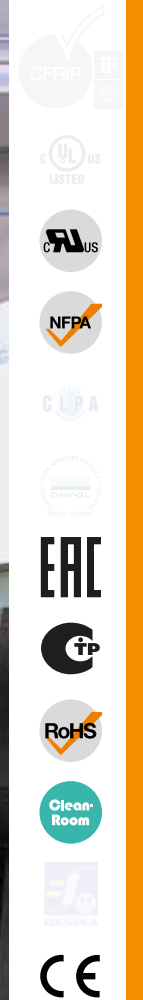
... just one idea for you: Reduce bend radius with CF21.UL ...



chainflex® servo cable in a vertical E-Chain®



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



Configurators ► www.igus.com/CF210-UL



UL-verified chainflex® guarantee ... www.igus.com/ul-verified



Servo cable | PVC | chainflex® CF21-UL

36 10,000,000 Cycles guaranteed
7.5 x d Bend radius E-Chain®
328.1 ft Travel distance E-Chain®

- For high mechanical load requirements
- PVC outer jacket
- Shielded
- Oil-resistant
- Flame-retardant
- Variable Frequency Drives

Dynamic Information

	Bend radius	E-Chain® linear flexible	min. 7.5 x d min. 6 x d
		fixed	min. 4 x d
	Temperature	E-Chain® linear flexible	+41 °F to +158 °F (+5 °C to +70 °C) +23 °F to +158 °F (-5 °C to +70 °C)
		fixed	+5 °F to +158 °F (-15 °C to +70 °C)
	v max.	unsupported	32.81 ft/s (10 m/s)
		gliding	16.41 ft/s (5 m/s)
	a max.		262.5 ft/s² (80 m/s²)
	Travel distance		Unsupported travel distances and for gliding applications up to 328.1 ft (100 m), Class 5

Cable structure

	Conductor	Conductor consisting of bare copper wires (according to DIN EN 60228).
	Conductor insulation	Mechanically high-quality, especially low-capacitance XLPE mixture.
	Conductor construction	Power conductors and Signal Pairs cabled with short pitch.
	Color code	Power conductors: Black with white numbers, one conductor green-yellow. 1. U / L1 / C / L+ 2. V / L2 3. W / L3 / D / L- 1 Control pair: Black with white numbers. Control Pair Printed 4 and 5 2 Control pairs: Black with white numbers. Control Pair 1: Printed 5 and 6 Control Pair 2: Printed 7 and 8
	Element shield	Extremely bending-resistant braiding made of tinned copper wires. 90% optical coverage
	Inner jacket	PVC mixture adapted to suit the requirements in E-Chains®.
	Overall shield	Extremely bending-resistant tinned copper braid. 90 % optical coverage
	Outer jacket	Low-adhesion, oil-resistant mixture on the basis of PVC, adapted to suit the requirements in E-Chains® (following DIN EN 50363-4-1). Color: Green (similar to RAL 6005)
	CFRIP®	Strip 50% faster: a tear strip is molded into the inner jacket Video ► www.igus.com/CFRIP

Configurators ► www.igus.com/CF21-UL

36 month guarantee ... 1,354 types from stock ... no cutting charges

Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

Class 5.5.2.1

Electrical Information

	Nominal voltage	1000 V
	Test voltage	4000 V (following DIN EN 50395)

Properties and approvals

	UV resistance	Medium
	Oil resistance	Oil-resistant (following DIN EN 50363-4-1), Class 2
	Flame resistance	According to IEC 60332-1-2, FT1, VW-1
	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	1000 V, +80C See data sheet for details ► www.igus.com/CF21-UL
	NFPA 79	Complies to Electrical Standard for Industrial Machinery NFPA 79 Section 12.9
	EAC	Certificate No. RU C-DE.ME77.B.02324 (TR ZU)
	CTP	Certificate No. C-DE.PB49.B.00420 (Fire protection)
	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

Guaranteed service life (details see page 26-27)

Cycles*	5 million	7.5 million	10 million
Temperature, from/to [°F]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
+41/+59	10	11	12
+59/+140	7.5	8.5	9.5
+140/+158	10	11	12

* Higher number of cycles? Online lifetime calculation ► www.chainflex.com/chainflexlife

Typical application areas

- For high mechanical load requirements, Class 5
- Unsupported travel distances and for gliding applications up to 328 ft (100 m), Class 5
- Light oil influence, Class 2
- Preferably indoor applications, can be used in outdoor applications with temperatures > 41°F
- Storage and retrieval units for high-bay warehouses, machining units/ packaging machines, quick handling, indoor cranes

Guarantee igus chainflex
36
36 month guarantee

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

CFRIP
iF
UL LISTED
UL US
NFA
EAC
CTP
EAC
TP
RoHS
Clean-Room
CE



Example image

Servo cable | PVC | chainflex® CF21-UL

Strip cables 50 % faster

igus® chainflex® CF21.UL

Example image

Part No.	AWG	Number of Conductors and rated cross section [mm²]	Outer diameter max.		Copper index		Weight	
			[in.]	[mm]	lbs/mft	[kg/km]	lbs/mft	[kg/km]
1 Control pair shielded								
CF21-07-05-02-01-UL	18	4 G 0.75	0.43	11.0	51.1	76	106.8	159
	20	1 STP x 0.5						
CF21-15-15-02-01-UL	16	4 G 1.5	0.51	13.0	97.4	145	172.0	256
	16	1 STP x 1.5						
CF21-25-15-02-01-UL	14	4 G 2.5	0.57	14.5	133.7	199	221.7	330
	16	1 STP x 1.5						
CF21-40-15-02-01-UL	12	4 G 4.0	0.63	16.0	172.0	256	272.8	406
	16	1 STP x 1.5						
CF21-60-15-02-01-UL	10	4 G 6.0	0.71	18.0	230.5	343	366.9	546
	16	1 STP x 1.5						
CF21-100-15-02-01-UL	8	4 G 10.0	0.85	21.5	360.2	536	556.4	828
	16	1 STP x 1.5						
2 Control pairs shielded								
CF21-07-03-02-02-UL	18	4 G 0.75	0.49	12.5	69.2	103	139.8	208
	22	2 STP x 0.34						
CF21-10-07-02-02-UL	17	4 G 1.0	0.53	13.5	99.5	148	180.8	269
	18	2 STP x 0.75						
CF21-15-07-02-02-UL	16	4 G 1.5	0.57	14.5	112.2	167	207.6	309
	18	2 STP x 0.75						
CF21-25-15-02-02-UL	14	4 G 2.5	0.67	17.0	170.7	254	291.6	434
	16	2 STP x 1.5						
CF21-40-15-02-02-UL	12	4 G 4.0	0.71	18.0	207.0	308	346.1	515
	16	2 STP x 1.5						
CF21-60-15-02-02-UL	10	4 G 6.0	0.83	21.0	276.9	412	467.0	695
	16	2 STP x 1.5						
CF21-100-15-02-02-UL	8	4 G 10.0	0.91	23.0	397.8	592	621.6	925
	16	2 STP x 1.5						
CF21-160-15-02-02-UL	6	4 G 16.0	1.04	26.5	590.0	878	864.8	1287
	16	2 STP x 1.5						

Note: The given outer diameters are maximum values.
G = with green-yellow earth core x = without earth core

cost down...



...life up

Reduce cost, improve technology, now!

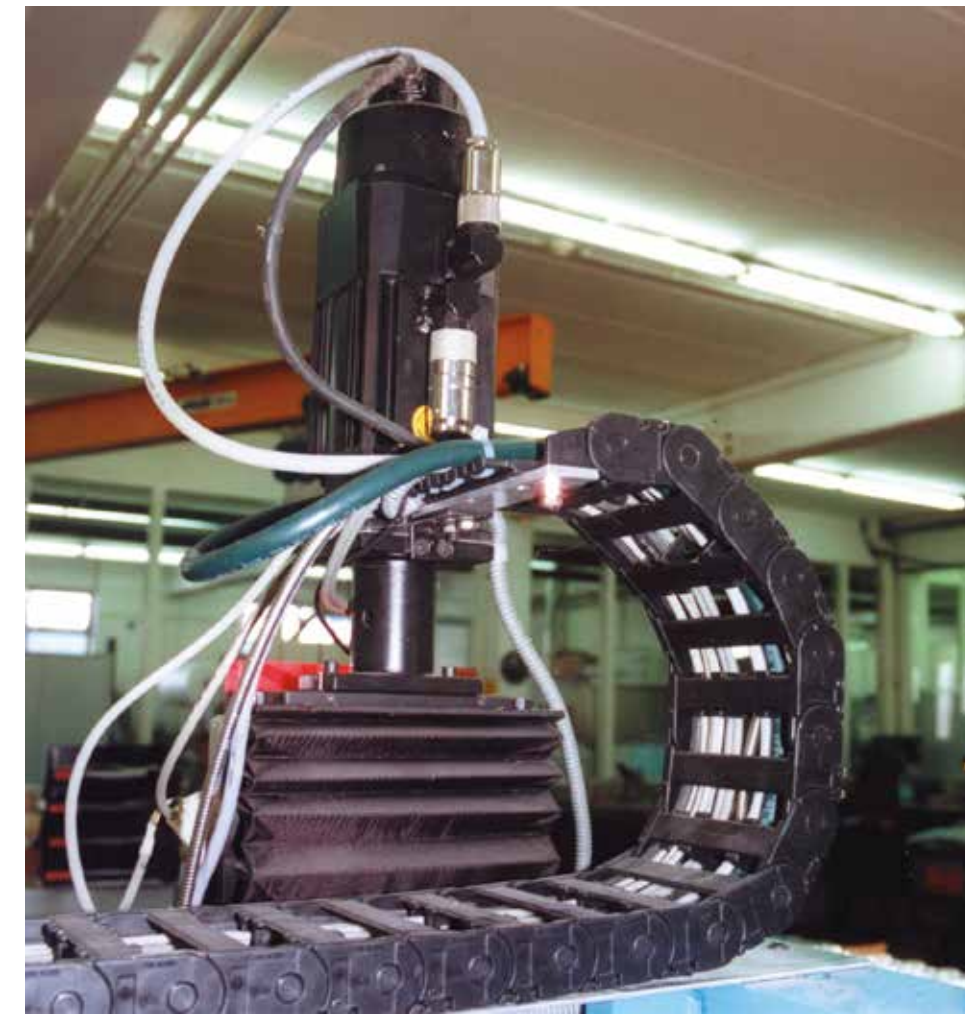
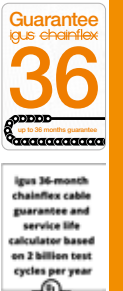
Do the chainflex® price check now ...
www.igus.com/info/cable-price-check

... just one idea for you: Reduce bend radius with CF29.D ...

Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

Class 5.5.2.1



chainflex® CF21.UL: cables for energy supply systems in spinneret production. E-Chain®: E2/000

Order example: CF21-40-15-02-01-UL – To your desired length
CF21-UL chainflex® series -40 Code nominal cross section -15 Code nominal cross section signal pairs
-02 Identification pairs -01 Number of pairs

Online order ► www.chainflex.com/CF21-UL

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



Servo cable | iguPUR | chainflex® CF897

36 5,000,000
Cycles guaranteed

15 x d
Bend radius E-Chain®

32.8 ft
Travel distance E-Chain®

- For low duty flexing applications
- iguPUR outer jacket
- Oil-resistant
- Shielded
- Flame-retardant
- Variable Frequency Drives

Dynamic Information

	Bend radius	E-Chain® linear	min. 15 x d
		flexible	min. 12 x d
		fixed	min. 8 x d
	Temperature	E-Chain® linear	-4 °F to +176 °F (-20 °C to +80 °C)
		flexible	-40 °F to +176 °F (-40 °C to +80 °C)
		fixed	-58 °F to +176 °F (-50 °C to +80 °C)
	v max.	unsupported	9.84 ft/s (3 m/s)
		a max.	65.6 ft/s ² (20 m/s ²)
	Travel distance	Unsupported travel distances up to 32.8 ft (10 m), Class 1	

Cable structure

	Conductor	Conductor consisting of bare copper wires (according to DIN EN 60228).
	Conductor insulation	Mechanically high-quality, especially low-capacitance TPE mixture.
	Conductor construction	Power conductors and signal pairs cabled together with an optimized pitch length.
	Color code	Power conductors: Black with white numbers, one conductor green-yellow. 1. U / L1 / C / L+ 2. V / L2 3. W / L3 / D / L- 1 Control pair: Black with white numbers. Control Pair Printed 5 and 6 2 Control pairs: Black with white numbers. Control Pair 1: Printed 5 and 6, Control Pair 2: Printed 7 and 8
	Element shield	Foil taping of optimized, bending-resistant foil shield.
	Overall shield	Coverage approx. 100% optical aluminum/polyester tape and tinned cooper braid.
	Outer jacket	60 % optical coverage Low-adhesion mixture on the basis of iguPUR, adapted to suit the requirements in E-Chains®. Color: Orange (similar to RAL 2003)

Electrical Information

	Nominal voltage	1000 V
	Test voltage	4000 V (following DIN EN 50395)

Configurators ► www.igus.com/CF897

36 month guarantee ... 1,354 types from stock ... no cutting charges



Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

Class 3.1.3.1

Properties and approvals

	UV resistance	Medium
	Oil resistance	Oil-resistant (following DIN EN 50363-10-2), Class 3
	Flame resistance	According to IEC 60332-1-2, FT1, VW-1
	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	1000 V, +80C See data sheet for details ► www.igus.com/CF897
	NFPA 79	Complies to Electrical Standard for Industrial Machinery NFPA 79 Section 12.9
	EAC	Certificate No. RU C-DE.ME77.B.00302/19 (TR ZU)
	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

Guaranteed service life (details see page 26-27)

Cycles*	1 million	3 million	5 million
Temperature, from/to [°F]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-4/+14	17.5	18.5	19.5
+14/+158	15	16	17
+158/+176	17.5	18.5	19.5

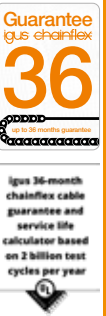
* Higher number of cycles? Online lifetime calculation ► www.chainflex.com/chainflexlife

Typical application areas

- For low duty flexing applications, Class 3
- Especially for unsupported travels, Class 1
- With influence of oil, Class 3
- Indoor and outdoor applications without direct sun radiation
- Machining units/machine tools, low temperature applications

Part No.	AWG	Number of Conductors and rated cross section	Outer diameter max.		Copper index	Weight	
			[in.]	[mm]		[lbs/mft]	[kg/km]
1 Control pair shielded							
CF897-15-15-02-01	16	4 G 1.5	0.49	12.5	83.3	124	135.1 201
	16	1 STP x 1.5					
CF897-25-15-02-01	14	4 G 2.5	0.53	13.5	122.3	182	166.6 248
	16	1 STP x 1.5					
CF897-40-15-02-01	12	4 G 4.0	0.57	14.5	158.6	236	221.1 329
	16	1 STP x 1.5					
2 Control pairs shielded							
CF897-15-15-02-02	16	4 G 1.5	0.53	13.5	110.2	164	165.3 246
	16	2 STP x 1.5					

Note: The given outer diameters are maximum values.
G = with green-yellow earth core x = without earth core



Servo cable | PUR | chainflex® CF270-UL-D

36 10,000,000
Cycles guaranteed

10 x d
Bend radius E-Chain®

32.8 ft
Travel distance E-Chain®

- For medium mechanical load requirements
- PUR outer jacket
- Shielded
- Oil-resistant and coolant-resistant
- Notch-resistant
- Flame-retardant
- Hydrolysis and microbe-resistant
- PVC and halogen-free
- Variable Frequency Drives

Dynamic Information

Bend radius	E-Chain® linear flexible	min. 10 x d min. 8 x d
	fixed	min. 5 x d
Temperature	E-Chain® linear flexible	-13 °F to +176 °F (-25 °C to +80 °C) -40 °F to +176 °F (-40 °C to +80 °C)
	fixed	-58 °F to +176 °F (-50 °C to +80 °C)
v max.	unsupported	32.81 ft/s (10 m/s)
	gliding	6.56 ft/s (2 m/s)
a max.		164.1 ft/s² (50 m/s²)
Travel distance		Unsupported travel distances and for gliding applications up to 32.8 ft (10 m), Class 2

Cable structure

Conductor	Stranded conductor in bending-resistant version consisting of bare copper wires (following DIN EN 60228).
Conductor insulation	Mechanically high-quality, especially low-capacitance XLPE mixture.
Conductor construction	Power cores and control pair elements wound with a short pitch length around a high tensile strength centre element.
Color code	Power conductors: Black with white numbers, one conductor green-yellow. 1. U / L1 / C / L+ 2. V / L2 3. W / L3 / D / L- 1 Control pair: Black with white numbers. Control Pair Printed 4 and 5 2 Control pairs: Black with white numbers. Control Pair 1: Printed 5 and 6 Control Pair 2: Printed 7 and 8
Element shield	Bending-resistant tinned copper braid. 80% optical coverage
Intermediate layer	Polyester tape over external layer
Overall shield	Bending-resistant tinned copper braid. 80 % optical coverage
Outer jacket	Low-adhesion, halogen-free, highly abrasion-resistant mixture on the basis of PUR, adapted to suit the requirements in E-Chains® (following DIN EN 50363-10-2). Color: Orange (similar to RAL 2003)

Electrical Information

Nominal voltage	1000 V
Test voltage	4000 V (following DIN EN 50395)

Basic requirements	low	1	2	3	4	5	6	7	highest
Travel distance	unsupported	1	2	3	4	5	6	≥ 1312 ft	
Oil resistance	none	1	2	3	4	highest			
Torsion	none	1	2	3	4	±360°			

Class 4.2.3.1

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 2009
Flame resistance	According to IEC 60332-1-2, FT1, VW-1
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	1000 V, +80C See data sheet for details ► www.igus.com/CF270-UL-D
NFFPA 79	Complies to Electrical Standard for Industrial Machinery NFFPA 79 Section 12.9
EAC	Certificate No. RU C-DE.ME77.B.02324 (TR ZU)
CTP	Certificate No. C-DE.PB49.B.00420 (Fire protection)
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 standardization.
CE	Following 2014/35/EU

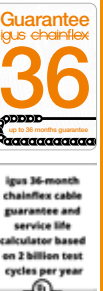
Guaranteed service life (details see page 26-27)

Cycles*	5 million	7.5 million	10 million
Temperature, from/to [°F]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-13/+5	12.5	13.5	14.5
+5/+158	10	11	12
+158/+176	12.5	13.5	14.5

* Higher number of cycles? Online lifetime calculation ► www.chainflex.com/chainflexlife

Typical application areas

- For medium mechanical load requirements, Class 4
- Unsupported travel distances and for gliding applications up to 33 ft (10 m), Class 2
- Almost unlimited resistance to oil, Class 3
- Indoor and outdoor applications without direct sun radiation
- Machining units/machine tools, low temperature applications



Servo cable | PUR | chainflex® CF270-UL-D

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	≥ 1312 ft	
Oil resistance	none	1	2	3	4	highest			
Torsion	none	1	2	3	4	±360°			

igus® chainflex® CF270.UL.D

Example image

Part No.	AWG	Number of Conductors and rated cross section	Outer diameter max.		Copper index		Weight	
			[mm²]	[in.] [mm]	lbs/mft [kg/km]	lbs/mft [kg/km]		
1 Control pair shielded								
CF270-UL-15-15-02-01-D	16	4 G 1.5	0.49	12.5	103.5	154	166.0	247
	16	1 STP 1.5						
CF270-UL-25-15-02-01-D	14	4 G 2.5	0.55	14.0	141.1	210	202.3	301
	16	1 STP 1.5						
CF270-UL-40-15-02-01-D	12	4 G 4.0	0.59	15.0	171.4	255	263.4	392
	16	1 STP 1.5						
CF270-UL-60-15-02-01-D	10	4 G 6.0	0.65	16.5	230.5	343	329.9	491
	16	1 STP 1.5						
CF270-UL-100-15-02-01-D	8	4 G 10.0	0.83	21.0	353.5	526	529.5	788
	16	1 STP 1.5						
CF270-UL-160-15-02-01-D	6	4 G 16.0	0.94	24.0	518.1	771	756.6	1126
	16	1 STP 1.5						
2 Control pairs shielded								
CF270-UL-07-03-02-02-D	18	4 G 0.75	0.47	12.0	70.6	105	129.0	192
	22	2 STP 0.34						
CF270-UL-10-07-02-02-D	17	4 G 1.0	0.51	13.0	90.7	135	164.6	245
	18	2 STP 0.75						
CF270-UL-15-07-02-02-D	16	4 G 1.5	0.53	13.5	108.2	161	188.2	280
	18	2 STP 0.75						
CF270-UL-25-15-02-02-D	14	4 G 2.5	0.63	16.0	164.0	244	258.0	384
	16	2 STP 1.5						
CF270-UL-40-15-02-02-D	12	4 G 4.0	0.67	17.0	207.6	309	320.5	477
	16	2 STP 1.5						
CF270-UL-60-15-02-02-D	10	4 G 6.0	0.75	19.0	270.8	403	403.2	600
	16	2 STP 1.5						
CF270-UL-100-15-02-02-D	8	4 G 10.0	0.89	22.5	387.1	576	596.0	887
	16	2 STP 1.5						
CF270-UL-160-15-02-02-D	6	4 G 16.0	1.02	26.0	547.7	815	810.4	1206
	16	2 STP 1.5						
CF270-UL-250-15-02-02-D ¹⁾	4	4 G 25.0	1.12	28.5	821.8	1223	1132.9	1686
	16	2 STP 1.5						
without control pair								
CF270-UL-07-04-D	18	4 G 0.75	0.31	8.0	30.9	46	63.8	95
CF270-UL-15-04-D	16	4 G 1.5	0.39	10.0	57.8	86	94.1	140
CF270-UL-25-04-D	14	4 G 2.5	0.45	11.5	98.1	146	141.1	210
CF270-UL-40-04-D	12	4 G 4.0	0.51	13.0	131.0	195	198.9	296
CF270-UL-60-04-D	10	4 G 6.0	0.59	15.0	194.2	289	279.5	416
CF270-UL-100-04-D	8	4 G 10.0	0.71	18.0	301.7	449	432.7	644
CF270-UL-160-04-D	6	4 G 16.0	0.87	22.0	469.0	698	670.0	997
CF270-UL-250-04-D	4	4 G 25.0	1.00	25.5	702.2	1045	930.0	1384
CF270-UL-350-04-D	2	4 G 35.0	1.30	33.0	1021.4	1520	1418.5	2111

Part No.	AWG	Number of Conductors and rated cross section	Outer diameter max.		Copper index		Weight	
			[mm²]	[in.] [mm]	lbs/mft [kg/km]	lbs/mft [kg/km]		
Spindle cable/Single core								
CF270-UL-60-01-D	10	1 x 6.0	0.30	7.5	48.4	72	63.8	95
CF270-UL-100-01-D	8	1 x 10.0	0.33	8.5	76.6	114	97.4	145
CF270-UL-160-01-D	6	1 x 16.0	0.37	9.5	119.6	178	140.4	209
CF270-UL-250-01-D	4	1 x 25.0	0.43	11.0	180.8	269	204.3	304
CF270-UL-350-01-D	2	1 x 35.0	0.51	13.0	251.3	374	281.6	419
CF270-UL-500-01-D	1	1 x 50.0	0.59	15.0	352.8	525	389.1	579
CF270-UL-700-01-D	2/0	1 x 70.0	0.67	17.0	504.6	751	540.3	804

Note: The given outer diameters are maximum values.
G = with green-yellow earth core x = without earth core

cost down...



Reduce cost, improve technology, now!

Do the chainflex® price check now ...
www.igus.com/info/cable-price-check

... just one idea for you: Reduce cost with CF210.UL ...

...life up



Linear robot with chainflex® servo and measuring system cables, short travel distance



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



Servo cable | PUR | chainflex® CF27-D






36 10,000,000
Cycles guaranteed

7.5 x d
Bend radius E-Chain®










328.1 ft
Travel distance E-Chain®

- For very high mechanical load requirements
- PUR outer jacket
- Shielded
- Oil-resistant and coolant-resistant
- Notch-resistant
- Flame-retardant
- Hydrolysis and microbe-resistant
- PVC and halogen-free
- Variable Frequency Drives


Dynamic Information

 Bend radius	E-Chain® linear	min. 7.5 x d
	flexible	min. 6 x d
	fixed	min. 4 x d
 Temperature	E-Chain® linear	-13 °F to +176 °F (-25 °C to +80 °C)
	flexible	-40 °F to +176 °F (-40 °C to +80 °C)
	fixed	-58 °F to +176 °F (-50 °C to +80 °C)
 v max.	unsupported	32.81 ft/s (10 m/s)
	gliding	16.41 ft/s (5 m/s)
 a max.		262.5 ft/s ² (80 m/s ²)
 Travel distance		Unsupported travel distances and for gliding applications up to 328.1 ft (100 m), Class 5

Cable structure

 Conductor	Conductor consisting of bare copper wires (according to DIN EN 60228).
 Conductor insulation	Mechanically high-quality, especially low-capacitance XLPE mixture.
 Conductor construction	Power conductors and Signal Pairs cabled with short pitch.
 Color code	Power conductors: Black with white numbers, one conductor green-yellow. 1. U / L1 / C / L+ 2. V / L2 3. W / L3 / D / L- 1 Control pair: Black with white numbers. Control Pair Printed 4 and 5 2 Control pairs: Black with white numbers. Control Pair 1: Printed 5 and 6, Control Pair 2: Printed 7 and 8 Star-Quad: yellow, black, red, white
 Element shield	Extremely bending-resistant braiding made of tinned copper wires. 90% optical coverage
 Inner jacket	TPE mixture adapted to suit the requirements in E-Chains®.
 Overall shield	Extremely bending-resistant tinned copper braid. 90 % optical coverage
 Outer jacket	Low-adhesion, halogen-free, highly abrasion-resistant mixture on the basis of PUR, adapted to suit the requirements in E-Chains® (following DIN EN 50363-10-2). Color: Orange (similar to RAL 2003)
 CFRIP®	Strip 50% faster: a tear strip is molded into the inner jacket Video ► www.igus.com/CFRIP

Electrical Information

















 Nominal voltage	1000 V
 Test voltage	4000 V (following DIN EN 50395)

Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

Class 6.5.3.1

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 2009
 Flame resistance	According to IEC 60332-1-2, FT1, VW-1
 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	1000 V, +80C See data sheet for details ► www.igus.com/CF27-D
 NFPA 79	Complies to Electrical Standard for Industrial Machinery NFPA 79 Section 12.9
 DNV-GL	Type approval certificate No. TAE00003XA
 EAC	Certificate No. RU C-DE.ME77.B.02324 (TR ZU)
 CTP	Certificate No. C-DE.PB49.B.00420 (Fire protection)
 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 standardization.
 CE	Following 2014/35/EU

Guaranteed service life (details see page 26-27)

Cycles*	5 million	7.5 million	10 million
Temperature, from/to [°F]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-13/+5	10	11	12
+5/+158	7.5	8.5	9.5
+158/+176	10	11	12

* Higher number of cycles? Online lifetime calculation ► www.chainflex.com/chainflexlife

Typical application areas

- For very high mechanical load requirements, Class 6
- Unsupported travel distances and for gliding applications up to 328 ft (100 m), Class 5
- Almost unlimited resistance to oil, Class 3
- 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

Guarantee
igus chainflex
36
months

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

CFRIP
DESIGN
2019

UL
LISTED

UL
CSA

NFPA

DNV-GL

DNV-GL

EAC

CTP

RoHS

Clean Room

DESINA

CE

Example image

Servo cable | PUR | chainflex® CF27-D

Strip cables 50 % faster

igus® chainflex® CF27.D

Example image

Part No.	AWG	Number of Conductors and rated cross section [mm²]	Outer diameter max.		Copper index		Weight	
			[in.]	[mm]	lbs/mft	[kg/km]	lbs/mft	[kg/km]
1 Control pair shielded								
CF27-07-05-02-01-D	18	4 G 0.75	0.45	11.5	51.1	76	113.6	169
	20	1 STP x 0.5						
CF27-15-15-02-01-D	16	4 G 1.5	0.51	13.0	97.4	145	164.0	244
	16	1 STP x 1.5						
CF27-25-15-02-01-D	14	4 G 2.5	0.57	14.5	133.7	199	205.6	306
	16	1 STP x 1.5						
CF27-40-15-02-01-D	12	4 G 4.0	0.63	16.0	172.0	256	270.8	403
	16	1 STP x 1.5						
CF27-60-15-02-01-D	10	4 G 6.0	0.69	17.5	230.5	343	339.3	505
	16	1 STP x 1.5						
CF27-100-15-02-01-D	8	4 G 10.0	0.83	21.0	360.2	536	501.3	746
	16	1 STP x 1.5						
CF27-160-15-02-01-D	6	4 G 16.0	0.94	24.0	535.6	797	729.8	1086
	16	1 STP x 1.5						
CF27-250-15-02-01-D	4	4 G 25.0	1.10	28.0	788.2	1173	1026.8	1528
	16	1 STP x 1.5						
CF27-350-15-02-01-D	2	4 G 35.0	1.26	32.0	1087.2	1618	1342.6	1998
	16	1 STP x 1.5						
2 Control pairs shielded								
CF27-07-03-02-02-D	18	4 G 0.75	0.49	12.5	69.2	103	131.7	196
	22	2 STP x 0.34						
CF27-10-07-02-02-D	17	4 G 1.0	0.53	13.5	99.5	148	164.6	245
	18	2 STP x 0.75						
CF27-15-07-02-02-D	16	4 G 1.5	0.57	14.5	112.2	167	192.9	287
	18	2 STP x 0.75						
CF27-25-15-02-02-D	14	4 G 2.5	0.63	16.0	170.7	254	257.4	383
	16	2 STP x 1.5						
CF27-40-15-02-02-D	12	4 G 4.0	0.69	17.5	207.0	308	308.4	459
	16	2 STP x 1.5						
CF27-60-15-02-02-D	10	4 G 6.0	0.77	19.5	276.9	412	405.9	604
	16	2 STP x 1.5						
CF27-100-15-02-02-D	8	4 G 10.0	0.89	22.5	397.8	592	565.8	842
	16	2 STP x 1.5						
CF27-160-15-02-02-D	6	4 G 16.0	1.02	26.0	590.0	878	821.8	1223
	16	2 STP x 1.5						
CF27-250-15-02-02-D	4	4 G 25.0	1.22	31.0	840.0	1250	1141.7	1699
	16	2 STP x 1.5						

Note: The given outer diameters are maximum values.
G = with green-yellow earth core x = without earth core

Configurators ► www.igus.com/CF27-D



Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

Class 6.5.3.1

Part No.	AWG	Number of Conductors and rated cross section [mm²]	Outer diameter max.		Copper index		Weight	
			[in.]	[mm]	lbs/mft	[kg/km]	lbs/mft	[kg/km]
1 Star-quad shielded								
CF27-15-05-04-D	16	4 G 1.5	0.49	12.5	88.0	131	155.2	231
	20	4 x 0.5 SHLD						
CF27-25-05-04-D	14	4 G 2.5	0.55	14.0	118.3	176	196.2	292
	20	4 x 0.5 SHLD						
CF27-40-05-04-D	12	4 G 4.0	0.63	16.0	164.0	244	252.7	376
	20	4 x 0.5 SHLD						
without control pair								
CF27-07-04-D	18	4 G 0.75	0.37	9.5	37.0	55	77.3	115
CF27-15-04-D	16	4 G 1.5	0.43	11.0	60.5	90	110.9	165
CF27-25-04-D	14	4 G 2.5	0.49	12.5	90.7	135	155.2	231
CF27-500-04-D	1	4 G 50.0	1.46	37.0	1507.9	2244	1892.9	2817

Note: The given outer diameters are maximum values.
G = with green-yellow earth core x = without earth core

cost down...



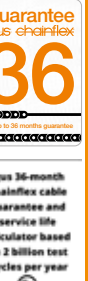
Reduce cost, improve technology, now!

Do the chainflex® price check now ...
www.igus.com/info/cable-price-check

... just one idea for you: Reduce cost with CF21.UL ...



Modular design, easy to retrofit:
igus® E4 E-Chain® and chainflex® cables.



Servo cable | TPE | chainflex® CF29-D

36 10,000,000
Cycles guaranteed

6.8 x d
Bend radius E-Chain®

1312.4 ft
Travel distance E-Chain®

- For maximum mechanical load requirements
- TPE outer jacket
- Shielded
- Oil and bio-oil-resistant
- PVC and halogen-free
- UV-resistant
- Hydrolysis and microbe-resistant
- Variable Frequency Drives

Dynamic Information

	Bend radius	E-Chain® linear	min. 6.8 x d
		flexible	min. 5 x d
		fixed	min. 4 x d
	Temperature	E-Chain® linear	-31 °F to +212 °F (-35 °C to +100 °C)
		flexible	-58 °F to +212 °F (-50 °C to +100 °C)
		fixed	-67 °F to +212 °F (-55 °C to +100 °C)
	v max.	unsupported	32.81 ft/s (10 m/s)
		gliding	16.41 ft/s (5 m/s)
	a max.	262.5 ft/s² (80 m/s²)	
	Travel distance	Unsupported travel distances and for gliding applications up to 1312 ft (400 m) and more, Class 6	

Cable structure

	Conductor	Conductor consisting of bare copper wires (according to DIN EN 60228).
	Conductor insulation	Mechanically high-quality, especially low-capacitance XLPE mixture.
	Conductor construction	Power conductors and Signal Pairs cabled with short pitch.
	Color code	Power conductors: Black with white numbers, one conductor green-yellow. 1. U / L1 / C / L+ 2. V / L2 3. W / L3 / D / L- 1 Control pair: Black with white numbers. Control Pair Printed 4 and 5
	Element shield	Extremely bending-resistant braiding made of tinned copper wires. 90% optical coverage
	Inner jacket	TPE mixture adapted to suit the requirements in E-Chains®.
	Overall shield	Extremely bending-resistant tinned copper braid. 90 % optical coverage
	Outer jacket	Low-adhesion mixture on the basis of TPE, especially abrasion-resistant and highly flexible, adapted to suit the requirements in E-Chains®. Color: Orange (similar to RAL 2003)

Electrical Information

	Nominal voltage	1000 V
	Test voltage	4000 V (following DIN EN 50395)

Configurators ► www.igus.com/CF29-D

36 month guarantee ... 1,354 types from stock ... no cutting charges



Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

Class 7.6.4.1

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
	EAC	Certificate No. RU C-DE.ME77.B.02806 (TR ZU)
	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 standardization.
	CE	Following 2014/35/EU

Guaranteed service life (details see page 26-27)

Cycles*	5 million		7.5 million		10 million	
	< 10 m	≥ 10 m	< 10 m	≥ 10 m	< 10 m	≥ 10 m
Temperature, from/to [°F]	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]R min.
-31/-13	8.5	10	9.5	11	10.5	12
-13/+194	6.8	7.5	7.5	8.5	8.5	9.5
+194/+212	8.5	10	9.5	11	10.5	12

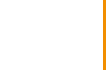
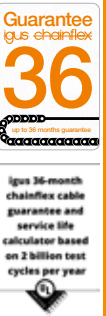
* Higher number of cycles? Online lifetime calculation ► www.chainflex.com/chainflexlife

Typical application areas

- For maximum mechanical load requirements, Class 7
- Unsupported travel distances and for gliding applications up to 1312 ft (400 m) and more, Class 6
- Almost unlimited resistance to oil, also with bio-oils
- 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.	AWG	Number of Conductors and rated cross section	Outer diameter max.		Copper index		Weight	
			[in.]	[mm]	lbs/mft	[kg/km]	lbs/mft	[kg/km]
1 Control pair shielded								
CF29-15-15-02-01-D	16	4 G 1.5	0.51	13.0	97.4	145	155.2	231
	16	1 STP 1.5						
CF29-25-15-02-01-D	14	4 G 2.5	0.55	14.0	133.7	199	195.5	291
	16	1 STP 1.5						
CF29-40-15-02-01-D	12	4 G 4.0	0.61	15.5	172.0	256	246.6	367
	16	1 STP 1.5						

Note: The given outer diameters are maximum values.
G = with green-yellow earth core x = without earth core



Hybrid servo cable | PVC | chainflex® CF220-UL-H






36 10,000,000
Cycles guaranteed

10 x d
Bend radius E-Chain®









32.8 ft
Travel distance E-Chain®

- For medium mechanical load requirements
- PVC outer jacket
- Shielded
- Oil-resistant
- Flame-retardant
- Variable Frequency Drives



Dynamic Information

	Bend radius	E-Chain® linear	min. 10 x d
		flexible	min. 8 x d
		fixed	min. 5 x d
	Temperature	E-Chain® linear	+41 °F to +158 °F (+5 °C to +70 °C)
		flexible	+23 °F to +158 °F (-5 °C to +70 °C)
		fixed	+5 °F to +158 °F (-15 °C to +70 °C)
	v max.	unsupported	32.81 ft/s (10 m/s)
		gliding	6.56 ft/s (2 m/s)
	a max.		164.1 ft/s² (50 m/s²)
	Travel distance		Unsupported travel distances and for gliding applications up to 32.8 ft (10 m), Class 2

Cable structure

	Conductor	Stranded conductor in bending-resistant version consisting of bare copper wires (following DIN EN 60228).
	Conductor insulation	Mechanically high-quality, especially low-capacitance XLPE mixture.
	Conductor construction	Power cores and control pair elements wound with a short pitch length around a high tensile strength centre element.
	Color code	According to Servo-Hybrid specification. Latest data sheet ► www.chainflex.com/CF220ULH
	Element shield	Bending-resistant tinned copper braid. 80% optical coverage
	Intermediate layer	polyester tape over external layer
	Overall shield	Bending-resistant tinned copper braid. 80 % optical coverage
	Outer jacket	Low-adhesion, oil-resistant mixture on the basis of PVC, adapted to suit the requirements in E-Chains® (following DIN EN 50363-4-1). Color: Orange (similar to RAL 2003) Variants ► See P/N Table

Electrical Information

	Nominal voltage	1000 V
	Test voltage	4000 V (following DIN EN 50395)

Example image

Configurators ► www.igus.com/CF220-UL-H

36 month guarantee ... 1,354 types from stock ... no cutting charges

















Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

Class 4.2.2.1

Properties and approvals

	UV resistance	Medium
	Oil resistance	Oil-resistant (following DIN EN 50363-4-1), Class 2
	Flame resistance	According to IEC 60332-1-2, FT1, VW-1
	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	1000 V, +80C See data sheet for details ► www.igus.com/CF220-UL-H
	NFPA 79	Complies to Electrical Standard for Industrial Machinery NFPA 79 Section 12.9
	EAC	Certificate No. RU C-DE.ME77.B.02324 (TR ZU)
	CTP	Certificate No. C-DE.PB49.B.00420 (Fire protection)
	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 Following 2014/35/EU
	CE	
	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 datasheet for the cable series.

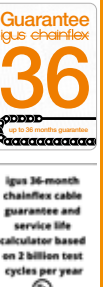
Guaranteed service life (details see page 26-27)

Cycles*	5 million	7.5 million	10 million
Temperature, from/to [°F]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
+41/+59	12.5	13.5	14.5
+59/+140	10	11	12
+140/+158	12.5	13.5	14.5

* Higher number of cycles? Online lifetime calculation ► www.chainflex.com/chainflexlife

Typical application areas

- For medium mechanical load requirements, Class 4
- Unsupported travel distances and for gliding applications up to 33 ft (10 m), Class 2
- Light oil influence, Class 2
- Preferably indoor applications, can be used in outdoor applications with temperatures > 41°F
- Wood/stone processing, Packaging industry, supply systems, Handling, adjusting equipment



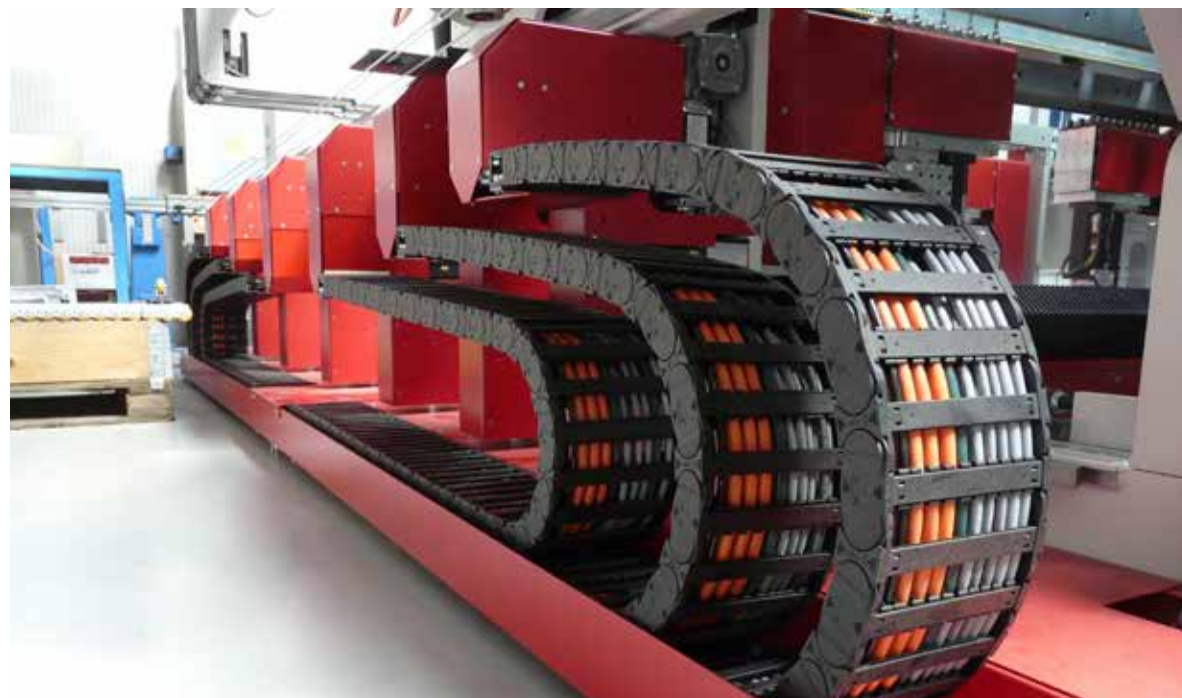
low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

igus® chainflex® CF220.UL.H

Example image

Part No.	AWG	Number of Conductors and rated cross section	Outer diameter max.		Copper index		Weight		Part No.	Hybrid technology	Manufacturer
			[in.]	[mm]	lbs/mft	[kg/km]	lbs/mft	[kg/km]			
CF220-UL-H100-07-04	18	4 G 0.75	0.47	12.0	73.9	110	143.8	214	CF220-UL-H100-07-04	Sick (Hiperface DSL)	please see selection table on page 267
	22	1 STP x 0.34									
	22	1 STP x 22AWG									
CF220-UL-H101-10-04	17	4 G 1.0	0.47	12.0	89.4	133	135.7	202	CF220-UL-H101-10-04	Sick (Hiperface DSL)	please see selection table on page 267
	18	1 STP x 0.75									
	22	1 STP x 22AWG									
CF220-UL-H101-15-04	16	4 G 1.5	0.51	13.0	104.8	156	154.6	230	CF220-UL-H101-15-04	Sick (Hiperface DSL)	please see selection table on page 267
	18	1 STP x 0.75									
	22	1 STP x 22AWG									
CF220-UL-H102-25-04	14	4 G 2.5	0.57	14.5	136.4	203	233.8	348	CF220-UL-H102-25-04	Sick (Hiperface DSL)	please see selection table on page 267
	17	1 STP x 1.0									
	22	1 STP x 22AWG									
CF220-UL-H102-40-04	12	4 G 4.0	0.65	16.5	188.8	281	291.6	434	CF220-UL-H102-40-04	Sick (Hiperface DSL)	please see selection table on page 267
	17	1 STP x 1.0									
	22	1 STP x 22AWG									

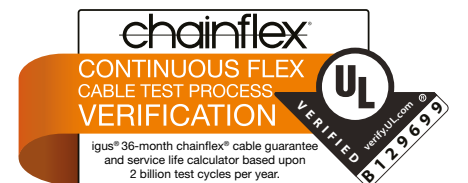
Note: The given outer diameters are maximum values.
G = with green-yellow earth core x = without earth core



Drilling machine for wooden plates equipped with latest Hybrid Cable Technology with Hiperface DSL

Configurators ► www.igus.com/CF220-UL-H

- Order example: **CF220-UL-H101-10-04** – To your desired length
CF220-UL-H chainflex® series -101-10-04 Code hybrid bus element
- Online order ► www.chainflex.com/CF220-UL-H
- Delivery time 24hrs or today.
Delivery time means time until goods are shipped.



Hybrid servo cable | PUR | chainflex® CF280-UL-H

36 10,000,000
Cycles guaranteed

10 x d
Bend radius E-Chain®

32.8 ft
Travel distance E-Chain®

- For medium mechanical load requirements
- PUR outer jacket
- Shielded
- Oil-resistant and coolant-resistant
- Flame-retardant
- PVC and halogen-free
- Notch-resistant
- Hydrolysis and microbe-resistant
- Variable Frequency Drives

Dynamic Information

	Bend radius	E-Chain® linear	min. 10 x d
		flexible	min. 8 x d
		fixed	min. 5 x d
	Temperature	E-Chain® linear	-13 °F to +176 °F (-25 °C to +80 °C)
		flexible	-40 °F to +176 °F (-40 °C to +80 °C)
		fixed	-58 °F to +176 °F (-50 °C to +80 °C)
	v max.	unsupported	32.81 ft/s (10 m/s)
		gliding	6.56 ft/s (2 m/s)
	a max.	164.1 ft/s² (50 m/s²)	
	Travel distance	Unsupported travel distances and for gliding applications up to 32.8 ft (10 m), Class 2	

Cable structure

	Conductor	Stranded conductor in bending-resistant version consisting of bare copper wires (following DIN EN 60228).
	Conductor insulation	Mechanically high-quality, especially low-capacitance XLPE mixture.
	Conductor construction	Power cores and control pair elements wound with a short pitch length around a high tensile strength centre element.
	Color code	According to Servo-Hybrid specification. Latest data sheet ► www.chainflex.com/CF280ULH
	Element shield	Bending-resistant tinned copper braid. 80% optical coverage
	Intermediate layer	Polyester tape over external layer
	Overall shield	Bending-resistant tinned copper braid. 80 % optical coverage
	Outer jacket	Low-adhesion, halogen-free, highly abrasion-resistant mixture on the basis of PUR, adapted to suit the requirements in E-Chains® (following DIN EN 50363-10-2). Color: Orange (similar to RAL 2003) Variants ► See P/N Table

Electrical Information

	Nominal voltage	1000 V
	Test voltage	4000 V (following DIN EN 50395)

Configurators ► www.igus.com/CF280-UL-H

36 month guarantee ... 1,354 types from stock ... no cutting charges

Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

Class 4.2.3.1

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 2009
	Flame resistance	According to IEC 60332-1-2, FT1, VW-1
	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	1000 V, +80C See data sheet for details ► www.igus.com/CF280-UL-H
	NFFPA 79	Complies to Electrical Standard for Industrial Machinery NFFPA 79 Section 12.9
	EAC	Certificate No. RU C-DE.ME77.B.02324 (TR ZU)
	CTP	Certificate No. C-DE.PB49.B.00420 (Fire protection)
	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 standardization.
	CE	Following 2014/35/EU
	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 datasheet for the cable series.

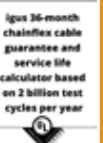
Guaranteed service life (details see page 26-27)

Cycles*	5 million	7.5 million	10 million
Temperature, from/to [°F]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-13/+5	12.5	13.5	14.5
+5/+158	10	11	12
+158/+176	12.5	13.5	14.5

* Higher number of cycles? Online lifetime calculation ► www.chainflex.com/chainflexlife

Typical application areas

- For medium mechanical load requirements, Class 4
- Unsupported travel distances and for gliding applications up to 33 ft (10 m), Class 2
- Almost unlimited resistance to oil, Class 3
- Indoor and outdoor applications without direct sun radiation
- Machining units/machine tools, low temperature applications



Hybrid servo cable | PUR | chainflex® CF280-UL-H

Class 4.2.3.1

Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

igus® chainflex® CF280.UL.H

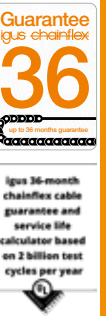
Example image

Part No.	AWG	Number of Conductors and rated cross section [mm²]	Outer diameter max.		Copper index		Weight		Part No.	Hybrid technology	Manufacturer
			[in.]	[mm]	lbs/mft	[kg/km]	lbs/mft	[kg/km]			
Sick (Hiperface DSL)											
CF280-UL-H100-07-04-D	18	4 G 0.75	0.47	12.0	73.9	110	134.4	200	CF280-UL-H100-07-04-D	Sick (Hiperface DSL)	please see selection table on page 267
	22	2 x 0.34 SHLD									
	22	1 STP x 22 AWG									
CF280-UL-H101-10-04-D	17	4 G 1.0	0.47	12.0	89.4	133	137.8	205	CF280-UL-H101-10-04-D	Sick (Hiperface DSL)	please see selection table on page 267
	18	2 x 0.75 SHLD									
	22	1 STP x 22 AWG									
CF280-UL-H101-15-04-D	16	4 G 1.5	0.51	13.0	104.8	156	144.5	215	CF280-UL-H101-15-04-D	Sick (Hiperface DSL)	please see selection table on page 267
	18	2 x 0.75 SHLD									
	22	1 STP x 22 AWG									
CF280-UL-H102-25-04-D	14	4 G 2.5	0.57	14.5	136.4	203	217.7	324	CF280-UL-H102-25-04-D	Sick (Hiperface DSL)	please see selection table on page 267
	17	2 x 1.0 SHLD									
	22	1 STP x 22 AWG									
CF280-UL-H102-40-04-D	12	4 G 4.0	0.65	16.5	188.8	281	289.6	431	CF280-UL-H102-40-04-D	Sick (Hiperface DSL)	please see selection table on page 267
	17	2 x 1.0 SHLD									
	22	1 STP x 22 AWG									
CF280-UL-H102-60-04-D	10	4 G 6.0	0.69	17.5	244.6	364	335.3	499	CF280-UL-H102-60-04-D	Sick (Hiperface DSL)	please see selection table on page 267
	17	2 x 1.0 SHLD									
	22	1 STP x 22 AWG									
SEW											
CF280-UL-H200-15-07-D ¹⁵⁾	16	7 x 1.5	0.63	16.0	135.7	202	237.9	354	CF280-UL-H200-15-07-D ¹⁵⁾	SEW Kabeltyp A/1,5	SEW
	18	2 x 0.75 SHLD									
CF280-UL-H200-25-07-D ¹⁵⁾	14	7 x 2.5	0.79	20.0	194.2	289	350.1	521	CF280-UL-H200-25-07-D ¹⁵⁾	SEW Kabeltyp A/2,5	SEW
	18	2 x 0.75 SHLD									
CF280-UL-H201-15-04-D ¹⁵⁾	16	4 G 1.5	0.55	14.0	93.4	139	182.8	272	CF280-UL-H201-15-04-D ¹⁵⁾	SEW Kabeltyp B/1,5	SEW
	18	2 x 0.75 SHLD									
	18	3 x 0.75 SHLD									
CF280-UL-H201-25-04-D ¹⁵⁾	14	4 G 2.5	0.57	14.5	123.0	183	213.7	318	CF280-UL-H201-25-04-D ¹⁵⁾	SEW Kabeltyp B/2,5	SEW
	18	2 x 0.75 SHLD									
	18	3 x 0.75 SHLD									
CF280-UL-H203-15-04-D	16	4 G 1.5	0.47	12.0	106.2	158	170.0	253	CF280-UL-H203-15-04-D	SEW Kabeltyp E/1,5	SEW
	17	3 x 1.0 SHLD									
CF280-UL-H203-25-04-D	14	4 G 2.5	0.53	13.5	132.4	197	186.1	277	CF280-UL-H203-25-04-D	SEW Kabeltyp E/2,5	SEW
	17	3 x 1.0 SHLD									
CF280-UL-H204-15-04-D	16	4 G 1.5	0.59	15.0	134.4	200	228.5	340	CF280-UL-H204-15-04-D	SEW Kabeltyp D/1,5	SEW
	18	2 x 0.75 SHLD									
	17	3 x 1.0 SHLD									
CF280-UL-H206-40-04-D	12	4 G 4.0	0.69	17.5	227.8	339	323.9	482	CF280-UL-H206-40-04-D	SEW Kabeltyp D/4,0	SEW
	18	2 x 0.75 SHLD									
	16	3 x 1.5 SHLD									
CF280-UL-H206-60-04-D	10	4 G 6.0	0.75	19.0	289.6	431	435.4	648	CF280-UL-H206-60-04-D	SEW Kabeltyp D/6,0	SEW
	18	2 x 0.75 SHLD									
	16	3 x 1.5 SHLD									

¹⁵⁾ Color outer jacket: Black (similar to RAL 9005)
Note: The given outer diameters are maximum values.
G = with green-yellow earth core x = without earth core

Configurators ► www.igus.com/CF280-UL-H

Other types ► [page 298](#)



Hybrid servo cable | PUR | chainflex® CF280-UL-H

Class 4.2.3.1

Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

igus® chainflex® CF280.UL.H

Example image

Part No.	AWG	Number of Conductors and rated cross section [mm²]	Outer diameter max.		Copper index		Weight		Part No.	Hybrid technology	Manufacturer
			[in.]	[mm]	lbs/mft	[kg/km]	lbs/mft	[kg/km]			
SINAMICS S210											
CF280-UL-H300-03-04-D	22	4 G 0.34	0.39	10.0	49.7	74	93.4	139	CF280-UL-H300-03-04-D	SINAMICS S210	Siemens
	22	2 x 0.34 SHLD									
	26	4 x 26 AWG SHLD									
CF280-UL-H301-07-04-D	18	4 G 0.75	0.43	11.0	67.2	100	113.6	169	CF280-UL-H301-07-04-D	SINAMICS S210	Siemens
	20	2 x 0.5 SHLD									
	26	4 x 26 AWG SHLD									
IndraDrive											
CF280-UL-H400-25-05-D	14	5 x 2.5	0.67	17.0	161.3	240	261.4	389	CF280-UL-H400-25-05-D	IndraDrive	Bosch Rexroth
	22	5 x 0.35									
	22	4 x 0.35 SHLD									
Heidenhain											
CF280-UL-H501-15-04-D	16	4 G 1.5	0.59	15.0	121.6	181	188.8	281	CF280-UL-H501-15-04-D	Heidenhain	B&R
	18	2 x 0.75 SHLD									
	26	(2x2x0,14)C									
	24	2 x 0.25 SHLD									
CF280-UL-H502-40-04-D	12	4 G 4.0	0.65	16.5	198.2	295	273.5	407	CF280-UL-H502-40-04-D	Heidenhain	B&R
	17	(2x1,0)C									
	26	(2x2x0,14)C									
	24	2 x 0.25 SHLD									
isH Servo											
CF280-UL-H601-25-05 ¹³⁾	14	5 G 2.5	0.57	14.5	106.2	158	194.2	289	CF280-UL-H601-25-05 ¹³⁾	isH Servo	ELAU/Schneider Electric
	24	(4G 24 AWG)C									
	24	2 x 0.25 SHLD									

¹³⁾ Color outer jacket: Yellow-green (similar to RAL 6018)
Note: The mentioned outer diameters are maximum values.
G = with green-yellow earth conductor **x** = without earth conductor

Other types ► page 296

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

CFRIP
UL LISTED
UL
NFPA
UL
EAC
TP
RoHS
Clean Room
DESMA
CE



Guarantee
igus chainflex
36
up to 36 months guarantee

chainflex
CONTINUOUS FLEX
CABLE TEST PROCESS
VERIFICATION
UL
igus® 36-month chainflex® cable guarantee and service life calculator based upon 2 billion test cycles per year.
VERIFIED
www.ul.com
B129699

Motor cables



chainflex® cable	Jacket	Shield	Bending radius min., E-Chain® [factor x d]	Temperature, E-Chain® from/to [°F]	UL	CSA	NFPA	Approvals and standards	Oil-resistant	Torsion resistant	v max. [ft/s] unsupported	v max. [ft/s] gliding	a max. [ft/s²]	Page
Motor cables														
CF885	PVC		15	+41/ +158	UL	CSA	NFPA	EAC, REACH, RoHS, CE			9.84		65.62	306
CF886	PVC	✓	15	+41/ +158	UL	CSA	NFPA	EAC, REACH, RoHS, CE			9.84		65.62	308
CF210-UL	PVC	✓	10	+41/ +158	UL	CSA	NFPA	EAC, REACH, RoHS, Clean Room, CE		✓	32.81	6.56	164.05	310
CF30	PVC		7.5	+41/ +158	UL	CSA	NFPA	EAC, REACH, RoHS, Clean Room, CE	✓	✓	32.81	16.41	262.48	312
CF31	PVC	✓	7.5	+41/ +158	UL	CSA	NFPA	EAC, REACH, RoHS, Clean Room, CE	✓		32.81	16.41	262.48	316
CF895	iguPUR		15	-4/ +176	UL	CSA	NFPA	EAC, REACH, RoHS, CE	✓		9.84		65.62	320
CF896	iguPUR	✓	15	-4/ +176	UL	CSA	NFPA	EAC, REACH, RoHS, CE	✓		9.84		65.62	322
CF270-UL-D	PUR	✓	10	-13/ +176	UL	CSA	NFPA	EAC, REACH, RoHS, Clean Room, DESPINA, CE	✓		32.81	6.56	164.05	324
CF27-D	PUR	✓	7.5	-13/ +176	UL	CSA	NFPA	EAC, REACH, RoHS, Clean Room, DESPINA, CE	✓		32.81	16.41	262.48	328
CF34-UL-D	TPE		7.5	-31/ +194	UL	CSA	NFPA	EAC, REACH, RoHS, Clean Room, DESPINA, CE	✓	✓	32.81	19.69	262.48	332 New
CF35-UL	TPE	✓	7.5	-31/ +194	UL	CSA	NFPA	EAC, REACH, RoHS, Clean Room, DESPINA, CE	✓		32.81	19.69	262.48	336 New
CF37-D	TPE		7.5	-31/ +194	UL	CSA	NFPA	EAC, REACH, RoHS, Clean Room, DESPINA, CE	✓	✓	32.81	19.69	262.48	340
CF38	TPE	✓	7.5	-31/ +194	UL	CSA	NFPA	EAC, REACH, RoHS, Clean Room, CE	✓		32.81	19.69	262.48	342
Spindle cables/Single conductors														
CF885	PVC		15	+41/ +158	UL	CSA	NFPA	EAC, REACH, RoHS, CE			9.84		65.62	344
CF885-PE	PVC		15	+41/ +158	UL	CSA	NFPA	EAC, REACH, RoHS, CE			9.84		65.62	346
CF886	PVC	✓	15	+41/ +158	UL	CSA	NFPA	EAC, REACH, RoHS, CE			9.84		65.62	348
CF270-UL-D	PUR	✓	10	-13/ +176	UL	CSA	NFPA	EAC, REACH, RoHS, Clean Room, DESPINA, CE	✓		32.81	6.56	164.05	350
CF300-UL-D	TPE		7.5	-31/ +194	UL	CSA	NFPA	EAC, REACH, RoHS, Clean Room, DESPINA, CE	✓	✓	32.81	19.69	328.1	352
CFPE	TPE		7.5	-31/ +194	UL	CSA	NFPA	EAC, REACH, RoHS, Clean Room, CE	✓	✓	32.81	19.69	328.1	354
CF310-UL	TPE	✓	7.5	-31/ +194	UL	CSA	NFPA	EAC, REACH, RoHS, Clean Room, CE	✓		32.81	19.69	328.1	356
CF330-D	TPE		7.5	-31/ +194	UL	CSA	NFPA	EAC, REACH, RoHS, Clean Room, DESPINA, CE	✓	✓	32.81	19.69	328.1	358
CF340	TPE	✓	7.5	-31/ +194	UL	CSA	NFPA	EAC, REACH, RoHS, Clean Room, CE	✓		32.81	19.69	328.1	360
Medium voltage cables														
CFCRANE-PUR	PUR	✓	10	-4/ +176	UL	CSA	NFPA	EAC, REACH, RoHS, CE	✓		32.81	19.69	164.05	362
CFCRANE	igupren	✓	10	-4/ +176	UL	CSA	NFPA	EAC, REACH, RoHS, CE	✓		32.81	19.69	164.05	364













36 months chainflex® guarantee
 Guaranteed lifetime for predictable reliability
 ► Selection table page 302

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.com/chainflexlife
















chainflex® cable	Temperature, from/to [°F]	v max. [ft/s]		a max. [ft/s²]	Travel distance [ft]	Bending radius min. [factor x d]		Bending radius min. [factor x d]		Bending radius min. [factor x d]		Page
		unsupported	gliding			5 million (1 million) cycles *	7.5 million (3 million) cycles *	10 million (5 million) cycles *				
 CF885	+41 / +59 +59 / +140 +140 / +158	9.84	-	65.6	≤ 32.81	17.5 15 17.5	18.5 16 18.5	19.5 17 19.5				306
 CF886	+41 / +59 +59 / +140 +140 / +158	9.84	-	65.6	≤ 32.81	17.5 15 17.5	18.5 16 18.5	19.5 17 19.5				308
 CF210-UL	+41 / +59 +59 / +140 +140 / +158	32.81	6.56	164.1	≤ 32.81	12.5 10 12.5	13.5 11 13.5	14.5 12 14.5				310
 CF30	+41 / +59 +59 / +140 +140 / +158	32.81	16.41	262.5	≤ 328.1	10 7.5 10	11 8.5 11	12 9.5 12				312
 CF31	+41 / +59 +59 / +140 +140 / +158	32.81	16.41	262.5	≤ 328.1	10 7.5 10	11 8.5 11	12 9.5 12				316
 CF895	-4 / +14 +14 / +158 +158 / +176	9.84	-	65.6	≤ 32.81	17.5 15 17.5	18.5 16 18.5	19.5 17 19.5				320
 CF896	-4 / +14 +14 / +158 +158 / +176	9.84	-	65.6	≤ 32.81	17.5 15 17.5	18.5 16 18.5	19.5 17 19.5				322
 CF270-UL-D	-13 / +5 +5 / +158 +158 / +176	32.81	6.56	164.1	≤ 32.81	12.5 10 12.5	13.5 11 13.5	14.5 12 14.5				324
 CF27-D	-13 / +5 +5 / +158 +158 / +176	32.81	16.41	262.5	≤ 328.1	10 7.5 10	11 8.5 11	12 8.5 12				328
 CF34-UL-D New!	-31 / -13 -13 / +176 +176 / +194	32.81	19.69	262.5	≤ 1,312	10 7.5 10	11 8.5 11	12 9.5 12				332
 CF35-UL New!	-31 / -13 -13 / +176 +176 / +194	32.81	19.69	262.5	≤ 1,312	10 7.5 10	11 8.5 11	12 9.5 12				336
 CF37-D	-31 / -13 -13 / +176 +176 / +194	32.81	19.69	262.5	≤ 1,312	10 7.5 10	11 8.5 11	12 9.5 12				340
 CF38	-31 / -13 -13 / +176 +176 / +194	32.81	19.69	262.5	≤ 1,312	10 7.5 10	11 8.5 11	12 9.5 12				342

⁽¹⁾ **Exclusive!** Guaranteed lifetime for this series according to the guarantee conditions ► Page 26-27

* Higher number of cycles?
Online lifetime calculation ► www.igus.com/chainflexlife
Figures in brackets refer to chainflex® series
CF885/CF886 and CF895/CF896

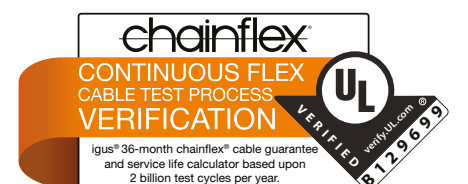




chainflex® cable	Temperature, from/to [°F]	v max. [ft/s]		a max. [ft/s²]	Travel distance [ft]	Bending radius min. [factor x d]		Bending radius min. [factor x d]		Bending radius min. [factor x d]		Page
		unsupported	gliding			5 million (1 million) cycles *	7.5 million (3 million) cycles *	10 million (5 million) cycles *				
Spindle cables/Single conductors												
 CF885	+41 / +59 +59 / +140 +140 / +158	9.84	-	65.6	≤ 32.81	17.5 15 17.5	18.5 16 18.5	19.5 17 19.5				344
 CF885-PE	+41 / +59 +59 / +140 +140 / +158	9.84	-	65.6	≤ 32.81	17.5 15 17.5	18.5 16 18.5	19.5 17 19.5				346
 CF886	+41 / +59 +59 / +140 +140 / +158	9.84	-	65.6	≤ 32.81	17.5 15 17.5	18.5 16 18.5	19.5 17 19.5				348
 CF270-UL-D	-13 / +5 +5 / +158 +158 / +176	32.81	6.56	164.1	≤ 32.81	12.5 10 12.5	13.5 11 13.5	14.5 12 14.5				350
 CF300-UL-D	-31 / -13 -13 / +176 +176 / +194	32.81	19.69	328.1	≤ 1,312	10 7.5 10	11 8.5 11	12 9.5 12				352
 CFPE	-31 / -13 -13 / +176 +176 / +194	32.81	19.69	328.1	≤ 1,312	10 7.5 10	11 8.5 11	12 9.5 12				354
 CF310-UL	-31 / -13 -13 / +176 +176 / +194	32.81	19.69	328.1	≤ 1,312	10 7.5 10	11 8.5 11	12 9.5 12				356
 CF330-D	-31 / -13 -13 / +176 +176 / +194	32.81	19.69	328.1	≤ 1,312	10 7.5 10	11 8.5 11	12 9.5 12				358
 CF340	-31 / -13 -13 / +176 +176 / +194	32.81	19.69	328.1	≤ 1,312	10 7.5 10	11 8.5 11	12 9.5 12				360
Medium voltage cables												
 CFCRANE-PUR	-4 / +14 +14 / +158 +158 / +176	32.81	19.69	164.1	≤ 1,312	12.5 10 12.5	13.5 11 13.5	14.5 12 14.5				362
 CFCRANE	-4 / +14 +14 / +158 +158 / +176	32.81	19.69	164.1	≤ 1,312	12.5 10 12.5	13.5 11 13.5	14.5 12 14.5				364

⁽¹⁾ Exclusive! Guaranteed lifetime for this series according to the guarantee conditions ► Page 26-27

* Higher number of cycles? Online lifetime calculation ► www.igus.com/chainflexlife
 Figures in brackets refer to chainflex® series CF885 and CF886



Motor cable | PVC | chainflex® CF885

36 5,000,000
Cycles guaranteed

15 x d
Bend radius E-Chain®

32.8 ft
Travel distance E-Chain®

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

Dynamic Information

	Bend radius	E-Chain® linear	min. 15 x d
		flexible	min. 12 x d
		fixed	min. 8 x d
	Temperature	E-Chain® linear	+41 °F to +158 °F (+5 °C to +70 °C)
		flexible	+23 °F to +158 °F (-5 °C to +70 °C)
		fixed	+5 °F to +158 °F (-15 °C to +70 °C)
	v max.	unsupported	9.84 ft/s (3 m/s)
	a max.		65.6 ft/s² (20 m/s²)
	Travel distance		Unsupported travel distances up to 32.8 ft (10 m), Class 1

Cable structure

	Conductor	Conductor consisting of bare copper wires (according to DIN EN 60228).
	Conductor insulation	Mechanically high-quality, especially low-capacitance TPE mixture.
	Conductor construction	Conductors cabled with an optimized pitch length.
	Color code	Black with white numbers, one conductor green-yellow. 1. U / L1 / C / L+ 2. V / L2 3. W / L3 / D / L-
	Outer jacket	Low-adhesion mixture on the basis of PVC, adapted to suit the requirements in E-Chains®. Color: Orange (similar to RAL 2003)

Electrical Information

	Nominal voltage	1000 V
	Test voltage	4000 V (following DIN EN 50395)

Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

Class 3.1.1.1

Properties and approvals

	Flame resistance	According to IEC 60332-1-2, FT1, VW-1
	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	1000 V, +80C See data sheet for details ► www.igus.com/CF885
	NFPA 79	Complies to Electrical Standard for Industrial Machinery NFPA 79 Section 12.9
	EAC	Certificate No. RU C-DE.ME77.B.00302/19 (TR ZU)
	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

Guaranteed service life (details see page 26-27)

Cycles*	1 million	3 million	5 million
Temperature, from/to [°F]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
+41/+59	17.5	18.5	19.5
+59/+140	15	16	17
+140/+158	17.5	18.5	19.5

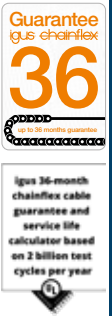
* Higher number of cycles? Online lifetime calculation ► www.chainflex.com/chainflexlife

Typical application areas

- For low duty flexing applications, Class 3
- Especially for unsupported travels, Class 1
- Without influence of oil, Class 1
- Preferably indoor applications
- Wood/stone processing, Packaging industry, supply systems, Handling, adjusting equipment

Part No.	AWG	Number of Conductors and rated cross section	Outer diameter max.		Copper index		Weight	
			[in.]	[mm]	[lbs/mft]	[kg/km]	[lbs/mft]	[kg/km]
CF885-15-04	16	4 G 1.5	0.31	8.0	45.0	67	70.6	105
CF885-25-04	14	4 G 2.5	0.39	10.0	73.9	110	109.5	163
CF885-40-04	12	4 G 4.0	0.45	11.5	117.6	175	164.0	244
CF885-60-04	10	4 G 6.0	0.53	13.5	159.3	237	241.9	360
CF885-100-04	8	4 G 10.0	0.67	17.0	276.9	412	345.4	514
CF885-160-04	6	4 G 16.0	0.79	20.0	463.7	690	575.9	857

Note: The given outer diameters are maximum values.
G = with green-yellow earth core x = without earth core



Example image

Configurators ► www.igus.com/CF885

36 month guarantee ... 1,354 types from stock ... no cutting charges



UL-verified chainflex® guarantee ... www.igus.com/ul-verified

Motor cable | PVC | chainflex® CF886






36 5,000,000
Cycles guaranteed

15 x d
Bend radius E-Chain®







32.8 ft
Travel distance E-Chain®

- For low duty flexing applications
- PVC outer jacket
- Shielded
- Flame-retardant
- Variable Frequency Drive



Dynamic Information

 Bend radius	E-Chain® linear	min. 15 x d
	flexible	min. 12 x d
	fixed	min. 8 x d
 Temperature	E-Chain® linear	+41 °F to +158 °F (+5 °C to +70 °C)
	flexible	+23 °F to +158 °F (-5 °C to +70 °C)
	fixed	+5 °F to +158 °F (-15 °C to +70 °C)
 v max.	unsupported	9.84 ft/s (3 m/s)
 a max.		65.6 ft/s ² (20 m/s ²)
 Travel distance		Unsupported travel distances up to 32.8 ft (10 m), Class 1

Cable structure

 Conductor	Conductor consisting of bare copper wires (according to DIN EN 60228).
 Conductor insulation	Mechanically high-quality, especially low-capacitance TPE mixture.
 Conductor construction	Conductors cabled with an optimized pitch length.
 Color code	Black with white numbers, one conductor green-yellow. 1. U / L1 / C / L+ 2. V / L2 3. W / L3 / D / L-
 Overall shield	aluminum/polyester tape and tinned cooper braid. 60 % optical coverage
 Outer jacket	Low-adhesion mixture on the basis of PVC, adapted to suit the requirements in E-Chains®. Color: Orange (similar to RAL 2003)

Electrical Information










 Nominal voltage	1000 V
 Test voltage	4000 V (following DIN EN 50395)

Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

Class 3.1.1.1

Properties and approvals

 Flame resistance	According to IEC 60332-1-2, FT1, VW-1
 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	1000 V, +80C See data sheet for details ► www.igus.com/CF886
 NFPA 79	Complies to Electrical Standard for Industrial Machinery NFPA 79 Section 12.9
 EAC	Certificate No. RU C-DE.ME77.B.00302/19 (TR ZU)
 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

Guaranteed service life (details see page 26-27)

Cycles*	1 million	3 million	5 million
Temperature, from/to [°F]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
+41/+59	17.5	18.5	19.5
+59/+140	15	16	17
+140/+158	17.5	18.5	19.5

* Higher number of cycles? Online lifetime calculation ► www.chainflex.com/chainflexlife

Typical application areas

- For low duty flexing applications, Class 3
- Especially for unsupported travels, Class 1
- Without influence of oil, Class 1
- Preferably indoor applications
- Wood/stone processing, Packaging industry, supply systems, Handling, adjusting equipment

Part No.	AWG	Number of Conductors and rated cross section	Outer diameter max.		Copper index		Weight	
			[in.]	[mm]	[lbs/mft]	[kg/km]	[lbs/mft]	[kg/km]
CF886-15-04	16	4 G 1.5	0.35	9.0	55.1	82	80.0	119
CF886-25-04	14	4 G 2.5	0.41	10.5	88.7	132	121.6	181
CF886-40-04	12	4 G 4.0	0.47	12.0	137.1	204	176.7	263
CF886-60-04	10	4 G 6.0	0.57	14.5	180.8	269	253.3	377
CF886-100-04	8	4 G 10.0	0.73	18.5	307.8	458	387.7	577
CF886-160-04	6	4 G 16.0	0.83	21.0	510.7	760	557.1	829

Note: The given outer diameters are maximum values.
G = with green-yellow earth core x = without earth core



Example image

Configurators ► www.igus.com/CF886

36 month guarantee ... 1,354 types from stock ... no cutting charges



UL-verified chainflex® guarantee ... www.igus.com/ul-verified

Motor cable | PVC | chainflex® CF210-UL

36 10,000,000
Cycles guaranteed

10 x d
Bend radius E-Chain®

32.8 ft
Travel distance E-Chain®

- For medium mechanical load requirements
- PVC outer jacket
- Shielded

- Oil-resistant
- Flame-retardant
- Variable Frequency Drive

Dynamic Information

Bend radius	E-Chain® linear	min. 10 x d
	flexible	min. 8 x d
	fixed	min. 5 x d
Temperature	E-Chain® linear	+41 °F to +158 °F (+5 °C to +70 °C)
	flexible	+23 °F to +158 °F (-5 °C to +70 °C)
	fixed	+5 °F to +158 °F (-15 °C to +70 °C)
v max.	unsupported	32.81 ft/s (10 m/s)
	gliding	6.56 ft/s (2 m/s)
a max.		164.1 ft/s ² (50 m/s ²)
Travel distance		Unsupported travel distances and for gliding applications up to 32.8 ft (10 m), Class 2

Cable structure

Conductor	Stranded conductor in bending-resistant version consisting of bare copper wires (following DIN EN 60228).
Conductor insulation	Mechanically high-quality, especially low-capacitance XLPE mixture.
Conductor construction	Conductors cabled with short pitch.
Color code	Black with white numbers, one conductor green-yellow. 1. U / L1 / C / L+ 2. V / L2 3. W / L3 / D / L-
Intermediate layer	polyester tape over external layer
Overall shield	Bending-resistant tinned copper braid. 80 % optical coverage
Outer jacket	Low-adhesion, oil-resistant mixture on the basis of PVC, adapted to suit the requirements in E-Chains® (following DIN EN 50363-4-1). Color: Orange (similar to RAL 2003)

Electrical Information

Nominal voltage	1000 V
Test voltage	4000 V (following DIN EN 50395)

Example image

Configurators ► www.igus.com/CF210-UL

36 month guarantee ... 1,354 types from stock ... no cutting charges



Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

Class 4.2.2.1

Properties and approvals

UV resistance	Medium
Oil resistance	Oil-resistant (following DIN EN 50363-4-1), Class 2
Flame resistance	According to IEC 60332-1-2, FT1, VW-1
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	1000 V, +80C See data sheet for details ► www.igus.com/CF210-UL
NFPA 79	Complies to Electrical Standard for Industrial Machinery NFPA 79 Section 12.9
EAC	Certificate No. RU C-DE.ME77.B.02324 (TR ZU)
CTP	Certificate No. C-DE.PB49.B.00420 (Fire protection)
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

Guaranteed service life (details see page 26-27)

Cycles*	5 million	7.5 million	10 million
Temperature, from/to [°F]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
+41/+59	12.5	13.5	14.5
+59/+140	10	11	12
+140/+158	12.5	13.5	14.5

* Higher number of cycles? Online lifetime calculation ► www.chainflex.com/chainflexlife

Typical application areas

- For medium mechanical load requirements, Class 4
- Unsupported travel distances and for gliding applications up to 33 ft (10 m), Class 2
- Light oil influence, Class 2
- Preferably indoor applications, can be used in outdoor applications with temperatures > 41 °F
- Wood/stone processing, Packaging industry, supply systems, Handling, adjusting equipment

Part No.	AWG	Number of Conductors and rated cross section	Outer diameter max.		Copper index		Weight	
			[in.]	[mm]	[lbs/mft]	[kg/km]	[lbs/mft]	[kg/km]
CF210-UL-15-04	16	4 G 1.5	0.39	10.0	57.8	86	94.1	140
CF210-UL-25-04	14	4 G 2.5	0.45	11.5	98.1	146	140.4	209
CF210-UL-40-04	12	4 G 4.0	0.51	13.0	131.0	195	193.5	288

Note: The given outer diameters are maximum values.
G = with green-yellow earth core x = without earth core



UL-verified chainflex® guarantee ... www.igus.com/ul-verified



Motor cable | PVC | chainflex® CF30







36 10,000,000
Cycles guaranteed

7.5 x d
Bend radius E-Chain®







328.1 ft
Travel distance E-Chain®

- For high mechanical load requirements
- PVC outer jacket
- Oil-resistant
- Flame-retardant



Dynamic Information

 Bend radius	E-Chain® linear flexible	min. 7.5 x d min. 6 x d
	fixed	min. 4 x d
 Temperature	E-Chain® linear flexible	+41 °F to +158 °F (+5 °C to +70 °C) +23 °F to +158 °F (-5 °C to +70 °C)
	fixed	+5 °F to +158 °F (-15 °C to +70 °C)
 v max.	unsupported	32.81 ft/s (10 m/s)
	gliding	16.41 ft/s (5 m/s)
 a max.		262.5 ft/s ² (80 m/s ²)
 Travel distance		Unsupported travel distances and for gliding applications up to 328.1 ft (100 m), Class 5
 Torsion		Torsion ±90°, with 3.281ft (1m) cable length, Class 2

Cable structure

 Conductor	16-10 AWG: Conductor consisting of bare copper wires (according to DIN EN 60228).
	8-1 AWG: Conductor cable consisting of pre-leads (following DIN EN 60228). Mechanically high-quality, especially low-capacitance XLPE mixture.
 Conductor insulation	
 Conductor construction	Conductors cabled with short pitch length around a high-tensile strength core.
 Color code	Black with white numbers, one conductor green-yellow. 1. U / L1 / C / L+ 2. V / L2 3. W / L3 / D / L- 4. 4 / N 5. green/yellow
 Outer jacket	Low-adhesion, oil-resistant mixture on the basis of PVC, adapted to suit the requirements in E-Chains® (following DIN EN 50363-4-1). Color: Jet black (similar to RAL 9005)
 CFRIP®	Strip 50% faster: a tear strip is molded into the outer jacket Video ► www.igus.com/CFRIP

Electrical Information

 Nominal voltage	1000 V
 Test voltage	4000 V (following DIN EN 50395)

Configurators ► www.igus.com/CF30

36 month guarantee ... 1,354 types from stock ... no cutting charges
















Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	7	≥ 1312 ft
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

Class 5.5.2.2

Properties and approvals

 UV resistance	Medium
 Oil resistance	Oil-resistant (following DIN EN 50363-4-1), Class 2
 Flame resistance	According to IEC 60332-1-2, FT1, VW-1
 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	1000 V, +80C See data sheet for details ► www.igus.com/CF30
 NFPA 79	Complies to Electrical Standard for Industrial Machinery NFPA 79 Section 12.9
 EAC	Certificate No. RU C-DE.ME77.B.02324 (TR ZU)
 CTP	Certificate No. C-DE.PB49.B.00420 (Fire protection)
 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

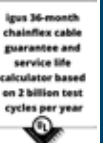
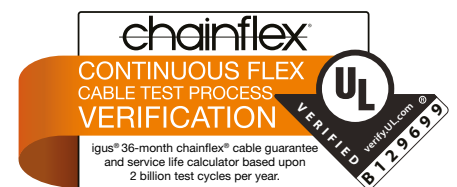
Guaranteed service life (details see page 26-27)

Cycles*	5 million	7.5 million	10 million
Temperature, from/to [°F]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
+41/+59	10	11	12
+59/+140	7.5	8.5	9.5
+140/+158	10	11	12

* Higher number of cycles? Online lifetime calculation ► www.chainflex.com/chainflexlife

Typical application areas

- For high mechanical load requirements, Class 5
- Unsupported travel distances and for gliding applications up to 328 ft (100 m), Class 5
- Light oil influence, Class 2
- Torsion ±90°, with 3.281ft (1m) cable length, Class 2
- Preferably indoor applications, can be used in outdoor applications with temperatures > 41°F
- Storage and retrieval units for high-bay warehouses, machining units/ packaging machines, quick handling, indoor cranes



Example image

Motor cable | PVC | chainflex® CF30

Strip cables 50 % faster



Example image

Part No.	AWG	Number of Conductors and rated cross section	Outer diameter max.		Copper index		Weight	
			[mm²]	[in.]	[mm]	[lbs/mft]	[kg/km]	[lbs/mft]
CF30-15-04	16	4 G 1.5	0.31	8.0	41.0	61	69.9	104
CF30-25-04	14	4 G 2.5	0.39	10.0	67.2	100	111.5	166
CF30-25-05	14	5 G 2.5	0.43	11.0	83.3	124	136.4	203
CF30-40-04	12	4 G 4.0	0.45	11.5	109.5	163	167.3	249
CF30-40-05	12	5 G 4.0	0.49	12.5	137.1	204	202.9	302
CF30-60-04	10	4 G 6.0	0.53	13.5	159.3	237	230.5	343
CF30-60-05	10	5 G 6.0	0.59	15.0	199.6	297	275.5	410
CF30-100-04	8	4 G 10.0	0.65	16.5	273.5	407	368.2	548
CF30-100-05	8	5 G 10.0	0.77	19.5	346.1	515	459.6	684
CF30-160-04	6	4 G 16.0	0.79	20.0	434.1	646	555.0	826
CF30-160-05	6	5 G 16.0	0.93	23.5	547.7	815	717.0	1067
CF30-250-04	4	4 G 25.0	0.98	25.0	681.4	1014	887.0	1320
CF30-350-04	2	4 G 35.0	1.12	28.5	967.0	1439	1206.2	1795
CF30-500-04	1	4 G 50.0	1.34	34.0	1384.9	2061	1698.7	2528

Note: The given outer diameters are maximum values.
G = with green-yellow earth core x = without earth core

Class 5.5.2.2

Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

Order example: **CF30-15-04** – To your desired length
CF30 chainflex® series -15 Code nominal cross section -04 Number of conductors

Online order ► www.chainflex.com/CF30

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

cost down...

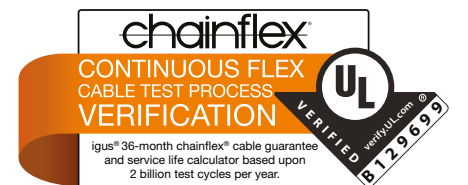
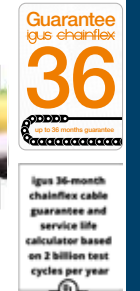


...life up

Reduce cost, improve technology, now!

Do the chainflex® price check now ...
www.igus.com/info/cable-price-check

... just one idea for you: **Reduce cost with CF885 ...**



Motor cable | PVC | chainflex® CF31






36 10,000,000
Cycles guaranteed

7.5 x d
Bend radius E-Chain®









328.1 ft
Travel distance E-Chain®

- For high mechanical load requirements
- PVC outer jacket
- Shielded
- Oil-resistant
- Flame-retardant
- Variable Frequency Drive



Dynamic Information

 Bend radius	E-Chain® linear	min. 7.5 x d
	flexible	min. 6 x d
	fixed	min. 4 x d
 Temperature	E-Chain® linear	+41 °F to +158 °F (+5 °C to +70 °C)
	flexible	+23 °F to +158 °F (-5 °C to +70 °C)
	fixed	+5 °F to +158 °F (-15 °C to +70 °C)
 v max.	unsupported	32.81 ft/s (10 m/s)
	gliding	16.41 ft/s (5 m/s)
 a max.		262.5 ft/s ² (80 m/s ²)
 Travel distance		Unsupported travel distances and for gliding applications up to 328.1 ft (100 m), Class 5

Cable structure

 Conductor	16-10 AWG: Conductor consisting of bare copper wires (according to DIN EN 60228).
	8-2/0 AWG: Conductor cable consisting of pre-leads (following DIN EN 60228).
 Conductor insulation	Mechanically high-quality, especially low-capacitance XLPE mixture.
 Conductor construction	Conductors cabled with short pitch length around a high-tensile strength core.
 Color code	Black with white numbers, one conductor green-yellow. 1. U / L1 / C / L+ 2. V / L2 3. W / L3 / D / L- 4. 4 / N 5. green/yellow
 Inner jacket	PVC mixture adapted to suit the requirements in E-Chains®.
 Overall shield	Extremely bending-resistant tinned copper braid. 90 % optical coverage
 Outer jacket	Low-adhesion, oil-resistant mixture on the basis of PVC, adapted to suit the requirements in E-Chains® (following DIN EN 50363-4-1). Color: Jet black (similar to RAL 9005)
 CFRIP®	Strip 50% faster: a tear strip is molded into the inner jacket Video ► www.igus.com/CFRIP

Electrical Information

 Nominal voltage	1000 V
 Test voltage	4000 V (following DIN EN 50395)

Configurators ► www.igus.com/CF31














36 month guarantee ... 1,354 types from stock ... no cutting charges

Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

Class 5.5.2.1

Properties and approvals

 UV resistance	Medium
 Oil resistance	Oil-resistant (following DIN EN 50363-4-1), Class 2
 Flame resistance	According to IEC 60332-1-2, FT1, VW-1
 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	1000 V, +80C See data sheet for details ► www.igus.com/CF31
 NFPA 79	Complies to Electrical Standard for Industrial Machinery NFPA 79 Section 12.9
 EAC	Certificate No. RU C-DE.ME77.B.02324 (TR ZU)
 CTP	Certificate No. C-DE.PB49.B.00420 (Fire protection)
 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

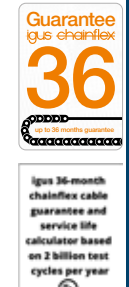
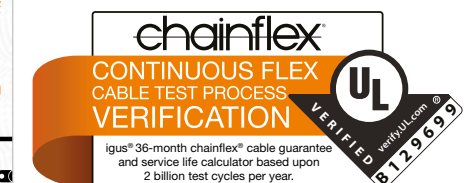
Guaranteed service life (details see page 26-27)

Cycles*	5 million	7.5 million	10 million
Temperature, from/to [°F]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
+41/+59	10	11	12
+59/+140	7.5	8.5	9.5
+140/+158	10	11	12

* Higher number of cycles? Online lifetime calculation ► www.chainflex.com/chainflexlife

Typical application areas

- For high mechanical load requirements, Class 5
- Unsupported travel distances and for gliding applications up to 328 ft (100 m), Class 5
- Light oil influence, Class 2
- Preferably indoor applications, can be used in outdoor applications with temperatures > 41 °F
- Storage and retrieval units for high-bay warehouses, machining units/ packaging machines, quick handling, indoor cranes



Motor cable | PVC | chainflex® CF31

Strip cables 50 % faster



igus chainflex CF31

Example image

Part No.	AWG	Number of Conductors and rated cross section	Outer diameter max.		Copper index		Weight	
			[mm²]	[in.] [mm]	[lbs/mft] [kg/km]	[lbs/mft] [kg/km]		
CF31-15-04	16	4 G 1.5	0.39	10.0	59.8	89	105.5	157
CF31-25-04	14	4 G 2.5	0.45	11.5	89.4	133	148.5	221
CF31-25-05	14	5 G 2.5	0.51	13.0	109.5	163	182.1	271
CF31-40-04	12	4 G 4.0	0.51	13.0	136.4	203	201.6	300
CF31-40-05	12	5 G 4.0	0.57	14.5	173.4	258	237.9	354
CF31-60-04	10	4 G 6.0	0.63	16.0	193.5	288	305.7	455
CF31-60-05	10	5 G 6.0	0.67	17.0	239.2	356	357.5	532
CF31-100-04	8	4 G 10.0	0.73	18.5	314.5	468	450.2	670
CF31-100-05	8	5 G 10.0	0.85	21.5	409.2	609	575.9	857
CF31-160-04	6	4 G 16.0	0.91	23.0	495.9	738	695.5	1035
CF31-250-04	4	4 G 25.0	1.08	27.5	774.8	1153	1065.7	1586
CF31-350-04	2	4 G 35.0	1.22	31.0	1069.8	1592	1413.8	2104
CF31-500-04	1	4 G 50.0	1.44	36.5	1494.5	2224	1950.1	2902
CF31-700-04	2/0	4 G 70.0	1.69	43.0	2152.3	3203	2804.1	4173

Note: The given outer diameters are maximum values.
G = with green-yellow earth core x = without earth core

- Order example: **CF31-15-04** – To your desired length
CF31 chainflex® series -15 Code nominal cross section -04 Number of conductors
- Online order ► www.chainflex.com/CF31
- 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 now ...
www.igus.com/info/cable-price-check

... just one idea for you: Reduce cost with CF886 ...

Configurators ► www.igus.com/CF31



Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

Class 5.5.2.1

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® CF31 motor cable in a fast picker

Guarantee
igus chainflex
36
up to 36 months guarantee

chainflex®
CONTINUOUS FLEX
CABLE TEST PROCESS
VERIFICATION

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

UL
VERIFIED
www.UL.com
B129699

Motor cable | iguPUR | chainflex® CF895

36 5,000,000
Cycles guaranteed

15 x d
Bend radius E-Chain®

32.8 ft
Travel distance E-Chain®

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

Dynamic Information

	Bend radius	E-Chain® linear	min. 15 x d
		flexible	min. 12 x d
		fixed	min. 8 x d
	Temperature	E-Chain® linear	-4 °F to +176 °F (-20 °C to +80 °C)
		flexible	-40 °F to +176 °F (-40 °C to +80 °C)
		fixed	-58 °F to +176 °F (-50 °C to +80 °C)
	v max.	unsupported	9.84 ft/s (3 m/s)
	a max.		65.6 ft/s ² (20 m/s ²)
	Travel distance		Unsupported travel distances up to 32.8 ft (10 m), Class 1

Cable structure

	Conductor	Conductor consisting of bare copper wires (according to DIN EN 60228).
	Conductor insulation	Mechanically high-quality, especially low-capacitance TPE mixture.
	Conductor construction	Conductors cabled with an optimized pitch length.
	Color code	Black with white numbers, one conductor green-yellow. 1. U / L1 / C / L+ 2. V / L2 3. W / L3 / D / L-
	Outer jacket	Low-adhesion mixture on the basis of iguPUR, adapted to suit the requirements in E-Chains®. Color: Orange (similar to RAL 2003)

Electrical Information

	Nominal voltage	1000 V
	Test voltage	4000 V (following DIN EN 50395)

Basic requirements
Travel distance
Oil resistance
Torsion

	low	1	2	3	4	5	6	7	highest
Travel distance	unsupported	1	2	3	4	5	6	≥ 1312 ft	
Oil resistance	none	1	2	3	4	highest			
Torsion	none	1	2	3	4	±360°			

Class 3.1.3.1

Properties and approvals

	UV resistance	Medium
	Oil resistance	Oil-resistant (following DIN EN 50363-10-2), Class 3
	Flame resistance	According to IEC 60332-1-2, FT1, VW-1
	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	1000 V, +80C See data sheet for details ► www.igus.com/CF895
	NFPA 79	Complies to Electrical Standard for Industrial Machinery NFPA 79 Section 12.9
	EAC	Certificate No. RU C-DE.ME77.B.00302/19 (TR ZU)
	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

Guaranteed service life (details see page 26-27)

Cycles*	1 million	3 million	5 million
Temperature, from/to [°F]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-4/+14	17.5	18.5	19.5
+14/+158	15	16	17
+158/+176	17.5	18.5	19.5

* Higher number of cycles? Online lifetime calculation ► www.chainflex.com/chainflexlife

Typical application areas

- For low duty flexing applications, Class 3
- Especially for unsupported travels, Class 1
- With influence of oil, Class 3
- Indoor and outdoor applications without direct sun radiation
- Machining units/machine tools, low temperature applications

Part No.	AWG	Number of Conductors and rated cross section	Outer diameter max.		Copper index		Weight	
			[in.]	[mm]	[lbs/mft]	[kg/km]	[lbs/mft]	[kg/km]
CF895-15-04	16	4 G 1.5	0.31	8.0	45.0	67	67.9	101
CF895-25-04	14	4 G 2.5	0.39	10.0	73.9	110	102.8	153
CF895-40-04	12	4 G 4.0	0.45	11.5	117.6	175	160.6	239
CF895-60-04	10	4 G 6.0	0.53	13.5	176.1	262	237.2	353
CF895-100-04	8	4 G 10.0	0.67	17.0	293.0	436	364.9	543
CF895-160-04	6	4 G 16.0	0.79	20.0	438.8	653	553.7	824

Note: The given outer diameters are maximum values.
G = with green-yellow earth core x = without earth core



igu® chainflex® CF895

Example image

Configurators ► www.igus.com/CF895

36 month guarantee ... 1,354 types from stock ... no cutting charges



UL-verified chainflex® guarantee ... www.igus.com/ul-verified

Motor cable | iguPUR | chainflex® CF896

36 5,000,000
Cycles guaranteed

15 x d
Bend radius E-Chain®

32.8 ft
Travel distance E-Chain®

- For low duty flexing applications
- iguPUR outer jacket
- Oil-resistant
- Shielded
- Flame-retardant
- Variable Frequency Drive

Dynamic Information

	Bend radius	E-Chain® linear	min. 15 x d
		flexible	min. 12 x d
		fixed	min. 8 x d
	Temperature	E-Chain® linear	-4 °F to +176 °F (-20 °C to +80 °C)
		flexible	-40 °F to +176 °F (-40 °C to +80 °C)
		fixed	-58 °F to +176 °F (-50 °C to +80 °C)
	v max.	unsupported	9.84 ft/s (3 m/s)
	a max.		65.6 ft/s² (20 m/s²)
	Travel distance		Unsupported travel distances up to 32.8 ft (10 m), Class 1

Cable structure

	Conductor	Conductor consisting of bare copper wires (according to DIN EN 60228).
	Conductor insulation	Mechanically high-quality, especially low-capacitance TPE mixture.
	Conductor construction	Conductors cabled with an optimized pitch length.
	Color code	Black with white numbers, one conductor green-yellow. 1. U / L1 / C / L+ 2. V / L2 3. W / L3 / D / L-
	Overall shield	aluminum/polyester tape and tinned cooper braid. 60 % optical coverage
	Outer jacket	Low-adhesion mixture on the basis of iguPUR, adapted to suit the requirements in E-Chains®. Color: Orange (similar to RAL 2003)

Electrical Information

	Nominal voltage	1000 V
	Test voltage	4000 V (following DIN EN 50395)

Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

Class 3.1.3.1

Properties and approvals

	UV resistance	Medium
	Oil resistance	Oil-resistant (following DIN EN 50363-10-2), Class 3
	Flame resistance	According to IEC 60332-1-2, FT1, VW-1
	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	1000 V, +80C See data sheet for details ► www.igus.com/CF896
	NFPA 79	Complies to Electrical Standard for Industrial Machinery NFPA 79 Section 12.9
	EAC	Certificate No. RU C-DE.ME77.B.00302/19 (TR ZU)
	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

Guaranteed service life (details see page 26-27)

Cycles*	1 million	3 million	5 million
Temperature, from/to [°F]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-4/+14	17.5	18.5	19.5
+14/+158	15	16	17
+158/+176	17.5	18.5	19.5

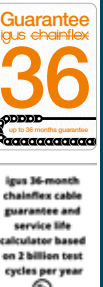
* Higher number of cycles? Online lifetime calculation ► www.chainflex.com/chainflexlife

Typical application areas

- For low duty flexing applications, Class 3
- Especially for unsupported travels, Class 1
- With influence of oil, Class 3
- Indoor and outdoor applications without direct sun radiation
- Machining units/machine tools, low temperature applications

Part No.	AWG	Number of Conductors and rated cross section	Outer diameter max.		Copper index		Weight	
			[in.]	[mm]	[lbs/mft]	[kg/km]	[lbs/mft]	[kg/km]
CF896-15-04	16	4 G 1.5	0.35	9.0	55.1	82	82.0	122
CF896-25-04	14	4 G 2.5	0.41	10.5	88.7	132	116.3	173
CF896-40-04	12	4 G 4.0	0.47	12.0	137.1	204	172.7	257
CF896-60-04	10	4 G 6.0	0.57	14.5	205.6	306	254.0	378
CF896-100-04	8	4 G 10.0	0.73	18.5	307.8	458	438.8	653
CF896-160-04	6	4 G 16.0	0.83	21.0	476.4	709	561.1	835

Note: The given outer diameters are maximum values.
G = with green-yellow earth core x = without earth core



igu® chainflex® CF896

Example image

Configurators ► www.igus.com/CF896

36 month guarantee ... 1,354 types from stock ... no cutting charges



UL-verified chainflex® guarantee ... www.igus.com/ul-verified

Motor cable | PUR | chainflex® CF270-UL-D

36 10,000,000
Cycles guaranteed

10 x d
Bend radius E-Chain®

32.8 ft
Travel distance E-Chain®

- For medium mechanical load requirements
- PUR outer jacket
- Shielded
- Oil-resistant and coolant-resistant
- Notch-resistant
- Flame-retardant
- Hydrolysis and microbe-resistant
- PVC and halogen-free
- Variable Frequency Drive

Dynamic Information

	Bend radius	E-Chain® linear	min. 10 x d
		flexible	min. 8 x d
		fixed	min. 5 x d
	Temperature	E-Chain® linear	-13 °F to +176 °F (-25 °C to +80 °C)
		flexible	-40 °F to +176 °F (-40 °C to +80 °C)
		fixed	-58 °F to +176 °F (-50 °C to +80 °C)
	v max.	unsupported	32.81 ft/s (10 m/s)
		gliding	6.56 ft/s (2 m/s)
	a max.	164.1 ft/s ² (50 m/s ²)	
	Travel distance	Unsupported travel distances and for gliding applications up to 32.8 ft (10 m), Class 2	

Cable structure

	Conductor	Stranded conductor in bending-resistant version consisting of bare copper wires (following DIN EN 60228).
	Conductor insulation	Mechanically high-quality, especially low-capacitance XLPE mixture.
	Conductor construction	Conductors cabled with short pitch.
	Color code	Black with white numbers, one conductor green-yellow. 1. U / L1 / C / L+ 2. V / L2 3. W / L3 / D / L-
	Intermediate layer	polyester tape over external layer
	Overall shield	Bending-resistant tinned copper braid. 80 % optical coverage
	Outer jacket	Low-adhesion, halogen-free, highly abrasion-resistant mixture on the basis of PUR, adapted to suit the requirements in E-Chains® (following DIN EN 50363-10-2). Color: Orange (similar to RAL 2003)

Electrical Information

	Nominal voltage	1000 V
	Test voltage	4000 V (following DIN EN 50395)

Configurators ► www.igus.com/CF270-UL-D

36 month guarantee ... 1,354 types from stock ... no cutting charges

Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

Class 4.2.3.1

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 2009
	Flame resistance	According to IEC 60332-1-2, FT1, VW-1
	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 1000 V, +80C See data sheet for details ► www.igus.com/CF270-UL-D
	UL/CSA AWM	Complies to Electrical Standard for Industrial Machinery NFPA 79 Section 12.9
	NFPA 79	Complies to Electrical Standard for Industrial Machinery NFPA 79 Section 12.9
	EAC	Certificate No. RU C-DE.ME77.B.02324 (TR ZU)
	CTP	Certificate No. C-DE.PB49.B.00420 (Fire protection)
	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 standardization.
	CE	Following 2014/35/EU

Guaranteed service life (details see page 26-27)

Cycles*	5 million	7.5 million	10 million
Temperature, from/to [°F]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-13/+5	12.5	13.5	14.5
+5/+158	10	11	12
+158/+176	12.5	13.5	14.5

* Higher number of cycles? Online lifetime calculation ► www.chainflex.com/chainflexlife

Typical application areas

- For medium mechanical load requirements, Class 4
- Unsupported travel distances and for gliding applications up to 33 ft (10 m), Class 2
- Almost unlimited resistance to oil, Class 3
- Indoor and outdoor applications without direct sun radiation
- Machining units/machine tools, low temperature applications

Guarantee
igus chainflex
36
months

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

CFRIP

UL LISTED

UL US

NFPA

EAC

CTP

REACH

RoHS

Cleanroom

DESINA

CE

CE

Example image

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			



Example image

Part No.	AWG	Number of Conductors and rated cross section	Outer diameter max.		Copper index		Weight	
			[mm²]	[in.]	[mm]	[lbs/mft]	[kg/km]	[lbs/mft]
CF270-UL-07-04-D	18	4 G 0.75	0.31	8.0	30.9	46	63.8	95
CF270-UL-15-04-D	16	4 G 1.5	0.39	10.0	57.8	86	94.1	140
CF270-UL-25-04-D	14	4 G 2.5	0.45	11.5	98.1	146	141.1	210
CF270-UL-40-04-D	12	4 G 4.0	0.51	13.0	131.0	195	198.9	296
CF270-UL-60-04-D	10	4 G 6.0	0.59	15.0	194.2	289	279.5	416
CF270-UL-100-04-D	8	4 G 10.0	0.71	18.0	301.7	449	432.7	644
CF270-UL-160-04-D	6	4 G 16.0	0.87	22.0	469.0	698	670.0	997
CF270-UL-250-04-D	4	4 G 25.0	1.00	25.5	702.2	1045	930.0	1384
CF270-UL-350-04-D	2	4 G 35.0	1.30	33.0	1021.4	1520	1418.5	2111

Note: The given outer diameters are maximum values.
G = with green-yellow earth core x = without earth core

Order example: CF270-UL-40-15-02-01-D – To your desired length
CF270-UL-D chainflex® series -07 Code nominal cross section -4 Number of conductors

Online order ► www.chainflex.com/CF270-UL-D

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

cost down...



Reduce cost, improve technology, now!

Do the chainflex® price check now ...
www.igus.com/info/cable-price-check

... just one idea for you: Reduce cost with CF31 ...

...life up

Configurators ► www.igus.com/CF270-UL-D



chainflex® CF270.UL.D motor cable in a system for sharpening knives

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

-
-
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-
-
-

CE

Guarantee
igus chainflex
36
up to 36 months guarantee

chainflex®
CONTINUOUS FLEX
CABLE TEST PROCESS
VERIFICATION
UL
igus® 36-month chainflex® cable guarantee and service life calculator based upon 2 billion test cycles per year.

Motor cable | PUR | chainflex® CF27-D






36 10,000,000
Cycles guaranteed

7.5 x d
Bend radius E-Chain®









328.1 ft
Travel distance E-Chain®

- For very high mechanical load requirements
- PUR outer jacket
- Shielded
- Oil-resistant and coolant-resistant
- Notch-resistant
- Flame-retardant
- Hydrolysis and microbe-resistant
- PVC and halogen-free
- Variable Frequency Drive



Dynamic Information

 Bend radius	E-Chain® linear flexible	min. 7.5 x d min. 6 x d
	fixed	min. 4 x d
 Temperature	E-Chain® linear flexible	-13 °F to +176 °F (-25 °C to +80 °C) -40 °F to +176 °F (-40 °C to +80 °C)
	fixed	-58 °F to +176 °F (-50 °C to +80 °C)
 v max.	unsupported	32.81 ft/s (10 m/s)
	gliding	16.41 ft/s (5 m/s)
 a max.		262.5 ft/s ² (80 m/s ²)
 Travel distance		Unsupported travel distances and for gliding applications up to 328.1 ft (100 m), Class 5

Cable structure

 Conductor	Conductor consisting of bare copper wires (according to DIN EN 60228).
 Conductor insulation	Mechanically high-quality, especially low-capacitance XLPE mixture.
 Conductor construction	Cores wound around a high tensile strength centre element.
 Color code	Black with white numbers, one conductor green-yellow. 1. U / L1 / C / L+ 2. V / L2 3. W / L3 / D / L-
 Inner jacket	TPE mixture adapted to suit the requirements in E-Chains®.
 Overall shield	Extremely bending-resistant tinned copper braid. 90 % optical coverage
 Outer jacket	Low-adhesion, halogen-free, highly abrasion-resistant mixture on the basis of PUR, adapted to suit the requirements in E-Chains® (following DIN EN 50363-10-2). Color: Orange (similar to RAL 2003)
 CFRIP®	Strip 50% faster: a tear strip is molded into the inner jacket Video ► www.igus.com/CFRIP

Electrical Information

 Nominal voltage	1000 V
 Test voltage	4000 V (following DIN EN 50395)

Configurators ► www.igus.com/CF27-D


















36 month guarantee ... 1,354 types from stock ... no cutting charges

Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

Class 6.5.3.1

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 2009
 Flame resistance	According to IEC 60332-1-2, FT1, VW-1
 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 1000 V, +80C See data sheet for details ► www.igus.com/CF27-D
 UL/CSA AWM	Complies to Electrical Standard for Industrial Machinery NFPA 79 Section 12.9
 NFPA 79	
 DNV-GL	Type approval certificate No. TAE00003XA
 EAC	Certificate No. RU C-DE.ME77.B.02324 (TR ZU)
 CTP	Certificate No. C-DE.PB49.B.00420 (Fire protection)
 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 standardization.
 CE	Following 2014/35/EU

Guaranteed service life (details see page 26-27)

Cycles*	5 million	7.5 million	10 million
Temperature, from/to [°F]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-13/+5	10	11	12
+5/+158	7.5	8.5	9.5
+158/+176	10	11	12

* Higher number of cycles? Online lifetime calculation ► www.chainflex.com/chainflexlife

Typical application areas

- For very high mechanical load requirements, Class 6
- Unsupported travel distances and for gliding applications up to 328 ft (100 m), Class 5
- Almost unlimited resistance to oil, Class 3
- 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

Guarantee
igus chainflex
36
months

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

CFRIP
igus

UL
LISTED

UL
CSA

NFPA

DNV-GL

DNV-GL

EAC

CTP

RoHS

Clean-Room

DESINA

CE

Motor cable | PUR | chainflex® CF27-D

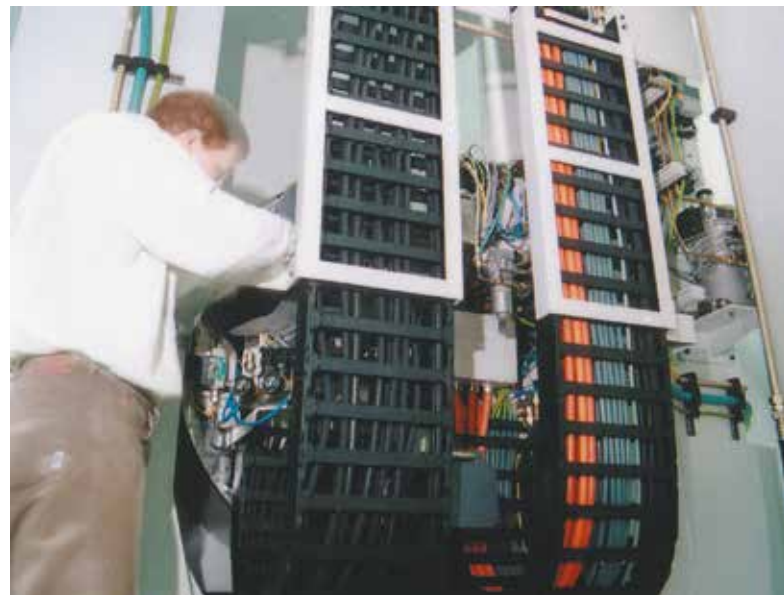
Strip cables 50 % faster

igus® chainflex® CF27.D

Example image

Part No.	AWG	Number of Conductors and rated cross section	Outer diameter max.		Copper index		Weight	
			[mm²]	[in.]	[mm]	[lbs/mft]	[kg/km]	[lbs/mft]
CF27-07-04-D	18	4 G 0.75	0.37	9.5	37.0	55	77.3	115
CF27-15-04-D	16	4 G 1.5	0.43	11.0	60.5	90	110.9	165
CF27-25-04-D	14	4 G 2.5	0.49	12.5	90.7	135	155.2	231
CF27-500-04-D	1	4 G 50.0	1.46	37.0	1507.9	2244	1892.9	2817

Note: The given outer diameters are maximum values.
G = with green-yellow earth core x = without earth core



Modular design, easy to retrofit: igus® E4 E-Chain® and chainflex® cables.

Class 6.5.3.1

Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

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

Order example: **CF27-07-04-D** – To your desired length
CF27-D chainflex® series .-07 Code nominal cross section .-4 Number of conductors

Online order ► www.chainflex.com/CF27-D

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 now ...
www.igus.com/info/cable-price-check

... just one idea for you: Maximum abrasion resistance with CF38 ...



Guarantee igus chainflex
36
up to 36 months guarantee

chainflex®
CONTINUOUS FLEX
CABLE TEST PROCESS
VERIFICATION

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

UL
VERIFIED
B129699

Motor cable | TPE | chainflex® CF34-UL-D

36 10,000,000
Cycles guaranteed







7.5 x d
Bend radius E-Chain®

1312.4 ft
Travel distance E-Chain®







- For very high mechanical load requirements
- TPE outer jacket
- Oil and bio-oil-resistant
- Flame-retardant
- UV-resistant
- Hydrolysis and microbe-resistant

New conductor insulation with UL 90 °C



Dynamic Information

 Bend radius	E-Chain® linear flexible	min. 7.5 x d min. 6 x d
	fixed	min. 4 x d
 Temperature	E-Chain® linear flexible	-31 °F to +194 °F (-35 °C to +90 °C) -49 °F to +194 °F (-45 °C to +90 °C)
	fixed	-58 °F to +194 °F (-50 °C to +90 °C)
 v max.	unsupported	32.81 ft/s (10 m/s)
	gliding	19.69 ft/s (6 m/s)
 a max.		262.5 ft/s ² (80 m/s ²)
 Travel distance		Unsupported travel distances and for gliding applications up to 1312 ft (400 m) and more, Class 6
 Torsion		Torsion ±90°, with 3.281ft (1m) cable length, Class 2

Cable structure

 Conductor	16-10 AWG: Conductor consisting of bare copper wires (according to DIN EN 60228). 8-4 AWG: Conductor cable consisting of pre-leads (following DIN EN 60228). Mechanically high-quality, especially low-capacitance XLPE mixture.
 Conductor insulation	
 Conductor construction	Conductors cabled with short pitch length around a high-tensile strength core.
 Color code	Black with white numbers, one conductor green-yellow. 1. U / L1 / C / L+ 2. V / L2 3. W / L3 / D / L- 4. 4 / N 5. green/yellow
 Outer jacket	Low-adhesion mixture on the basis of TPE, especially abrasion-resistant and highly flexible, adapted to suit the requirements in E-Chains®. Color: Signal black (similar to RAL 9004)
 CFRIP®	Strip 50% faster: a tear strip is molded into the outer jacket Video ► www.igus.com/CFRIP

Electrical Information

 Nominal voltage	1000 V
 Test voltage	4000 V (following DIN EN 50395)

Configurators ► www.igus.com/CF34-UL-D
















36 month guarantee ... 1,354 types from stock ... no cutting charges

Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	7	≥ 1312 ft
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

Class 6.6.4.2

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 resistance	According to IEC 60332-1-2, FT1, VW-1
 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	1000 V, +90C See data sheet for details ► www.igus.com/CF34-UL-D
 NFFPA 79	Complies to Electrical Standard for Industrial Machinery NFFPA 79 Section 12.9
 DNV-GL	Type approval certificate No. TAE00003X9
 EAC	Certificate No. RU C-DE.ME77.B.02324 (TR ZU)
 CTP	Certificate No. C-DE.PB49.B.00420 (Fire protection)
 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 standardization.
 CE	Following 2014/35/EU

Guaranteed service life (details see page 26-27)

Cycles*	5 million	7.5 million	10 million
Temperature, from/to [°F]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-31/-13	10	11	12
-13/+176	7.5	8.5	9.5
+176/+194	10	11	12

* Higher number of cycles? Online lifetime calculation ► www.chainflex.com/chainflexlife

Typical application areas

- For very high mechanical load requirements, Class 6
- Unsupported travel distances and for gliding applications up to 1312 ft (400 m) and more, Class 6
- Almost unlimited resistance to oil, also with bio-oils, Class 4
- Torsion ±90°, with 3.281ft (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

Guarantee
igus chainflex
36
months

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

CFRIP
igus

UL
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UL
CSA

NFFPA

CTP

REACH

DNV-GL

EAC

CTP

RoHS

Clean-Room

DESINA

CE

Motor cable | TPE | chainflex® CF34-UL-D

Strip cables 50 % faster



Example image

Part No.	AWG	Number of Conductors and rated cross section	Outer diameter max.		Copper index		Weight	
			[mm²]	[in.]	[mm]	[lbs/mft]	[kg/km]	[lbs/mft]
CF34-UL-15-04-D	16	4 G 1.5	0.31	8.0	41.0	61	68.5	102
CF34-UL-25-04-D	14	4 G 2.5	0.39	10.0	67.2	100	106.8	159
CF34-UL-40-04-D	12	4 G 4.0	0.45	11.5	109.5	163	158.6	236
CF34-UL-60-04-D	10	4 G 6.0	0.53	13.5	159.3	237	223.1	332
CF34-UL-60-05-D	10	5 G 6.0	0.59	15.0	199.6	297	272.8	406
CF34-UL-100-04-D	8	4 G 10.0	0.65	16.5	273.5	407	360.8	537
CF34-UL-100-05-D	8	5 G 10.0	0.77	19.5	346.1	515	450.2	670
CF34-UL-160-04-D	6	4 G 16.0	0.79	20.0	434.1	646	550.3	819
CF34-UL-160-05-D	6	5 G 16.0	0.89	22.5	547.7	815	678.0	1009
CF34-UL-250-04-D	4	4 G 25.0	0.96	24.5	681.4	1014	854.1	1271
CF34-UL-100-04-O-PE-D	8	4 x 10.0	0.65	16.5	273.5	407	360.8	537
CF34-UL-160-04-O-PE-D	6	4 x 16.0	0.79	20.0	434.1	646	550.3	819

Note: The given outer diameters are maximum values.
G = with green-yellow earth core x = without earth core

Class 6.6.4.2

Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	7	≥ 1312 ft
none	1	2	3	4	highest			
none	1	2	3	4				±360°

Order example: CF34-UL-15-04-D – To your desired length
CF34-UL-D chainflex® series -15 Code nominal cross section -04 Number of conductors

Online order ► www.chainflex.com/CF34-UL-D

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 now ...
www.igus.com/info/cable-price-check

... just one idea for you: Reduce cost with CF300.UL.D ...

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

CFRIP
IFP
2018

UL
LISTED

UL
US

NFPA

UL
E

UL
DNV-GL
DNV.COM/IFP

EAC

TP

RoHS

Clean-Room

DESINA

CE

Guarantee
igus chainflex
36
up to 36 months guarantee

chainflex®
CONTINUOUS FLEX
CABLE TEST PROCESS
VERIFICATION
UL
igus® 36-month chainflex® cable guarantee and service life calculator based upon 2 billion test cycles per year.

Motor cable | TPE | chainflex® CF35-UL

36 10,000,000
Cycles guaranteed

7.5 x d
Bend radius E-Chain®

1312.4 ft
Travel distance E-Chain®

- For very high mechanical load requirements
- TPE outer jacket
- Shielded
- Oil and bio-oil-resistant
- Flame-retardant
- UV-resistant
- Hydrolysis and microbe-resistant
- Variable Frequency Drive

New conductor insulation with UL 90 °C

Dynamic Information

	Bend radius	E-Chain® linear	min. 7.5 x d
		flexible	min. 6 x d
		fixed	min. 4 x d
	Temperature	E-Chain® linear	-31 °F to +194 °F (-35 °C to +90 °C)
		flexible	-49 °F to +194 °F (-45 °C to +90 °C)
		fixed	-58 °F to +194 °F (-50 °C to +90 °C)
	v max.	unsupported	32.81 ft/s (10 m/s)
		gliding	19.69 ft/s (6 m/s)
	a max.	262.5 ft/s² (80 m/s²)	
	Travel distance	Unsupported travel distances and for gliding applications up to 1312 ft (400 m) and more, Class 6	

Cable structure

	Conductor	20-10 AWG: Conductor consisting of bare copper wires (according to DIN EN 60228). 8-1 AWG: Conductor cable consisting of pre-leads (following DIN EN 60228). Mechanically high-quality, especially low-capacitance XLPE mixture.
	Conductor insulation	Conductors cabled with short pitch length around a high-tensile strength core.
	Conductor construction	Black with white numbers, one conductor green-yellow.
	Color code	1. U / L1 / C / L+ 2. V / L2 3. W / L3 / D / L- 4. 4 / N 5. green/yellow
	Inner jacket	TPE mixture adapted to suit the requirements in E-Chains®.
	Overall shield	Extremely bending-resistant tinned copper braid. 90 % optical coverage
	Outer jacket	Low-adhesion mixture on the basis of TPE, especially abrasion-resistant and highly flexible, adapted to suit the requirements in E-Chains®. Color: Signal black (similar to RAL 9004)
	CFRIP®	Strip 50% faster: a tear strip is molded into the inner jacket Video ► www.igus.com/CFRIP

Configurators ► www.igus.com/CF35-UL

36 month guarantee ... 1,354 types from stock ... no cutting charges



Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	7	≥ 1312 ft
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

Class 6.6.4.1

Electrical Information

	Nominal voltage	1000 V
	Test voltage	4000 V (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 resistance	According to IEC 60332-1-2, FT1, VW-1
	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	1000 V, +90C See data sheet for details ► www.igus.com/CF35-UL
	NFPA 79	Complies to Electrical Standard for Industrial Machinery NFPA 79 Section 12.9
	DNV-GL	Type approval certificate No. TAE00003X9
	EAC	Certificate No. RU C-DE.ME77.B.02324 (TR ZU)
	CTP	Certificate No. C-DE.PB49.B.00420 (Fire protection)
	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 Following 2014/35/EU
	CE	

Guaranteed service life (details see page 26-27)

Cycles*	5 million	7.5 million	10 million
Temperature, from/to [°F]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-31/-13	10	11	12
-13/+176	7.5	8.5	9.5
+176/+194	10	11	12

* Higher number of cycles? Online lifetime calculation ► www.chainflex.com/chainflexlife

Typical application areas

- For very high mechanical load requirements, Class 6
- Unsupported travel distances and for gliding applications up to 1312 ft (400 m) and more, Class 6
- Almost unlimited resistance to oil, also with bio-oils, Class 4
- 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



UL-verified chainflex® guarantee ... www.igus.com/ul-verified



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



Motor cable | TPE | chainflex® CF35-UL

Strip cables 50 % faster

Class 6.6.4.1

Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	7	≥ 1312 ft
none	1	2	3	4	highest			
none	1	2	3	4	±360°			



Example image

Part No.	AWG	Number of Conductors and rated cross section	Outer diameter max.		Copper index		Weight	
			[mm²]	[in.] [mm]	[lbs/mft] [kg/km]	[lbs/mft] [kg/km]		
CF35-UL-05-04	20	4 G 0.5	0.30	7.5	28.2	42	53.1	79
CF35-UL-07-04	18	4 G 0.75	0.31	8.0	39.0	58	60.5	90
CF35-UL-15-04	16	4 G 1.5	0.39	10.0	59.8	89	98.1	146
CF35-UL-25-04	14	4 G 2.5	0.45	11.5	89.4	133	139.1	207
CF35-UL-40-04	12	4 G 4.0	0.51	13.0	136.4	203	194.9	290
CF35-UL-60-04	10	4 G 6.0	0.63	16.0	193.5	288	284.2	423
CF35-UL-100-04	8	4 G 10.0	0.73	18.5	314.5	468	424.7	632
CF35-UL-160-04	6	4 G 16.0	0.91	23.0	495.9	738	654.5	974
CF35-UL-250-04	4	4 G 25.0	1.08	27.5	774.8	1153	995.2	1481
CF35-UL-60-03-O-PE ¹⁾	10	3 x 6.0	0.57	14.5	153.9	229	231.2	344
CF35-UL-250-03-O-PE ¹⁾	4	3 x 25.0	0.96	24.5	591.3	880	781.5	1163

¹⁾ Phase-out model

Note: The given outer diameters are maximum values.
G = with green-yellow earth core x = without earth core

Order example: CF35-UL-05-04 – To your desired length
CF35-UL chainflex® series -05 Code nominal cross section -04 Number of conductors

Online order ► www.chainflex.com/CF35-UL

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 now ...
www.igus.com/info/cable-price-check

... just one idea for you: Reduce cost with CF310.UL ...

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



Guarantee
igus chainflex
36
up to 36 months guarantee

chainflex
CONTINUOUS FLEX
CABLE TEST PROCESS
VERIFICATION

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

UL
VERIFIED
B129699

Motor cable | TPE | chainflex® CF37-D

36 10,000,000
Cycles guaranteed

7.5 x d
Bend radius E-Chain®

1312.4 ft
Travel distance E-Chain®

- For maximum mechanical load requirements
- TPE outer jacket
- Oil and bio-oil-resistant
- PVC and halogen-free
- UV-resistant
- Hydrolysis and microbe-resistant

Dynamic Information

Bend radius	E-Chain® linear	min. 7.5 x d
	flexible	min. 6 x d
	fixed	min. 4 x d
Temperature	E-Chain® linear	-31 °F to +194 °F (-35 °C to +90 °C)
	flexible	-58 °F to +194 °F (-50 °C to +90 °C)
	fixed	-67 °F to +194 °F (-55 °C to +90 °C)
v max.	unsupported	32.81 ft/s (10 m/s)
	gliding	19.69 ft/s (6 m/s)
a max.		262.5 ft/s ² (80 m/s ²)
Travel distance		Unsupported travel distances and for gliding applications up to 1312 ft (400 m) and more, Class 6
Torsion		Torsion ±90°, with 3.281ft (1m) cable length, Class 2

Cable structure

Conductor	16-10 AWG: Conductor consisting of bare copper wires (according to DIN EN 60228). 8-1 AWG: Conductor cable consisting of pre-leads (following DIN EN 60228).
Conductor insulation	Mechanically high-quality, especially low-capacitance XLPE mixture.
Conductor construction	Conductors cabled with short pitch length around a high-tensile strength core.
Color code	Black with white numbers, one conductor green-yellow. 1. U / L1 / C / L+ 2. V / L2 3. W / L3 / D / L- 4. 4 / N 5. green/yellow
Outer jacket	Low-adhesion mixture on the basis of TPE, especially abrasion-resistant and highly flexible, adapted to suit the requirements in E-Chains®. Color: Jet black (similar to RAL 9005)
CFRIP®	Strip 50% faster: a tear strip is molded into the outer jacket Video ► www.igus.com/CFRIP

Electrical Information

Nominal voltage	600 V
Test voltage	4000 V (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

Example image

36 month guarantee ... 1,354 types from stock ... no cutting charges



Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	7	≥ 1312 ft
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

Class 7.6.4.2

- 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
Certificate No. RU C-DE.ME77.B.02324 (TR ZU)
- EAC**
- 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 standardization.
- CE** Following 2014/35/EU

Guaranteed service life (details see page 26-27)

Cycles*	5 million	7.5 million	10 million
Temperature, from/to [°F]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-31/-13	10	11	12
-13/+176	7.5	8.5	9.5
+176/+194	10	11	12

* Higher number of cycles? Online lifetime calculation ► www.chainflex.com/chainflexlife

Typical application areas

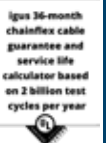
- For maximum mechanical load requirements, Class 7
- Unsupported travel distances and for gliding applications up to 1312 ft (400 m) and more, Class 6
- Almost unlimited resistance to oil, also with bio-oils, Class 4
- Torsion ±90°, with 3.281ft (1m) cable length, Class 2
- Indoor and outdoor applications, 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.	AWG	Number of Conductors and rated cross section	Outer diameter max.		Copper index		Weight	
			[mm ²]	[in.]	[mm]	[lbs/mft]	[kg/km]	[lbs/mft]
CF37-15-04-D	16	4 G 1.5	0.31	8.0	41.0	61	63.8	95
CF37-25-04-D	14	4 G 2.5	0.39	10.0	67.2	100	100.1	149
CF37-40-04-D	12	4 G 4.0	0.45	11.5	109.5	163	148.5	221
CF37-60-04-D	10	4 G 6.0	0.53	13.5	159.3	237	213.0	317
CF37-60-05-D	10	5 G 6.0	0.59	15.0	199.6	297	260.1	387
CF37-100-04-D	8	4 G 10.0	0.65	16.5	273.5	407	338.0	503
CF37-100-05-D	8	5 G 10.0	0.75	19.0	346.1	515	426.0	634
CF37-160-04-D	6	4 G 16.0	0.79	20.0	434.1	646	519.4	773
CF37-160-05-D	6	5 G 16.0	0.89	22.5	547.7	815	647.1	963
CF37-250-04-D	4	4 G 25.0	0.94	24.0	681.4	1014	808.4	1203
CF37-500-03-O-PE-D	1	3 x 50.0	1.18	30.0	1028.1	1530	1227.0	1826

Note: The given outer diameters are maximum values.
G = with green-yellow earth core x = without earth core



UL-verified chainflex® guarantee ... www.igus.com/ul-verified



Motor cable | TPE | chainflex® CF38

36 10,000,000
Cycles guaranteed






7.5 x d
Bend radius E-Chain®

1312.4 ft
Travel distance E-Chain®





- For maximum mechanical load requirements
- TPE outer jacket
- Shielded
- Oil and bio-oil-resistant





- PVC and halogen-free
- UV-resistant
- Hydrolysis and microbe-resistant
- Variable Frequency Drive

Dynamic Information



 Bend radius	E-Chain® linear flexible	min. 7.5 x d min. 6 x d
	fixed	min. 4 x d
 Temperature	E-Chain® linear flexible	-31 °F to +194 °F (-35 °C to +90 °C) -58 °F to +194 °F (-50 °C to +90 °C)
	fixed	-67 °F to +194 °F (-55 °C to +90 °C)
 v max.	unsupported	32.81 ft/s (10 m/s)
	gliding	19.69 ft/s (6 m/s)
 a max.		262.5 ft/s ² (80 m/s ²)
 Travel distance		Unsupported travel distances and for gliding applications up to 1312 ft (400 m) and more, Class 6

Cable structure

 Conductor	16 - 10 AWG: Conductor consisting of bare copper wires (according to DIN EN 60228). 8 - 1 AWG: Conductor cable consisting of pre-leads (following DIN EN 60228).
 Conductor insulation	Mechanically high-quality, especially low-capacitance XLPE mixture.
 Conductor construction	Conductors cabled with short pitch length around a high-tensile strength core.
 Color code	Black with white numbers, one conductor green-yellow. 1. U / L1 / C / L+ 2. V / L2 3. W / L3 / D / L- 4. 4 / N 5. green/yellow

 Inner jacket	TPE mixture adapted to suit the requirements in E-Chains®.
 Overall shield	Extremely bending-resistant tinned copper braid. 90 % optical coverage
 Outer jacket	Low-adhesion mixture on the basis of TPE, especially abrasion-resistant and highly flexible, adapted to suit the requirements in E-Chains®. Color: Jet black (similar to RAL 9005)
 CFRIP®	Strip 50% faster: a tear strip is molded into the inner jacket Video ► www.igus.com/CFRIP

Electrical Information

 Nominal voltage	600 V
 Test voltage	4000 V (following DIN EN 50395)

Configurators ► www.igus.com/CF38











36 month guarantee ... 1,354 types from stock ... no cutting charges

Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

Class 7.6.4.1

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 Certificate No. RU C-DE.ME77.B.02324 (TR ZU)
 EAC	
 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

Guaranteed service life (details see page 26-27)

Cycles*	5 million	7.5 million	10 million
Temperature, from/to [°F]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-31/-13	10	11	12
-13/+176	7.5	8.5	9.5
+176/+194	10	11	12

* Higher number of cycles? Online lifetime calculation ► www.chainflex.com/chainflexlife

Typical application areas

- For maximum mechanical load requirements, Class 7
- Unsupported travel distances and for gliding applications up to 1312 ft (400 m) and more, Class 6
- Almost unlimited resistance to oil, also with bio-oils, Class 4
- 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

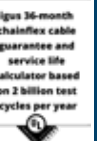
Part No.	AWG	Number of Conductors and rated cross section	Outer diameter max.		Copper index		Weight	
			[in.]	[mm]	[lbs/mft]	[kg/km]	[lbs/mft]	[kg/km]
CF38-15-04	16	4 G 1.5	0.39	10.0	59.8	89	94.1	140
CF38-25-04	14	4 G 2.5	0.45	11.5	89.4	133	133.0	198
CF38-40-04	12	4 G 4.0	0.51	13.0	136.4	203	188.2	280
CF38-60-04	10	4 G 6.0	0.63	16.0	193.5	288	274.8	409
CF38-100-04	8	4 G 10.0	0.73	18.5	314.5	468	411.9	613
CF38-160-04	6	4 G 16.0	0.91	23.0	495.9	738	633.7	943
CF38-250-04	4	4 G 25.0	1.06	27.0	774.8	1153	962.3	1432
CF38-100-03-O-PE	8	3 x 10.0	0.67	17.0	240.6	358	332.0	494
CF38-160-03-O-PE¹¹⁾	6	3 x 16.0	0.81	20.5	379.7	565	512.0	762
CF38-500-03-O-PE	1	3 x 50.0	1.30	33.0	1151.8	1714	1430.6	2129

¹¹⁾ Phase-out model

Note: The given outer diameters are maximum values.
G = with green-yellow earth core x = without earth core



UL-verified chainflex® guarantee ... www.igus.com/ul-verified



Spindle cable/Single core | PVC | chainflex® CF885

36 5,000,000 Cycles guaranteed
15 x d Bend radius E-Chain®
32.8 ft Travel distance E-Chain®

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

Dynamic Information

	Bend radius	E-Chain® linear	min. 15 x d
		flexible	min. 12 x d
		fixed	min. 8 x d
	Temperature	E-Chain® linear	+41 °F to +158 °F (+5 °C to +70 °C)
		flexible	+23 °F to +158 °F (-5 °C to +70 °C)
		fixed	+5 °F to +158 °F (-15 °C to +70 °C)
	v max.	unsupported	9.84 ft/s (3 m/s)
	a max.		65.6 ft/s ² (20 m/s ²)
	Travel distance		Unsupported travel distances up to 32.8 ft (10 m), Class 1

Cable structure

	Conductor	Conductor consisting of bare copper wires (according to DIN EN 60228).
	Conductor insulation	Mechanically high-quality PVC mixture.
	Outer jacket	Low-adhesion mixture on the basis of PVC, adapted to suit the requirements in E-Chains®. Color: Orange (similar to RAL 2003)

Electrical Information

	Nominal voltage	600 V
	Test voltage	4000 V (following DIN EN 50395)

Properties and approvals

	Flame resistance	According to IEC 60332-1-2, FT1, VW-1
	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	600 V, +80C See data sheet for details ► www.igus.com/CF885

Basic requirements	low	1	2	3	4	5	6	7	highest
Travel distance	unsupported	1	2	3	4	5	6	≥ 1312 ft	
Oil resistance	none	1	2	3	4	highest			
Torsion	none	1	2	3	4	±360°			

Class 3.1.1.1

	NFPA 79	Complies to Electrical Standard for Industrial Machinery NFPA 79 Section 12.9
	EAC	Certificate No. RU C-DE.ME77.B.00302/19 (TR ZU)
	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

Guaranteed service life (details see page 26-27)

Cycles*	1 million	3 million	5 million
Temperature, from/to [°F]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
+41/+59	17.5	18.5	19.5
+59/+140	15	16	17
+140/+158	17.5	18.5	19.5

* Higher number of cycles? Online lifetime calculation ► www.chainflex.com/chainflexlife

Typical application areas

- For low duty flexing applications, Class 3
- Especially for unsupported travels, Class 1
- Without influence of oil, Class 1
- Preferably indoor applications
- Wood/stone processing, Packaging industry, supply systems, Handling, adjusting equipment

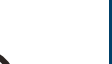
Part No.	AWG	Number of Conductors and rated cross section	Outer diameter max.		Copper index		Weight	
			[mm ²]	[in.] [mm]	[lbs/mft] [kg/km]	[lbs/mft] [kg/km]		
CF885-40-01	12	1 x 4.0	0.30	7.5	27.6	41	52.4	78
CF885-60-01	10	1 x 6.0	0.31	8.0	41.0	61	67.2	100
CF885-100-01	8	1 x 10.0	0.37	9.5	67.2	100	105.5	157
CF885-160-01	6	1 x 16.0	0.45	11.5	106.8	159	159.3	237
CF885-250-01	4	1 x 25.0	0.49	12.5	166.6	248	218.4	325
CF885-350-01	2	1 x 35.0	0.59	15.0	233.2	347	318.5	474
CF885-500-01	1	1 x 50.0	0.65	16.5	332.6	495	432.7	644
CF885-700-01 ¹⁾	2/0	1 x 70.0	0.73	18.5	461.0	686	567.1	844
CF885-950-01 ¹⁾	3/0	1 x 95.0	0.81	20.5	625.6	931	688.1	1024

¹⁾ Phase-out model

Note: The given outer diameters are maximum values.
G = with green-yellow earth core x = without earth core

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



Example image
igus® chainflex® CF885

Configurators ► www.igus.com/CF885

36 month guarantee ... 1,354 types from stock ... no cutting charges



UL-verified chainflex® guarantee ... www.igus.com/ul-verified

Spindle cable/Single core | PVC | chainflex® CF885-PE

36 5,000,000 Cycles guaranteed
15 x d Bend radius E-Chain®
32.8 ft Travel distance E-Chain®

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

Dynamic Information

	Bend radius	E-Chain® linear	min. 15 x d
		flexible	min. 12 x d
		fixed	min. 8 x d
	Temperature	E-Chain® linear	+41 °F to +158 °F (+5 °C to +70 °C)
		flexible	+23 °F to +158 °F (-5 °C to +70 °C)
		fixed	+5 °F to +158 °F (-15 °C to +70 °C)
	v max.	unsupported	9.84 ft/s (3 m/s)
	a max.		65.6 ft/s² (20 m/s²)
	Travel distance		Unsupported travel distances up to 32.8 ft (10 m), Class 1

Cable structure

	Conductor	Conductor consisting of bare copper wires (according to DIN EN 60228).
	Conductor insulation	Mechanically high-quality PVC mixture.
	Color code	Green-yellow
	Outer jacket	Low-adhesion mixture on the basis of PVC, adapted to suit the requirements in E-Chains®. Color: Orange (similar to RAL 2003)

Electrical Information

	Nominal voltage	600 V
	Test voltage	4000 V (following DIN EN 50395)

Properties and approvals

	Flame resistance	According to IEC 60332-1-2, FT1, VW-1
	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	600 V, +80C See data sheet for details ► www.igus.com/CF885-PE

Configurators ► www.igus.com/CF885-PE

36 month guarantee ... 1,354 types from stock ... no cutting charges



Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

Class 3.1.1.1

	NFFPA 79	Complies to Electrical Standard for Industrial Machinery NFFPA 79 Section 12.9
	EAC	Certificate No. RU C-DE.ME77.B.00302/19 (TR ZU)
	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

Guaranteed service life (details see page 26-27)

Cycles*	1 million	3 million	5 million
Temperature, from/to [°F]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
+41/+59	17.5	18.5	19.5
+59/+140	15	16	17
+140/+158	17.5	18.5	19.5

* Higher number of cycles? Online lifetime calculation ► www.chainflex.com/chainflexlife

Typical application areas

- For low duty flexing applications, Class 3
- Especially for unsupported travels, Class 1
- Without influence of oil, Class 1
- Preferably indoor applications
- Wood/stone processing, Packaging industry, supply systems, Handling, adjusting equipment

Part No.	AWG	Number of Conductors and rated cross section	Outer diameter max.		Copper index		Weight	
			[mm²]	[in.] [mm]	[lbs/mft] [kg/km]	[lbs/mft] [kg/km]		
CF885-PE-25-01	14	1 G 2.5	0.26	6.5	16.8	25	39.6	59
CF885-PE-40-01	12	1 G 4.0	0.30	7.5	41.0	61	55.8	83
CF885-PE-60-01	10	1 G 6.0	0.31	8.0	41.0	61	67.2	100
CF885-PE-100-01	8	1 G 10.0	0.37	9.5	67.2	100	104.2	155
CF885-PE-160-01	6	1 G 16.0	0.43	11.0	106.8	159	151.9	226
CF885-PE-250-01	4	1 G 25.0	0.49	12.5	166.6	248	229.8	342

Note: The given outer diameters are maximum values.
G = with green-yellow earth core x = without earth core

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

CFRIP
UL LISTED
UL US
NFFPA
EAC
RoHS
China RoHS
UL
CE

Guarantee
igus chainflex
36
up to 36 months guarantee

chainflex
CONTINUOUS FLEX
CABLE TEST PROCESS
VERIFICATION
UL
igus 36-month chainflex® cable guarantee and service life calculator based upon 2 billion test cycles per year.
B129699

Spindle cable/Single core | PVC | chainflex® CF886

36 5,000,000 Cycles guaranteed
15 x d Bend radius E-Chain®
32.8 ft Travel distance E-Chain®

- For low duty flexing applications
- PVC outer jacket
- Shielded
- Flame-retardant
- Variable Frequency Drives

Dynamic Information

	Bend radius	E-Chain® linear flexible	min. 15 x d min. 12 x d
		fixed	min. 8 x d
	Temperature	E-Chain® linear flexible	+41 °F to +158 °F (+5 °C to +70 °C) +23 °F to +158 °F (-5 °C to +70 °C)
		fixed	+5 °F to +158 °F (-15 °C to +70 °C)
	v max.	unsupported	9.84 ft/s (3 m/s)
	a max.		65.6 ft/s² (20 m/s²)
	Travel distance		Unsupported travel distances up to 32.8 ft (10 m), Class 1

Cable structure

	Conductor	Conductor consisting of bare copper wires (according to DIN EN 60228).
	Conductor insulation	Mechanically high-quality PVC mixture.
	Overall shield	aluminum/polyester tape and tinned cooper braid. 60 % optical coverage
	Outer jacket	Low-adhesion mixture on the basis of PVC, adapted to suit the requirements in E-Chains®. Color: Orange (similar to RAL 2003)

Electrical Information

	Nominal voltage	600 V
	Test voltage	4000 V (following DIN EN 50395)

Properties and approvals

	Flame resistance	According to IEC 60332-1-2, FT1, VW-1
	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	600 V, +80C See data sheet for details ► www.igus.com/CF886
	NFPA 79	Complies to Electrical Standard for Industrial Machinery NFPA 79 Section 12.9

Configurators ► www.igus.com/CF886

36 month guarantee ... 1,354 types from stock ... no cutting charges



Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

Class 3.1.1.1



Certificate No. RU C-DE.ME77.B.00302/19 (TR ZU)



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



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



Following 2014/35/EU

Guaranteed service life (details see page 26-27)

Cycles*	1 million	3 million	5 million
Temperature, from/to [°F]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
+41/+59	17.5	18.5	19.5
+59/+140	15	16	17
+140/+158	17.5	18.5	19.5

* Higher number of cycles? Online lifetime calculation ► www.chainflex.com/chainflexlife

Typical application areas

- For low duty flexing applications, Class 3
- Especially for unsupported travels, Class 1
- Without influence of oil, Class 1
- Preferably indoor applications
- Wood/stone processing, Packaging industry, supply systems, Handling, adjusting equipment

Part No.	AWG	Number of Conductors and rated cross section	Outer diameter max.		Copper index		Weight	
			[in.]	[mm]	[lbs/mft]	[kg/km]	[lbs/mft]	[kg/km]
CF886-160-01	6	1 x 16.0	0.45	11.5	125.0	186	176.1	262
CF886-250-01	4	1 x 25.0	0.51	13.0	188.2	280	243.9	363
CF886-350-01	2	1 x 35.0	0.61	15.5	264.8	394	359.5	535

Note: The given outer diameters are maximum values.
G = with green-yellow earth core x = without earth core

cost down...

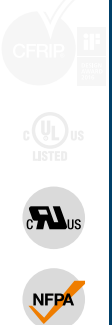


...life up

Reduce cost, improve technology, now!

Do the chainflex® price check now ...
www.igus.com/info/cable-price-check

... just one idea for you: Reduce bend radius with CF340 ...



Example image

igus® chainflex® CF886

Spindle cable/Single core | PUR | chainflex® CF270-UL-D

36 Cycles guaranteed
10 x d Bend radius E-Chain®
32.8 ft Travel distance E-Chain®

- For medium mechanical load requirements
- PUR outer jacket
- Shielded
- Oil-resistant and coolant-resistant
- Notch-resistant
- Flame-retardant
- Hydrolysis and microbe-resistant
- PVC and halogen-free
- Variable Frequency Drives

Dynamic Information

Bend radius	E-Chain® linear flexible	min. 10 x d min. 8 x d
	fixed	min. 5 x d
Temperature	E-Chain® linear flexible	-13 °F to +176 °F (-25 °C to +80 °C) -40 °F to +176 °F (-40 °C to +80 °C)
	fixed	-58 °F to +176 °F (-50 °C to +80 °C)
v max.	unsupported	32.81 ft/s (10 m/s)
	gliding	6.56 ft/s (2 m/s)
a max.		164.1 ft/s² (50 m/s²)
Travel distance		Unsupported travel distances and for gliding applications up to 32.8 ft (10 m), Class 2

Cable structure

Conductor	Conductor cable consisting of pre-leads (following DIN EN 60228).
Conductor insulation	Mechanically high-quality, especially low-capacitance XLPE mixture.
Overall shield	Bending-resistant tinned copper braid. 80 % optical coverage
Outer jacket	Low-adhesion, halogen-free, highly abrasion-resistant mixture on the basis of PUR, adapted to suit the requirements in E-Chains® (following DIN EN 50363-10-2). Color: Orange (similar to RAL 2003)

Electrical Information

Nominal voltage	1000 V
Test voltage	4000 V (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 2009
Flame resistance	According to IEC 60332-1-2, FT1, VW-1
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)

Configurators ► www.igus.com/CF270-UL-D

36 month guarantee ... 1,354 types from stock ... no cutting charges



Basic requirements
 Travel distance
 Oil resistance
 Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

Class 4.2.3.1

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
1000 V, +80C
See data sheet for details ► www.igus.com/CF270-UL-D
Complies to Electrical Standard for Industrial Machinery NFPA 79 Section 12.9

UL/CSA AWM

NFPA 79 Certificate No. RU C-DE.ME77.B.02324 (TR ZU)

EAC Certificate No. C-DE.PB49.B.00420 (Fire protection)

CTP

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
According to VDW, DESINA standardization.

DESINA

CE Following 2014/35/EU

Guaranteed service life (details see page 26-27)

Cycles*	5 million	7.5 million	10 million
Temperature, from/to [°F]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-13/+5	12.5	13.5	14.5
+5/+158	10	11	12
+158/+176	12.5	13.5	14.5

* Higher number of cycles? Online lifetime calculation ► www.chainflex.com/chainflexlife

Typical application areas

- For medium mechanical load requirements, Class 4
- Unsupported travel distances and for gliding applications up to 33 ft (10 m), Class 2
- Almost unlimited resistance to oil, Class 3
- Indoor and outdoor applications without direct sun radiation
- Machining units/machine tools, low temperature applications

Part No.	AWG	Number of Conductors and rated cross section	Outer diameter max.		Copper index		Weight	
			[in.]	[mm]	[lbs/mft]	[kg/km]	[lbs/mft]	[kg/km]
CF270-UL-60-01-D	10	1 x 6.0	0.30	7.5	48.4	72	63.8	95
CF270-UL-100-01-D	8	1 x 10.0	0.33	8.5	76.6	114	97.4	145
CF270-UL-160-01-D	6	1 x 16.0	0.37	9.5	119.6	178	140.4	209
CF270-UL-250-01-D	4	1 x 25.0	0.43	11.0	180.8	269	204.3	304
CF270-UL-350-01-D	2	1 x 35.0	0.51	13.0	251.3	374	281.6	419
CF270-UL-500-01-D	1	1 x 50.0	0.59	15.0	352.8	525	389.1	579
CF270-UL-700-01-D	2/0	1 x 70.0	0.67	17.0	504.6	751	540.3	804

Note: The given outer diameters are maximum values.
 G = with green-yellow earth core x = without earth core



UL-verified chainflex® guarantee ... www.igus.com/ul-verified

Guarantee
 igus chainflex
36
 months
 2 billion test cycles

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

CTP

UL/CSA AWM

NFPA

EAC

CTP

REACH

RoHS

Clean-Room

DESINA

CE

Example image

igus® chainflex® CF270UL-D

Spindle cable/Single core | TPE | chainflex® CF300-UL-D

36 10,000,000 Cycles guaranteed
7.5 x d Bend radius E-Chain®
1312.4 ft Travel distance E-Chain®

- For very high mechanical load requirements
- TPE outer jacket
- Oil and bio-oil-resistant
- Flame-retardant
- UV-resistant
- Hydrolysis and microbe-resistant

Dynamic Information

Bend radius	E-Chain® linear	min. 7.5 x d
	flexible	min. 6 x d
	fixed	min. 4 x d
Temperature	E-Chain® linear	-31 °F to +194 °F (-35 °C to +90 °C)
	flexible	-49 °F to +194 °F (-45 °C to +90 °C)
	fixed	-58 °F to +194 °F (-50 °C to +90 °C)
v max.	unsupported	32.81 ft/s (10 m/s)
	gliding	19.69 ft/s (6 m/s)
a max.		328.1 ft/s² (100 m/s²)
Travel distance		Unsupported travel distances and for gliding applications up to 1312 ft (400 m) and more, Class 6
Torsion		Torsion ±90°, with 3.281ft (1m) cable length, Class 2

Cable structure

Conductor	Conductor cable consisting of pre-leads (following DIN EN 60228).
Conductor insulation	Mechanically high-quality TPE mixture.
Outer jacket	Low-adhesion mixture on the basis of TPE, especially abrasion-resistant and highly flexible, adapted to suit the requirements in E-Chains®. Color: Signal black (similar to RAL 9004)

Electrical Information

Nominal voltage	1000 V
Test voltage	4000 V (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 resistance	According to IEC 60332-1-2, FT1, VW-1
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	1000 V, +80C See data sheet for details ► www.igus.com/CF300-UL-D
NFPA 79	Complies to Electrical Standard for Industrial Machinery NFPA 79 Section 12.9

Basic requirements	low	1	2	3	4	5	6	7	highest
Travel distance	unsupported	1	2	3	4	5	6	≥ 1312 ft	
Oil resistance	none	1	2	3	4	highest			
Torsion	none	1	2	3	4	±360°			

Class 6.6.4.2

DNV-GL	Type approval certificate No. TAE00003XC
EAC	Certificate No. RU C-DE.ME77.B.02324 (TR ZU)
CTP	Certificate No. C-DE.PB49.B.00420 (Fire protection)
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 standardization.
CE	Following 2014/35/EU

Guaranteed service life (details see page 26-27)

Cycles*	5 million	7.5 million	10 million
Temperature, from/to [°F]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-31/-13	10	11	12
-13/+176	7.5	8.5	9.5
+176/+194	10	11	12

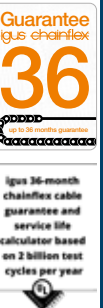
* Higher number of cycles? Online lifetime calculation ► www.chainflex.com/chainflexlife

Typical application areas

- For very high mechanical load requirements, Class 6
- Unsupported travel distances and for gliding applications up to 1312 ft (400 m) and more, Class 6
- Almost unlimited resistance to oil, also with bio-oils, Class 4
- Torsion ±90°, with 3.281ft (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.	AWG	Number of Conductors and rated cross section	Outer diameter max.		Copper index		Weight	
			[mm²]	[in.] [mm]	[lbs/mft] [kg/km]	[lbs/mft] [kg/km]		
CF300-UL-40-01-D	12	1 x 4.0	0.24	6.0	27.6	41	39.6	59
CF300-UL-60-01-D	10	1 x 6.0	0.28	7.0	41.0	61	55.8	83
CF300-UL-100-01-D	8	1 x 10.0	0.30	7.5	67.2	100	83.3	124
CF300-UL-160-01-D	6	1 x 16.0	0.37	9.5	106.8	159	131.0	195
CF300-UL-250-01-D	4	1 x 25.0	0.45	11.5	166.6	248	197.6	294
CF300-UL-350-01-D	2	1 x 35.0	0.49	12.5	233.2	347	265.4	395
CF300-UL-500-01-D	1	1 x 50.0	0.57	14.5	332.6	495	370.3	551
CF300-UL-700-01-D	2/0	1 x 70.0	0.65	16.5	477.1	710	516.7	769
CF300-UL-950-01-D	3/0	1 x 95.0	0.79	20.0	629.0	936	700.2	1042
CF300-UL-1200-01-D	4/0	1 x 120.0	0.85	21.5	795.6	1184	870.2	1295
CF300-UL-1500-01-D	300	1 x 150.0	0.93	23.5	987.1	1469	1061.0	1579
CF300-UL-1850-01-D	350	1 x 185.0	1.04	26.5	1295.6	1928	1378.9	2052

Note: The given outer diameters are maximum values.
G = with green-yellow earth core x = without earth core



Example image

Spindle cable/Single core | TPE | chainflex® CFPE

36 10,000,000
Cycles guaranteed

7.5 x d
Bend radius E-Chain®

1312.4 ft
Travel distance E-Chain®

- For very high mechanical load requirements
- TPE outer jacket
- Oil and bio-oil-resistant
- Flame-retardant
- UV-resistant
- Hydrolysis and microbe-resistant

Dynamic Information

	Bend radius	E-Chain® linear	min. 7.5 x d
		flexible	min. 6 x d
		fixed	min. 4 x d
	Temperature	E-Chain® linear	-31 °F to +194 °F (-35 °C to +90 °C)
		flexible	-49 °F to +194 °F (-45 °C to +90 °C)
		fixed	-58 °F to +194 °F (-50 °C to +90 °C)
	v max.	unsupported	32.81 ft/s (10 m/s)
		gliding	19.69 ft/s (6 m/s)
	a max.		328.1 ft/s² (100 m/s²)
	Travel distance		Unsupported travel distances and for gliding applications up to 1312 ft (400 m) and more, Class 6
	Torsion		Torsion ±90°, with 3.281ft (1m) cable length, Class 2

Cable structure

	Conductor	Conductor cable consisting of pre-leads (following DIN EN 60228).
	Conductor insulation	Mechanically high-quality TPE mixture.
	Color code	Green-yellow
	Outer jacket	Low-adhesion mixture on the basis of TPE, especially abrasion-resistant and highly flexible, adapted to suit the requirements in E-Chains®. Color: Signal black (similar to RAL 9004)

Electrical Information

	Nominal voltage	1000 V
	Test voltage	4000 V (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 resistance	According to IEC 60332-1-2, FT1, VW-1
	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	1000 V, +80C See data sheet for details ► www.igus.com/CFPE

Basic requirements	low	1	2	3	4	5	6	7	highest
Travel distance	unsupported	1	2	3	4	5	6	≥ 1312 ft	
Oil resistance	none	1	2	3	4	highest			
Torsion	none	1	2	3	4	±360°			

Class 6.6.4.2

	NFPA 79	Complies to Electrical Standard for Industrial Machinery NFPA 79 Section 12.9
	DNV-GL	Type approval certificate No. TAE00003XC
	EAC	Certificate No. RU C-DE.ME77.B.02324 (TR ZU)
	CTP	Certificate No. C-DE.PB49.B.00420 (Fire protection)
	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

Guaranteed service life (details see page 26-27)

Cycles*	5 million	7.5 million	10 million
Temperature, from/to [°F]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-31/-13	10	11	12
-13/+176	7.5	8.5	9.5
+176/+194	10	11	12

* Higher number of cycles? Online lifetime calculation ► www.chainflex.com/chainflexlife

Typical application areas

- For very high mechanical load requirements, Class 6
- Unsupported travel distances and for gliding applications up to 1312 ft (400 m) and more, Class 6
- Almost unlimited resistance to oil, also with bio-oils, Class 4
- Torsion ±90°, with 3.281ft (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.	AWG	Number of Conductors and rated cross section	Outer diameter max.		Copper index		Weight	
			[in.]	[mm]	[lbs/mft]	[kg/km]	[lbs/mft]	[kg/km]
CFPE-15-01	16	1 G 1.5	0.18	4.5	10.8	16	20.8	31
CFPE-25-01	14	1 G 2.5	0.22	5.5	16.8	25	28.2	42
CFPE-40-01	12	1 G 4.0	0.24	6.0	27.6	41	39.6	59
CFPE-60-01	10	1 G 6.0	0.28	7.0	41.0	61	55.8	83
CFPE-100-01	8	1 G 10.0	0.30	7.5	67.2	100	83.3	124
CFPE-160-01	6	1 G 16.0	0.37	9.5	106.8	159	131.0	195
CFPE-250-01	4	1 G 25.0	0.45	11.5	166.6	248	197.6	294
CFPE-350-01	2	1 G 35.0	0.49	12.5	233.2	347	265.4	395
CFPE-500-01	1	1 G 50.0	0.57	14.5	332.6	495	370.3	551
CFPE-700-01	2/0	1 G 70.0	0.65	16.5	487.2	725	546.3	813
CFPE-950-01	3/0	1 G 95.0	0.79	20.0	629.0	936	725.7	1080

Note: The given outer diameters are maximum values.
G = with green-yellow earth core x = without earth core



Example image

Spindle cable/Single core | TPE | chainflex® CF310-UL

36 10,000,000
Cycles guaranteed

7.5 x d
Bend radius E-Chain®

1312.4 ft
Travel distance E-Chain®

- For very high mechanical load requirements
- TPE outer jacket
- Shielded
- Oil and bio-oil-resistant
- Flame-retardant
- UV-resistant
- Hydrolysis and microbe-resistant
- Variable Frequency Drives

Dynamic Information

	Bend radius	E-Chain® linear	min. 7.5 x d
		flexible	min. 6 x d
	Temperature	E-Chain® linear	-31 °F to +194 °F (-35 °C to +90 °C)
		flexible	-49 °F to +194 °F (-45 °C to +90 °C)
		fixed	-58 °F to +194 °F (-50 °C to +90 °C)
	v max.	unsupported	32.81 ft/s (10 m/s)
		gliding	19.69 ft/s (6 m/s)
	a max.	328.1 ft/s² (100 m/s²)	
	Travel distance	Unsupported travel distances and for gliding applications up to 1312 ft (400 m) and more, Class 6	

Cable structure

	Conductor	Conductor cable consisting of pre-leads (following DIN EN 60228).
	Conductor insulation	Mechanically high-quality TPE mixture.
	Overall shield	Extremely bending-resistant tinned copper braid. 90 % optical coverage
	Outer jacket	Low-adhesion mixture on the basis of TPE, especially abrasion-resistant and highly flexible, adapted to suit the requirements in E-Chains®. Color: Signal black (similar to RAL 9004)

Electrical Information

	Nominal voltage	1000 V
	Test voltage	4000 V (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 resistance	According to IEC 60332-1-2, FT1, VW-1
	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	1000 V, +80C See data sheet for details ► www.igus.com/CF310-UL

Configurators ► www.igus.com/CF310-UL

36 month guarantee ... 1,354 types from stock ... no cutting charges



Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	7	≥ 1312 ft
none	1	2	3	4	highest			
none	1	2	3	4				±360°

Class 6.6.4.1

- NFPA 79
- DNV-GL
- EAC
- CTP
- REACH
- Lead-free
- Cleanroom
- CE

Complies to Electrical Standard for Industrial Machinery NFPA 79 Section 12.9

Type approval certificate No. TAE00003XC

Certificate No. RU C-DE.ME77.B.02324 (TR ZU)

Certificate No. C-DE.PB49.B.00420 (Fire protection)

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

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

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

Following 2014/35/EU

Guaranteed service life (details see page 26-27)

Cycles*	5 million	7.5 million	10 million
Temperature, from/to [°F]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-31/-13	10	11	12
-13/+176	7.5	8.5	9.5
+176/+194	10	11	12

* Higher number of cycles? Online lifetime calculation ► www.chainflex.com/chainflexlife

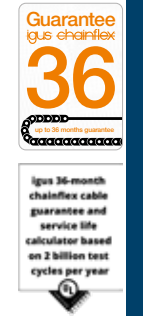
Typical application areas

- For very high mechanical load requirements, Class 6
- Unsupported travel distances and for gliding applications up to 1312 ft (400 m) and more, Class 6
- Almost unlimited resistance to oil, also with bio-oils, Class 4
- 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.	AWG	Number of Conductors and rated cross section	Outer diameter max.		Copper index		Weight	
			[mm²]	[in.] [mm]	[lbs/mft] [kg/km]	[lbs/mft] [kg/km]		
CF310-UL-25-01	14	1 x 2.5	0.24	6.0	27.6	41	39.0	58
CF310-UL-40-01	12	1 x 4.0	0.26	6.5	38.3	57	51.7	77
CF310-UL-60-01	10	1 x 6.0	0.28	7.0	53.8	80	67.9	101
CF310-UL-100-01	8	1 x 10.0	0.33	8.5	81.3	121	98.1	146
CF310-UL-160-01	6	1 x 16.0	0.39	10.0	123.6	184	149.8	223
CF310-UL-250-01	4	1 x 25.0	0.47	12.0	188.2	280	221.1	329
CF310-UL-350-01	2	1 x 35.0	0.51	13.0	265.4	395	298.4	444
CF310-UL-500-01	1	1 x 50.0	0.59	15.0	360.2	536	394.4	587
CF310-UL-700-01	2/0	1 x 70.0	0.71	18.0	523.5	779	571.8	851
CF310-UL-950-01	3/0	1 x 95.0	0.83	21.0	682.0	1015	756.0	1125
CF310-UL-1200-01	4/0	1 x 120.0	0.87	22.0	853.4	1270	926.0	1378
CF310-UL-1500-01	300	1 x 150.0	0.96	24.5	1069.8	1592	1142.3	1700
CF310-UL-1850-01	350	1 x 185.0	1.08	27.5	1388.3	2066	1470.9	2189

Note: The given outer diameters are maximum values.
G = with green-yellow earth core x = without earth core

UL-verified chainflex® guarantee ... www.igus.com/ul-verified



Spindle cable/Single core | TPE | chainflex® CF330-D







36 10,000,000
Cycles guaranteed

7.5 x d
Bend radius E-Chain®




1312.4 ft
Travel distance E-Chain®

- For maximum mechanical load requirements
- TPE outer jacket
- Oil and bio-oil-resistant
- PVC and halogen-free
- UV-resistant
- Hydrolysis and microbe-resistant



Dynamic Information

 Bend radius	E-Chain® linear flexible	min. 7.5 x d min. 6 x d
	fixed	min. 4 x d
 Temperature	E-Chain® linear flexible	-31 °F to +194 °F (-35 °C to +90 °C) -58 °F to +194 °F (-50 °C to +90 °C)
	fixed	-67 °F to +194 °F (-55 °C to +90 °C)
 v max.	unsupported	32.81 ft/s (10 m/s)
	gliding	19.69 ft/s (6 m/s)
 a max.		328.1 ft/s² (100 m/s²)
 Travel distance		Unsupported travel distances and for gliding applications up to 1312 ft (400 m) and more, Class 6
 Torsion		Torsion ±90°, with 3.281ft (1m) cable length, Class 2






Cable structure

 Conductor	Conductor cable consisting of pre-leads (following DIN EN 60228).
 Conductor insulation	Mechanically high-quality TPE mixture.
 Outer jacket	Low-adhesion mixture on the basis of TPE, especially abrasion-resistant and highly flexible, adapted to suit the requirements in E-Chains®. Color: Jet black (similar to RAL 9005)

Electrical Information

 Nominal voltage	600 V
 Test voltage	4000 V (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

Configurators ► www.igus.com/CF330-D

36 month guarantee ... 1,354 types from stock ... no cutting charges



Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

Class 7.6.4.2



Certificate No. RU C-DE.ME77.B.02324 (TR ZU)

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

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

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
According to VDW, DESINA standardization.

Following 2014/35/EU

Guaranteed service life (details see page 26-27)

Cycles*	5 million	7.5 million	10 million
Temperature, from/to [°F]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-31/-13	10	11	12
-13/+176	7.5	8.5	9.5
+176/+194	10	11	12

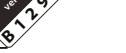
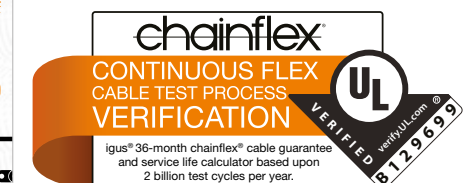
* Higher number of cycles? Online lifetime calculation ► www.chainflex.com/chainflexlife

Typical application areas

- For maximum mechanical load requirements, Class 7
- Unsupported travel distances and for gliding applications up to 1312 ft (400 m) and more, Class 6
- Almost unlimited resistance to oil, also with bio-oils, Class 4
- Torsion ±90°, with 3.281ft (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.	AWG	Number of Conductors and rated cross section	Outer diameter max.		Copper index		Weight	
			[in.]	[mm]	[lbs/mft]	[kg/km]	[lbs/mft]	[kg/km]
CF330-60-01-D	10	1 x 6.0	0.28	7.0	41.0	61	51.7	77
CF330-100-01-D	8	1 x 10.0	0.30	7.5	67.2	100	80.0	119
CF330-160-01-D	6	1 x 16.0	0.37	9.5	106.8	159	121.6	181
CF330-250-01-D	4	1 x 25.0	0.45	11.5	166.6	248	190.8	284
CF330-350-01-D	2	1 x 35.0	0.49	12.5	233.2	347	258.7	385
CF330-500-01-D	1	1 x 50.0	0.57	14.5	332.6	495	358.8	534
CF330-700-01-D	2/0	1 x 70.0	0.65	16.5	477.1	710	506.7	754
CF330-950-01-D	3/0	1 x 95.0	0.79	20.0	629.0	936	682.0	1015
CF330-1200-01-D	4/0	1 x 120.0	0.85	21.5	795.6	1184	850.0	1265
CF330-1500-01-D	300	1 x 150.0	0.93	23.5	987.1	1469	1040.2	1548
CF330-1850-01-D	350	1 x 185.0	1.04	26.5	1295.6	1928	1354.7	2016

Note: The given outer diameters are maximum values.
G = with green-yellow earth core x = without earth core



Spindle cable/Single core | TPE | chainflex® CF340

36 10,000,000
Cycles guaranteed

7.5 x d
Bend radius E-Chain®

1312.4 ft
Travel distance E-Chain®

- For maximum mechanical load requirements
- TPE outer jacket
- Shielded
- Oil and bio-oil-resistant
- PVC and halogen-free
- UV-resistant
- Hydrolysis and microbe-resistant
- Variable Frequency Drives

Dynamic Information

	Bend radius	E-Chain® linear flexible	min. 7.5 x d min. 6 x d
		fixed	min. 4 x d
	Temperature	E-Chain® linear flexible	-31 °F to +194 °F (-35 °C to +90 °C) -58 °F to +194 °F (-50 °C to +90 °C)
		fixed	-67 °F to +194 °F (-55 °C to +90 °C)
	v max.	unsupported	32.81 ft/s (10 m/s)
		gliding	19.69 ft/s (6 m/s)
	a max.		328.1 ft/s² (100 m/s²)
	Travel distance		Unsupported travel distances and for gliding applications up to 1312 ft (400 m) and more, Class 6

Cable structure

	Conductor	Conductor cable consisting of pre-leads (following DIN EN 60228).
	Conductor insulation	Mechanically high-quality TPE mixture.
	Overall shield	Extremely bending-resistant tinned copper braid. 90 % optical coverage
	Outer jacket	Low-adhesion mixture on the basis of TPE, especially abrasion-resistant and highly flexible, adapted to suit the requirements in E-Chains®. Color: Jet black (similar to RAL 9005)

Electrical Information

	Nominal voltage	600 V
	Test voltage	4000 V (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

Configurators ► www.igus.com/CF340

36 month guarantee ... 1,354 types from stock ... no cutting charges



Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

Class 7.6.4.1



Certificate No. RU C-DE.ME77.B.02324 (TR ZU)

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

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

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
Following 2014/35/EU

Guaranteed service life (details see page 26-27)

Cycles*	5 million	7.5 million	10 million
Temperature, from/to [°F]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-31/-13	10	11	12
-13/+176	7.5	8.5	9.5
+176/+194	10	11	12

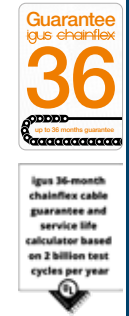
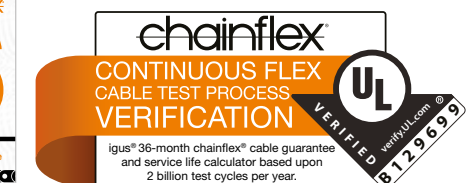
* Higher number of cycles? Online lifetime calculation ► www.chainflex.com/chainflexlife

Typical application areas

- For maximum mechanical load requirements, Class 7
- Unsupported travel distances and for gliding applications up to 1312 ft (400 m) and more, Class 6
- Almost unlimited resistance to oil, also with bio-oils, Class 4
- 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.	AWG	Number of Conductors and rated cross section	Outer diameter max.		Copper index		Weight	
			[mm²]	[in.] [mm]	[lbs/ft]	[kg/km]	[lbs/ft]	[kg/km]
CF340-40-01	12	1 x 4.0	0.26	6.5	38.3	57	49.1	73
CF340-160-01	6	1 x 16.0	0.39	10.0	123.6	184	144.5	215
CF340-250-01	4	1 x 25.0	0.47	12.0	188.2	280	214.4	319
CF340-350-01	2	1 x 35.0	0.51	13.0	265.4	395	291.0	433
CF340-500-01	1	1 x 50.0	0.59	15.0	360.2	536	385.7	574
CF340-700-01	2/0	1 x 70.0	0.69	17.5	523.5	779	559.1	832
CF340-950-01	3/0	1 x 95.0	0.83	21.0	682.0	1015	734.5	1093
CF340-1200-01	4/0	1 x 120.0	0.87	22.0	853.4	1270	901.1	1341
CF340-1500-01	300	1 x 150.0	0.96	24.5	1069.8	1592	1103.4	1642
CF340-1850-01	350	1 x 185.0	1.08	27.5	1388.3	2066	1449.4	2157
CF340-2400-01	450	1 x 240.0	1.20	30.5	1724.3	2566	1835.1	2731

Note: The given outer diameters are maximum values.
G = with green-yellow earth core x = without earth core



Example image

igus® chainflex® CF340

Medium voltage cable | igupren | chainflex® CFRANE

36 10,000,000
Cycles guaranteed

10 x d
Bend radius E-Chain®

1312 ft
Travel distance E-Chain®

- For maximum voltages and outputs
- igupren outer jacket
- Shielded
- Oil-resistant
- Flame retardant

Dynamic Information

	Bend radius	E-Chain® linear	min. 10 x d
		flexible	min. 8 x d
		fixed	min. 5 x d
	Temperature	E-Chain® linear	-4 °F to +176 °F (-20 °C to +80 °C)
		flexible	-13 °F to +176 °F (-25 °C to +80 °C)
		fixed	-22 °F to +176 °F (-30 °C to +80 °C)
	v max.	unsupported	32.81 ft/s (10 m/s)
		gliding	19.69 ft/s (6 m/s)
	a max.	164.1 ft/s² (50 m/s²)	
	Travel distance	Unsupported travel distances and for gliding applications up to 1312 ft (400 m) and more, Class 6	

Cable structure

	Conductors	Highly-flexible cable consisting of tinned copper wires (according to DIN EN 60228).
	Conductor insulation	Inner: semi-conductive rubber Middle layer: insulating sheath made of high quality, heat resistant, and ozone proof Ethylene Propylene Rubber (EPR) Outer: semi-conductive Rubber
	Overall shield	Extremely bending-resistant, tinned copper shield. 95 % optical coverage
	Outer jacket	Low-adhesion mixture on the basis of iguprene, especially abrasion-resistant and highly flexible, adapted to suit the requirements in E-Chains® Color: Red

Electrical Information

	Nominal voltage	6/10 kV (following DIN VDE 0250), other voltages upon request.
	Test voltage	17 kV (following DIN VDE 0250, Part 813)

Configurators ► www.igus.com/CFCRANE

36 month guarantee ... 1,354 types from stock ... no cutting charges



Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	7	≥ 1312 ft
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

Class 6.6.3.1

Properties and approvals

	UV resistance	High
	Oil resistance	Oil-resistant (following DIN EN 60811-404)
	Flame resistance	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)
	CE	Following 2014/35/EU
	Info	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 from stock (CFCRANE.PUR) page 362

Guaranteed service life (details see page 26-27)

Cycles*	5 million	7.5 million	10 million
Temperature, from/to [°F]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-4/+14	12.5	13.5	14.5
+14/+158	10	11	12
+158/+176	12.5	13.5	14.5

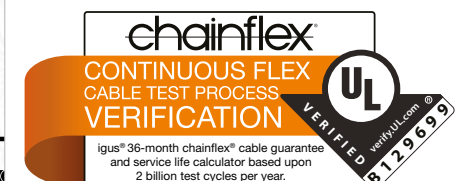
* Higher number of cycles? Online lifetime calculation ► www.chainflex.com/chainflexlife

Typical application areas

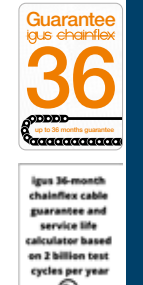
- For maximum voltages and outputs, Class 6
- Unsupported travel distances and for gliding applications up to 1312 ft (400 m) and more, Class 6
- Almost unlimited resistance to oil, Class 3
- Indoor and outdoor applications, UV-resistant
- Ship to shore crane applications, Conveyor technique



chainflex® CFRANE for 500 m and more of travel. E-Chain®: igus® rol E-Chain®



UL-verified chainflex® guarantee ... www.igus.com/ul-verified



Robot

Torsion cables

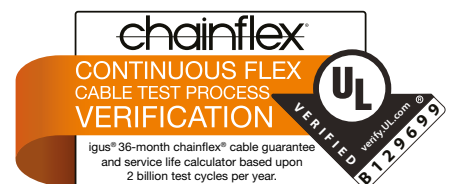


chainflex® cable	Jacket	Shield	Bending radius min., E-Chain® [factor x d]	Temperature, E-Chain® from/to [°F]	Approvals and standards	Oil-resistant	Torsion resistant v max. twisted [°/s]	a max. twisted [°/s²]	Page
Torsion cables									
Information Torsion cables									368
Control cables									
CF77-UL-D	PUR		6.8	-13/ +176		✓	✓	180	60 372
CFROBOT2	PUR	✓	10	-13/ +176		✓	✓	180	60 376
Data cable									
CFROBOT3	PUR	✓	10	-13/ +176		✓	✓	180	60 378
Measuring system cable									
CFROBOT4	PUR	✓	10	-13/ +176		✓	✓	180	60 380
Fiber optic cable									
CFROBOT5	TPE		10	-31/ +176		✓	✓	180	60 384
Motor cables									
CFROBOT6	PUR		10	-13/ +176		✓	✓	180	60 386
CFROBOT7	PUR	✓	10	-13/ +176		✓	✓	180	60 388 New
Spindle cables/Single conductors									
CFROBOT	TPE	✓	10	-31/ +194		✓	✓	180	60 392
Bus cable									
CFROBOT8	PUR	✓	10	-13/ +158		✓	✓	180	60 394
CFROBOT8-PLUS	PUR	✓	10	-13/ +158		✓	✓	360	60 398
Hybrid cable									
CFROBOT9	PUR	✓	10	-13/ +176		✓	✓	180	60 402

36 months chainflex® guarantee
 Guaranteed lifetime for predictable reliability
 ► Selection table page 370

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.com/chainflexlife



In the industrial applications of today, robots have introduced ever more complex sequences of movements that demand torsional and/or three-dimensional flexible cables with a long service life similar to the chainflex® cables for use in linear Energy Chain Systems®.

Wires, stranded, shields and sheathing materials must compensate both major changes in bending load and changes in diameter due to torsional movements. For this purpose, 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. Optimized shield structures with PTFE gliding films are used to absorb the forces caused by torsion movements.

To use an example of torsional Bus cables, the transmission characteristics such as attenuation, cable capacity and signal quality must remain within very tight tolerance ranges over the whole service life. This is achieved through the use of special insulating materials and mechanical elements with matching capacity values.

The highly abrasion-resistant, halogen-free and flame-resistant PUR sheathing mixture in motor, hybrid/control cables and bus cables protects the core elements from possible damage.

The CFROBOT cable line utilizes two jacket materials PUR and TPE. These materials were carefully chosen to protect the core elements like power conductors, high-speed data pairs and fiber optic components from possible damage. PUR jacket is highly abrasion resistant, halogen free and flame resistant. TPE jacket is highly abrasion resistant and halogen-free.

The special design logic behind CFROBOT cables was developed in theory and needed to be validated through testing. igus® set out to develop a test that would simulate the torsion stress cables will endure in the field. We do this by utilizing the Triflex® R Energy Chain® which can be twisted to various degrees at very high frequencies. This test is referred to as the igus® Torsion Test Standard.

According to this standard, all chainflex® ROBOT cables in a Triflex® R Energy Chain® are twisted with a fixed-point distance of one meter and a torsion of +/- 180° at least 3 million times. In addition, a test is carried out on a test bench with a Triflex® R length of approx. 2500 mm with 270° torsion. This test duplicated the forces and impacts that cables are exposed to in industrial robotic applications.



We have also found that all the non-shielded, gusset-filled extruded standard chainflex® control cables of the series CF130, CF5, CF77-UL-D, CF9 and CF9-UL correspond to the above mentioned igus® standard and have been approved for use in torsion applications

The following CFROBOT torsion cable types are currently available:












- Control Cable (shielded and unshielded)
- Data and Measuring System Cables
- Fiber Optic Cables
- Motor and Servo Cables
- Bus Cables
- Hybrid Cables

We can also offer you chainflex® ROBOT cables terminated with the connectors of your choice as ReadyCable®, or as a ready-to-install ReadyChain® cable assembly.



Test data ► Page 45



chainflex® cable	Temperature, from/to [°F]	v max. [ft/s] twisted	a max. [ft/s²] twisted	Bending radius min. [factor x d]	Bending radius min. [factor x d]	Bending radius min. [factor x d]	Page
Torsion cables				5 million cycles *	7.5 million cycles *	10 million cycles *	
Control cables							
 CF77-UL-D	-13 / -5 -5 / +158 +158 / +176	180	60	±150 ±180 ±150	±90 ±120 ±90	±30 ±60 ±30	372
 CFROBOT2	-13 / -5 -5 / +158 +158 / +176	180	60	±150 ±180 ±150	±90 ±120 ±90	±30 ±60 ±30	376
Data cable							
 CFROBOT3	-13 / -5 -5 / +158 +158 / +176	180	60	±150 ±180 ±150	±90 ±120 ±90	±30 ±60 ±30	378
Measuring system cable							
 CFROBOT4	-13 / -5 -5 / +158 +158 / +176	180	60	±150 ±180 ±150	±90 ±120 ±90	±30 ±60 ±30	380
Fiber optic cable							
 CFROBOT5	-13 / -5 -5 / +158 +158 / +176	180	60	±150 ±180 ±150	±90 ±120 ±90	±30 ±60 ±30	384
Motor cables							
 CFROBOT6	-13 / -5 -5 / +158 +158 / +176	180	60	±150 ±180 ±150	±90 ±120 ±90	±30 ±60 ±30	386
 CFROBOT7 New!	-13 / -5 -5 / +158 +158 / +176	180	60	±150 ±180 ±150	±90 ±120 ±90	±30 ±60 ±30	388
Spindle cables/Single conductors							
 CFROBOT	-31 / -5 -13 / +158 +158 / +176	180	60	±150 ±180 ±150	±90 ±120 ±90	±30 ±60 ±30	392
Bus cable							
 CFROBOT8	-13 / -5 -5 / +158 +158 / +176	180	60	±150 ±180 ±150	±90 ±120 ±90	±30 ±60 ±30	394
 CFROBOT8-PLUS	-13 / -5 -5 / +158 +158 / +176	360	60	±330 ±360 ±330	±240 ±270 ±240	±150 ±180 ±150	398
Hybrid cable							
 CFROBOT9	-13 / -5 -5 / +158 +158 / +176	180	60	±150 ±180 ±150	±90 ±120 ±90	±30 ±60 ±30	402

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







36 10,000,000 Cycles guaranteed

10 x d Bend radius E-Chain®






±180°/3.281 ft Torsion angle

- For high mechanical load requirements
- PUR outer jacket
- Oil-resistant and coolant-resistant
- Flame-retardant
- PVC and halogen-free
- Notch-resistant
- Hydrolysis and microbe-resistant



Dynamic Information

 Bend radius	E-Chain® linear flexible	min. 6.8 x d min. 5 x d
	fixed	min. 4 x d
 Temperature	E-Chain® linear flexible	-13 °F to +176 °F (-25 °C to +80 °C) -40 °F to +176 °F (-40 °C to +80 °C)
	fixed	-58 °F to +176 °F (-50 °C to +80 °C)
 v max.	unsupported	32.81 ft/s (10 m/s)
	gliding	16.41 ft/s (5 m/s)
 a max.		262.5 ft/s ² (80 m/s ²)
 Travel distance		Unsupported travel distances and for gliding applications up to 328.1 ft (100 m), Class 5
 Torsion		Torsion ±180°, with 3.281ft (1m) cable length, Class 3 (except for 5-core types ≥ 4.0 mm ² ▶ Product range table)

Cable structure

 Conductor	Conductor consisting of bare copper wires (according to DIN EN 60228).
 Conductor insulation	Mechanically high-quality TPE mixture.
 Conductor construction	Number of conductors < 12: Conductors cabled in a layer with short pitch length. Number of conductors ≥ 12: Conductors combined in bundles and stranded together around a high-tensile strength core, using short pitch directions for a low-torsion cable structure.
 Color code	24-22 AWG Color code in accordance with DIN 47100. 20-4 AWG Black with white numbers, one conductor green-yellow. CF77-UL-03-04-INI: brown, blue, black, white
 Outer jacket	Low-adhesion, halogen-free, highly abrasion-resistant mixture on the basis of PUR, adapted to suit the requirements in E-Chains® (following DIN EN 50363-10-2). Color: Gray (similar to RAL 7040) Variants ▶ See P/N Table

Electrical Information

 Nominal voltage	Number of conductors < 12: Cores > 20 AWG: 300 V Cores ≤ 20 AWG: 1000 V Number of conductors ≥ 12: 1000 V
 Test voltage	2000 V (following DIN EN 50395)

Configurators ▶ www.igus.com/CF77-UL-D

















36 month guarantee ... 1,354 types from stock ... no cutting charges

Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	7	≥ 1312 ft
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

Class 5.5.3.3

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 2009
 Flame resistance	According to IEC 60332-1-2, FT1, VW-1
 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.com/CF77-UL-D
 NFPA 79	Complies to Electrical Standard for Industrial Machinery NFPA 79 Section 12.9
 DNV-GL	Type approval certificate No. TAE00003X1
 EAC	Certificate No. RU C-DE.ME77.B.00300/19 (TR ZU)
 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 standardization.
 CE	Following 2014/35/EU

Guaranteed service life (details see page 26-27)

Cycles*	5 million	7.5 million	10 million
Temperature, from/to [°F]	Torsion max. [°/m]	Torsion max. [°/m]	Torsion max. [°/m]
-13/+5	±150	±90	±30
+5/+158	±180	±120	±60
+158/+176	±150	±90	±30

* Higher number of cycles? Online lifetime calculation ▶ www.chainflex.com/chainflexlife

Typical application areas

- For high mechanical load requirements, Class 5
- Unsupported travel distances and for gliding applications up to 328 ft (100 m), Class 5
- Almost unlimited resistance to oil, Class 3
- Torsion ±180°, with 3.281ft (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

Guarantee
igus chainflex
36
36 month guarantee

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

CF77-UL-D

UL LISTED

UL US

NFPA

DNV-GL

EAC

REACH

RoHS

Clean-Room

DESINA

CE

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

Class 5.5.3.3

Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	7	≥ 1312 ft
none	1	2	3	4	highest			
none	1	2	3	4	±360°			



igus® chainflex® CF77.UL.D

Example image

Part No.	AWG	Number of Conductors and rated cross section	Outer diameter max.		Copper index		Weight	
			[mm²]	[in.] [mm]	[lbs/mft] [kg/km]	[lbs/mft] [kg/km]		
CF77-UL-02-03-INI ¹²⁾	24	3 x 0.25	0.20	5.0	6.0	9	19.5	29
CF77-UL-02-04-D	24	4 G 0.25	0.22	5.5	7.4	11	23.5	35
CF77-UL-02-05-D	24	5 x 0.25	0.24	6.0	8.7	13	26.2	39
CF77-UL-02-07-D	24	7 x 0.25	0.26	6.5	12.1	18	34.3	51
CF77-UL-02-12-D	24	12 x 0.25	0.35	9.0	21.5	32	52.4	78
CF77-UL-02-18-D	24	18 x 0.25	0.41	10.5	31.6	47	85.3	127
CF77-UL-02-25-D	24	25 x 0.25	0.45	11.5	42.3	63	104.2	155
CF77-UL-03-04-INI ¹²⁾	22	4 G 0.34	0.24	6.0	9.4	14	24.9	37
CF77-UL-05-04-D	20	4 G 0.5	0.24	6.0	14.1	21	30.9	46
CF77-UL-05-05-D	20	5 G 0.5	0.26	6.5	17.5	26	35.6	53
CF77-UL-05-07-D	20	7 G 0.5	0.30	7.5	26.2	39	52.4	78
CF77-UL-05-12-D	20	12 G 0.5	0.39	10.0	42.3	63	87.4	130
CF77-UL-05-18-D	20	18 G 0.5	0.47	12.0	63.2	94	123.6	184
CF77-UL-05-25-D	20	25 G 0.5	0.55	14.0	86.7	129	163.3	243
CF77-UL-05-30-D	20	30 G 0.5	0.59	15.0	104.2	155	211.7	315
CF77-UL-07-03-D	18	3 G 0.75	0.26	6.5	15.5	23	34.9	52
CF77-UL-07-04-D	18	4 G 0.75	0.28	7.0	20.8	31	39.6	59
CF77-UL-07-05-D	18	5 G 0.75	0.30	7.5	25.5	38	47.7	71
CF77-UL-07-07-D	18	7 G 0.75	0.33	8.5	36.3	54	67.2	100
CF77-UL-07-12-D	18	12 G 0.75	0.47	12.0	61.1	91	121.0	180
CF77-UL-07-18-D	18	18 G 0.75	0.53	13.5	90.0	134	160.6	239
CF77-UL-07-20-D	18	20 G 0.75	0.57	14.5	100.1	149	180.8	269
CF77-UL-07-25-D	18	25 G 0.75	0.63	16.0	125.0	186	225.8	336
CF77-UL-07-36-D	18	36 G 0.75	0.75	19.0	187.5	279	340.0	506
CF77-UL-07-42-D	18	42 G 0.75	0.83	21.0	229.1	341	389.7	580
CF77-UL-10-02-D	17	2 G 1.0	0.26	6.5	14.1	21	34.3	51
CF77-UL-10-03-D	17	3 G 1.0	0.26	6.5	20.8	31	39.0	58
CF77-UL-10-04-D	17	4 G 1.0	0.28	7.0	27.6	41	49.1	73
CF77-UL-10-05-D	17	5 G 1.0	0.31	8.0	33.6	50	60.5	90
CF77-UL-10-07-D	17	7 G 1.0	0.35	9.0	47.7	71	80.6	120
CF77-UL-10-12-D	17	12 G 1.0	0.49	12.5	80.6	120	147.8	220
CF77-UL-10-18-D	17	18 G 1.0	0.59	15.0	120.3	179	211.0	314
CF77-UL-10-25-D	17	25 G 1.0	0.69	17.5	166.6	248	289.6	431
CF77-UL-10-42-D	17	42 G 1.0	0.89	22.5	291.0	433	469.7	699

¹²⁾ Color outer jacket: Yellow (RAL 1021)
Note: The given outer diameters are maximum values.
G = with green-yellow earth core x = without earth core

Part No.	AWG	Number of Conductors and rated cross section	Outer diameter max.		Copper index		Weight	
			[mm²]	[in.] [mm]	[lbs/mft] [kg/km]	[lbs/mft] [kg/km]		
CF77-UL-15-03-D	16	3 G 1.5	0.28	7.0	30.9	46	47.7	71
CF77-UL-15-04-D	16	4 G 1.5	0.30	7.5	41.0	61	59.1	88
CF77-UL-15-05-D	16	5 G 1.5	0.31	8.0	50.4	75	70.6	105
CF77-UL-15-07-D ¹⁷⁾	16	7 G 1.5	0.37	9.5	70.6	105	102.1	152
CF77-UL-15-12-D	16	12 G 1.5	0.51	13.0	120.3	179	199.6	297
CF77-UL-15-18-D	16	18 G 1.5	0.67	17.0	180.1	268	272.1	405
CF77-UL-15-25-D	16	25 G 1.5	0.77	19.5	199.6	297	379.0	564
CF77-UL-15-36-D	16	36 G 1.5	0.93	23.5	370.3	551	569.8	848
CF77-UL-25-03-D	14	3 G 2.5	0.33	8.5	50.4	75	88.7	132
CF77-UL-25-04-D	14	4 G 2.5	0.37	9.5	63.8	95	112.2	167
CF77-UL-25-05-D	14	5 G 2.5	0.39	10.0	83.3	124	131.7	196
CF77-UL-25-07-D ¹⁷⁾	14	7 G 2.5	0.47	12.0	116.9	174	181.4	270
CF77-UL-25-12-D	14	12 G 2.5	0.67	17.0	199.6	297	321.9	479
CF77-UL-40-04-D ⁹⁰⁾	12	4 G 4.0	0.45	11.5	110.9	165	164.6	245
CF77-UL-40-05-D ⁹⁰⁾	12	5 G 4.0	0.47	12.0	133.0	198	190.8	284
CF77-UL-60-05-D ⁹⁰⁾	10	5 G 6.0	0.53	13.5	199.6	297	276.9	412

¹⁷⁾ When using the cables with "7G1.5mm²" and "G2.5mm²" minimum bend radius must be 17.5xd with gliding travel distance ≥ 5m.
⁹⁰⁾ Torsion ±90°
Note: The given outer diameters are maximum values.
G = with green-yellow earth core x = without earth core

Order example: **CF77-UL-02-04-D** – To your desired length
CF77-UL-D chainflex® series -02 Code nominal cross section -04 Number of conductors

Online order ► www.chainflex.com/CF77-UL-D

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

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

CFRIP

UL LISTED

UL US

NFPA

UL

DNV-GL

EAC

REACH

RoHS

Clean Room

DESMA

CE

Guarantee
igus chainflex
36
up to 36 months guarantee

chainflex
CONTINUOUS FLEX
CABLE TEST PROCESS
VERIFICATION

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

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B1729699

Control cable | PUR | chainflex® CFROBOT2

36 10,000,000
Cycles guaranteed

10 x d
Bend radius E-Chain®

±180°/3.281 ft
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	E-Chain® twisted flexible	min. 10 x d min. 8 x d
		fixed	min. 5 x d
	Temperature	E-Chain® twisted flexible	-13 °F to +176 °F (-25 °C to +80 °C) -40 °F to +176 °F (-40 °C to +80 °C)
		fixed	-58 °F to +176 °F (-50 °C to +80 °C)
	v max.	twisted	180 °/s
	a max.	twisted	60 °/s ²
	Travel distance	Especially for robots and 3D movements	
	Torsion	Torsion ±180°, with 3.281ft (1m) cable length, Class 3	

Cable structure

	Conductor	Conductor consisting of bare copper wires (according to DIN EN 60228).
	Conductor insulation	Mechanically high-quality TPE mixture.
	Color code	Black with white numbers, one conductor green-yellow.
	Overall shield	Extremely torsion-resistant tinned braided copper shield. 85 % optical coverage
	Outer jacket	Low-adhesion, halogen-free, highly abrasion-resistant mixture on the basis of PUR, adapted to suit the requirements in E-Chains® (following DIN EN 50363-10-2). Color: Dark blue (similar to RAL 5011)

Electrical Information

	Nominal voltage	300 V
	Test voltage	2000 V (following DIN EN 50395)

Properties and approvals

	UV resistance	High
	Oil resistance	Oil-resistant (following DIN EN 50363-10-2), Class 3
	Flame resistance	According to IEC 60332-1-2, FT1, VW-1

Configurators ► www.igus.com/CFROBOT2

36 month guarantee ... 1,354 types from stock ... no cutting charges

Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

Class 6.1.3.3

- 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
See data sheet for details ► www.igus.com/CFROBOT2
- UL/CSA AWM**
- NFPA 79** Complies to Electrical Standard for Industrial Machinery NFPA 79 Section 12.9
- EAC** Certificate No. RU C-DE.ME77.B.00300/19 (TR ZU)
- 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
Following 2014/35/EU
- CE**

Guaranteed service life (details see page 26-27)

Cycles*	5 million	7.5 million	10 million
Temperature, from/to [°F]	Torsion max. [°/m]	Torsion max. [°/m]	Torsion max. [°/m]
-13/+5	±150	±90	±30
+5/+158	±180	±120	±60
+158/+176	±150	±90	±30

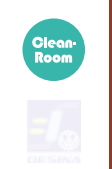
* Higher number of cycles? Online lifetime calculation ► www.chainflex.com/chainflexlife

Typical application areas

- For maximum mechanical load requirements with torsional movements, Class 6
- Especially for robots and 3D movements, Class 1
- Almost unlimited resistance to oil, Class 3
- Torsion ±180°, with 3.281ft (1m) cable length, Class 3
- Indoor and outdoor applications, UV-resistant
- Robots, Handling, spindle drives

Part No.	AWG	Number of Conductors and rated cross section	Outer diameter max.		Copper index		Weight	
			[in.]	[mm]	[lbs/mft]	[kg/km]	[lbs/mft]	[kg/km]
CFROBOT2-07-04-C	18	4 G 0.75	0.31	8.0	28.9	43	52.4	78
CFROBOT2-07-05-C	18	5 G 0.75	0.33	8.5	34.3	51	60.5	90
CFROBOT2-07-07-C	18	7 G 0.75	0.39	10.0	47.7	71	80.6	120
CFROBOT2-07-12-C	18	12 G 0.75	0.55	14.0	82.0	122	143.8	214
CFROBOT2-07-18-C	18	18 G 0.75	0.65	16.5	124.3	185	202.3	301

Note: The given outer diameters are maximum values.
G = with green-yellow earth core x = without earth core



Data cable | PUR | chainflex® CFROBOT3

- 36** 10,000,000 Cycles guaranteed
- 10 x d** Bend radius E-Chain®
- ±180°/3.281 ft** 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	E-Chain® twisted flexible	min. 10 x d min. 8 x d
		fixed	min. 5 x d
	Temperature	E-Chain® twisted flexible	-13 °F to +176 °F (-25 °C to +80 °C) -40 °F to +176 °F (-40 °C to +80 °C)
		fixed	-58 °F to +176 °F (-50 °C to +80 °C)
	v max.	twisted	180 %/s
	a max.	twisted	60 °/s ²
	Travel distance	Especially for robots and 3D movements	
	Torsion	Torsion ±180°, with 3.281ft (1m) cable length, Class 3	

Cable structure

	Conductor	Conductor consisting of bare copper wires (according to DIN EN 60228).
	Conductor insulation	Mechanically high-quality TPE mixture.
	Conductor construction	Twisted Pairs cabled together with short pitch lengths.
	Color code	Color code in accordance with DIN 47100.
	Overall shield	Extremely torsion-resistant tinned braided copper shield. 85 % optical coverage
	Outer jacket	Low-adhesion, halogen-free, highly abrasion-resistant mixture on the basis of PUR, adapted to suit the requirements in E-Chains® (following DIN EN 50363-10-2). Color: Dark blue (similar to RAL 5011)

Electrical Information

	Nominal voltage	300 V
	Test voltage	2000 V (following DIN EN 50395)

Properties and approvals

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

Configurators ► www.igus.com/CFROBOT3

36 month guarantee ... 1,354 types from stock ... no cutting charges

Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

Class 6.1.3.3

- Flame resistance** According to IEC 60332-1-2, FT1, VW-1
- 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.com/CFROBOT3
- NFPA 79** Complies to Electrical Standard for Industrial Machinery NFPA 79 Section 12.9
- EAC** Certificate No. RU C-DE.ME77.B.00300/19 (TR ZU)
- 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

Guaranteed service life (details see page 26-27)

Cycles*	5 million	7.5 million	10 million
Temperature, from/to [°F]	Torsion max. [°/m]	Torsion max. [°/m]	Torsion max. [°/m]
-13/+5	±150	±90	±30
+5/+158	±180	±120	±60
+158/+176	±150	±90	±30

* Higher number of cycles? Online lifetime calculation ► www.chainflex.com/chainflexlife

Typical application areas

- For maximum mechanical load requirements with torsional movements, Class 6
- Especially for robots and 3D movements, Class 1
- Almost unlimited resistance to oil, Class 3
- Torsion ±180°, with 3.281ft (1m) cable length, Class 3
- Indoor and outdoor applications, UV-resistant
- Robots, Handling, spindle drives

Part No.	AWG	Number of Conductors and rated cross section	Outer diameter max.		Copper index		Weight	
			[in.]	[mm]	[lbs/mft]	[kg/km]	[lbs/mft]	[kg/km]
CFROBOT3-02-03-02	24	3 PR x 0.25	0.35	9.0	22.2	33	56.4	84
CFROBOT3-02-04-02	24	4 PR x 0.25	0.41	10.5	25.5	38	69.2	103
CFROBOT3-02-06-02	24	6 PR x 0.25	0.45	11.5	34.9	52	85.3	127
CFROBOT3-02-08-02	24	8 PR x 0.25	0.53	13.5	44.3	66	114.2	170
CFROBOT3-05-05-02	20	5 PR x 0.5	0.49	12.5	53.8	80	114.2	170

Note: The given outer diameters are maximum values.
G = with green-yellow earth core x = without earth core

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

CFRIP
UL LISTED
UL US
NFPA
EAC
RoHS
Clean-Room
CE

Example image

Measuring system cable | PUR | chainflex® CFROBOT4

36 10,000,000 Cycles guaranteed **10 x d** Bend radius E-Chain® **±180°/3.281 ft** 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	E-Chain® twisted flexible	min. 10 x d
	fixed	min. 8 x d
	fixed	min. 5 x d
Temperature	E-Chain® twisted flexible	-13 °F to +176 °F (-25 °C to +80 °C)
	flexible	-40 °F to +176 °F (-40 °C to +80 °C)
	fixed	-58 °F to +176 °F (-50 °C to +80 °C)
v max.	twisted	180 °/s
a max.	twisted	60 °/s ²
Travel distance	Especially for robots and 3D movements	
Torsion	Torsion ±180°, with 3.281ft (1m) cable length, Class 3	

Cable structure

Conductor	Stranded conductor in especially bending-resistant version consisting of tinned copper wires (following DIN EN 60228).
Conductor insulation	Mechanically high-quality TPE mixture.
Color code	According to measuring system specification. ► See P/N Table
Element shield	Extremely torsion-resistant tinned braided copper shield. 80 % optical coverage
Overall shield	Extremely torsion-resistant tinned braided copper shield. 85 % optical coverage
Outer jacket	Low-adhesion, halogen-free, highly abrasion-resistant mixture on the basis of PUR, adapted to suit the requirements in E-Chains® (following DIN EN 50363-10-2). Color: Dark blue (similar to RAL 5011) Variants ► See P/N Table

Electrical Information

Nominal voltage	30 V
Test voltage	500 V

Configurators ► www.igus.com/CFROBOT4

36 month guarantee ... 1,354 types from stock ... no cutting charges

Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	7	≥ 1312 ft
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

Class 6.1.3.3

Properties and approvals

UV resistance	High
Oil resistance	Oil-resistant (following DIN EN 50363-10-2), Class 3
Flame resistance	According to IEC 60332-1-2, FT1, VW-1
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.com/CFROBOT4
NFPA 79	Complies to Electrical Standard for Industrial Machinery NFPA 79 Section 12.9
EAC	Certificate No. RU C-DE.ME77.B.00295/19 (TR ZU)
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

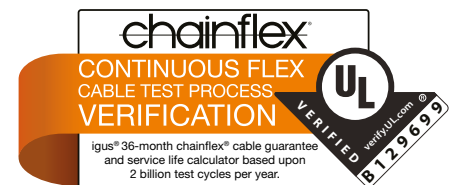
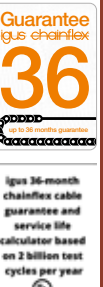
Guaranteed service life (details see page 26-27)

Cycles*	5 million	7.5 million	10 million
Temperature, from/to [°F]	Torsion max. [°/m]	Torsion max. [°/m]	Torsion max. [°/m]
-13/+5	±150	±90	±30
+5/+158	±180	±120	±60
+158/+176	±150	±90	±30

* Higher number of cycles? Online lifetime calculation ► www.chainflex.com/chainflexlife

Typical application areas

- For maximum mechanical load requirements with torsional movements, Class 6
- Especially for robots and 3D movements, Class 1
- Almost unlimited resistance to oil, Class 3
- Torsion ±180°, with 3.281ft (1m) cable length, Class 3
- Indoor and outdoor applications, UV-resistant
- Robots, Handling, spindle drives



UL-verified chainflex® guarantee ... www.igus.com/ul-verified

Measuring system cable | PUR | chainflex® CFROBOT4

Class 6.1.3.3

Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			



Example image

Part No.	AWG	Number of Conductors and rated cross section	Outer diameter max.		Copper index		Weight		Part No.	Core group	Color code
			[in.]	[mm]	[lbs/mft]	[kg/km]	[lbs/mft]	[kg/km]			
CFROBOT4-001	26	3 STP x 0.14	0.41	10.5	41.7	62	77.3	115	CFROBOT4-001	3x(2x0.14)C 4x0.14 2x0.5	green/yellow, black/brown, red/orange gray/blue/white-yellow/white-black brown-red/brown-blue
	26	4 x 0.14									
	20	2 x 0.5									
CFROBOT4-006	26	3 STP x 0.14	0.45	11.5	49.7	74	90.7	135	CFROBOT4-006	3x(2x0.14)C (4x0.14) (4x0.22) (2x0.5)	green/yellow, black/brown, red/orange gray/blue/white-yellow/white-black yellow-brown/gray-brown/green-black/green-red brown-red/brown-blue
	26	4 x 0.14									
	24	4 x 0.22									
	20	2 C x 0.5									
CFROBOT4-009	24	4 PR x 0.25	0.35	9.0	32.3	48	60.5	90	CFROBOT4-009	4x(2x0.25) 2x0.5	brown/green, blue/violet, gray/pink, red/black white, brown
	20	2 x 0.5									
CFROBOT4-015	26	4 PR x 0.14	0.35	9.0	32.9	49	61.1	91	CFROBOT4-015	4x(2x0.14) 4x0.5	brown/green, yellow/violet, gray/pink, red/black blue, white, brown-green, white-green
	20	4 x 0.5									
CFROBOT4-028 ¹³⁾	24	4 PR x 0.20	0.30	7.5	29.6	44	48.4	72	CFROBOT4-028 ¹³⁾	2x(2x0.20) (2x0.38)	green/yellow, pink/blue red/black
	22	2 x 0.38									

¹³⁾ Color outer jacket: Yellow-green (similar to RAL 6018)
Note: The given outer diameters are maximum values.
G = with green-yellow earth core **x** = without earth core

Order example: CFROBOT4-009 – To your desired length
 CFROBOT4 chainflex® series -009 Code measuring system type

Online order ► www.chainflex.com/CFROBOT4

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



Fiber optic cable | TPE | chainflex® CFROBOT5

36 10,000,000
Cycles guaranteed

10 x d
Bend radius E-Chain®

±180°/3.281 ft
Torsion angle

- For torsion applications
- TPE outer jacket
- Oil and bio-oil-resistant
- UV-resistant
- Low-temperature-flexibility
- Hydrolysis and microbe-resistant
- PVC and halogen-free

Dynamic Information

	Bend radius	E-Chain® twisted flexible	min. 10 x d min. 8 x d
		fixed	min. 5 x d
	Temperature	E-Chain® twisted flexible	-31 °F to +176 °F (-35 °C to +80 °C) -58 °F to +176 °F (-50 °C to +80 °C)
		fixed	-67 °F to +176 °F (-55 °C to +80 °C)
	v max.	twisted	180 °/s
	a max.	twisted	60 °/s ²
	Travel distance	Especially for robots and 3D movements	
	Torsion	Torsion ±180°, with 3.281ft (1m) cable length, Class 3	

Cable structure

	Fibre Optic Cable	50/125 µm, 62.5/125 µm special fixed fiber elements with aramid strain relief
	Conductor construction	Optical Fibers cabled with high-tensile aramid dampers around a central reinforced filler element.
	Color code	► See P/N Table
	Outer jacket	Low-adhesion mixture on the basis of TPE, especially abrasion-resistant and highly flexible, adapted to suit the requirements in E-Chains®. Color: 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

Configurators ► www.igus.com/CFROBOT5

36 month guarantee ... 1,354 types from stock ... no cutting charges



Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

Class 6.1.4.3

- UL verified**
- REACH**
- Lead-free**
- Cleanroom**
- CE**

Certificate No. B129699: igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year
In accordance with regulation (EC) No. 1907/2006 (REACH)

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

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
Following 2014/35/EU

Guaranteed service life (details see page 26-27)

Cycles*	5 million	7.5 million	10 million
Temperature, from/to [°F]	Torsion max. [°/m]	Torsion max. [°/m]	Torsion max. [°/m]
-31/-13	±150	±90	±30
-13/+158	±180	±120	±60
+158/+176	±150	±90	±30

* Higher number of cycles? Online lifetime calculation ► www.chainflex.com/chainflexlife

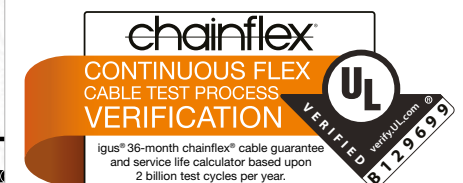
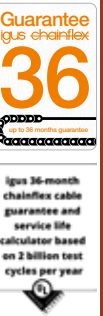
Typical application areas

- For maximum mechanical load requirements with torsional 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 3.281ft (1m) cable length, Class 3
- Indoor and outdoor applications, UV-resistant
- Robots, Handling

Part No.	Fiber Count	Fibre diameter	Outer diameter max.		Weight	
			[in.]	[mm]	[lbs/mft]	[kg/km]
CFROBOT5-500 ¹¹⁾	2	62,5/125	0.33	8.5	35.6	53
CFROBOT5-501 ¹¹⁾	2	50/125	0.33	8.5	35.6	53

Part No.	Bandwidth [MHz x km] @ 850 nm	Bandwidth [MHz x km] @ 1300 nm	Attenuation [dB/km] @ 850 nm	Attenuation [dB/km] @ 1300 nm	Fiber identification
	CFROBOT5-500 ¹¹⁾	≥ 200	≥ 500	≤ 3.0	≤ 0.7
CFROBOT5-501 ¹¹⁾	≥ 500	≥ 500	≤ 2.5	≤ 0.7	blue with white numbers

¹¹⁾ Phase-out model
Note: The given outer diameters are maximum values.
G = with green-yellow earth core x = without earth core



Motor cable | PUR | chainflex® CFROBOT6

36 10,000,000
Cycles guaranteed

10 x d
Bend radius E-Chain®

±180°/3.281 ft
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	E-Chain® twisted flexible	min. 10 x d min. 8 x d min. 5 x d
	Temperature	E-Chain® twisted flexible	-13 °F to +176 °F (-25 °C to +80 °C) -40 °F to +176 °F (-40 °C to +80 °C) -58 °F to +176 °F (-50 °C to +80 °C)
	v max.	twisted	180 °/s
	a max.	twisted	60 °/s ²
	Travel distance	Especially for robots and 3D movements	
	Torsion	Torsion ±180°, with 3.281ft (1m) cable length, Class 3	

Cable structure

	Conductor	Conductor consisting of bare copper wires (according to DIN EN 60228).
	Conductor insulation	Mechanically high-quality TPE mixture.
	Color code	Black with white numbers 1-2, one conductor green-yellow.
	Outer jacket	Low-adhesion, halogen-free, highly abrasion-resistant mixture on the basis of PUR, adapted to suit the requirements in E-Chains® (following DIN EN 50363-10-2). Color: Dark blue (similar to RAL 5011)

Electrical Information

	Nominal voltage	1000 V
	Test voltage	4000 V (following DIN EN 50395)

Properties and approvals

	UV resistance	High
	Oil resistance	Oil-resistant (following DIN EN 50363-10-2), Class 3
	Flame resistance	According to IEC 60332-1-2, FT1, VW-1
	Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)

Configurators ► www.igus.com/CFROBOT6

36 month guarantee ... 1,354 types from stock ... no cutting charges



Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

Class 6.1.3.3

- 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
See data sheet for details ► www.igus.com/CFROBOT6
- UL/CSA AWM**
- NFFPA 79** Complies to Electrical Standard for Industrial Machinery NFFPA 79 Section 12.9
- EAC** Certificate No. RU C-DE.ME77.B.02324 (TR ZU)
- CTP** Certificate No. C-DE.PB49.B.00420 (Fire protection)
- 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
Following 2014/35/EU
- CE**

Guaranteed service life (details see page 26-27)

Cycles*	5 million	7.5 million	10 million
Temperature, from/to [°F]	Torsion max. [°/m]	Torsion max. [°/m]	Torsion max. [°/m]
-13/+5	±150	±90	±30
+5/+158	±180	±120	±60
+158/+176	±150	±90	±30

* Higher number of cycles? Online lifetime calculation ► www.chainflex.com/chainflexlife

Typical application areas

- For maximum mechanical load requirements with torsional movements, Class 6
- Especially for robots and 3D movements, Class 1
- Almost unlimited resistance to oil, Class 3
- Torsion ±180°, with 3.281ft (1m) cable length, Class 3
- Indoor and outdoor applications, UV-resistant
- Robots, Handling, spindle drives

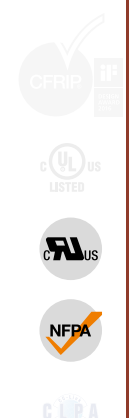
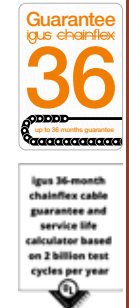
Part No.	AWG	Number of Conductors and rated cross section	Outer diameter max.		Copper index	Weight	
			[in.]	[mm]		[lbs/mft]	[kg/km]
CFROBOT6-100-03 ¹¹⁾	8	3 G 10.0	0.59	15.0	199.6	297	260.7 388
CFROBOT6-160-03 ¹¹⁾	6	3 G 16.0	0.71	18.0	319.2	475	388.4 578
CFROBOT6-250-03	4	3 G 25.0	0.87	22.0	495.2	737	602.1 896

¹¹⁾ Phase-out model

Note: The given outer diameters are maximum values.
G = with green-yellow earth core x = without earth core



UL-verified chainflex® guarantee ... www.igus.com/ul-verified



Example image

Motor cable | PUR | chainflex® CFROBOT7

36 10,000,000
Cycles guaranteed

10 x d
Bend radius E-Chain®

±180°/3.281 ft
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	E-Chain® twisted flexible	min. 10 x d min. 8 x d
		fixed	min. 5 x d
	Temperature	E-Chain® twisted flexible	-13 °F to +176 °F (-25 °C to +80 °C) -40 °F to +176 °F (-40 °C to +80 °C)
		fixed	-58 °F to +176 °F (-50 °C to +80 °C)
	v max.	twisted	180 °/s
	a max.	twisted	60 °/s ²
	Travel distance	Especially for robots and 3D movements	
	Torsion	Torsion ±180°, with 3.281ft (1m) cable length, Class 3	

Cable structure

	Conductor	Conductor consisting of bare copper wires (according to DIN EN 60228).
	Conductor insulation	Mechanically high-quality TPE mixture.
	Color code	Power conductors: Black with white numbers, one conductor green-yellow. 2 Control pairs: Black with white numbers. Control Pair 1: Printed 5 and 6 Control Pair 2: Printed 7 and 8 4 Control pairs: Color code in accordance with DIN 47100
	Overall shield	Extremely torsion-resistant tinned braided copper shield. 85 % optical coverage
	Outer jacket	Low-adhesion, halogen-free, highly abrasion-resistant mixture on the basis of PUR, adapted to suit the requirements in E-Chains® (following DIN EN 50363-10-2). Color: Dark blue (similar to RAL 5011)

Electrical Information

	Nominal voltage	1000 V
	Test voltage	4000 V (following DIN EN 50395)

Example image

Configurators ► www.igus.com/CFROBOT7

36 month guarantee ... 1,354 types from stock ... no cutting charges



Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

Class 6.1.3.3

Properties and approvals

	UV resistance	High
	Oil resistance	Oil-resistant (following DIN EN 50363-10-2), Class 3
	Flame resistance	According to IEC 60332-1-2, FT1, VW-1
	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.com/CFROBOT7
	NFPA 79	Complies to Electrical Standard for Industrial Machinery NFPA 79 Section 12.9
	EAC	Certificate No. RU C-DE.ME77.B.02324 (TR ZU)
	CTP	Certificate No. C-DE.PB49.B.00420 (Fire protection)
	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

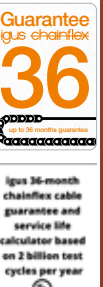
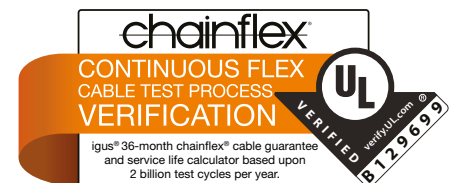
Guaranteed service life (details see page 26-27)

Cycles*	5 million	7.5 million	10 million
Temperature, from/to [°F]	Torsion max. [°/m]	Torsion max. [°/m]	Torsion max. [°/m]
-13/+5	±150	±90	±30
+5/+158	±180	±120	±60
+158/+176	±150	±90	±30

* Higher number of cycles? Online lifetime calculation ► www.chainflex.com/chainflexlife

Typical application areas

- For maximum mechanical load requirements with torsional movements, Class 6
- Especially for robots and 3D movements, Class 1
- Almost unlimited resistance to oil, Class 3
- Torsion ±180°, with 3.281ft (1m) cable length, Class 3
- Indoor and outdoor applications, UV-resistant
- Robots, Handling, spindle drives



low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			



Example image

Part No.	AWG	Number of Conductors and rated cross section	Outer diameter max.		Copper index		Weight	
			[mm²]	[in.]	[mm]	[lbs/mft]	[kg/km]	[lbs/mft]
without control pair								
CFROBOT7-15-03-C	16	3 G 1.5	0.33	8.5	41.0	61	65.9	98
CFROBOT7-15-04-C	16	4 G 1.5	0.37	9.5	51.7	77	80.6	120
CFROBOT7-25-03-C	14	3 G 2.5	0.39	10.0	62.5	93	95.4	142
CFROBOT7-25-04-C	14	4 G 2.5	0.43	11.0	80.0	119	116.3	173
CFROBOT7-60-04-C	10	4 G 6.0	0.59	15.0	186.8	278	251.3	374
2 Control pairs								
New CFROBOT7-07-03-02-02-C	18	4 G 0.75	0.45	11.5	59.1	88	104.2	155
	22	2 PR x 0.34						
CFROBOT7-15-15-02-02-C	16	4 G 1.5	0.65	16.5	132.4	197	204.3	304
	16	2 PR x 1.5						
CFROBOT7-25-15-02-02-C	14	4 G 2.5	0.65	16.5	163.3	243	234.5	349
	16	2 PR x 1.5						
4 Control pairs								
CFROBOT7-40-02-02-04-C	12	4 G 4.0	0.67	17.0	170.0	253	245.9	366
	24	4 PR x 0.25						

Note: The given outer diameters are maximum values.
G = with green-yellow earth core x = without earth core

- Order example: **CFROBOT7-15-03-C** – To your desired length
CFROBOT7 chainflex® series -15 Code nominal cross section -03 Number of conductors
- Online order ► www.chainflex.com/CFROBOT7
- Delivery time 24hrs or today.
Delivery time means time until goods are shipped.

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

CFRIP
UL LISTED
UL
NFPA
EAC
TP
RoHS
Clean Room
CE

Guarantee
igus chainflex
36
up to 36 months guarantee

chainflex
CONTINUOUS FLEX
CABLE TEST PROCESS
VERIFICATION
UL
igus® 36-month chainflex® cable guarantee and service life calculator based upon 2 billion test cycles per year.
VERIFIED
B129699

Spindle cable/Single core | TPE | chainflex® CFROBOT

36 10,000,000
Cycles guaranteed







10 x d
Bend radius E-Chain®

±180°/3.281 ft
Torsion angle





- For torsion applications
- TPE outer jacket
- Shielded
- Oil and bio-oil-resistant

- PVC-free
- UV-resistant
- Flame-retardant
- Hydrolysis and microbe-resistant



Dynamic Information

 Bend radius	E-Chain® twisted flexible	min. 10 x d min. 8 x d
	fixed	min. 5 x d
 Temperature	E-Chain® twisted flexible	-31 °F to +194 °F (-35 °C to +90 °C) -49 °F to +212 °F (-45 °C to +100 °C)
	fixed	-58 °F to +212 °F (-50 °C to +100 °C)
 v max.	twisted	180 %/s
 a max.	twisted	60 °/s ²
 Travel distance	Especially for robots and 3D movements	
 Torsion	Torsion ±180°, with 3.281ft (1m) cable length, Class 3	





Cable structure

 Conductor	Extremely bend-resistant cable.
 Conductor insulation	Mechanically high-quality TPE mixture.
 Overall shield	Extremely torsion-resistant tinned braided copper shield. 90 % optical coverage
 Outer jacket	Low-adhesion mixture on the basis of TPE, especially abrasion-resistant and highly flexible, adapted to suit the requirements in E-Chains®. Color: Jet black (similar to RAL 9005)

Electrical Information

 Nominal voltage	1000 V
 Test voltage	4000 V (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 resistance	According to IEC 60332-1-2, FT1, VW-1
 Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)

Configurators ► www.igus.com/CFROBOT










36 month guarantee ... 1,354 types from stock ... no cutting charges



Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

Class 6.1.4.3

-  **UL verified**
-  **UL/CSA AWM**
-  **NFPA 79**
-  **EAC**
-  **CTP**
-  **REACH**
-  **Lead-free**
-  **Cleanroom**
-  **CE**

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.com/CFROBOT

Complies to Electrical Standard for Industrial Machinery NFPA 79 Section 12.9

Certificate No. RU C-DE.ME77.B.02324 (TR ZU)

Certificate No. C-DE.PB49.B.00420 (Fire protection)

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

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

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
Following 2014/35/EU

Guaranteed service life (details see page 26-27)

Cycles*	5 million	7.5 million	10 million
Temperature, from/to [°F]	Torsion max. [°/m]	Torsion max. [°/m]	Torsion max. [°/m]
-31/-13	±150	±90	±30
-13/+158	±180	±120	±60
+158/+176	±150	±90	±30

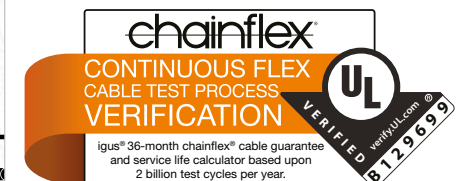
* Higher number of cycles? Online lifetime calculation ► www.chainflex.com/chainflexlife

Typical application areas

- For maximum mechanical load requirements with torsional 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 3.281ft (1m) cable length, Class 3
- Indoor and outdoor applications, UV-resistant
- Robots, Handling, spindle drives

Part No.	AWG	Number of Conductors and rated cross section	Outer diameter max.		Copper index		Weight	
			[in.]	[mm]	[lbs/mft]	[kg/km]	[lbs/mft]	[kg/km]
CFROBOT-035	8	1 x 10.0	0.41	10.5	84.0	125	130.4	194
CFROBOT-036	6	1 x 16.0	0.47	12.0	127.0	189	180.8	269
CFROBOT-037	4	1 x 25.0	0.57	14.5	200.2	298	263.4	392
CFROBOT-038	2	1 x 35.0	0.61	15.5	270.8	403	354.8	528

Note: The given outer diameters are maximum values.
G = with green-yellow earth core x = without earth core



Example image

Bus cable | PUR | chainflex® CFROBOT8







36 10,000,000
Cycles guaranteed

10 x d
Bend radius E-Chain®








±180°/3.281 ft
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	E-Chain® twisted flexible	min. 10 x d min. 8 x d
		fixed	min. 5 x d
	Temperature	E-Chain® twisted flexible	-13 °F to +158 °F (-25 °C to +70 °C) -40 °F to +158 °F (-40 °C to +70 °C)
		fixed	-58 °F to +158 °F (-50 °C to +70 °C)
	v max.	twisted	180 °/s
	a max.	twisted	60 °/s ²
	Travel distance	Especially for robots and 3D movements	
	Torsion	Torsion ±180°, with 3.281ft (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).
	Conductor insulation	According to bus specification.
	Conductor construction	According to bus specification.
	Color code	According to bus specification. ▶ See P/N Table
	Intermediate layer	polyester tape over external layer
	Overall shield	Torsion resistant tinned braided copper shield. 80 % optical coverage
	Outer jacket	Low-adhesion, halogen-free, highly abrasion-resistant mixture on the basis of PUR, adapted to suit the requirements in E-Chains® (following DIN EN 50363-10-2). Color: Dark blue (similar to RAL 5011)

Electrical Information

	Nominal voltage	30 V
	Test voltage	500 V

Example image

Configurators ▶ www.igus.com/CFROBOT8

36 month guarantee ... 1,354 types from stock ... no cutting charges














Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

Class 6.1.3.3

Properties and approvals

	UV resistance	High
	Oil resistance	Oil-resistant (following DIN EN 50363-10-2), Class 3
	Flame resistance	According to IEC 60332-1-2, FT1
	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.com/CFROBOT8
	EAC	Certificate No. RU C-DE.ME77.B.00295/19 (TR ZU)
	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

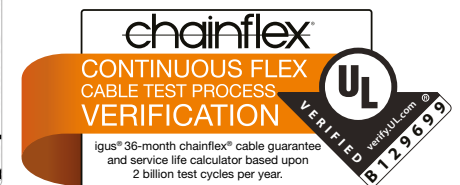
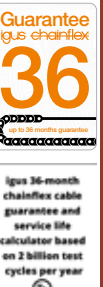
Guaranteed service life (details see page 26-27)

Cycles*	5 million	7.5 million	10 million
Temperature, from/to [°F]	Torsion max. [°/m]	Torsion max. [°/m]	Torsion max. [°/m]
-13/+5	±150	±90	±30
+5/+140	±180	±120	±60
+140/+158	±150	±90	±30

* Higher number of cycles? Online lifetime calculation ▶ www.chainflex.com/chainflexlife

Typical application areas

- For maximum mechanical load requirements with torsional movements, Class 6
- Especially for robots and 3D movements, Class 1
- Almost unlimited resistance to oil, Class 3
- Torsion ±180°, with 3.281ft (1m) cable length, Class 3
- Indoor and outdoor applications, UV-resistant
- Robots, Handling, spindle drives



UL-verified chainflex® guarantee ... www.igus.com/ul-verified



Example image

Part No.	AWG	Number of Conductors and rated cross section	Outer diameter max.		Copper index		Weight		Part No.	Characteristic Impedance [Ω]	Core group	Color code
			[in.]	[mm]	lbs/mft	[kg/km]	lbs/mft	[kg/km]				
Profibus (1x2x0.64 mm)												
CFROBOT8-001	22	1 PR x 0.35	0.31	8.0	18.8	28	42.3	63	CFROBOT8-001	150	(2x0.35)C	red, green
CAN-Bus												
CFROBOT8-022	20	2 PR x 0.5	0.30	7.5	27.6	41	52.4	78	CFROBOT8-022	120	(4x0.5)C	white, green, brown, yellow (Star-quad)
DeviceNet												
CFROBOT8-030	24	1 PR x 24 AWG	0.37	9.5	20.8	31	51.7	77	CFROBOT8-030	120	(2xAWG24)C	white/blue
	22	1 PR x 22 AWG										(2xAWG22)C
Ethernet/CAT5e/PoE												
CFROBOT8-045	26	4 STP x 0.14	0.37	9.5	32.3	48	64.5	96	CFROBOT8-045	100	4x(2x0.15)C	white-green/green, white-orange/orange, white-blue/blue, white-brown/brown
Ethernet/CAT6/PoE												
CFROBOT8-049	26	4 STP x 0.14	0.37	9.5	32.3	48	64.5	96	CFROBOT8-049	100	4x(2x0.15)C	white-green/green, white-orange/orange, white-blue/blue, white-brown/brown
Ethernet/CAT6A												
CFROBOT8-050	26	4 STP x 0.15	0.41	10.5	34.3	51	90.0	134	CFROBOT8-050	100	4x(2x0.15)C	white-green/green, white-orange/orange, white-blue/blue, white-brown/brown
Ethernet/CAT7												
CFROBOT8-052	26	4 STP x 0.15	0.41	10.5	34.3	51	90.0	134	CFROBOT8-052	100	4x(2x0.15)C	white-green/green, white-orange/orange, white-blue/blue, white-brown/brown
Profinet												
CFROBOT8-060	22	2 PR x 0.34	0.33	8.5	22.8	34	49.7	74	CFROBOT8-060	100	(2x(2x0.34))C	white/blue, yellow/orange

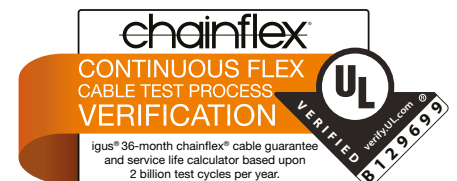
Note: The given outer diameters are maximum values.
G = with green-yellow earth core x = without earth core

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 different 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, there is a high degree of EMC reliability. It is also ensured that the electrical values remain stable over the long term in spite of constant 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 its extensive tests, helps you to ensure the process reliability of your system from the very beginning.



CFROBOT® cables used in robots for the automated systems in fuel tank production. The cable packages are supplied as harnessed readychain® systems.



Guarantee igus chainflex 36

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

CFRIP

UL LISTED

UL

NFPA

UL

EAC

RoHS

Clean-Room

UL

CE

Bus cable | PUR | chainflex® CFROBOT8-PLUS

36 10,000,000 Cycles guaranteed

10 x d Bend radius E-Chain®

±360°/3.281 ft 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	E-Chain® twisted	min. 10 x d
		flexible	min. 8 x d
		fixed	min. 5 x d
	Temperature	E-Chain® twisted	-13 °F to +158 °F (-25 °C to +70 °C)
		flexible	-40 °F to +158 °F (-40 °C to +70 °C)
		fixed	-58 °F to +158 °F (-50 °C to +70 °C)
	v max.	twisted	360 %/s
		a max.	60 °/s ²
	Travel distance	Especially for robots and 3D movements	
	Torsion	Torsion ±360°, with 3.281ft (1m) cable length, Class 4	

Cable structure

	Conductor	Conductor consisting of bare copper wires (according to DIN EN 60228).
	Conductor insulation	According to bus specification.
	Conductor construction	According to bus specification.
	Color code	According to bus specification. ▶ See P/N Table
	Intermediate layer	polyester tape over external layer
	Overall shield	Torsion resistant tinned braided copper shield. 80 % optical coverage
	Outer jacket	Low-adhesion, halogen-free, highly abrasion-resistant mixture on the basis of PUR, adapted to suit the requirements in E-Chains® (following DIN EN 50363-10-2). Color: Dark blue (similar to RAL 5011)

Electrical Information

	Nominal voltage	30 V
	Test voltage	500 V

Example image

Configurators ▶ www.igus.com/CFROBOT8-PLUS

36 month guarantee ... 1,354 types from stock ... no cutting charges



Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

Class 6.1.3.4

Properties and approvals

	UV resistance	High
	Oil resistance	Oil-resistant (following DIN EN 50363-10-2), Class 3
	Flame resistance	According to IEC 60332-1-2, FT1
	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.com/CFROBOT8-PLUS
	EAC	Certificate No. RU C-DE.ME77.B.00295/19 (TR ZU)
	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

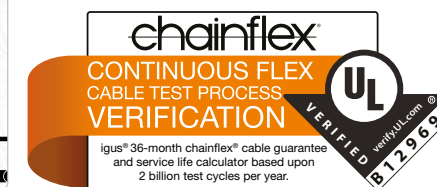
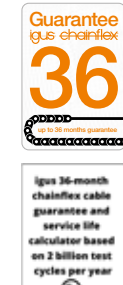
Guaranteed service life (details see page 26-27)

Cycles*	5 million	7.5 million	10 million
Temperature, from/to [°F]	Torsion max. [°/m]	Torsion max. [°/m]	Torsion max. [°/m]
-13/+5	±330	±240	±150
+5/+140	±360	±270	±180
+140/+158	±330	±240	±150

* Higher number of cycles? Online lifetime calculation ▶ www.chainflex.com/chainflexlife

Typical application areas

- For maximum mechanical load requirements with torsional movements, Class 6
- Especially for robots and 3D movements, Class 1
- Almost unlimited resistance to oil, Class 3
- Torsion ±360°, with 3.281ft (1m) cable length, Class 4
- Indoor and outdoor applications, UV-resistant
- Robots, Handling, spindle drives



UL-verified chainflex® guarantee ... www.igus.com/ul-verified

Bus cable | PUR | chainflex® CFROBOT8-PLUS

Class 6.1.3.4

Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			



Example image

Part No.	AWG	Number of Conductors and rated cross section	Outer diameter max.		Copper index		Weight		Part No.	Characteristic Impedance	Core group	Color code
			[in.]	[mm]	lbs/mft	[kg/km]	lbs/mft	[kg/km]		[Ω]		
Profibus (1x2x0,64 mm)												
CFROBOT8-PLUS-001	24	1 PR x 0.25	0.35	9.0	20.2	30	53.8	80	CFROBOT8-PLUS-001	150	(2x0.25)C	red, green
Ethernet/CAT5e/PoE												
CFROBOT8-PLUS-045	26	4 STP x 0.15	0.30	7.5	21.5	32	45.0	67	CFROBOT8-PLUS-045	100	(4x(2x0.15))C	white-blue/blue, white-orange/orange, white-green/green, white-brown/brown
Profinet												
CFROBOT8-PLUS-060 ²⁾	22	2 PR x 0.34	0.28	7.0	21.5	32	43.0	64	CFROBOT8-PLUS-060 ²⁾	100	(4x0.34)C	white, orange, blue, yellow (Star-quad)

The chainflex® types marked with ²⁾ are cables designed as a star-quad.
Note: The given outer diameters are maximum values.
G = with green-yellow earth core **x** = without earth core

Order example: CFROBOT8-PLUS-060 – To your desired length
CFROBOT8-PLUS chainflex® series -060 Code Bus type

Online order ► www.chainflex.com/CFROBOT8-PLUS

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

Technical note on bus cables

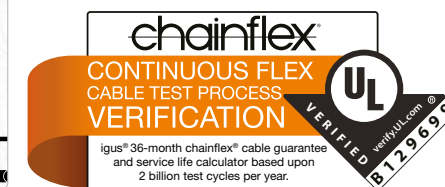
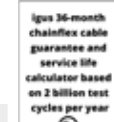
chainflex® bus cables have been specially developed and tested for continuously moving use in e-chains®. Depending on the material used for the outer jacket and on the underlying construction principle, the bus cables are designed for different mechanical requirements and resistance to different media.

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, there is a high degree of EMC reliability.

It is also ensured that the electrical values remain stable over the long term in spite of constant 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 its extensive tests, helps you to ensure the process reliability of your system from the very beginning.



Hybrid cable | PUR | chainflex® CFROBOT9







36 10,000,000
Cycles guaranteed

10 x d
Bend radius E-Chain®






±180°/3.281 ft
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



Dynamic Information

 Bend radius	E-Chain® twisted flexible	min. 10 x d
	fixed	min. 8 x d
	fixed	min. 5 x d
 Temperature	E-Chain® twisted flexible	-13 °F to +176 °F (-25 °C to +80 °C)
	flexible	-40 °F to +176 °F (-40 °C to +80 °C)
	fixed	-58 °F to +176 °F (-50 °C to +80 °C)
 v max.	twisted	180 °/s
 a max.	twisted	60 °/s ²
 Travel distance	Especially for robots and 3D movements	
 Torsion	Torsion ±180°, with 3.281ft (1m) cable length, Class 3	

Cable structure

 Conductor	Conductor consisting of bare copper wires (according to DIN EN 60228).
 Conductor insulation	Mechanically high-quality TPE mixture.
 Color code	► See P/N Table
 Element shield	Extremely torsion-resistant tinned braided copper shield.
 Outer jacket	Low-adhesion, halogen-free, highly abrasion-resistant mixture on the basis of PUR, adapted to suit the requirements in E-Chains® (following DIN EN 50363-10-2). Color: Dark blue (similar to RAL 5011)

Electrical Information














 Nominal voltage	300 V
 Test voltage	2000 V (following DIN EN 50395)

Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	7	≥ 1312 ft
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

Class 6.1.3.3

Properties and approvals

 UV resistance	High
 Oil resistance	Oil-resistant (following DIN EN 50363-10-2), Class 3
 Flame resistance	According to IEC 60332-1-2, FT1, VW-1
 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.com/CFROBOT9
 NFPA 79	Complies to Electrical Standard for Industrial Machinery NFPA 79 Section 12.9
 EAC	Certificate No. RU C-DE.ME77.B.00300/19 (TR ZU)
 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

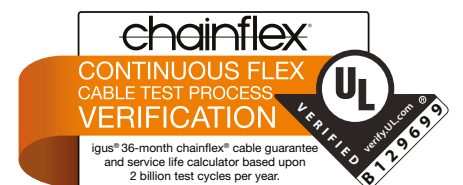
Guaranteed service life (details see page 26-27)

Cycles*	5 million	7.5 million	10 million
Temperature, from/to [°F]	Torsion max. [°/m]	Torsion max. [°/m]	Torsion max. [°/m]
-13/+5	±150	±90	±30
+5/+158	±180	±120	±60
+158/+176	±150	±90	±30

* Higher number of cycles? Online lifetime calculation ► www.chainflex.com/chainflexlife

Typical application areas

- For maximum mechanical load requirements with torsional movements, Class 6
- Especially for robots and 3D movements, Class 1
- Almost unlimited resistance to oil, Class 3
- Torsion ±180°, with 3.281ft (1m) cable length, Class 3
- Indoor and outdoor applications, UV-resistant
- Robots, Handling, spindle drives



Example image

Configurators ► www.igus.com/CFROBOT9

36 month guarantee ... 1,354 types from stock ... no cutting charges



UL-verified chainflex® guarantee ... www.igus.com/ul-verified

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			



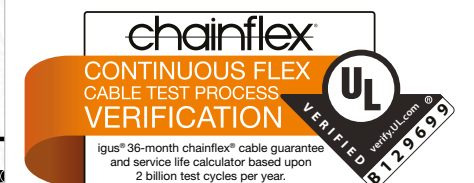
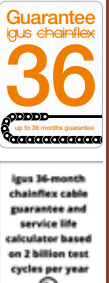
Example image

Part No.	AWG	Number of Conductors and rated cross section	Outer diameter max.		Copper index		Weight		Part No.	Core group	Color code
			[in.]	[mm]	lbs/mft	[kg/km]	lbs/mft	[kg/km]			
CFROBOT9-001	17	5 G 1.0	0.39	10.0	55.1	82	91.4	136	CFROBOT9-001	5G1.0 (2x1.0)C	white with black numbers 1-4, one conductor green-yellow white with black numbers 5-6
	17	2 x 1.0 SHLD									
CFROBOT9-004 ¹¹⁾	17	16 G 1.0	0.61	15.5	130.4	194	206.3	307	CFROBOT9-004 ¹¹⁾	16G1.0 (2x1.0)C	white with black numbers 1-4, 7-17, one conductor green-yellow white with black numbers 5-6
	17	2 x 1.0 SHLD									
CFROBOT9-006 ¹¹⁾	17	24 G 1.0	0.75	19.0	188.2	280	304.4	453	CFROBOT9-006 ¹¹⁾	24G1.0 (2x1.0)C	white with black numbers 1-4, 7-25, one conductor green-yellow white with black numbers 5-6
	17	2 x 1.0 SHLD									
CFROBOT9-007	24	15 STP x 0.25	0.73	18.5	153.9	229	248.0	369	CFROBOT9-007	15x(2x0.25)C (4x0.25)C	Color code in accordance with DIN 47100. white/green/brown/yellow(CAN-Bus)
	24	2 PR x 0.25 SHLD									
CFROBOT9-010	24	4 STP x 0.25	0.41	10.5	42.3	63	77.9	116	CFROBOT9-010	4x(2x0.25)C	white/brown, green/yellow, gray/pink, blue/red

¹¹⁾ Phase-out model
Note: The given outer diameters are maximum values.
G = with green-yellow earth core x = without earth core



igus® chainflex® cables in application of a multi-dimensional moving energy chain triflex® R for 6-axis robots



Special cables



chainflex® cable		Approvals and standards	Page
Special cables			
CFTHERMO	Thermocouple cable		408
CFFLAT	Single core flat cable		410
CFSPECIAL-182	Cables for hanging applications		412
CFSPECIAL-414	Cables for rail vehicles		414
CFSPECIAL-484	Cables for rail vehicles		416
CFSPECIAL-792	Cables for axis 7 on robots		418

The following chapter of special cables offers solutions for moved applications going beyond standard energy supply applications.

The constantly growing program of the special cables follows your special demands and we would like to offer solutions for that.

It is at the same time an inspiration for users. igus® can make cables for special applications and can fall back on most different materials and production processes. Depending to the construction this is already possible from a length of 1,640 ft. (500 m).

Use our comprehensive knowledge about cable plus the experience of 2 billion test cycles that are annually realized in the company-owned chainflex® laboratory.

The technical and material details of the CFSP families are documented data sheets of the respective cables and are at any time available up-to-date in the internet. The respective web links can be recalled on the summary pages of the CFSP cables.

We look forward to hear about your job definition!

chainflex® guarantee

As these are special cables for special applications, we ask you to contact us for information on the guaranteed lifetime:

Tel. +49-2203-9649-800, info@igus.com

www.igus.com/chainflexlife

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










Thermocouple cable | PUR | chainflex® CFTHERMO

- For high mechanical load requirements
- 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	min. 12.5 x d
		flexible	min. 10 x d
		fixed	min. 5 x d
	Temperature	E-Chain® linear	-13 °F to +176 °F (-25 °C to +80 °C)
		flexible	-40 °F to +176 °F (-40 °C to +80 °C)
		fixed	-58 °F to +176 °F (-50 °C to +80 °C)
	v max.	unsupported	6.56 ft/s (2 m/s)
		gliding	3.28 ft/s (1 m/s)
	a max.		65.6 ft/s ² (20 m/s ²)
	Travel distance		Unsupported travel distances and for gliding applications up to 164.1 ft (50 m), Class 4

Cable structure

	Conductor	Conductor consisting of a flexible special alloy. ▶ See P/N Table
	Conductor insulation	Mechanically high-quality TPE mixture.
	Conductor construction	Conductors are cabled in layers with short pitch lengths.
	Color code	According to thermo specification. ▶ See P/N Table
	Intermediate layer	Fleece taping over the external layer.
	Overall shield	Extremely bending-resistant tinned copper braid. 90 % optical coverage
	Outer jacket	Low-adhesion, halogen-free, highly abrasion-resistant mixture on the basis of PUR, adapted to suit the requirements in E-Chains® (following DIN EN 50363-10-2). Color: According to thermo specification ▶ See P/N Table











Electrical Information

	Nominal voltage	300/300 V (following DIN VDE 0298-3)
	Test voltage	1500 V

Basic requirements	low	1	2	3	4	5	6	7	highest
Travel distance	unsupported	1	2	3	4	5	6	≥ 1312 ft	
Oil resistance	none	1	2	3	4	highest			
Torsion	none	1	2	3	4	±360°			

Class 5.4.3.1

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 (TR ZU)
	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

Typical application areas

- For high mechanical load requirements, Class 5
- Unsupported travel distances and for gliding applications up to 164 ft (50 m), Class 4
- Almost unlimited resistance to oil, 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

Part No.	AWG	Number of Conductors and rated cross section	Outer diameter max.		Copper index		Weight	
			[mm ²]	[in.]	[mm]	[lbs/mft]	[kg/km]	[lbs/mft]
CFTHERMO-J-001 *	24	1 PR x 0.23	0.22	5.5	6.0	9	24.2	36
CFTHERMO-K-001	24	1 PR x 0.23	0.22	5.5	6.0	9	24.9	37
CFTHERMO-K-002	24	1 STP x 0.23	0.30	7.5	16.1	24	45.0	67
	20	3 x 0.5						

* The cross-section of the copper conductor is equivalent to the electrically effective cross-section.
Note: The given outer diameters are maximum values.
G = with green-yellow earth core x = without earth core

Part No.	Jacket color	Thermo materials	Core group	Color 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 Cu	(2x0.23)C 3G0.5	+ green, - white brown, blue, yellow-green



Example image

Configurators ▶ www.igus.com/CFTHERMO

36 month guarantee ... 1,354 types from stock ... no cutting charges



UL-verified chainflex® guarantee ... www.igus.com/ul-verified

Motor cable | TPE | chainflex® CFFLAT

- For maximum mechanical load requirements
- TPE outer jacket
- Oil and bio-oil-resistant
- PVC and halogen-free
- UV-resistant
- Hydrolysis and microbe-resistant

Dynamic Information

	Bend radius	E-Chain® linear	min. 5 x d
		flexible	min. 4 x d
		fixed	min. 3 x d
	Temperature	E-Chain® linear	-31 °F to +194 °F (-35 °C to +90 °C)
		flexible	-58 °F to +194 °F (-50 °C to +90 °C)
		fixed	-67 °F to +194 °F (-55 °C to +90 °C)
	v max.	unsupported	32.81 ft/s (10 m/s)
		gliding	19.69 ft/s (6 m/s)
	a max.	328.1 ft/s² (100 m/s²)	
	Travel distance	Unsupported travel distances and for gliding applications up to 328.1 ft (100 m), Class 5	

Cable structure

	Conductor	Highly flexible braided special conductor.
	Conductor insulation	Mechanically high-quality TPE mixture.
	Outer jacket	Low-adhesion mixture on the basis of TPE, especially abrasion-resistant and highly flexible, adapted to suit the requirements in E-Chains®. Color: Dark blue (similar to RAL 5011)

Electrical Information

	Nominal voltage	600/1000 V (following DIN VDE 0298-3)
	Test voltage	4000 V (following DIN EN 50395)

Basic requirements	low	1	2	3	4	5	6	7	highest
Travel distance	unsupported	1	2	3	4	5	6	1,312 ft +	
Oil resistance	none	1	2	3	4	highest			
Torsion	none	1	2	3	4	±360°			

Class 7.5.4.1

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.02324 (TR ZU)
	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

Typical application areas

- For maximum mechanical load requirements, Class 7
- Unsupported travel distances and for gliding applications up to 328 ft (100 m), Class 5
- Almost unlimited resistance to oil, also with bio-oils, Class 4
- Indoor and outdoor applications, UV-resistant
- Storage and retrieval units for high-bay warehouses, small installation spaces, small radii, Machining units/machine tools, quick handling, Cleanroom, semiconductor insertion, low temperature applications

Part No.	AWG	Number of Conductors and rated cross section	Outer diameter max.		Copper index		Weight	
			[in.]	[mm]	[lbs/mft]	[kg/km]	[lbs/mft]	[kg/km]
CFFLAT-40-01	12	1 x 4.0	0.55x0.22	14x5.5	32.3	48	78.6	117

Note: The given outer diameters are maximum values.
G = with green-yellow earth core x = without earth core

Bus cable | PUR | chainflex® CFSPECIAL-182

- For increased tensile load
- PUR outer jacket
- Shielded
- Oil-resistant and coolant-resistant
- Flame-retardant
- PVC and halogen-free
- Notch-resistant
- Hydrolysis and microbe-resistant

Especially for hanging applications

Dynamic Information

	Bend radius	E-Chain® linear	min. 10 x d
		flexible	min. 8 x d
		fixed	min. 5 x d
	Temperature	E-Chain® linear	-13 °F to +176 °F (-25 °C to +80 °C)
		flexible	-40 °F to +176 °F (-40 °C to +80 °C) (following DIN EN 60811-504)
		fixed	-58 °F to +176 °F (-50 °C to +80 °C) (following DIN EN 50305)
	v max.	unsupported	32.81 ft/s (10 m/s)
		gliding	19.69 ft/s (6 m/s)
	a max.	328.1 ft/s² (100 m/s²)	
	Travel distance	For hanging applications up to 164.1 ft (50 m)	

Cable structure

	Conductor	Conductor consisting of bare copper wires (according to DIN EN 60228).
	Conductor insulation	According to bus specification.
	Conductor construction	According to bus specification.
	Color code	According to bus specification.
	Inner jacket	TPE mixture adapted to suit the requirements in E-Chains®.
	Overall shield	Bending-resistant tinned copper braid. 90 % optical coverage
	Reinforcement	High tensile strength aramid braid embedded in the outer jacket.
	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 mixture on the basis of PUR, highly abrasion- and bending-resistant, adapted to suit the requirements in hanging applications (following DIN EN 50363-10-2). Color: Jet black (similar to RAL 9005)

Electrical Information

	Nominal voltage	300 V
	Test voltage	500 V

Configurators ► www.igus.com/CFSPECIAL-182

36 month guarantee ... 1,354 types from stock ... no cutting charges

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 2009
	Flame resistance	According to IEC 60332-1-2, FT1, VW-1
	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.com/CFSPECIAL-182
	NFPA 79	Complies to Electrical Standard for Industrial Machinery NFPA 79 Section 12.9
	EAC	Certificate No. RU C-DE.ME77.B.01218 (TR ZU)
	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

Typical application areas

- For increased tensile load
- For hanging applications up to 50 m
- Almost unlimited resistance to oil
- Storage and retrieval units for high-bay warehouses, hanging control units, Elevators

Part No.	AWG	Number of Conductors and rated cross section [mm²]	Outer diameter max. [in.] [mm]	Copper index [lbs/mt] [kg/km]	Weight [lbs/mt] [kg/km]
Ethernet/CAT5e/PoE					
CFSPPECIAL-182-045 ¹⁵⁾	26	4 PR x 0.15	0.37 9.5	28.2 42	91.4 136
Profinet					
CFSPPECIAL-182-060	22	2 PR x 0.38	0.33 8.5	24.9 37	84.0 125

¹⁵⁾ Color outer jacket: Black (similar to RAL 9005)
Note: The given outer diameters are maximum values.
 G = with green-yellow earth core x = without earth core

Part No.	Characteristic wave impedance approx. [Ω]	Core group	Color code
Ethernet/CAT5e/PoE			
CFSPPECIAL-182-045 ¹⁵⁾	100	(4x2x0.15)C	white-blue/blue, white-orange/orange, white-green/green, white-brown/brown
Profinet			
CFSPPECIAL-182-060	100	(4x0.38)C	white, orange, blue, yellow (Star-quad)



UL-verified chainflex® guarantee ... www.igus.com/ul-verified








Control cable for rail vehicles | chainflex® CFSPECIAL-414





- For maximum mechanical load requirements 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**


Dynamic Information

 Bend radius	E-Chain® linear	min. 7.5 x d
	flexible	min. 6 x d
	fixed	min. 4 x d
 Temperature	E-Chain® linear	-4 °F to +176 °F (-20 °C to +80 °C)
	flexible	-13 °F to +176 °F (-25 °C to +80 °C) (following DIN EN 60811-504)
	fixed	-22 °F to +176 °F (-30 °C to +80 °C) (following DIN EN 50305)
 v max.	unsupported	32.81 ft/s (10 m/s)
 a max.		65.6 ft/s ² (20 m/s ²)
 Travel distance		For unsupported travels up to 16.4 ft (5 m)












Cable structure

 Conductor	Conductor consisting of bare copper wires (according to DIN EN 60228).
 Conductor insulation	Mechanically high-quality special mixture.
 Color code	Black with white numbers.
 Outer jacket	Special mixture adapted to suit the requirements in E-Chains®(following DIN EN 50264-1 EM 104). Color: Jet black (similar to RAL 9005)

Electrical Information

 Nominal voltage	300/500 V
 Test voltage	2000 V

Properties and approvals

 UV resistance	High
 Oil resistance	Oil-resistant (following DIN EN 60811-2-1), Class 3
 Flame resistance	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 Certificate No. RU C-DE.ME77.B.00300/19 (TR ZU)
 EAC	
 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
 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

Part No.	AWG	Number of Conductors and rated cross section	Outer diameter max.		Copper index		Weight	
			[in.]	[mm]	[lbs/mft]	[kg/km]	[lbs/mft]	[kg/km]
CFSPECIAL-414-03-04	22	4 x 0.34	0.20	5.0	10.1	15	24.2	36
CFSPECIAL-414-03-06	22	6 x 0.34	0.24	6.0	15.5	23	34.3	51

Note: The given outer diameters are maximum values.
G = with green-yellow earth core x = without earth core

Part No.	Core group	Color code
CFSPECIAL.414.03.04	4 x 0.34	Black with white numbers 1-4
CFSPECIAL.414.03.06	6 x 0.34	Black with white numbers 1-6








Bus cable for rail vehicles | chainflex® CFSPECIAL-484








- For maximum mechanical load requirements 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**

Dynamic Information

 Bend radius	E-Chain® linear	min. 12.5 x d
	flexible	min. 10 x d
	fixed	min. 7 x d
 Temperature	E-Chain® linear	-4 °F to +176 °F (-20 °C to +80 °C)
	flexible	-13 °F to +176 °F (-25 °C to +80 °C) (following DIN EN 60811-504)
	fixed	-22 °F to +176 °F (-30 °C to +80 °C) (following DIN EN 50305)
 v max.	unsupported	32.81 ft/s (10 m/s)
 a max.		65.6 ft/s ² (20 m/s ²)
 Travel distance		For unsupported travels up to 16.4 ft (5 m)












Cable structure

 Conductor	Conductor consisting of bare copper wires (according to DIN EN 60228).
 Conductor insulation	According to bus specification.
 Conductor construction	According to bus specification.
 Color code	According to bus specification.
 Inner jacket	TPE mixture adapted to suit the requirements in E-Chains®.
 Overall shield	Extremely bending-resistant tinned copper braid. 90 % optical coverage
 Outer jacket	Special mixture adapted to suit the requirements in E-Chains®(following DIN EN 50264-1 EM 104). Color: Jet black (similar to RAL 9005)

Electrical Information

 Nominal voltage	50 V
 Test voltage	500 V

Properties and approvals

 UV resistance	High
 Oil resistance	Oil-resistant (following DIN EN 60811-2-1), Class 3
 Flame resistance	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 (TR ZU)
 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
 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

Part No.	AWG	Number of Conductors and rated cross section [mm ²]	Outer diameter max.		Copper index		Weight	
			[in.]	[mm]	[lbs/mft]	[kg/km]	[lbs/mft]	[kg/km]
Ethernet/CAT6								
CFSPPECIAL-484-049	26	4 PR x 0.15	0.33	8.5	28.2	42	57.8	86

Note: The given outer diameters are maximum values.
G = with green-yellow earth core x = without earth core

Part No.	Core group	Color code
Ethernet/CAT6		
CFSPPECIAL-484-049	(4x(2x0.15))C	white-blue/blue, white-orange/orange, white-green/green, white-brown/brown

Guarantee
igus chainflex
36
months

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

CFRIP

UL LISTED

FUS

NFPA

CUDA

EAC

REACH

RoHS

Climate Partner

CE

igus® chainflex® CFSPECIAL-484-049

Example image

Configurators ► www.igus.com/CFSPECIAL-484

36 month guarantee ... 1,354 types from stock ... no cutting charges








UL-verified chainflex® guarantee ... www.igus.com/ul-verified

7th axis robot cable | PUR | chainflex® CFSPECIAL-792









- 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	min. 10 x d
	flexible	min. 8 x d
	fixed	min. 5 x d
 Temperature	E-Chain® linear	-13 °F to +176 °F (-25 °C to +80 °C)
	flexible	-40 °F to +176 °F (-40 °C to +80 °C) (following DIN EN 60811-504)
	fixed	-58 °F to +176 °F (-50 °C to +80 °C) (following DIN EN 50305)
 v max.	unsupported	9.84 ft/s (3 m/s)
	gliding	6.56 ft/s (2 m/s)
 a max.		65.6 ft/s ² (20 m/s ²)
 Travel distance		Unsupported travel distances and for gliding applications up to 328.1 ft (100 m), Class 5














Cable structure

 Conductor	Conductor consisting of bare copper wires (according to DIN EN 60228).
 Conductor insulation	Mechanically high-quality TPE mixture.
 Color code	► See P/N Table
 Inner jacket	TPE mixture adapted to suit the requirements in E-Chains®.
 Overall shield	Bending-resistant tinned copper braid. 80 % optical coverage
 Outer jacket	Low-adhesion, halogen-free, highly abrasion-resistant mixture on the basis of PUR, adapted to suit the requirements in E-Chains® (following DIN EN 50363-10-2). Color: Jet black (similar to RAL 9005)

Electrical Information

 Nominal voltage	1000 V
 Test voltage	4000 V (following DIN EN 50395)

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 2009
 Flame resistance	According to IEC 60332-1-2, FT1, VW-1
 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 See data sheet for details ► www.igus.com/CFSPECIAL-792
 UL/CSA AWM	
 NFPA 79	Complies to Electrical Standard for Industrial Machinery NFPA 79 Section 12.9
 EAC	Certificate No. RU C-DE.ME77.B.00302/19 (TR ZU)
 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

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)



7th axis robot cable | PUR | chainflex® CFSPECIAL-792



Example image

Part No.	Number of Conductors and rated cross section [mm²]	Outer diameter max.		Copper index		Weight		Part No.	AWG	Core group	Color code
		[in.]	[mm]	[lbs/mft]	[kg/km]	[lbs/mft]	[kg/km]				
ABB											
CFSPECIAL-792-012	(18G2.5)C	1.00	25.5	366.2	545	592.7	882	CFSPECIAL-792-012	14	(18G2.5)C	Black cores with white numbers 1-17, one green-yellow core
Fanuc											
CFSPECIAL-792-015	(7x(6x2.0))C	1.44	36.5	671.3	999	1173.9	1747	CFSPECIAL-792-015	14	(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)+10x(3x0.75))C	1.04	26.5	283.6	422	589.3	877	CFSPECIAL-792-016	24	5x(4x0.25)	(blue/violet/brown/green),(gray/violet/yellow/brown), (gray/blue/brown/green),(gray/blue/green/yellow), (green/violet/brown/yellow)
									18	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	(5x(2x6.0+2x2.5)+(2x(6x1.0))C)C	1.40	35.5	840.0	1250	1366.1	2033	CFSPECIAL-792-011	10	10x6.0	Black cores with white numbers 1-9, one green-yellow core
									14	10x2.5	Black cores with white numbers 10-18, one green-yellow core
									17	2x(6x1.0)C	Black cores with white numbers 19-30
CFSPECIAL-792-013	((6x1.5)C+3x(3x4)+1G6)C	1.10	28.0	456.3	679	819.8	1220	CFSPECIAL-792-013	16	(6x1.5)C	Black cores with white numbers 10-15
									12	3x(3x4)	Black cores with white numbers 1-9
									10	1G6	Green-yellow core
CFSPECIAL-792-014	(2x(3x1.5)C+3x(3x10)+1G10)C	1.40	35.5	900.4	1340	1425.9	2122	CFSPECIAL-792-014	16	2x(3x1.5)C	Black cores with white numbers 10-15
									8	3x(3x10)	Black cores with white numbers 1-9
									8	1G10	Green-yellow core

Note: The given outer diameters are maximum values.
G = with green-yellow earth core x = without earth core





- For maximum mechanical load requirements
- PUR hose
- Oil-resistant and coolant-resistant

- Abrasion-resistant
- Outside-toleranced
- PVC-free/halogen-free

Dynamic Information

	Bend radius	flexible	min. 10 x d
		fixed	min. 7.5 x d
	Temperature	flexible	-13 °F to +176 °F (-25 °C to +80 °C)
		fixed	-40 °F to +185 °F (-40 °C to +85 °C)
	v max.	unsupported	32.81 ft/s (10 m/s)
		gliding	19.69 ft/s (6 m/s)
	a max.		164.1 ft/s ² (50 m/s ²)

Technical data

	Material	Abrasion-resistant on the basis of Polyurthane adapted to suit the requirements in E-Chains®. Color: Blue
	Dimensions	Outside-toleranced
	Operating pressure	174 psi at 68 °F (20 °C)
	Vacuum	-14.5 psi at 68 °F (20°C)

Properties and approvals

	Oil resistance	Oil resistant
	Silicon-free	Free from substances that impair the wetting of paint (based on PV 3.10.07 – status 1992)
	Halogen-free	Following EN 50267-2-1
	Lead-free	Following 2011/65/EC (RoHS-II)

Part No.	Internal diameter approx.		Wall thickness approx.		Outer diameter max.		Weight	
	[in.]	[mm]	[in.]	[mm]	[in.]	[mm]	[lbs/ft]	[kg/km]
CAPU-A-04-0	0.11	2.7	0.03	0.65	0.16	4.0	5.4	8
CAPU-A-06-0	0.16	4.0	0.04	1.00	0.24	6.0	12.8	19
CAPU-A-08-0	0.22	5.7	0.05	1.15	0.31	8.0	20.1	30
CAPU-A-10-0	0.28	7.0	0.06	1.50	0.39	10.0	32.2	48
CAPU-A-12-0	0.31	8.0	0.08	2.00	0.47	12.0	51.0	76
CAPU-A-16-0	0.43	11.0	0.10	2.50	0.63	16.0	85.2	127
CAPU-I-02	0.16	4.0	0.05	1.15	0.25	6.4	15.0	22
CAPU-I-03	0.19	4.8	0.06	1.50	0.31	8.0	26.0	39
CAPU-I-04	0.25	6.4	0.06	1.50	0.38	9.7	32.0	48
CAPU-I-06	0.31	8.0	0.09	2.29	0.50	12.7	45.0	67
CAPU-I-08	0.41	10.4	0.11	2.7	0.63	16.0	58.0	86

Order example: CAPU-A-04-0 – To your desired length
CAPU chainflex® series -A Code Material -04 Code Ø -0 Special identification

Online order ► www.chainflex.com/CAPU

Delivery time 24hr or today.
Delivery time means time until shipping of goods.



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.

Example image

Configurators ► www.igus.com/CAPU

36 month guarantee ... 1,354 types from stock ... no cutting charges



UL-verified chainflex® guarantee ... www.igus.com/ul-verified





- For maximum mechanical load requirements
- PE hose
- Oil-resistant and coolant-resistant
- Highly abrasion-resistant
- Outside-toleranced
- PVC-free/halogen-free

Dynamic Information

	Bend radius	flexible	10 x d
		fixed	7.5 x d
	Temperature	flexible	-13 °F to +140 °F (-25 °C to +60 °C)
		fixed	-22 °F to +149 °F (-30 °C to +65 °C)
	v max.	unsupported	32.81 ft/s (10 m/s)
		gliding	19.69 ft/s (6 m/s)
	a max.		164.1 ft/s² (50 m/s²)

Technical data

	Material	Highly abrasion-resistant on the basis of Polyethylene adapted to suit the requirements in E-Chains®. Color: White
	Dimensions	Outside-toleranced
	Operating pressure	174 psi at 68 °F (20 °C)
	Vacuum	-14.5 psi at 68 °F (20 °C)

Properties and approvals

	Oil resistance	Oil resistant
	Silicon-free	Free from substances that impair the wetting of paint (based on PV 3.10.07 – status 1992)
	Halogen-free	Following EN 50267-2-1
	Lead-free	Following 2011/65/EC (RoHS-II)
	Clean room	According to ISO Class 1, material/cable tested by IPA according to ISO standard 14644-1.

Part No.	Internal diameter approx.		Wall thickness approx.		Outer diameter max.		Weight	
	[in.]	[mm]	[in.]	[mm]	[in.]	[mm]	[lbs/ft]	[kg/km]
CAPE-A-04-0	0.11	2.7	0.03	0.65	0.16	4.0	5.4	8
CAPE-A-06-0	0.16	4.0	0.04	1.00	0.24	6.0	12.8	19
CAPE-A-08-0	0.22	5.7	0.05	1.15	0.31	8.0	20.1	30
CAPE-A-10-0	0.28	7.0	0.06	1.50	0.39	10.0	32.2	48
CAPE-A-12-0	0.31	8.0	0.08	2.00	0.47	12.0	51.0	76
CAPE-A-16-0	0.43	11.0	0.10	2.50	0.63	16.0	85.2	127

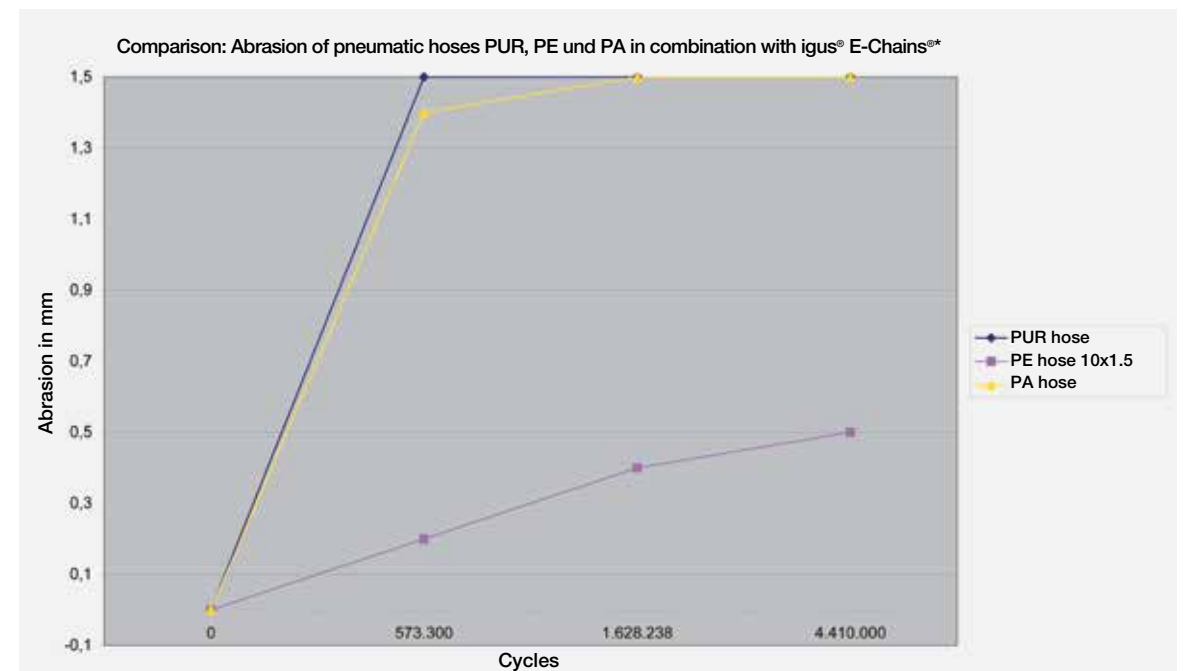
Order example: CAPE-A-04-0 – To your desired length
CAPE chainflex® series -A Code Material -04 Code Ø -0 Special identification

Online order ► www.chainflex.com/CAPE

Delivery time 24hr or today.
Delivery time means time until shipping of goods.



igus® material abrasion test



* igus® E-Chain® with opening link 450.30

Example image

Configurators ► www.igus.com/CAPE

36 month guarantee ... 1,354 types from stock ... no cutting charges



UL-verified chainflex® guarantee ... www.igus.com/ul-verified










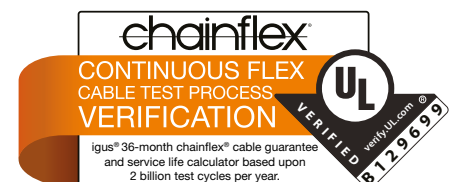
Camera

Video / vision / bus technology



chainflex® ReadyCable®

Cable type	Jacket	Page
Harnessed Bus cables		
 FireWire	Pre-harnessed cable	TPE 428
 USB 2.0	Pre-harnessed cable	PVC/PUR/TPE 430
 USB 3.0	Pre-harnessed cable	PVC/PUR 432
 GigE	Pre-harnessed cable	PUR-ROBOT/TPE 433
Harnessed coax cables		
 Coax	Pre-harnessed cable (BNC/SMA)	TPE 434
 VGA	Pre-harnessed cable	TPE 437
 DVI-D/HDMI	Pre-harnessed cable	TPE 438



* Technical information on the cable quality:
TPE
from page 192









Harnessed Bus cables, FireWire, to your required length					
Part No.	chainflex® cable	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max.		Minimum bend radius [x d]
			[in]	[mm]	
Male A/Male A					
Pre-harnessed at both ends					
MAT9048160	CFBUS-055	2x(2x0.15)C+2x(0.34)C	0.31	8.0	12.5
Male A/Female A					
Pre-harnessed at both ends					
MAT9048621	CFBUS-055	2x(2x0.15)C+2x(0.34)C	0.31	8.0	12.5
Male A/Male B					
Pre-harnessed at both ends					
MAT9048623	CFBUS-055	2x(2x0.15)C+2x(0.34)C	0.31	8.0	12.5
Male A/Female B					
Pre-harnessed at both ends					
MAT9048625	CFBUS-055	2x(2x0.15)C+2x(0.34)C	0.31	8.0	12.5
Female B/Female B					
Pre-harnessed at both ends					
MAT9048627	CFBUS-055	2x(2x0.15)C+2x(0.34)C	0.31	8.0	12.5
Female A/Female A					
Pre-harnessed at both ends					
MAT9048620	CFBUS-055	2x(2x0.15)C+2x(0.34)C	0.31	8.0	12.5
Female A/Male B					
Pre-harnessed at both ends					
MAT9048622	CFBUS-055	2x(2x0.15)C+2x(0.34)C	0.31	8.0	12.5

Note: The given outer diameters are maximum values.
G = with green-yellow earth core x = without earth core

i Maximum transmission length: 32.81 ft (10 m)

Harnessed Bus cables, FireWire, to your required length					
Part No.	chainflex® cable	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max.		Minimum bend radius [x d]
			[in]	[mm]	
Female A/Female B					
Pre-harnessed at both ends					
MAT9048624	CFBUS-055	2x(2x0.15)C+2x(0.34)C	0.31	8.0	12.5
Male B/Male B					
Pre-harnessed at both ends					
MAT9048626	CFBUS-055	2x(2x0.15)C+2x(0.34)C	0.31	8.0	12.5
Male B/Female B					
Pre-harnessed at both ends					
MAT9048628	CFBUS-055	2x(2x0.15)C+2x(0.34)C	0.31	8.0	12.5

Harnessed with these connectors

Male A (Polycarbonate GF cover), with latch		
Female A (Polycarbonate GF cover), with latch		
Male B (Heat shrink boot), without latch		
Female B (Heat shrink boot), without latch		

Note: The given outer diameters are maximum values.
G = with green-yellow earth core x = without earth core

i Maximum transmission length: 32.81 ft (10 m)

Harnessed Bus cables | USB 2.0

* Technical information on the cable quality:

TPE







from page 192

Harnessed Bus cables, USB 2.0, to your required length					
Part No.	chainflex® cable	Number of cores and conductor nominal cross section	Outer diameter (d) max.		Minimum bend radius
			[mm²]	[in] [mm]	
USB type A/open cable end					
Pre-harnessed at one end					
USB9040001	CFBUS-065	((2xAWG28)+2xAWG20)C	0.22	5.5	12.5
USB9040201 ¹⁾	CFBUS-066	((2xAWG24)+2xAWG20)C	0.26	6.5	12.5
USB type A/A					
Pre-harnessed at both ends					
USB9040010	CFBUS-065	((2xAWG28)+2xAWG20)C	0.22	5.5	12.5
USB9040210 ¹⁾	CFBUS-066	((2xAWG24)+2xAWG20)C	0.26	6.5	12.5
USB type B/open cable end					
Pre-harnessed at one end					
USB9040020	CFBUS-065	((2xAWG28)+2xAWG20)C	0.22	5.5	12.5
USB9040220 ¹⁾	CFBUS-066	((2xAWG24)+2xAWG20)C	0.26	6.5	12.5
USB type B/B					
Pre-harnessed at both ends					
USB9040030	CFBUS-065	((2xAWG28)+2xAWG20)C	0.22	5.5	12.5
USB9040230 ¹⁾	CFBUS-066	((2xAWG24)+2xAWG20)C	0.26	6.5	12.5
USB type A/B					
Pre-harnessed at both ends					
USB9040040	CFBUS-065	((2xAWG28)+2xAWG20)C	0.22	5.5	12.5
USB9040240 ¹⁾	CFBUS-066	((2xAWG24)+2xAWG20)C	0.26	6.5	12.5
USB type A/A (socket)					
Pre-harnessed at both ends					
USB9040060	CFBUS-065	((2xAWG28)+2xAWG20)C	0.22	5.5	12.5
USB9040260 ¹⁾	CFBUS-066	((2xAWG24)+2xAWG20)C	0.26	6.5	12.5

¹⁾CFBUS-066 is delivered with heat shrink tubing over USB housing.

Note: The given outer diameters are maximum values.
G = with green-yellow earth core x = without earth core

i Maximum transmission length: 16.4 ft (5 m)

Harnessed with these connectors		
USB 2.0 Type A		
USB 2.0 Type B		
USB 2.0 Type A (socket)		

Harnessed Bus cables | USB 3.0

* Technical information on the cable quality:
PVC, oil-res. PUR
 from page 178 from page 186

Harnessed Bus cables, USB 3.0, in fixed lengths							
Cable quality	Part No.	chainflex® cable	Cable length	Number of cores and conductor nominal cross section	Outer diameter (d) max.	Minimum bend radius	
			[m]	[mm²]	[in] [mm]	[x d]	

USB 3.0 type A / open cable end

Pre-harnessed at one end



PVC, oil-res.	USB9640200	CFBUS-PVC-068	3	(2x(2xAWG28)+2x(2xAWG28)C)C	0.28 7.0	12.5	
PVC, oil-res.	USB9640201	CFBUS-PVC-068	5	(2x(2xAWG28)+2x(2xAWG28)C)C	0.28 7.0	12.5	
PVC, oil-res.	USB9640202	CFBUS-PVC-068	7	(2x(2xAWG28)+2x(2xAWG28)C)C	0.28 7.0	12.5	
PUR	USB9540200	CFBUS-PUR-068	3	(2x(2xAWG28)+2x(2xAWG28)C)C	0.28 7.0	12.5	
PUR	USB9540201	CFBUS-PUR-068	5	(2x(2xAWG28)+2x(2xAWG28)C)C	0.28 7.0	12.5	
PUR	USB9540202	CFBUS-PUR-068	7	(2x(2xAWG28)+2x(2xAWG28)C)C	0.28 7.0	12.5	

USB 3.0 Typ A/USB 3.0 micro-B

Pre-harnessed at both ends



PVC, oil-res.	USB9640203	CFBUS-PVC-068	2.5	(2x(2xAWG28)+2x(2xAWG28)C)C	0.28 7.0	12.5	
PUR	USB9540203	CFBUS-PUR-068	2.5	(2x(2xAWG28)+2x(2xAWG28)C)C	0.28 7.0	12.5	

Note: The given outer diameters are maximum values.
 G = with green-yellow earth core x = without earth core

Harnessed with these connectors

USB 3.0 Type A



USB 3.0 Type Micro-B



i Maximum transmission length: 32.81 ft (10 m)

Harnessed Bus cables | GigE

* Technical information on the cable quality:
PUR-ROBOT TPE
 from page 394 from page 192

Harnessed Bus cables, GigE, to your required length						
Cable quality	Part No.	chainflex® cable	Number of cores and conductor nominal cross section	Outer diameter (d) max.	Minimum bend radius	
			[mm²]	[in] [mm]	[x d]	

RJ45 metal/RJ45 metal

Pre-harnessed at both ends



PUR-ROBOT	GIG9045001	CFROBOT8-045	4x(2x0.14)C	0.37 9.5	10	
TPE	GIG9040001	CFBUS-045	(4x(2x0.15))C	0.33 8.5	10	

RJ45 metal/RJ45 plastic

Pre-harnessed at both ends



PUR-ROBOT	GIG9045002	CFROBOT8-045	4x(2x0.14)C	0.37 9.5	10	
TPE	GIG9040002	CFBUS-045	(4x(2x0.15))C	0.33 8.5	10	

Note: The given outer diameters are maximum values.
 G = with green-yellow earth core x = without earth core

Harnessed with these connectors

RJ45 metal



RJ45 plastic, knurled screws



i Maximum transmission length: 164 ft (50 m)

Harnessed coax cables | 50 Ω

* Technical information on the cable quality:
TPE
from page 154

Harnessed Coax cables, CFKoax 50 Ω, BNC, to your required length						
Part No.	chainflex® cable	Coax type	Number of cores and conductor nominal cross section	Outer diameter (d) max.		Minimum bend radius
				[mm²]	[in]	
BNC Connector/Connector						
Pre-harnessed at both ends						
MAT90455662	CFKoax2-01	RG58	1xHF50-0.9/2.95	0.22	5.5	10
BNC Connector/Socket						
Pre-harnessed at both ends						
MAT90455663	CFKoax2-01	RG58	1xHF50-0.9/2.95	0.22	5.5	10
BNC Socket/Socket						
Pre-harnessed at one end						
MAT90455664	CFKoax2-01	RG58	1xHF50-0.9/2.95	0.22	5.5	10
BNC Connector/open cable end						
Pre-harnessed at both ends						
MAT90455665	CFKoax2-01	RG58	1xHF50-0.9/2.95	0.22	5.5	10
BNC Socket/open cable end						
Pre-harnessed at one end						
MAT90455666	CFKoax2-01	RG58	1xHF50-0.9/2.95	0.22	5.5	10

Harnessed Coax cables, CFKoax 50 Ω, SMA, to your required length						
Part No.	chainflex® cable	Coax type	Number of cores and conductor nominal cross section	Outer diameter (d) max.		Minimum bend radius
				[mm²]	[in]	
SMA Connector/Connector						
Pre-harnessed at both ends						
MAT90455667	CFKoax2-01	RG58	1xHF50-0.9/2.95	0.22	5.5	10
SMA Connector/Socket						
Pre-harnessed at both ends						
MAT90455668	CFKoax2-01	RG58	1xHF50-0.9/2.95	0.22	5.5	10
SMA Socket/Socket						
Pre-harnessed at one end						
MAT90455669	CFKoax2-01	RG58	1xHF50-0.9/2.95	0.22	5.5	10
SMA Connector/open cable end						
Pre-harnessed at both ends						
MAT90455670	CFKoax2-01	RG58	1xHF50-0.9/2.95	0.22	5.5	10
SMA Socket/open cable end						
Pre-harnessed at one end						
MAT90455671	CFKoax2-01	RG58	1xHF50-0.9/2.95	0.22	5.5	10

Note: The given outer diameters are maximum values.
G = with green-yellow earth core x = without earth core

Harnessed Coax cables, CFKoax 50 Ω, BNC+SMA, to your required length						
Part No.	chainflex® cable	Coax type	Number of cores and conductor nominal cross section	Outer diameter (d) max.		Minimum bend radius
				[mm²]	[in]	
BNC Connector/SMA Connector						
Pre-harnessed at both ends						
MAT90478758	CFKoax2-01	RG58	1xHF50-0.9/2.95	0.22	5.5	10
BNC Connector/SMA Socket						
Pre-harnessed at both ends						
MAT90478759	CFKoax2-01	RG58	1xHF50-0.9/2.95	0.22	5.5	10
BNC Socket/SMA Connector						
Pre-harnessed at one end						
MAT90478760	CFKoax2-01	RG58	1xHF50-0.9/2.95	0.22	5.5	10
BNC socket/SMA socket						
Pre-harnessed at both ends						
MAT90478761	CFKoax2-01	RG58	1xHF50-0.9/2.95	0.22	5.5	10

 Maximum transmission length: 164 ft (50 m)

Harnessed coax cables | 75 Ω

* Technical information on the cable quality:
TPE
from page 154

Harnessed Coax cables, CFKoax 75 Ω, 1 coaxial element, to your required length						
Part No.	chainflex® cable	Coax type	Number of cores and conductor nominal cross section	Outer diameter (d) max.		Minimum bend radius
				[mm²]	[in]	
BNC Connector/Socket						
Pre-harnessed at both ends						
MAT90423400	CFKoax1-01	RG179	1xHF75-0.3/1.6	0.18	4.5	10
BNC Connector/Connector						
Pre-harnessed at both ends						
MAT90423401	CFKoax1-01	RG179	1xHF75-0.3/1.6	0.18	4.5	10
BNC Socket/Socket						
Pre-harnessed at one end						
MAT90423402	CFKoax1-01	RG179	1xHF75-0.3/1.6	0.18	4.5	10
BNC Connector/open cable end						
Pre-harnessed at both ends						
MAT90423403	CFKoax1-01	RG179	1xHF75-0.3/1.6	0.18	4.5	10
BNC Socket/open cable end						
Pre-harnessed at one end						
MAT90423404	CFKoax1-01	RG179	1xHF75-0.3/1.6	0.18	4.5	10

Harnessed Coax cables, CFKoax 75 Ω, 5 coaxial elements, to your required length						
Part No.	chainflex® cable	Coax type	Number of cores and conductor nominal cross section	Outer diameter (d) max.		Minimum bend radius
				[mm²]	[in]	
BNC Connector/Socket						
Pre-harnessed at both ends						
MAT90423405	CFKoax1-05	RG179	5xHF75-0.3/1.6	0.39	10.0	10
BNC Connector/Connector						
Pre-harnessed at both ends						
MAT90423406	CFKoax1-05	RG179	5xHF75-0.3/1.6	0.39	10.0	10
BNC Socket/Socket						
Pre-harnessed at one end						
MAT90423407	CFKoax1-05	RG179	5xHF75-0.3/1.6	0.39	10.0	10
BNC Connector/open cable end						
Pre-harnessed at both ends						
MAT90423408	CFKoax1-05	RG179	5xHF75-0.3/1.6	0.39	10.0	10
BNC Socket/open cable end						
Pre-harnessed at one end						
MAT90423409	CFKoax1-05	RG179	5xHF75-0.3/1.6	0.39	10.0	10

Note: The given outer diameters are maximum values.
G = with green-yellow earth core x = without earth core

Harnessed Coax cables, CFKoax 75 Ω, VGA/SUB-D, to your required length						
Part No.	chainflex® cable	Coax type	Number of cores and conductor nominal cross section	Outer diameter (d) max.		Minimum bend radius
				[mm²]	[in]	
SUB-D Pin/SUB-D Pin						
Pre-harnessed at both ends						
MAT90455658	CFKoax1-05	RG179	5xHF75-0.3/1.6	0.39	10.0	10
SUB-D Pin/ SUB-D Socket						
Pre-harnessed at both ends						
MAT90455659	CFKoax1-05	RG179	5xHF75-0.3/1.6	0.39	10.0	10
SUB-D Pin/BNC Connector						
Pre-harnessed at both ends						
MAT90455660	CFKoax1-05	RG179	5xHF75-0.3/1.6	0.39	10.0	10
SUB-D Socket/BNC Connector						
Pre-harnessed at both ends						
MAT90455661	CFKoax1-05	RG179	5xHF75-0.3/1.6	0.39	10.0	10

i Maximum transmission length: 164 ft (50 m)

Harnessed DVI-D/HDMI cables | DVI/HDMI

* Technical information on the cable quality:

TPE

from page 192

Harnessed DVI-D/HDMI cables, to your required length					
Part No.	chainflex® cable	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max.		Minimum bend radius [x d]
			[in]	[mm]	
DVI-D Pin/ DVI-D Pin					
Pre-harnessed at both ends					
MAT90455657	CFBUS-070	(4x(2xAWG28)C+(2xAWG28)+3xAWG28)C	0.35	9.0	12.5
DVI-D Pin/HDMI Pin					
Pre-harnessed at both ends					
MAT90478691	CFBUS-070	(4x(2xAWG28)C+(2xAWG28)+3xAWG28)C	0.35	9.0	12.5
HDMI Pin/HDMI Pin					
Pre-harnessed at both ends					
MAT90478692	CFBUS-070	(4x(2xAWG28)C+(2xAWG28)+3xAWG28)C	0.35	9.0	12.5

Note: The given outer diameters are maximum values.
G = with green-yellow earth core x = without earth core















i Video transmission only (no audio signals)
Maximum transmission length: 164 ft (50 m)

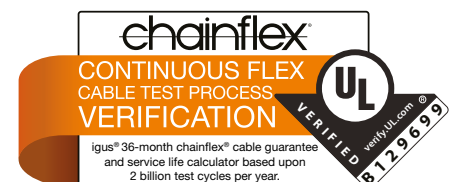
Network

Network / Ethernet / FOC / Fieldbus



chainflex® ReadyCable®

Series	Page
Harnessed Ethernet cables	
 CAT5 Straight	PVC/PUR/TPE 443
 CAT5e Straight	PVC/PUR/TPE 444
 CAT5e Straight	PVC/PUR/TPE 447
 CAT5e Crossover	PVC/PUR/TPE 448
 CAT5e with 615 connectors	PVC/PUR/TPE 449
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 CAT6 Straight/Crossover	TPE 456
 CAT6A with M12 connectors	PVC/PUR/TPE 457
 CAT7 Straight	PUR/TPE 459
 Industrial Ethernet molded	PVC/PUR 460
Harnessed Profibus cables	
 Profibus	PVC/PUR/TPE 462
Harnessed Profinet cables	
 Profinet	PVC/PUR/TPE 468
 Industrial Profinet molded	PVC/PUR 472

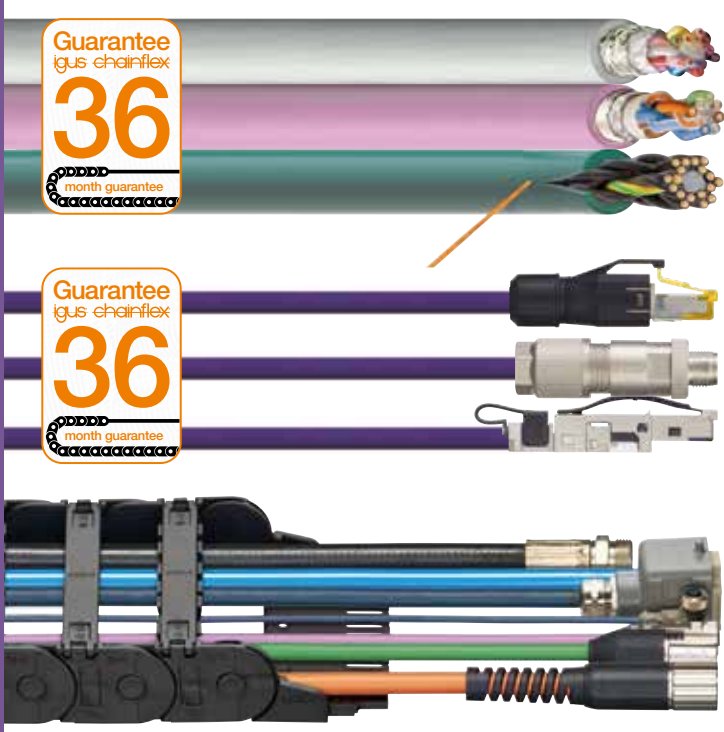


chainflex® Ethernet cable | Overview

Electrical Performance

CAT7 10 GBit 600 MHz	chainflex® CFBUS-PVC-052 Page 178	chainflex® CFBUS-PUR-052 Page 186	chainflex® CFBUS-052 Page 192	chainflex® CFROBOT8-052 Page 392					
	chainflex® CFBUS-PVC-050 Page 178	chainflex® CFBUS-PUR-050 Page 186	chainflex® CFBUS-050 Page 192	chainflex® CFROBOT8-050 Page 392					
CAT6A 10 GBit 500 MHz	chainflex® CFBUS-PVC-049 Page 178	chainflex® CFBUS-PUR-049 Page 186	chainflex® CFBUS-049 Page 192	chainflex® CFROBOT8-049 Page 392	chainflex® CFBUS-LB-049 Page 198	chainflex® CFROBOT8-049 Page 392	chainflex® CFBUS-049 Page 192	chainflex® CFROBOT8-049 Page 392	
	chainflex® CFBUS-PVC-045 Page 178	chainflex® CFBUS-PUR-045 Page 186	chainflex® CFBUS-045 Page 192	chainflex® CFROBOT8-045 Page 392	chainflex® CFBUS-LB-045 Page 198	chainflex® CFROBOT8-PLUS-045 P.396	chainflex® CFBUS-045 Page 192	chainflex® CFROBOT8-045 Page 392	
CAT6 1 GBit 250 MHz	chainflex® CF888-045 Page 174	chainflex® CFBUS-PVC-045 Page 178	chainflex® CF898-045 Page 182	chainflex® CFBUS-PUR-045 Page 186	chainflex® CFBUS-045 Page 192	chainflex® CFBUS-LB-045 Page 198	chainflex® CFROBOT8-045 Page 392	chainflex® CFROBOT8-PLUS-045 P.396	
	chainflex® CF888-060 Page 174	chainflex® CFBUS-PVC-060 Page 178	chainflex® CF898-060 Page 182	chainflex® CFBUS-PUR-060 Page 186	chainflex® CFBUS-060 Page 192	chainflex® CFBUS-LB-060 Page 198	chainflex® CFROBOT8-060 Page 392	chainflex® CFROBOT8-PLUS-060 P.396	
CAT5e 1 GBit 100 MHz	chainflex® CF888-040 Page 174	chainflex® CFBUS-PVC-040 Page 178	chainflex® CF898-040 Page 182	chainflex® CFBUS-PUR-040 Page 186	chainflex® CFBUS-040 Page 192	chainflex® CFBUS-LB-040 Page 198	chainflex® CFROBOT8-040 Page 392	chainflex® CFROBOT8-PLUS-040 P.396	
	chainflex® CF888-060 Page 174	chainflex® CFBUS-PVC-060 Page 178	chainflex® CF898-060 Page 182	chainflex® CFBUS-PUR-060 Page 186	chainflex® CFBUS-060 Page 192	chainflex® CFBUS-LB-060 Page 198	chainflex® CFROBOT8-060 Page 392	chainflex® CFROBOT8-PLUS-060 P.396	
SPE 1 GBit 600 MHz				chainflex® CFBUS-PUR-042 Page 186					
								Single Pair Ethernet for E-Chains®	
Profinet 100 MBit 100 MHz	chainflex® CF888-060 Page 174	chainflex® CFBUS-PVC-060 Page 178	chainflex® CF898-060 Page 182	chainflex® CFBUS-PUR-060 Page 186	chainflex® CFBUS-060 Page 192	chainflex® CFBUS-LB-060 Page 198	chainflex® CFROBOT8-060 Page 392	chainflex® CFROBOT8-PLUS-060 P.396	
	chainflex® CF888-040 Page 174	chainflex® CFBUS-PVC-040 Page 178	chainflex® CF898-040 Page 182	chainflex® CFBUS-PUR-040 Page 186	chainflex® CFBUS-040 Page 192	chainflex® CFBUS-LB-040 Page 198	chainflex® CFROBOT8-040 Page 392	chainflex® CFROBOT8-PLUS-040 P.396	
CAT5 100 MBit 100 MHz									
	PVC 15 x d	PVC oil-res. 12.5 x d	iguPUR 15 x d	PUR 12.5 x d	TPE UL 10 x d	TPE Hal 7.5 x d	Torsion ± 180°/m ± 360°/m	High tensile 50 m freely hanging	For rail vehicles

Mechanical Performance



Highly flexible chainflex® cables

- ▶ 1,354 cables from stock
- ▶ Tested, and in seven jacket materials
- ▶ No cutting charges, from 1 m
- ▶ 36 months or 10 million cycles guarantee*
- ▶ Approvals and certificates

Harnessed cables ReadyCable®

- ▶ New: More than 400 harnessed Ethernet cables
- ▶ In seven jacket materials
- ▶ 36 months or 10 million cycles guarantee*
- ▶ Shipped in 24h**
- ▶ To your desired length, with centimetre accuracy

Assembled E-Chainsystems® ReadyChain®

- ▶ Customised and ready to connect according to your specifications
- ▶ From the basic solution to complex systems
- ▶ Optionally with assembly rack
- ▶ From batch size 1 to series production
- ▶ Assembly service by experts

* Whichever is first. Up to 5 million cycles 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.com/Chainflexlife.

** Delivery time means time until shipping of goods.

Harnessed Ethernet cables | CAT5

* Technical information on the cable quality:

PVC, oil-res. PUR TPE
from page 178 from page 186 from page 190

Harnessed Ethernet cables, CAT5 Straight, to your required length					
Cable quality	Part No.	Number of cores and conductor nominal cross section	Outer diameter (d) max.		Minimum bend radius
		[mm ²]	[in]	[mm]	[x d]

Harting CAT5 connector



PVC, oil-res.	CAT9311001	(4x0.25)C	0.26	6.5	12.5
PUR	CAT9411001	(4x0.25)C	0.26	6.5	12.5
TPE	CAT9511001	(4x0.25)C	0.28	7.0	10

Harting CAT5 connector



PVC, oil-res.	CAT9311002	(4x0.25)C	0.26	6.5	12.5
PUR	CAT9411002	(4x0.25)C	0.26	6.5	12.5
TPE	CAT9511002	(4x0.25)C	0.28	7.0	10

Note: The given outer diameters are maximum values.
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

Harnessed Ethernet cables | CAT5e

* Technical information on the cable quality:

PVC from page 174
PVC, oil-res. from page 178
iguPUR from page 182
PUR from page 186
PUR-ROBOT from page 394
PUR-SPECIAL from page 412
TPE from page 192

Harnessed Ethernet cables, CAT5e Straight, to your required length					
Cable quality	Part No.	Number of cores and conductor nominal cross section	Outer diameter (d) max.		Minimum bend radius
			[in]	[mm]	

Telegärtner CAT6A connector



PVC	CAT9121002	(4x(2x0.14))C	0.28	7.0	15
PVC, oil-res.	CAT9321002	(4x(2x0.15))C	0.30	7.5	12.5
iguPUR	CAT9221002	(4x(2x0.14))C	0.28	7.0	15
PUR	CAT9421002	(4x(2x0.15))C	0.30	7.5	12.5
PUR-ROBOT	CAT9621002	4x(2x0.14)C	0.37	9.5	10
PUR-SPECIAL	CAT9721001	(4x(2x0.15))C	0.37	9.5	10
TPE	CAT9521002	(4x(2x0.15))C	0.33	8.5	10

Harting CAT6A connector



PVC	CAT9121003	(4x(2x0.14))C	0.28	7.0	15
PVC, oil-res.	CAT9321003	(4x(2x0.15))C	0.30	7.5	12.5
iguPUR	CAT9221003	(4x(2x0.14))C	0.28	7.0	15
PUR	CAT9421003	(4x(2x0.15))C	0.30	7.5	12.5
PUR-ROBOT	CAT9621003	4x(2x0.14)C	0.37	9.5	10
PUR-SPECIAL	CAT9721002	(4x(2x0.15))C	0.37	9.5	10
TPE	CAT9521003	(4x(2x0.15))C	0.33	8.5	10

Telegärtner CAT6 connector



PVC	CAT9121004	(4x(2x0.14))C	0.28	7.0	15
PVC, oil-res.	CAT9321004	(4x(2x0.15))C	0.30	7.5	12.5
iguPUR	CAT9221004	(4x(2x0.14))C	0.28	7.0	15
PUR	CAT9421004	(4x(2x0.15))C	0.30	7.5	12.5
PUR-ROBOT	CAT9621004	4x(2x0.14)C	0.37	9.5	10
PUR-SPECIAL	CAT9721003	(4x(2x0.15))C	0.37	9.5	10
TPE	CAT9521004	(4x(2x0.15))C	0.33	8.5	10

Note: The given outer diameters are maximum values.
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

Harnessed Ethernet cables | CAT5e

* Technical information on the cable quality:

PVC from page 174
PVC, oil-res. from page 178
iguPUR from page 182
PUR from page 186
PUR-ROBOT from page 394
PUR-SPECIAL from page 412
TPE from page 192

Harnessed Ethernet cables, CAT5e Straight, to your required length					
Cable quality	Part No.	Number of cores and conductor nominal cross section	Outer diameter (d) max.		Minimum bend radius
			[in]	[mm]	

Telegärtner CAT6/CAT6A connector



PVC	CAT9121005	(4x(2x0.14))C	0.28	7.0	15
PVC, oil-res.	CAT9321005	(4x(2x0.15))C	0.30	7.5	12.5
iguPUR	CAT9221005	(4x(2x0.14))C	0.28	7.0	15
PUR	CAT9421005	(4x(2x0.15))C	0.30	7.5	12.5
PUR-ROBOT	CAT9621005	4x(2x0.14)C	0.37	9.5	10
PUR-SPECIAL	CAT9721004	(4x(2x0.15))C	0.37	9.5	10
TPE	CAT9521005	(4x(2x0.15))C	0.33	8.5	10

Telegärtner CAT6 connector (RJ45/M12 x-coded)



PVC	CAT9121006	(4x(2x0.14))C	0.28	7.0	15
PVC, oil-res.	CAT9321006	(4x(2x0.15))C	0.30	7.5	12.5
iguPUR	CAT9221006	(4x(2x0.14))C	0.28	7.0	15
PUR	CAT9421006	(4x(2x0.15))C	0.30	7.5	12.5
PUR-ROBOT	CAT9621006	4x(2x0.14)C	0.37	9.5	10
PUR-SPECIAL	CAT9721005	(4x(2x0.15))C	0.37	9.5	10
TPE	CAT9521006	(4x(2x0.15))C	0.33	8.5	10

Telegärtner CAT6A connector (M12 x-coded)



PVC	CAT9121007	(4x(2x0.14))C	0.28	7.0	15
PVC, oil-res.	CAT9321007	(4x(2x0.15))C	0.30	7.5	12.5
iguPUR	CAT9221007	(4x(2x0.14))C	0.28	7.0	15
PUR	CAT9421007	(4x(2x0.15))C	0.30	7.5	12.5
PUR-ROBOT	CAT9621007	4x(2x0.14)C	0.37	9.5	10
PUR-SPECIAL	CAT9721006	(4x(2x0.15))C	0.37	9.5	10
TPE	CAT9521007	(4x(2x0.15))C	0.33	8.5	10

Note: The given outer diameters are maximum values.
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

Harnessed Ethernet cables | CAT5e

* Technical information on the cable quality:

PVC **PVC, oil-res.** **iguPUR** **PUR** **PUR-ROBOT** **PUR-SPECIAL TPE**
from page 174 from page 178 from page 182 from page 186 from page 394 from page 412 from page 192

Harnessed Ethernet cables, CAT5e Straight, to your required length					
Cable quality	Part No.	Number of cores and conductor nominal cross section	Outer diameter (d) max.		Minimum bend radius
			[mm ²]	[in] [mm]	

Phoenix Contact CAT6A connector



PVC	CAT9121010	(4x(2x0.14))C	0.28	7.0	15
PVC, oil-res.	CAT9321010	(4x(2x0.15))C	0.30	7.5	12.5
iguPUR	CAT9221010	(4x(2x0.14))C	0.28	7.0	15
PUR	CAT9421010	(4x(2x0.15))C	0.30	7.5	12.5
PUR-ROBOT	CAT9621010	4x(2x0.14)C	0.37	9.5	10
TPE	CAT9521010	(4x(2x0.15))C	0.33	8.5	10

Phoenix Contact CAT6A connector (M12 x-coded)



PVC	CAT9121013	(4x(2x0.14))C	0.28	7.0	15
PVC, oil-res.	CAT9321013	(4x(2x0.15))C	0.30	7.5	12.5
iguPUR	CAT9221013	(4x(2x0.14))C	0.28	7.0	15
PUR	CAT9421013	(4x(2x0.15))C	0.30	7.5	12.5
PUR-ROBOT	CAT9621013	4x(2x0.14)C	0.37	9.5	10
PUR-SPECIAL	CAT9721011	(4x(2x0.15))C	0.37	9.5	10
TPE	CAT9521013	(4x(2x0.15))C	0.33	8.5	10

HARTING CAT6A connector Socket/Pin (M12 x-coded)



PVC	CAT9121014	(4x(2x0.14))C	0.28	7.0	15
PVC, oil-res.	CAT9321014	(4x(2x0.15))C	0.30	7.5	12.5
iguPUR	CAT9221014	(4x(2x0.14))C	0.28	7.0	15
PUR	CAT9421014	(4x(2x0.15))C	0.30	7.5	12.5
PUR-ROBOT	CAT9621014	4x(2x0.15)C	0.37	9.5	10
TPE	CAT9521014	(4x(2x0.15))C	0.33	8.5	10

Note: The given outer diameters are maximum values.
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

Harnessed Ethernet cables | CAT5e Straight

* Technical information on the cable quality:

PVC, oil-res. **PUR** **PUR-ROBOT** **TPE**
from page 178 from page 186 from page 394 from page 192

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	Outer diameter (d) max.		Minimum bend radius
			[mm ²]	[in] [mm]	

Harting CAT5 connector



TPE	CAT9040001	(4x0.25)C	0.28	7.0	10
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Harting CAT5e connector



PVC, oil-res.	CAT9340020	(4x(2x0.15))C	0.30	7.5	12.5
PUR	CAT9240020	(4x(2x0.15))C	0.30	7.5	12.5
PUR-ROBOT	CAT9440020	4x(2x0.14)C	0.37	9.5	10
TPE	CAT9040020	(4x(2x0.15))C	0.33	8.5	10

Yamaichi CAT5 connector



PVC, oil-res.	CAT9340060	(4x(2x0.15))C	0.30	7.5	12.5
PUR	CAT9240060	(4x(2x0.15))C	0.30	7.5	12.5
PUR-ROBOT	CAT9440060	4x(2x0.14)C	0.37	9.5	10
TPE	CAT9040060	(4x(2x0.15))C	0.33	8.5	10

Phoenix Contact CAT5e connector



PVC, oil-res.	CAT9340100	(4x(2x0.15))C	0.30	7.5	12.5
PUR	CAT9240100	(4x(2x0.15))C	0.30	7.5	12.5
PUR-ROBOT	CAT9440100	4x(2x0.14)C	0.37	9.5	10
TPE	CAT9040100	(4x(2x0.15))C	0.33	8.5	10

Yamaichi CAT5 connector in Hummel housing



PVC, oil-res.	CAT9340140	(4x(2x0.15))C	0.30	7.5	12.5
PUR	CAT9240140	(4x(2x0.15))C	0.30	7.5	12.5
PUR-ROBOT	CAT9440140	4x(2x0.14)C	0.37	9.5	10
TPE	CAT9040140	(4x(2x0.15))C	0.33	8.5	10

Yamaichi CAT5 connector in Hummel housing/



PVC, oil-res.	CAT9340180	(4x(2x0.15))C	0.30	7.5	12.5
PUR	CAT9240180	(4x(2x0.15))C	0.30	7.5	12.5
PUR-ROBOT	CAT9440180	4x(2x0.14)C	0.37	9.5	10
TPE	CAT9040180	(4x(2x0.15))C	0.33	8.5	10

Note: The given outer diameters are maximum values.
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

Harnessed Ethernet cables | CAT5e Crossover

* Technical information on the cable quality:

PVC, oil-res. PUR PUR-ROBOT TPE
from page 178 from page 186 from page 394 from page 192

Harnessed Ethernet cables, CAT5e Crossover, 8-pole, to your required length					
Cable quality	Part No.	Number of cores and conductor nominal cross section	Outer diameter (d) max.		Minimum bend radius
			[mm ²]	[in] [mm]	

Harting CAT5e connector



PVC, oil-res.	CAT9340040	(4x(2x0.15))C	0.30	7.5	12.5
PUR	CAT9240040	(4x(2x0.15))C	0.30	7.5	12.5
PUR-ROBOT	CAT9440040	4x(2x0.14)C	0.37	9.5	10
TPE	CAT9040040	(4x(2x0.15))C	0.33	8.5	10

Yamaichi CAT5 connector



PVC, oil-res.	CAT9340080	(4x(2x0.15))C	0.30	7.5	12.5
PUR	CAT9240080	(4x(2x0.15))C	0.30	7.5	12.5
PUR-ROBOT	CAT9440080	4x(2x0.14)C	0.37	9.5	10
TPE	CAT9040080	(4x(2x0.15))C	0.33	8.5	10

Phoenix Contact CAT5e connector



PVC, oil-res.	CAT9340120	(4x(2x0.15))C	0.30	7.5	12.5
PUR	CAT9240120	(4x(2x0.15))C	0.30	7.5	12.5
PUR-ROBOT	CAT9440120	4x(2x0.14)C	0.37	9.5	10
TPE	CAT9040120	(4x(2x0.15))C	0.33	8.5	10

Yamaichi CAT5 connector in Hummel housing



PVC, oil-res.	CAT9340160	(4x(2x0.15))C	0.30	7.5	12.5
PUR	CAT9240160	(4x(2x0.15))C	0.30	7.5	12.5
PUR-ROBOT	CAT9440160	4x(2x0.14)C	0.37	9.5	10
TPE	CAT9040160	(4x(2x0.15))C	0.33	8.5	10

Yamaichi CAT5 connector in Hummel housing/



PVC, oil-res.	CAT9340200	(4x(2x0.15))C	0.30	7.5	12.5
PUR	CAT9240200	(4x(2x0.15))C	0.30	7.5	12.5
PUR-ROBOT	CAT9440200	4x(2x0.14)C	0.37	9.5	10
TPE	CAT9040200	(4x(2x0.15))C	0.33	8.5	10

Note: The given outer diameters are maximum values.
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

Harnessed Ethernet cables | CAT5e

* Technical information on the cable quality:

PVC, oil-res. PUR PUR-ROBOT TPE
from page 178 from page 186 from page 394 from page 192

Harnessed Ethernet cables, CAT5e, to your required length					
Cable quality	Part No.	Number of cores and conductor nominal cross section	Outer diameter (d) max.		Minimum bend radius
			[mm ²]	[in] [mm]	

Connection cable

Hirose CAT5e-/ Intercomtec connector



PVC, oil-res.	CAT9340800	(4x(2x0.15))C	0.30	7.5	12.5
PUR	CAT9240800	(4x(2x0.15))C	0.30	7.5	12.5
PUR-ROBOT	CAT9440800	4x(2x0.14)C	0.37	9.5	10
TPE	CAT9040800	(4x(2x0.15))C	0.33	8.5	10

Extension cable

Intercomtec connector



PVC, oil-res.	CAT9340810	(4x(2x0.15))C	0.30	7.5	12.5
PUR	CAT9240810	(4x(2x0.15))C	0.30	7.5	12.5
PUR-ROBOT	CAT9440810	4x(2x0.14)C	0.37	9.5	10
TPE	CAT9040810	(4x(2x0.15))C	0.33	8.5	10

Termination cable

Intercomtec-/ Hirose CAT5e connector



PVC, oil-res.	CAT9340820	(4x(2x0.15))C	0.30	7.5	12.5
PUR	CAT9240820	(4x(2x0.15))C	0.30	7.5	12.5
PUR-ROBOT	CAT9440820	4x(2x0.14)C	0.37	9.5	10
TPE	CAT9040820	(4x(2x0.15))C	0.33	8.5	10

Note: The given outer diameters are maximum values.
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

Harnessed Ethernet cables | CAT5e PVC with Hirose connectors

* Technical information on the cable quality:

PVC, oil-res.

from page 178

Connector 1	Connector 2	Connector 3	Connector 4	Connector 5
L angle curve lower	L angle curve above	T angle curve outer	T angle curve inward	straight



Product range Straight (PVC) 8 poles

Product range Part No.	Harnessing with connector combination	Number of cores and conductor nominal cross section [mm ²]	Outer diameter [in]	Outer diameter [mm]	Minimum bend radius
CAT9340380	1 2	(4x(2x0.15))C	0.30	7.5	12.5
CAT9340540	1 3	(4x(2x0.15))C	0.30	7.5	12.5
CAT9340560	1 4	(4x(2x0.15))C	0.30	7.5	12.5
CAT9340320	1 5	(4x(2x0.15))C	0.30	7.5	12.5
CAT9340360	2 1	(4x(2x0.15))C	0.30	7.5	12.5
CAT9340340	2 2	(4x(2x0.15))C	0.30	7.5	12.5
CAT9340500	2 3	(4x(2x0.15))C	0.30	7.5	12.5
CAT9340520	2 4	(4x(2x0.15))C	0.30	7.5	12.5
CAT9340300	2 5	(4x(2x0.15))C	0.30	7.5	12.5
CAT9340440	3 3	(4x(2x0.15))C	0.30	7.5	12.5
CAT9340480	3 4	(4x(2x0.15))C	0.30	7.5	12.5
CAT9340400	3 5	(4x(2x0.15))C	0.30	7.5	12.5
CAT9340460	4 4	(4x(2x0.15))C	0.30	7.5	12.5
CAT9340420	4 5	(4x(2x0.15))C	0.30	7.5	12.5

Product range Crossover (PVC) 8 poles

CAT9340390	1 2	(4x(2x0.15))C	0.30	7.5	12.5
CAT9340550	1 3	(4x(2x0.15))C	0.30	7.5	12.5
CAT9340570	1 4	(4x(2x0.15))C	0.30	7.5	12.5
CAT9340330	1 5	(4x(2x0.15))C	0.30	7.5	12.5
CAT9340370	2 1	(4x(2x0.15))C	0.30	7.5	12.5
CAT9340350	2 2	(4x(2x0.15))C	0.30	7.5	12.5
CAT9340510	2 3	(4x(2x0.15))C	0.30	7.5	12.5
CAT9340530	2 4	(4x(2x0.15))C	0.30	7.5	12.5
CAT9340310	2 5	(4x(2x0.15))C	0.30	7.5	12.5
CAT9340450	3 3	(4x(2x0.15))C	0.30	7.5	12.5
CAT9340490	3 4	(4x(2x0.15))C	0.30	7.5	12.5
CAT9340410	3 5	(4x(2x0.15))C	0.30	7.5	12.5
CAT9340470	4 4	(4x(2x0.15))C	0.30	7.5	12.5
CAT9340430	4 5	(4x(2x0.15))C	0.30	7.5	12.5

Note: The given outer diameters are maximum values.Example images.

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

Harnessed Ethernet cables | CAT5e PUR with Hirose connectors

* Technical information on the cable quality:

PUR

from page 186

Connector 1	Connector 2	Connector 3	Connector 4	Connector 5
L angle curve lower	L angle curve above	T angle curve outer	T angle curve inward	straight



Product range Straight (PVC) 8 poles

Product range Part No.	Harnessing with connector combination	Number of cores and conductor nominal cross section [mm ²]	Outer diameter [in]	Outer diameter [mm]	Minimum bend radius
CAT9240380	1 2	(4x(2x0.15))C	0.30	7.5	12.5
CAT9240540	1 3	(4x(2x0.15))C	0.30	7.5	12.5
CAT9240560	1 4	(4x(2x0.15))C	0.30	7.5	12.5
CAT9240320	1 5	(4x(2x0.15))C	0.30	7.5	12.5
CAT9240360	2 1	(4x(2x0.15))C	0.30	7.5	12.5
CAT9240340	2 2	(4x(2x0.15))C	0.30	7.5	12.5
CAT9240500	2 3	(4x(2x0.15))C	0.30	7.5	12.5
CAT9240520	2 4	(4x(2x0.15))C	0.30	7.5	12.5
CAT9240300	2 5	(4x(2x0.15))C	0.30	7.5	12.5
CAT9240440	3 3	(4x(2x0.15))C	0.30	7.5	12.5
CAT9240480	3 4	(4x(2x0.15))C	0.30	7.5	12.5
CAT9240400	3 5	(4x(2x0.15))C	0.30	7.5	12.5
CAT9240460	4 4	(4x(2x0.15))C	0.30	7.5	12.5
CAT9240420	4 5	(4x(2x0.15))C	0.30	7.5	12.5

Product range Crossover (PUR) 8 poles

CAT9240390	1 2	(4x(2x0.15))C	0.30	7.5	12.5
CAT9240550	1 3	(4x(2x0.15))C	0.30	7.5	12.5
CAT9240570	1 4	(4x(2x0.15))C	0.30	7.5	12.5
CAT9240330	1 5	(4x(2x0.15))C	0.30	7.5	12.5
CAT9240370	2 1	(4x(2x0.15))C	0.30	7.5	12.5
CAT9240350	2 2	(4x(2x0.15))C	0.30	7.5	12.5
CAT9240510	2 3	(4x(2x0.15))C	0.30	7.5	12.5
CAT9240530	2 4	(4x(2x0.15))C	0.30	7.5	12.5
CAT9240310	2 5	(4x(2x0.15))C	0.30	7.5	12.5
CAT9240450	3 3	(4x(2x0.15))C	0.30	7.5	12.5
CAT9240490	3 4	(4x(2x0.15))C	0.30	7.5	12.5
CAT9240410	3 5	(4x(2x0.15))C	0.30	7.5	12.5
CAT9240470	4 4	(4x(2x0.15))C	0.30	7.5	12.5
CAT9240430	4 5	(4x(2x0.15))C	0.30	7.5	12.5

Note: The given outer diameters are maximum values.Example images.

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

Harnessed Ethernet cables | CAT5e PUR-ROBOT with Hirose connectors

* Technical information on the cable quality:

PUR-ROBOT

from page 394



Product range straight (PUR-ROBOT) 8 poles

Product range Part No.	Harnessing with connector combination	Number of cores and conductor nominal cross section [mm ²]	Outer diameter [in]	Outer diameter [mm]	Minimum bend radius
CAT9440380	1 2	(4x(2x0.15)C)	0.37	9.5	10
CAT9440540	1 3	(4x(2x0.15)C)	0.37	9.5	10
CAT9440560	1 4	(4x(2x0.15)C)	0.37	9.5	10
CAT9440320	1 5	(4x(2x0.15)C)	0.37	9.5	10
CAT9440360	2 1	(4x(2x0.15)C)	0.37	9.5	10
CAT9440340	2 2	(4x(2x0.15)C)	0.37	9.5	10
CAT9440500	2 3	(4x(2x0.15)C)	0.37	9.5	10
CAT9440520	2 4	(4x(2x0.15)C)	0.37	9.5	10
CAT9440300	2 5	(4x(2x0.15)C)	0.37	9.5	10
CAT9440440	3 3	(4x(2x0.15)C)	0.37	9.5	10
CAT9440480	3 4	(4x(2x0.15)C)	0.37	9.5	10
CAT9440400	3 5	(4x(2x0.15)C)	0.37	9.5	10
CAT9440460	4 4	(4x(2x0.15)C)	0.37	9.5	10
CAT9440420	4 5	(4x(2x0.15)C)	0.37	9.5	10

Product range Crossover (PUR-ROBOT) 8 poles

CAT9440390	1 2	(4x(2x0.15)C)	0.37	9.5	10
CAT9440550	1 3	(4x(2x0.15)C)	0.37	9.5	10
CAT9440570	1 4	(4x(2x0.15)C)	0.37	9.5	10
CAT9440330	1 5	(4x(2x0.15)C)	0.37	9.5	10
CAT9440370	2 1	(4x(2x0.15)C)	0.37	9.5	10
CAT9440350	2 2	(4x(2x0.15)C)	0.37	9.5	10
CAT9440510	2 3	(4x(2x0.15)C)	0.37	9.5	10
CAT9440530	2 4	(4x(2x0.15)C)	0.37	9.5	10
CAT9440310	2 5	(4x(2x0.15)C)	0.37	9.5	10
CAT9440450	3 3	(4x(2x0.15)C)	0.37	9.5	10
CAT9440490	3 4	(4x(2x0.15)C)	0.37	9.5	10
CAT9440410	3 5	(4x(2x0.15)C)	0.37	9.5	10
CAT9440470	4 4	(4x(2x0.15)C)	0.37	9.5	10
CAT9440430	4 5	(4x(2x0.15)C)	0.37	9.5	10

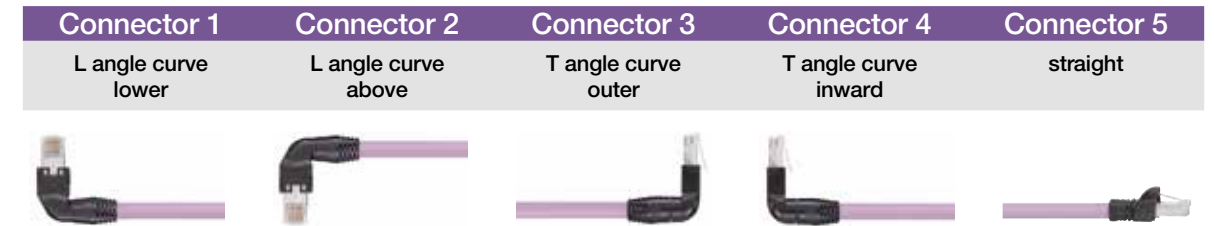
Note: The given outer diameters are maximum values. Example images.
G = with green-yellow earth core x = without earth core
Harnessing RJ45 at both ends ▶ TIA56A
Harnessing one end RJ45/one end M12 x-coded ▶ TIA56B

Harnessed Ethernet cables | CAT5e TPE with Hirose connectors

* Technical information on the cable quality:

TPE

from page 192



Product range straight (TPE) 8 poles

Product range Part No.	Harnessing with connector combination	Number of cores and conductor nominal cross section [mm ²]	Outer diameter [in]	Outer diameter [mm]	Minimum bend radius
CAT9040380	1 2	(4x(2x0.15))C	0.33	8.5	12.5
CAT9040540	1 3	(4x(2x0.15))C	0.33	8.5	12.5
CAT9040560	1 4	(4x(2x0.15))C	0.33	8.5	12.5
CAT9040320	1 5	(4x(2x0.15))C	0.33	8.5	12.5
CAT9040360	2 1	(4x(2x0.15))C	0.33	8.5	12.5
CAT9040340	2 2	(4x(2x0.15))C	0.33	8.5	12.5
CAT9040500	2 3	(4x(2x0.15))C	0.33	8.5	12.5
CAT9040520	2 4	(4x(2x0.15))C	0.33	8.5	12.5
CAT9040300	2 5	(4x(2x0.15))C	0.33	8.5	12.5
CAT9040440	3 3	(4x(2x0.15))C	0.33	8.5	12.5
CAT9040480	3 4	(4x(2x0.15))C	0.33	8.5	12.5
CAT9040400	3 5	(4x(2x0.15))C	0.33	8.5	12.5
CAT9040460	4 4	(4x(2x0.15))C	0.33	8.5	12.5
CAT9040420	4 5	(4x(2x0.15))C	0.33	8.5	12.5

Product range Crossover (TPE) 8 poles

CAT9040390	1 2	(4x(2x0.15))C	0.33	8.5	12.5
CAT9040550	1 3	(4x(2x0.15))C	0.33	8.5	12.5
CAT9040570	1 4	(4x(2x0.15))C	0.33	8.5	12.5
CAT9040330	1 5	(4x(2x0.15))C	0.33	8.5	12.5
CAT9040370	2 1	(4x(2x0.15))C	0.33	8.5	12.5
CAT9040350	2 2	(4x(2x0.15))C	0.33	8.5	12.5
CAT9040510	2 3	(4x(2x0.15))C	0.33	8.5	12.5
CAT9040530	2 4	(4x(2x0.15))C	0.33	8.5	12.5
CAT9040310	2 5	(4x(2x0.15))C	0.33	8.5	12.5
CAT9040450	3 3	(4x(2x0.15))C	0.33	8.5	12.5
CAT9040490	3 4	(4x(2x0.15))C	0.33	8.5	12.5
CAT9040410	3 5	(4x(2x0.15))C	0.33	8.5	12.5
CAT9040470	4 4	(4x(2x0.15))C	0.33	8.5	12.5
CAT9040430	4 5	(4x(2x0.15))C	0.33	8.5	12.5

Note: The given outer diameters are maximum values. Example images.
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

Harnessed Ethernet cables | CAT6

* Technical information on the cable quality:

PVC, oil-res. PUR TPE

from page 178 from page 186 from page 192

Harnessed Ethernet cables, CAT6 Straight, to your required length					
Cable quality	Part No.	Number of cores and conductor nominal cross section	Outer diameter (d) max.		Minimum bend radius
			[mm ²]	[in] [mm]	
Telegärtner CAT6A connector					
PVC, oil-res.	CAT9331002	(4x(2x0.15))C	0.30	7.5	12.5
PUR	CAT9431002	(4x(2x0.15))C	0.30	7.5	12.5
TPE	CAT9531002	(4x(2x0.15))C	0.33	8.5	10
Harting CAT6 connector					
PVC, oil-res.	CAT9331003	(4x(2x0.15))C	0.30	7.5	12.5
PUR	CAT9431003	(4x(2x0.15))C	0.30	7.5	12.5
TPE	CAT9531003	(4x(2x0.15))C	0.33	8.5	10
Telegärtner CAT6 connector					
PVC, oil-res.	CAT9331004	(4x(2x0.15))C	0.30	7.5	12.5
PUR	CAT9431004	(4x(2x0.15))C	0.30	7.5	12.5
TPE	CAT9531004	(4x(2x0.15))C	0.33	8.5	10
Telegärtner CAT6 connector (RJ45/M12 x-coded)					
PVC, oil-res.	CAT9331005	(4x(2x0.15))C	0.30	7.5	12.5
PUR	CAT9431005	(4x(2x0.15))C	0.30	7.5	12.5
TPE	CAT9531005	(4x(2x0.15))C	0.33	8.5	10
Telegärtner CAT6/CAT6A connector					
PVC, oil-res.	CAT9331006	(4x(2x0.15))C	0.30	7.5	12.5
PUR	CAT9431006	(4x(2x0.15))C	0.30	7.5	12.5
TPE	CAT9531006	(4x(2x0.15))C	0.33	8.5	10

Note: The given outer diameters are maximum values.
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

Harnessed Ethernet cables | CAT6

* Technical information on the cable quality:

PVC, oil-res. PUR TPE

from page 178 from page 186 from page 192

Harnessed Ethernet cables, CAT6 Straight, to your required length					
Cable quality	Part No.	Number of cores and conductor nominal cross section	Outer diameter (d) max.		Minimum bend radius
			[mm ²]	[in] [mm]	
Phoenix Contact CAT6A connector					
PVC, oil-res.	CAT9331009	(4x(2x0.15))C	0.30	7.5	12.5
PUR	CAT9431009	(4x(2x0.15))C	0.30	7.5	12.5
TPE	CAT9531009	(4x(2x0.15))C	0.33	8.5	10
Phoenix Contact CAT6A connector (M12 x-coded)					
PVC, oil-res.	CAT9331012	(4x(2x0.15))C	0.30	7.5	12.5
PUR	CAT9431012	(4x(2x0.15))C	0.30	7.5	12.5
TPE	CAT9531012	(4x(2x0.15))C	0.33	8.5	10

Note: The given outer diameters are maximum values.
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

Harnessed Ethernet cables | CAT6

* Technical information on the cable quality:

TPE
from page 192

Harnessed Ethernet cables, CAT6, 8-pole, to your required length					
Cable quality	Part No.	Number of cores and conductor nominal cross section	Outer diameter (d) max.		Minimum bend radius
			[mm ²]	[in] [mm]	
Straight					
Hirose CAT6A connector					
TPE	CAT9040600	(4x(2x0.15)C)C	0.41	10.5	12.5
Metz RJ45 E-DAT IP67 connector					
TPE	CAT9040640	(4x(2x0.15)C)C	0.41	10.5	12.5
Harting CAT6A connector					
TPE	CAT9040680	(4x(2x0.15)C)C	0.41	10.5	12.5
Crossover					
Hirose CAT6A connector					
TPE	CAT9040620	(4x(2x0.15)C)C	0.41	10.5	12.5
Metz RJ45 E-DAT IP67 connector					
TPE	CAT9040660	(4x(2x0.15)C)C	0.41	10.5	12.5
Harting CAT6A connector					
TPE	CAT9040700	(4x(2x0.15)C)C	0.41	10.5	12.5
M12 x-coded					
Telegärtner CAT6A connector					
TPE	CAT9040720	(4x(2x0.15)C)C	0.41	10.5	12.5
Telegärtner CAT6A connector					
TPE	CAT9040760	(4x(2x0.15)C)C	0.41	10.5	12.5

Note: The given outer diameters are maximum values.
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

Harnessed Ethernet cables | CAT6A

* Technical information on the cable quality:

PVC, oil-res. PUR PUR-ROBOT TPE
 from page 178 from page 186 from page 394 from page 192



Harnessed Ethernet cables, CAT6A Straight, to your required length					
Cable quality	Part No.	Number of cores and conductor nominal cross section	Outer diameter (d) max.		Minimum bend radius
			[mm ²]	[in] [mm]	
Telegärtner CAT6A connector					
PUR-ROBOT	CAT9641001	4x(2x0.15)C	0.41	10.5	10
TPE	CAT9541001	(4x(2x0.15)C)C	0.41	10.5	12.5
Harting CAT6A connector					
PUR-ROBOT	CAT9641002	4x(2x0.15)C	0.41	10.5	10
TPE	CAT9541002	(4x(2x0.15)C)C	0.41	10.5	12.5
Telegärtner CAT6A connector					
PVC, oil-res.	CAT9341016	4x(2x0.20)C	0.39	10.0	12.5
PUR	CAT9441016	4x(2x0.20)C	0.39	10.0	12.5
PUR-ROBOT	CAT9641015	4x(2x0.15)C	0.41	10.5	10
TPE	CAT9541015	(4x(2x0.15)C)C	0.41	10.5	12.5
Telegärtner CAT6A connector (RJ45/M12 x-coded)					
PVC, oil-res.	CAT9341017	4x(2x0.20)C	0.39	10.0	12.5
PUR	CAT9441017	4x(2x0.20)C	0.39	10.0	12.5
PUR-ROBOT	CAT9641016	4x(2x0.15)C	0.41	10.5	10
TPE	CAT9541016	(4x(2x0.15)C)C	0.41	10.5	12.5
Telegärtner CAT6A connector					
PVC, oil-res.	CAT9341018	4x(2x0.20)C	0.39	10.0	12.5
PUR	CAT9441018	4x(2x0.20)C	0.39	10.0	12.5
PUR-ROBOT	CAT9641017	4x(2x0.15)C	0.41	10.5	10
TPE	CAT9541017	(4x(2x0.15)C)C	0.41	10.5	12.5

Note: The given outer diameters are maximum values.
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

Harnessed Ethernet cables | CAT6A

* Technical information on the cable quality:

PVC, oil-res. PUR PUR-ROBOT TPE
from page 178 from page 186 from page 394 from page 192

Harnessed Ethernet cables, CAT6A Straight, to your required length					
Cable quality	Part No.	Number of cores and conductor nominal cross section	Outer diameter (d) max.		Minimum bend radius
			[mm ²]	[in] [mm]	
Phoenix Contact CAT6A connector (M12 x-coded)					
					
PVC, oil-res.	CAT9341010	4x(2x0.20)C	0.39	10.0	12.5
PUR	CAT9441010	4x(2x0.20)C	0.39	10.0	12.5
PUR-ROBOT	CAT9641009	4x(2x0.15)C	0.41	10.5	10
TPE	CAT9541009	(4x(2x0.15)C)C	0.41	10.5	12.5
HARTING CAT6A connector Socket/Pin (M12 x-coded)					
					
PVC, oil-res.	CAT9341019	4x(2x0.20)C	0.39	10.0	12.5
PUR	CAT9441019	4x(2x0.20)C	0.39	10.0	12.5

Note: The given outer diameters are maximum values.
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

Harnessed Ethernet cables | CAT7

* Technical information on the cable quality:

PUR-ROBOT TPE
from page 394 from page 192

Harnessed Ethernet cables, CAT7 Straight, to your required length					
Cable quality	Part No.	Number of cores and conductor nominal cross section	Outer diameter (d) max.		Minimum bend radius
			[mm ²]	[in] [mm]	
Telegärtner CAT6A connector					
					
PUR-ROBOT	CAT9651002	4x(2x0.15)C	0.41	10.5	10
TPE	CAT9551002	(4x(2x0.15)C)C	0.41	10.5	12.5
Harting CAT6A connector					
					
PUR-ROBOT	CAT9651003	4x(2x0.15)C	0.41	10.5	10
TPE	CAT9551003 ¹⁾	(4x(2x0.15)C)C	0.41	10.5	12.5
Harting CAT6A connector					
					
PUR-ROBOT	CAT9651004	4x(2x0.15)C	0.41	10.5	10
TPE	CAT9551004	(4x(2x0.15)C)C	0.41	10.5	12.5
Telegärtner CAT6A/ Telegärtner CAT6A, angled					
					
PUR-ROBOT	CAT9651005	4x(2x0.15)C	0.41	10.5	10
TPE	CAT9551005	(4x(2x0.15)C)C	0.41	10.5	12.5
Phoenix Contact CAT6A connector (M12 x-coded)					
					
PUR-ROBOT	CAT9651009	4x(2x0.15)C	0.41	10.5	10
TPE	CAT9551009	(4x(2x0.15)C)C	0.41	10.5	12.5
Module PS-Tera/ Connector PS-Tera					
					
PUR-ROBOT	CAT9651010	4x(2x0.15)C	0.41	10.5	10
TPE	CAT9551010	(4x(2x0.15)C)C	0.41	10.5	12.5
Connector PS-Tera/ Connector PS-Tera					
					
PUR-ROBOT	CAT9651011	4x(2x0.15)C	0.41	10.5	10
TPE	CAT9551011	(4x(2x0.15)C)C	0.41	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.
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

Industrial Ethernet molded

* Technical information on the cable quality:

PVC, oil-res. PUR

from page 178 from page 186

Industrial Ethernet molded, to your required length					
Cable quality	Part No.	Number of cores and conductor nominal cross section	Outer diameter (d) max.		Minimum bend radius
			[mm ²]	[in] [mm]	
M8 socket straight/ M8 pin straight					
PVC OIL	MAT904125450	(4x0.25)C	0.26	6.5	12.5
PUR	MAT904125410	(4x0.25)C	0.26	6.5	12.5
M8 pin straight/ M8 pin straight					
PVC OIL	MAT904125451	(4x0.25)C	0.26	6.5	12.5
PUR	MAT904125411	(4x0.25)C	0.26	6.5	12.5
M8 socket angled/ open cable end					
PVC OIL	MAT904125452	(4x0.25)C	0.26	6.5	12.5
PUR	MAT904125412	(4x0.25)C	0.26	6.5	12.5
M8 socket straight/ RJ45 straight					
PVC OIL	MAT904125453	(4x0.25)C	0.26	6.5	12.5
PUR	MAT904125413	(4x0.25)C	0.26	6.5	12.5
M12 d-coded pin straight/ M12 d-coded pin straight					
PVC OIL	MAT904125454	(4x0.25)C	0.26	6.5	12.5
PUR	MAT904125414	(4x0.25)C	0.26	6.5	12.5
M12 d-coded pin angled/ open cable end					
PVC OIL	MAT904125455	(4x0.25)C	0.26	6.5	12.5
PUR	MAT904125415	(4x0.25)C	0.26	6.5	12.5
M12 d-coded pin straight/ open cable end					
PVC OIL	MAT904125456	(4x0.25)C	0.26	6.5	12.5
PUR	MAT904125416	(4x0.25)C	0.26	6.5	12.5

Special production cables: delivery time upon request!
Note: The given outer diameters are maximum values.
G = with green-yellow earth core **x** = without earth core
 Harnessing RJ45 at both ends ▶ TIA56A

Industrial Ethernet molded, to your required length					
Cable quality	Part No.	Number of cores and conductor nominal cross section	Outer diameter (d) max.		Minimum bend radius
			[mm ²]	[in] [mm]	
M12 d-coded pin straight/ RJ45 straight					
PVC OIL	MAT904125457	(4x0.25)C	0.26	6.5	12.5
PUR	MAT904125417	(4x0.25)C	0.26	6.5	12.5
M12 d-coded pin angled/ RJ45 straight					
PVC OIL	MAT904125458	(4x0.25)C	0.26	6.5	12.5
PUR	MAT904125418	(4x0.25)C	0.26	6.5	12.5
M12 d-coded pin straight/ M8 pin straight					
PVC OIL	MAT904125459	(4x0.25)C	0.26	6.5	12.5
PUR	MAT904125419	(4x0.25)C	0.26	6.5	12.5
RJ45 straight/ RJ45 straight					
PVC OIL	MAT904125460	(4x0.25)C	0.26	6.5	12.5
PUR	MAT904125420	(4x0.25)C	0.26	6.5	12.5
RJ45 straight/ open cable end					
PVC OIL	MAT904125461	(4x0.25)C	0.26	6.5	12.5
PUR	MAT904125421	(4x0.25)C	0.26	6.5	12.5
M12 d-coded socket straight/ M12 d-coded pin straight					
PVC OIL	MAT904125462	(4x0.25)C	0.26	6.5	12.5
PUR	MAT904125422	(4x0.25)C	0.26	6.5	12.5
M12 d-coded socket straight/ M12 d-coded pin angled					
PVC OIL	MAT904125463	(4x0.25)C	0.26	6.5	12.5
PUR	MAT904125423	(4x0.25)C	0.26	6.5	12.5

Special production cables: delivery time upon request!
Note: The given outer diameters are maximum values.
G = with green-yellow earth core **x** = without earth core
 Harnessing RJ45 at both ends ▶ TIA56A

Harnessed Profibus cables | PVC

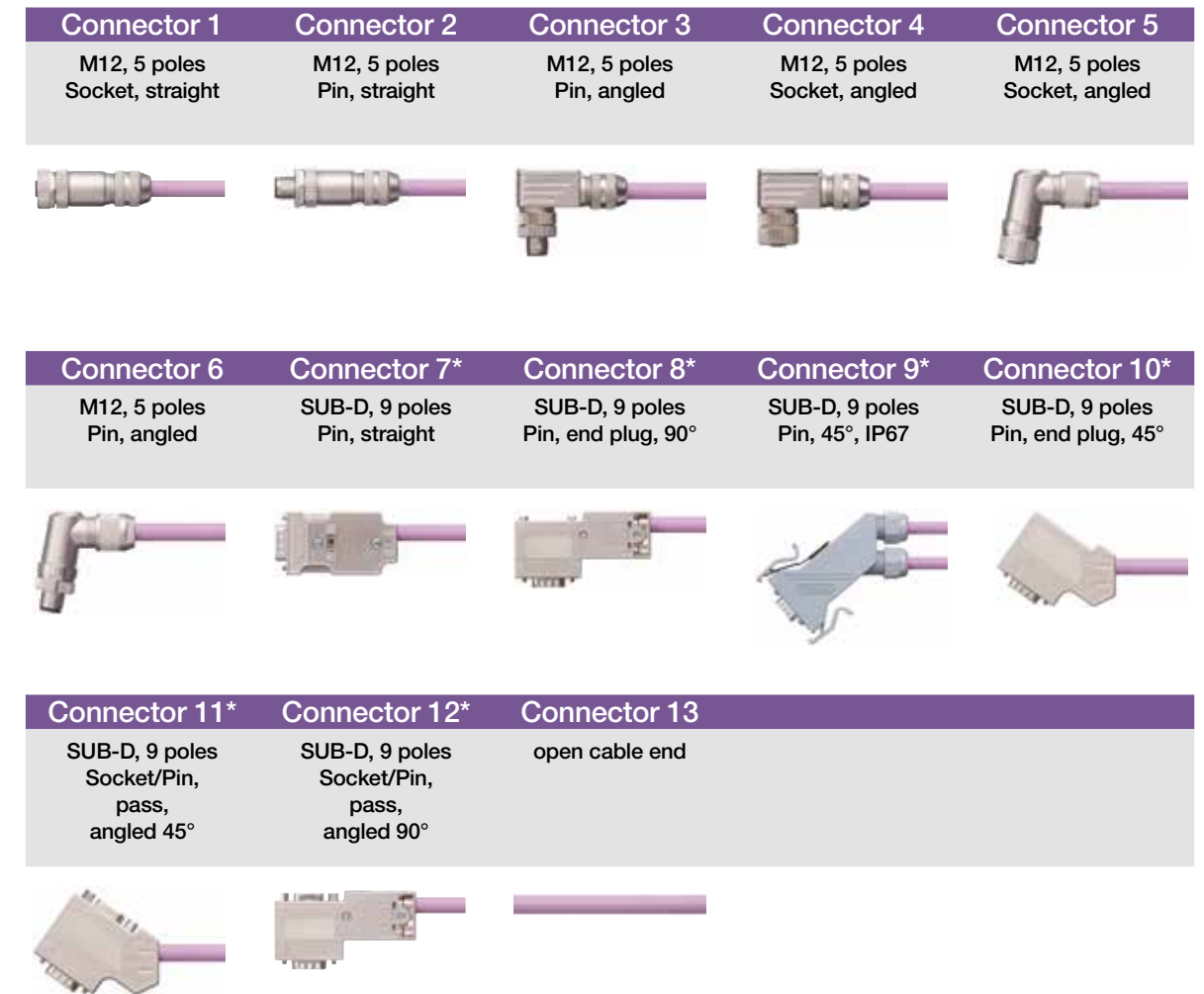
* Technical information on the cable quality:

PVC

from page 178

Harnessed Profibus cables, PVC, to your required length						
Product range Part No.	Harnessing with connector combination		Number of cores and nominal cross section [mm ²]	Outer diameter [in]	Outer diameter [mm]	Minimum bend radius [x d]
BUS9041004	1	1	(2x0.25)C	0.33	8.5	12.5
BUS9041001	1	2	(2x0.25)C	0.33	8.5	12.5
BUS9041011	1	5	(2x0.25)C	0.33	8.5	12.5
BUS9041006	1	6	(2x0.25)C	0.33	8.5	12.5
BUS9041005	1	13	(2x0.25)C	0.33	8.5	12.5
BUS9041002	2	2	(2x0.25)C	0.33	8.5	12.5
BUS9041013	2	5	(2x0.25)C	0.33	8.5	12.5
BUS9041007	2	6	(2x0.25)C	0.33	8.5	12.5
BUS9041054	2	7	(2x0.25)C	0.33	8.5	12.5
BUS9041059	2	8	(2x0.25)C	0.33	8.5	12.5
BUS9041062	2	9	(2x0.25)C	0.33	8.5	12.5
BUS9041055	2	10	(2x0.25)C	0.33	8.5	12.5
BUS9041003	2	13	(2x0.25)C	0.33	8.5	12.5
BUS9041066	3	4	(2x0.25)C	0.33	8.5	12.5
BUS9041064	3	13	(2x0.25)C	0.33	8.5	12.5
BUS9041065	4	13	(2x0.25)C	0.33	8.5	12.5
BUS9041014	5	5	(2x0.25)C	0.33	8.5	12.5
BUS9041010	5	6	(2x0.25)C	0.33	8.5	12.5
BUS9041012	5	13	(2x0.25)C	0.33	8.5	12.5
BUS9041009	6	6	(2x0.25)C	0.33	8.5	12.5
BUS9041008	6	13	(2x0.25)C	0.33	8.5	12.5
BUS9041053	7	IN 2/OUT 1	(2x0.25)C	0.33	8.5	12.5
BUS9041056	7	13	(2x0.25)C	0.33	8.5	12.5
BUS9041061	8	IN 2/OUT 1	(2x0.25)C	0.33	8.5	12.5
BUS9041060	9	IN 2/OUT 1	(2x0.25)C	0.33	8.5	12.5
BUS9041063	9	13	(2x0.25)C	0.33	8.5	12.5
BUS9041052	10	IN 2/OUT 1	(2x0.25)C	0.33	8.5	12.5
BUS9041057	10	13	(2x0.25)C	0.33	8.5	12.5
BUS9041058	11	IN 13/OUT 13	(2x0.25)C	0.33	8.5	12.5
BUS9041051	12	IN 2/OUT 1	(2x0.25)C	0.33	8.5	12.5

Note: The given outer diameters are maximum values.
G = with green-yellow earth core x = without earth core



Harnessed Profibus cable | PUR

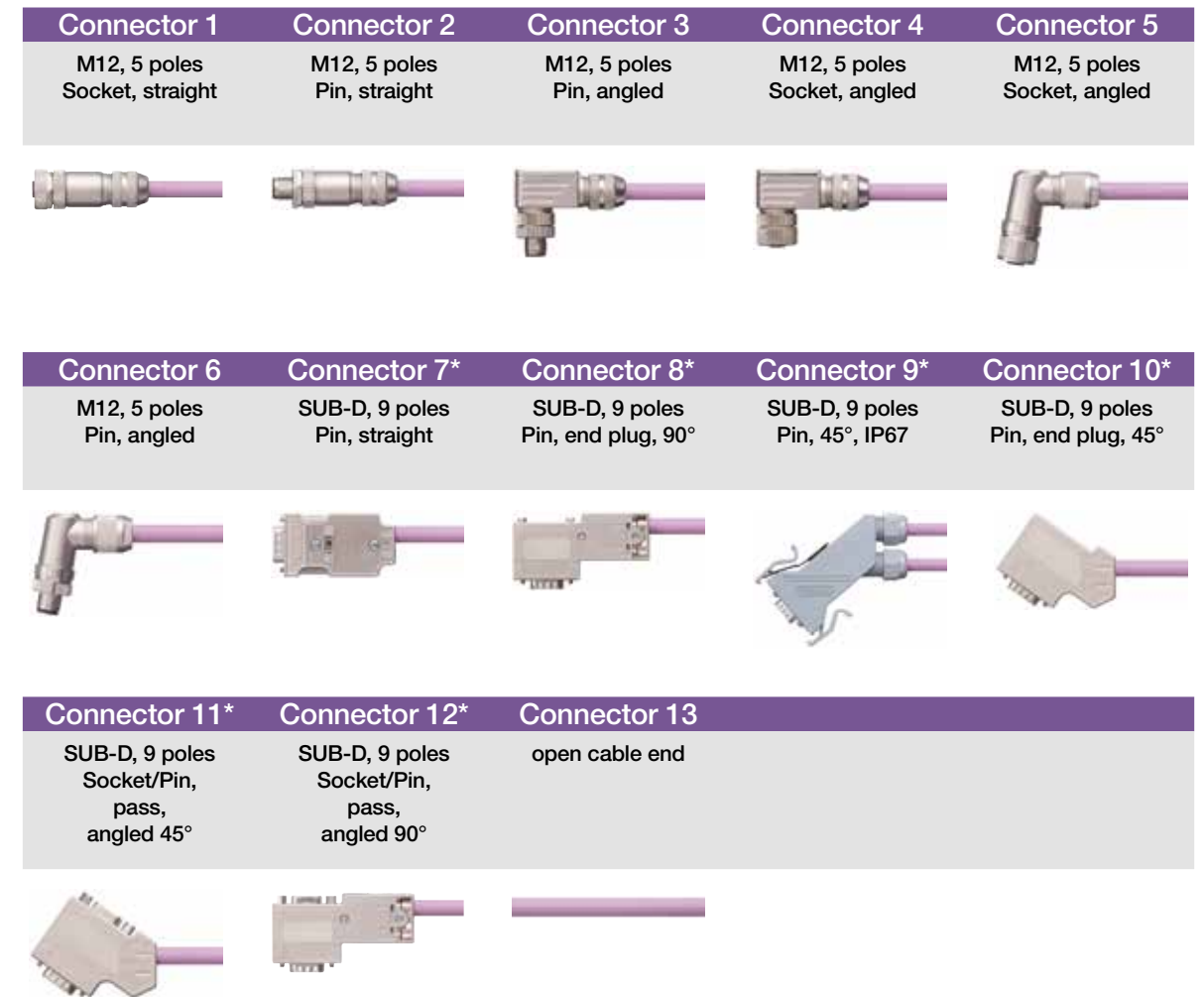
* Technical information on the cable quality:

PUR

from page 186

Harnessed Profibus cables, PUR, to your required length						
Product range Part No.	Harnessing with connector combination		Number of cores and conductor nominal cross section [mm ²]	Outer diameter [in]	Outer diameter [mm]	Minimum bend radius [x d]
BUS9041104	1	1	(2x0.25)C	0.33	8.5	12.5
BUS9041101	1	2	(2x0.25)C	0.33	8.5	12.5
BUS9041111	1	5	(2x0.25)C	0.33	8.5	12.5
BUS9041106	1	6	(2x0.25)C	0.33	8.5	12.5
BUS9041105	1	13	(2x0.25)C	0.33	8.5	12.5
BUS9041102	2	2	(2x0.25)C	0.33	8.5	12.5
BUS9041113	2	5	(2x0.25)C	0.33	8.5	12.5
BUS9041107	2	6	(2x0.25)C	0.33	8.5	12.5
BUS9041154	2	7	(2x0.25)C	0.33	8.5	12.5
BUS9041159	2	8	(2x0.25)C	0.33	8.5	12.5
BUS9041162	2	9	(2x0.25)C	0.33	8.5	12.5
BUS9041155	2	10	(2x0.25)C	0.33	8.5	12.5
BUS9041103	2	13	(2x0.25)C	0.33	8.5	12.5
BUS9041166	3	4	(2x0.25)C	0.33	8.5	12.5
BUS9041164	3	13	(2x0.25)C	0.33	8.5	12.5
BUS9041165	4	13	(2x0.25)C	0.33	8.5	12.5
BUS9041114	5	5	(2x0.25)C	0.33	8.5	12.5
BUS9041110	5	6	(2x0.25)C	0.33	8.5	12.5
BUS9041112	5	13	(2x0.25)C	0.33	8.5	12.5
BUS9041109	6	6	(2x0.25)C	0.33	8.5	12.5
BUS9041108	6	13	(2x0.25)C	0.33	8.5	12.5
BUS9041153	7	IN 2/OUT 1	(2x0.25)C	0.33	8.5	12.5
BUS9041156	7	13	(2x0.25)C	0.33	8.5	12.5
BUS9041161	8	IN 2/OUT 1	(2x0.25)C	0.33	8.5	12.5
BUS9041160	9	IN 2/OUT 1	(2x0.25)C	0.33	8.5	12.5
BUS9041163	9	13	(2x0.25)C	0.33	8.5	12.5
BUS9041152	10	IN 2/OUT 1	(2x0.25)C	0.33	8.5	12.5
BUS9041157	10	13	(2x0.25)C	0.33	8.5	12.5
BUS9041158	11	IN 13/OUT 13	(2x0.25)C	0.33	8.5	12.5
BUS9041151	12	IN 2/OUT 1	(2x0.25)C	0.33	8.5	12.5

Note: The given outer diameters are maximum values.
G = with green-yellow earth core x = without earth core



Harnessed Profibus cables | TPE

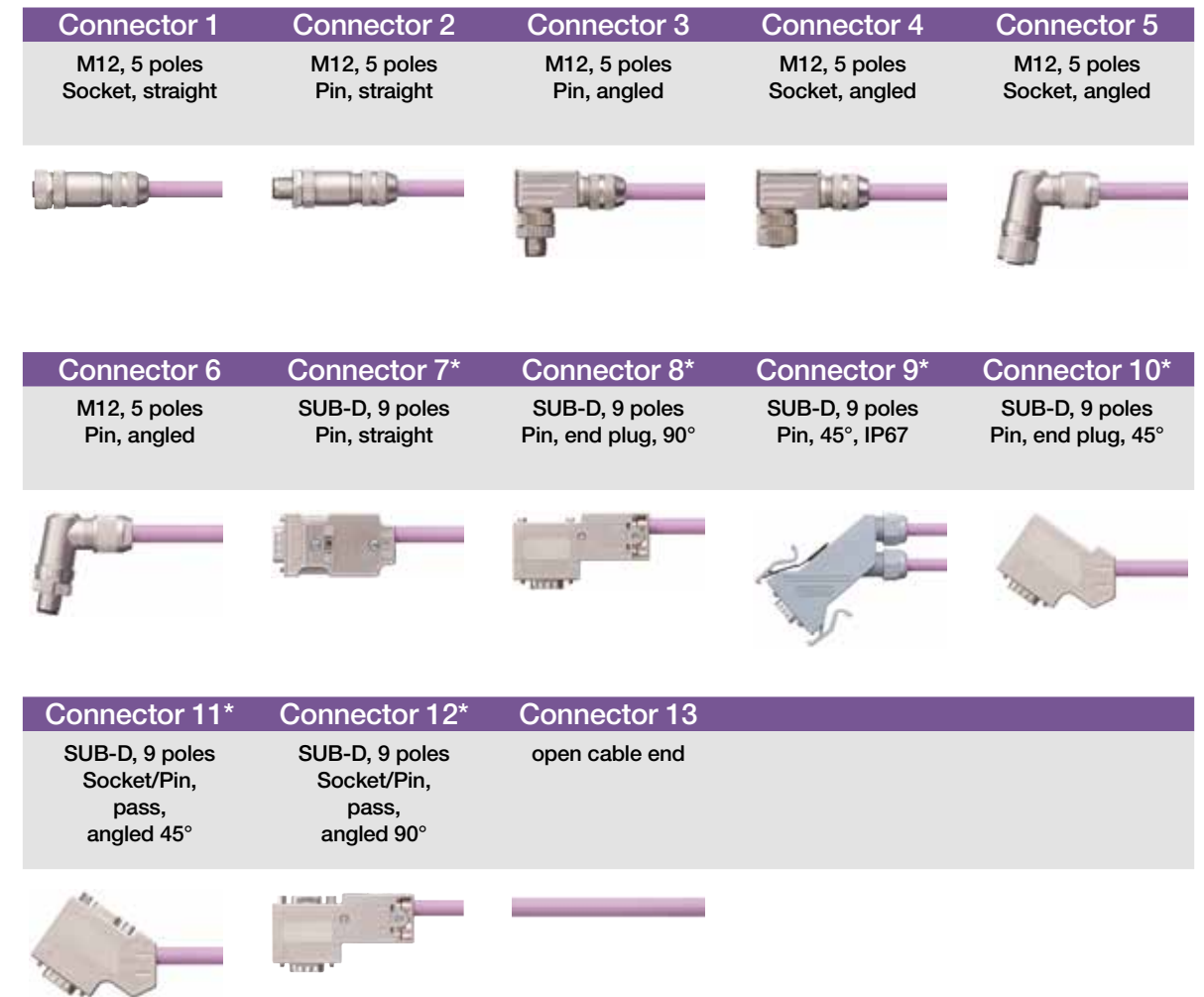
* Technical information on the cable quality:

TPE

from page 192

Harnessed Profibus cables, TPE, to your required length						
Product range Part No.	Harnessing with connector combination		Number of cores and conductor nominal cross section [mm ²]	Outer diameter [in]	Outer diameter [mm]	Minimum bend radius [x d]
BUS9041204	1	1	(2x0.25)C	0.35	9.0	12.5
BUS9041201	1	2	(2x0.25)C	0.35	9.0	12.5
BUS9041211	1	5	(2x0.25)C	0.35	9.0	12.5
BUS9041206	1	6	(2x0.25)C	0.35	9.0	12.5
BUS9041205	1	13	(2x0.25)C	0.35	9.0	12.5
BUS9041202	2	2	(2x0.25)C	0.35	9.0	12.5
BUS9041213	2	5	(2x0.25)C	0.35	9.0	12.5
BUS9041207	2	6	(2x0.25)C	0.35	9.0	12.5
BUS9041254	2	7	(2x0.25)C	0.35	9.0	12.5
BUS9041259	2	8	(2x0.25)C	0.35	9.0	12.5
BUS9041262	2	9	(2x0.25)C	0.35	9.0	12.5
BUS9041255	2	10	(2x0.25)C	0.35	9.0	12.5
BUS9041203	2	13	(2x0.25)C	0.35	9.0	12.5
BUS9041266	3	4	(2x0.25)C	0.35	9.0	12.5
BUS9041264	3	13	(2x0.25)C	0.35	9.0	12.5
BUS9041265	4	13	(2x0.25)C	0.35	9.0	12.5
BUS9041214	5	5	(2x0.25)C	0.35	9.0	12.5
BUS9041210	5	6	(2x0.25)C	0.35	9.0	12.5
BUS9041212	5	13	(2x0.25)C	0.35	9.0	12.5
BUS9041209	6	6	(2x0.25)C	0.35	9.0	12.5
BUS9041208	6	13	(2x0.25)C	0.35	9.0	12.5
BUS9041253	7	IN 2/OUT 1	(2x0.25)C	0.35	9.0	12.5
BUS9041256	7	13	(2x0.25)C	0.35	9.0	12.5
BUS9041261	8	IN 2/OUT 1	(2x0.25)C	0.35	9.0	12.5
BUS9041260	9	IN 2/OUT 1	(2x0.25)C	0.35	9.0	12.5
BUS9041263	9	13	(2x0.25)C	0.35	9.0	12.5
BUS9041252	10	IN 2/OUT 1	(2x0.25)C	0.35	9.0	12.5
BUS9041257	10	13	(2x0.25)C	0.35	9.0	12.5
BUS9041258	11	IN 13/OUT 13	(2x0.25)C	0.35	9.0	12.5
BUS9041251	12	IN 2/OUT 1	(2x0.25)C	0.35	9.0	12.5

Note: The given outer diameters are maximum values.
G = with green-yellow earth core x = without earth core



Harnessed Profinet cables

* Technical information on the cable quality:

PVC PVC, oil-res. iguPUR PUR PUR-ROBOT TPE
 from page 174 from page 178 from page 182 from page 186 from page 394 from page 192

Harnessed Profinet cables, to your required length					
Cable quality	Part No.	Number of cores and conductor nominal cross section	Outer diameter (d) max.		Minimum bend radius
			[mm ²]	[in] [mm]	

Yamaichi Profinet connector



PVC	CAT9161001	(4x0.34)C	0.28	7.0	15
PVC, oil-res.	CAT9361001	(4x0.38)C	0.28	7.0	12.5
iguPUR	CAT9261001	(4x0.34)C	0.28	7.0	15
PUR	CAT9461001	(4x0.38)C	0.28	7.0	12.5
PUR-ROBOT	CAT9661001	(2x(2x0.34))C	0.33	8.5	10
TPE	CAT9561001	(4x0.38)C	0.30	7.5	10

Harting Profinet connector



PVC	CAT9161002	(4x0.34)C	0.28	7.0	15
PVC, oil-res.	CAT9361002	(4x0.38)C	0.28	7.0	12.5
iguPUR	CAT9261002	(4x0.34)C	0.28	7.0	15
PUR	CAT9461002	(4x0.38)C	0.28	7.0	12.5
PUR-ROBOT	CAT9661002	(2x(2x0.34))C	0.33	8.5	10
TPE	CAT9561002	(4x0.38)C	0.30	7.5	10

Harting Profinet connector



PVC	CAT9161003	(4x0.34)C	0.28	7.0	15
PVC, oil-res.	CAT9361003	(4x0.38)C	0.28	7.0	12.5
iguPUR	CAT9261003	(4x0.34)C	0.28	7.0	15
PUR	CAT9461003	(4x0.38)C	0.28	7.0	12.5
PUR-ROBOT	CAT9661003	(2x(2x0.34))C	0.33	8.5	10
TPE	CAT9561003	(4x0.38)C	0.30	7.5	10

Telegärtner Profinet connector



PVC	CAT9161004	(4x0.34)C	0.28	7.0	15
PVC, oil-res.	CAT9361004	(4x0.38)C	0.28	7.0	12.5
iguPUR	CAT9261004	(4x0.34)C	0.28	7.0	15
PUR	CAT9461004	(4x0.38)C	0.28	7.0	12.5
PUR-ROBOT	CAT9661004	(2x(2x0.34))C	0.33	8.5	10
TPE	CAT9561004	(4x0.38)C	0.30	7.5	10

Note: The given outer diameters are maximum values.
 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

Harnessed Profinet cables

* Technical information on the cable quality:

PVC PVC, oil-res. iguPUR PUR PUR-ROBOT TPE
 from page 174 from page 178 from page 182 from page 186 from page 394 from page 192

Harnessed Profinet cables, to your required length					
Cable quality	Part No.	Number of cores and conductor nominal cross section	Outer diameter (d) max.		Minimum bend radius
			[mm ²]	[in] [mm]	

Telegärtner Profinet connector



PVC	CAT9161005	(4x0.34)C	0.28	7.0	15
PVC, oil-res.	CAT9361005	(4x0.38)C	0.28	7.0	12.5
iguPUR	CAT9261005	(4x0.34)C	0.28	7.0	15
PUR	CAT9461005	(4x0.38)C	0.28	7.0	12.5
PUR-ROBOT	CAT9661005	(2x(2x0.34))C	0.33	8.5	10
TPE	CAT9561005	(4x0.38)C	0.30	7.5	10

Telegärtner Profinet connector/ M12 Profinet connector (x-coded)



PVC	CAT9161006	(4x0.34)C	0.28	7.0	15
PVC, oil-res.	CAT9361006	(4x0.38)C	0.28	7.0	12.5
iguPUR	CAT9261006	(4x0.34)C	0.28	7.0	15
PUR	CAT9461006	(4x0.38)C	0.28	7.0	12.5
PUR-ROBOT	CAT9661006	(2x(2x0.34))C	0.33	8.5	10
TPE	CAT9561006	(4x0.38)C	0.30	7.5	10

Telegärtner M12 Profinet connector (x-coded)



PVC	CAT9161007	(4x0.34)C	0.28	7.0	15
PVC, oil-res.	CAT9361007	(4x0.38)C	0.28	7.0	12.5
iguPUR	CAT9261007	(4x0.34)C	0.28	7.0	15
PUR	CAT9461007	(4x0.38)C	0.28	7.0	12.5
PUR-ROBOT	CAT9661007	(2x(2x0.34))C	0.33	8.5	10
TPE	CAT9561007	(4x0.38)C	0.30	7.5	10

Telegärtner and Binder Profinet connector (d-coded)



PVC	CAT9161008	(4x0.34)C	0.28	7.0	15
PVC, oil-res.	CAT9361008	(4x0.38)C	0.28	7.0	12.5
iguPUR	CAT9261008	(4x0.34)C	0.28	7.0	15
PUR	CAT9461008	(4x0.38)C	0.28	7.0	12.5
PUR-ROBOT	CAT9661008	(2x(2x0.34))C	0.33	8.5	10
TPE	CAT9561008	(4x0.38)C	0.30	7.5	10

Note: The given outer diameters are maximum values.
 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

Harnessed Profinet cables

* Technical information on the cable quality:

PVC from page 174 **PVC, oil-res.** from page 178 **iguPUR** from page 182 **PUR** from page 186 **PUR-ROBOT** from page 394 **TPE** from page 192

Harnessed Profinet cables, to your required length					
Cable quality	Part No.	Number of cores and conductor nominal cross section	Outer diameter (d) max.		Minimum bend radius
			[in]	[mm]	

Telegärtner and Binder Profinet connector (RJ45/M12 d-coded)



PVC	CAT9161009	(4x0.34)C	0.28	7.0	15
PVC, oil-res.	CAT9361009	(4x0.38)C	0.28	7.0	12.5
iguPUR	CAT9261009	(4x0.34)C	0.28	7.0	15
PUR	CAT9461009	(4x0.38)C	0.28	7.0	12.5
PUR-ROBOT	CAT9661009	(2x(2x0.34))C	0.33	8.5	10
TPE	CAT9561009	(4x0.38)C	0.30	7.5	10

Phoenix Contact Profinet connector



PVC	CAT9161012	(4x0.34)C	0.28	7.0	15
PVC, oil-res.	CAT9361012	(4x0.38)C	0.28	7.0	12.5
iguPUR	CAT9261012	(4x0.34)C	0.28	7.0	15
PUR	CAT9461012	(4x0.38)C	0.28	7.0	12.5
PUR-ROBOT	CAT9661012	(2x(2x0.34))C	0.33	8.5	10
TPE	CAT9561012	(4x0.38)C	0.30	7.5	10

Phoenix Contact Profinet connector (x-coded)



PVC	CAT9161014	(4x0.34)C	0.28	7.0	15
PVC, oil-res.	CAT9361014	(4x0.38)C	0.28	7.0	12.5
iguPUR	CAT9261014	(4x0.34)C	0.28	7.0	15
PUR	CAT9461014	(4x0.38)C	0.28	7.0	12.5
PUR-ROBOT	CAT9661014	(2x(2x0.34))C	0.33	8.5	10
TPE	CAT9561014	(4x0.38)C	0.30	7.5	10

Siemens Profinet connector



PVC	CAT9161015	(4x0.34)C	0.28	7.0	15
PVC, oil-res.	CAT9361015	(4x0.38)C	0.28	7.0	12.5
iguPUR	CAT9261015	(4x0.34)C	0.28	7.0	15
PUR	CAT9461015	(4x0.38)C	0.28	7.0	12.5
PUR-ROBOT	CAT9661015	(2x(2x0.34))C	0.33	8.5	10
TPE	CAT9561015	(4x0.38)C	0.30	7.5	10

Note: The given outer diameters are maximum values.
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

Harnessed Profinet cables

* Technical information on the cable quality:

PVC from page 174 **PVC, oil-res.** from page 178 **iguPUR** from page 182 **PUR** from page 186 **PUR-ROBOT** from page 394 **TPE** from page 192

Harnessed Profinet cables, to your required length					
Cable quality	Part No.	Number of cores and conductor nominal cross section	Outer diameter (d) max.		Minimum bend radius
			[in]	[mm]	

Siemens Profinet connector



PVC	CAT9161016	(4x0.34)C	0.28	7.0	15
PVC, oil-res.	CAT9361016	(4x0.38)C	0.28	7.0	12.5
iguPUR	CAT9261016	(4x0.34)C	0.28	7.0	15
PUR	CAT9461016	(4x0.38)C	0.28	7.0	12.5
PUR-ROBOT	CAT9661016	(2x(2x0.34))C	0.33	8.5	10
TPE	CAT9561016	(4x0.38)C	0.30	7.5	10

Note: The given outer diameters are maximum values.
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

Harnessed Profinet cables with moulded M12 connectors, in fixed lengths						
Cable quality	Part No.	Cable length	Number of cores and conductor nominal cross section	Outer diameter (d) max.		Minimum bend radius
				[in]	[mm]	

M12 connector straight 4-pole, D-coded



PVC, oil-res.	BUS9041070	3	(4x0.38)C	0.28	7.0	12.5
PVC, oil-res.	BUS9041071	5	(4x0.38)C	0.28	7.0	12.5
PUR	BUS9041170	3	(4x0.38)C	0.28	7.0	12.5
PUR	BUS9041171	5	(4x0.38)C	0.28	7.0	12.5
TPE	BUS9041270	3	(4x0.38)C	0.30	7.5	10
TPE	BUS9041271	5	(4x0.38)C	0.30	7.5	10

M12 connector straight 4-pole, D-coded



PVC, oil-res.	BUS9041072	3	(4x0.38)C	0.28	7.0	12.5
PVC, oil-res.	BUS9041073	5	(4x0.38)C	0.28	7.0	12.5
PUR	BUS9041172	3	(4x0.38)C	0.28	7.0	12.5
PUR	BUS9041173	5	(4x0.38)C	0.28	7.0	12.5
TPE	BUS9041272	3	(4x0.38)C	0.30	7.5	10
TPE	BUS9041273	5	(4x0.38)C	0.30	7.5	10

Note: The given outer diameters are maximum values.
G = with green-yellow earth core x = without earth core

Industrial Profinet molded

* Technical information on the cable quality:

PVC, oil-res. PUR

from page 178 from page 186



























Industrial Profinet molded, to your required length					
Cable quality	Part No.	Number of cores and conductor nominal cross section	Outer diameter (d) max.		Minimum bend radius
			[mm ²]	[in] [mm]	
M8 socket straight/ M8 pin straight					
PVC OIL	MAT904125470	(4x0.38)C	0.28	7.0	12.5
PUR	MAT904125430	(4x0.38)C	0.28	7.0	12.5
M8 pin straight/ M8 pin straight					
PVC OIL	MAT904125471	(4x0.38)C	0.28	7.0	12.5
PUR	MAT904125431	(4x0.38)C	0.28	7.0	12.5
M8 socket angled/ open cable end					
PVC OIL	MAT904125472	(4x0.38)C	0.28	7.0	12.5
PUR	MAT904125432	(4x0.38)C	0.28	7.0	12.5
M8 socket straight/ RJ45 straight					
PVC OIL	MAT904125473	(4x0.38)C	0.28	7.0	12.5
PUR	MAT904125433	(4x0.38)C	0.28	7.0	12.5
M12 d-coded pin straight/ M12 d-coded pin straight					
PVC OIL	MAT904125474	(4x0.38)C	0.28	7.0	12.5
PUR	MAT904125434	(4x0.38)C	0.28	7.0	12.5
M12 d-coded pin angled/ open cable end					
PVC OIL	MAT904125475	(4x0.38)C	0.28	7.0	12.5
PUR	MAT904125435	(4x0.38)C	0.28	7.0	12.5
M12 d-coded pin straight/ open cable end					
PVC OIL	MAT904125476	(4x0.38)C	0.28	7.0	12.5
PUR	MAT904125436	(4x0.38)C	0.28	7.0	12.5

Special production cables: delivery time upon request!
Note: The given outer diameters are maximum values.
G = with green-yellow earth core **x** = without earth core
 Harnessing RJ45 at both ends ▶ TIA56A

Industrial Profinet molded, to your required length					
Cable quality	Part No.	Number of cores and conductor nominal cross section	Outer diameter (d) max.		Minimum bend radius
			[mm ²]	[in] [mm]	
M12 d-coded pin straight/ RJ45 straight					
PVC OIL	MAT904125477	(4x0.38)C	0.28	7.0	12.5
PUR	MAT904125437	(4x0.38)C	0.28	7.0	12.5
M12 d-coded pin angled/ RJ45 straight					
PVC OIL	MAT904125478	(4x0.38)C	0.28	7.0	12.5
PUR	MAT904125438	(4x0.38)C	0.28	7.0	12.5
M12 d-coded pin straight/ M8 pin straight					
PVC OIL	MAT904125479	(4x0.38)C	0.28	7.0	12.5
PUR	MAT904125439	(4x0.38)C	0.28	7.0	12.5
RJ45 straight/ RJ45 straight					
PVC OIL	MAT904125480	(4x0.38)C	0.28	7.0	12.5
PUR	MAT904125440	(4x0.38)C	0.28	7.0	12.5
RJ45 straight/ open cable end					
PVC OIL	MAT904125481	(4x0.38)C	0.28	7.0	12.5
PUR	MAT904125441	(4x0.38)C	0.28	7.0	12.5
M12 d-coded socket straight/ M12 d-coded pin straight					
PVC OIL	MAT904125482	(4x0.38)C	0.28	7.0	12.5
PUR	MAT904125442	(4x0.38)C	0.28	7.0	12.5
M12 d-coded socket straight/ M12 d-coded pin angled					
PVC OIL	MAT904125483	(4x0.38)C	0.28	7.0	12.5
PUR	MAT904125443	(4x0.38)C	0.28	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.
 Harnessing RJ45 at both ends ▶ TIA56A

Connectors for network technology | Overview

		igus® Part No.	Manufacturer	Cable diameter [mm]	Protection class	Number of contacts	Connection method	Bus type	Conductor cross section [mm²]	Cable quality	matching chainflex® cables	Maximum cable diameter [in.] [mm]	Number of cores and conductor cross section	
		MAT01717352	HARTING	4.5-9.0	IP20	8	Cutting clamps	CAT6	0.14-0.34	PVC	CFBUS-PVC-049	0.30	7.5	(4x(2x0.15))C
										PUR	CFBUS-PUR-049	0.30	7.5	(4x(2x0.15))C
										TPE	CFBUS-049	0.33	8.5	(4x(2x0.15))C
										PUR-Robot	CFROBOT8-049	0.33	8.5	4x(2x0.14)C
		MAT01713662	HARTING	6.0-6.9	IP20	8	Hand tool needed	CAT6	0.09-0.25	PVC	CFBUS-PVC-049*	0.30	7.5	(4x(2x0.15))C
										PUR	CFBUS-PUR-049*	0.30	7.5	(4x(2x0.15))C
		MAT0176869	Phoenix Contact	4.5-8.0	IP20	8	Cutting clamps	CAT5e	0.14-0.25	PVC	CF888-045	0.30	7.5	(4x(2x0.15))C
										PVC	CFBUS-PVC-045	0.30	7.5	(4x(2x0.15))C
										iguPUR	CF898-045	0.30	7.5	(4x(2x0.15))C
										PUR	CFBUS-PUR-045	0.30	7.5	(4x(2x0.15))C
										TPE	CFBUS-045*	0.33	8.5	(4x(2x0.15))C
		MAT01733149	Telegärtner	5.5-7.3	IP20	8	Hand tool needed	CAT6A CAT6	0.14-0.25	PUR-Robot	CFROBOT8-050*	0.41	10.5	4x(2x0.15)C)C
										PUR	CFROBOT8-050*	0.41	10.5	4x(2x0.15)C)C
		MAT01733150	Telegärtner	max. 7.0	IP20	-	-	-	-	PVC	CFBUS-PVC-049	0.30	7.5	(4x(2x0.15))C
										PUR	CFBUS-PUR-049	0.30	7.5	(4x(2x0.15))C
										TPE	CFBUS-049*	0.33	8.5	(4x(2x0.15))C
										PUR-Robot	CFROBOT8-049*	0.33	8.5	4x(2x0.14)C
		MAT0176370	Yamaichi	-	IP20	8	Hand tool needed	CAT6	0.14-0.25	PVC	CFBUS-PVC-049	0.30	7.5	(4x(2x0.15))C
										PUR	CFBUS-PUR-049	0.30	7.5	(4x(2x0.15))C
										TPE	CFBUS-049*	0.33	8.5	(4x(2x0.15))C
		MAT0176371	Yamaichi	max. 7.5	IP20	-	-	-	-	PUR-Robot	CFROBOT8-049*	0.33	8.5	4x(2x0.14)C
										PUR-Robot	CFROBOT8-049*	0.33	8.5	4x(2x0.14)C
										PUR-Robot	CFROBOT8-049*	0.33	8.5	4x(2x0.14)C
		MAT01717477	WEIDMÜLLER	5.5-8.5	IP20	8	Cutting clamps	Cat.6 (CAT6A acc. to datasheet)	0.14-0.34	PVC	CFBUS-PVC-049	0.30	7.5	(4x(2x0.15))C
										PUR	CFBUS-PUR-049	0.30	7.5	(4x(2x0.15))C
										TPE	CFBUS-049	0.33	8.5	(4x(2x0.15))C
										PUR-Robot	CFROBOT8-049	0.33	8.5	4x(2x0.14)C
		MAT01730294	Telegärtner	5.5-10.0	IP20	8	Cutting clamps	CAT6A	0.14-0.34	PVC	CFBUS-PVC-050	0.37	9.5	4x(2x0.20)C
										PUR	CFBUS-PUR-050	0.37	9.5	4x(2x0.20)C
										TPE	CFBUS-050*	0.41	10.5	(4x(2x0.15)C)C
										PUR-Robot	CFROBOT8-050*	0.41	10.5	4x(2x0.15)C
		MAT0173509	HARTING	6.0-7.0	IP20	4	Cutting clamps	CAT5/ Profinet	0.14-0.34	PVC	CF888-060	0.28	7	(4x0.38)C
										PVC	CFBUS-PVC-040	0.26	6.5	(4x0.25)C
										PVC	CFBUS-PVC-060	0.28	7	(4x0.38)C
										iguPUR	CF898-060	0.28	7	(4x0.38)C
										PUR	CFBUS-PUR-040	0.26	6.5	(4x0.25)C
										PUR	CFBUS-PUR-060	0.28	7	(4x0.38)C
										TPE	CFBUS-040	0.28	7	(4x0.25)C
										TPE	CFBUS-060*	0.30	7.5	(4x0.38)C
PUR-Robot	CFROBOT8-060*	0.33	8.5	(2x(2x0.34))C										
		MAT01733547	Datwyler	max. 8.9	IP20	8	Cutting clamps	CAT7A	0.15-0.34	PVC	CFBUS-PVC-052*	0.37	9.5	(4x(2x0.15)C)C
										PUR	CFBUS-PUR-052*	0.37	9.5	(4x(2x0.15)C)C
										TPE	CFBUS-052*	0.41	10.5	(4x(2x0.15)C)C
										PUR-Robot	CFROBOT8-052*	0.41	10.5	4x(2x0.15)C
		MAT01733548	Datwyler	max. 6.3	IP20	8	Cutting clamps	CAT7A	0.15-0.34	PVC	CFBUS-PVC-052*	0.37	9.5	(4x(2x0.15)C)C
										PUR	CFBUS-PUR-052*	0.37	9.5	(4x(2x0.15)C)C
										TPE	CFBUS-052*	0.41	10.5	(4x(2x0.15)C)C
										PUR-Robot	CFROBOT8-052*	0.41	10.5	4x(2x0.15)C
		MAT0179875	Binder	6.0-8.0	IP67	4	Screw clamps	CAT5/ Profinet	max. 0.75	PVC	CF888-060	0.28	7	(4x0.38)C
										PVC	CFBUS-PVC-040	0.26	6.5	(4x0.25)C
										PVC	CFBUS-PVC-060	0.28	7	(4x0.38)C
										iguPUR	CF898-060	0.28	7	(4x0.38)C
										PUR	CFBUS-PUR-040	0.26	6.5	(4x0.25)C
										PUR	CFBUS-PUR-060	0.28	7	(4x0.38)C
										TPE	CFBUS-040	0.28	7	(4x0.25)C
										TPE	CFBUS-060	0.30	7.5	(4x0.38)C
PUR-Robot	CFROBOT8-060*	0.33	8.5	(2x(2x0.34))C										

All connectors are compatible downward Please note the outer diameter of the cable and the conductor cross section

* According to data sheet, the connectors do not match these cables but the cables can nevertheless be manually modified/tapered.

igus® Part No.	Manufacturer	Cable diameter [mm]	Protection class	Number of contacts	Connection type	Bus type	Conductor cross section [mm²]	Cable quality	matching chainflex® cables	Maximum cable diameter		Number of cores and conductor cross section
										[in.]	[mm]	
	Intercontec	4.5-10.5 (Plastic clamp ring) 4.5-12 mm (Metal clamp ring)	IP67	12	Hand tool needed	CAT5e/ Profinet	0.05-0.75	PVC	CF888-060	0.28	7	(4x0.38)C
								PVC	CFBUS-PVC-040	0.26	6.5	(4x0.25)C
								PVC	CFBUS-PVC-060	0.28	7	(4x0.38)C
								iguPUR	CF898-060	0.28	7	(4x0.38)C
								PUR	CFBUS-PUR-040	0.26	6.5	(4x0.25)C
								PUR	CFBUS-PUR-060	0.28	7	(4x0.38)C
								TPE	CFBUS-040	0.28	7	(4x0.25)C
								TPE	CFBUS-060	0.30	7.5	(4x0.38)C
								PUR-Robot	CFROBOT8-060*	0.33	8.5	(2x(2x0.34))C
								PUR-Robot	CFROBOT8-060*	0.33	8.5	(2x(2x0.34))C
	Intercontec	4.5-10.5 (Plastic clamp ring) 4.5-12 mm (Metal clamp ring)	IP67	12	Hand tool needed	CAT5e/ Profinet	0.05-0.75	PVC	CF888-060	0.28	7	(4x0.38)C
								PVC	CFBUS-PVC-040	0.26	6.5	(4x0.25)C
								PVC	CFBUS-PVC-060	0.28	7	(4x0.38)C
								iguPUR	CF898-060	0.28	7	(4x0.38)C
								PUR	CFBUS-PUR-040	0.26	6.5	(4x0.25)C
								PUR	CFBUS-PUR-060	0.28	7	(4x0.38)C
								TPE	CFBUS-040	0.28	7	(4x0.25)C
								TPE	CFBUS-060	0.30	7.5	(4x0.38)C
								PUR-Robot	CFROBOT8-060*	0.33	8.5	(2x(2x0.34))C
								PUR-Robot	CFROBOT8-060*	0.33	8.5	(2x(2x0.34))C
	Phoenix Contact	5.0-9.7	IP67	8	Cutting clamps	CAT6A/ Ethernet	0.14-0.34	PVC	CFBUS-PVC-050	0.37	9.5	4x(2x0.20)C
								PUR	CFBUS-PUR-050	0.37	9.5	4x(2x0.20)C
								TPE	CFBUS-050*	0.41	10.5	(4x(2x0.15))C
								PUR-Robot	CFROBOT8-050*	0.41	10.5	4x(2x0.15)C
	Phoenix Contact	5.0-9.7	IP67	8	Cutting clamps	CAT6A/ Profinet	0.25-0.5	PVC	CF888-060	0.28	7	(4x0.38)C
								PVC	CFBUS-PVC-040	0.26	6.5	(4x0.25)C
								PVC	CFBUS-PVC-060	0.28	7	(4x0.38)C
								iguPUR	CF898-060	0.28	7	(4x0.38)C
								PUR	CFBUS-PUR-040	0.26	6.5	(4x0.25)C
								PUR	CFBUS-PUR-060	0.28	7	(4x0.38)C
								TPE	CFBUS-040	0.28	7	(4x0.25)C
TPE	CFBUS-060	0.30	7.5	(4x0.38)C								
PUR-Robot	CFROBOT8-060	0.33	8.5	(2x(2x0.34))C								
	Phoenix Contact	5.0-9.7	IP67	8	Cutting clamps	CAT6A/ Ethernet	0.14-0.34	PVC	CFBUS-PVC-050	0.37	9.5	4x(2x0.20)C
								PUR	CFBUS-PUR-050	0.37	9.5	4x(2x0.20)C
								TPE	CFBUS-050*	0.41	10.5	(4x(2x0.15))C
								PUR-Robot	CFROBOT8-050*	0.41	10.5	4x(2x0.15)C
	Phoenix Contact	5.0-9.7	IP67	8	Cutting clamps	CAT6A/ Profinet	0.25-0.5	PVC	CF888-060	0.28	7	(4x0.38)C
								PVC	CFBUS-PVC-040	0.26	6.5	(4x0.25)C
								PVC	CFBUS-PVC-060	0.28	7	(4x0.38)C
								iguPUR	CF898-060	0.28	7	(4x0.38)C
								PUR	CFBUS-PUR-040	0.26	6.5	(4x0.25)C
								PUR	CFBUS-PUR-060	0.28	7	(4x0.38)C
								TPE	CFBUS-040	0.28	7	(4x0.25)C
TPE	CFBUS-060	0.30	7.5	(4x0.38)C								
PUR-Robot	CFROBOT8-060	0.33	8.5	(2x(2x0.34))C								
	Siemens	6.5-6.5	IP20	4	Cutting clamps	CAT5/ Profinet	0.14-0.38	PVC	CF888-060	0.28	7	(4x0.38)C
								PVC	CFBUS-PVC-040	0.26	6.5	(4x0.25)C
								PVC	CFBUS-PVC-060	0.28	7	(4x0.38)C
								iguPUR	CF898-060	0.28	7	(4x0.38)C
								PUR	CFBUS-PUR-040	0.26	6.5	(4x0.25)C
								PUR	CFBUS-PUR-060	0.28	7	(4x0.38)C
TPE	CFBUS-040	0.28	7	(4x0.25)C								
TPE	CFBUS-060*	0.30	7.5	(4x0.38)C								
	Siemens	8.0-8.0	IP20	8	Cutting clamps	CAT6	0.14-0.25	PVC	CFBUS-PVC-049	0.30	7.5	(4x(2x0.15))C
								PUR	CFBUS-PUR-049	0.30	7.5	(4x(2x0.15))C
								TPE	CFBUS-049*	0.33	8.5	(4x(2x0.15))C
								PUR-Robot	CFROBOT8-049*	0.33	8.5	4x(2x0.14)C

All connectors are compatible downward Please note the outer diameter of the cable and the conductor cross section





* According to data sheet, the connectors do not match these cables but the cables can nevertheless be manually modified/tapered.

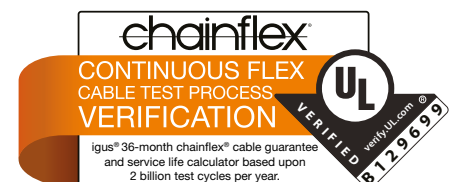
FOC

Harnessed Fiber Optic Cables



chainflex® ReadyCable®

	Jacket	Page
Harnessed Fiber Optic Cables for Video		
 FOC 2 fibers	PVC/TPE	480
 FOC 4 fibers	TPE	481
Harnessed Fiber Optic Cables for Network		
 FOC 6 fibers	TPE	482
 FOC 12 fibers	TPE	482



Harnessed Fiber Optic Cables for Video

* Technical information on the cable quality:

PVC **TPE** **TPE-ROBOT**
from page 210 from page 220 from page 384

Harnessed Fiber Optic Cables, Glass-fiber, 2 fibers, to your required length						
Cable quality	Part No.	chainflex® cable	No. of fibers	Fiber diameter	Ø	Minimum bend radius
				[µm]	[in] [mm]	[x d]

ST/ST Connector

Pre-harnessed at both ends

PVC	LWL99230001	CFLG88-2-50/125	2	50/125	0.28 7.0	7.5
PVC	LWL99230002	CFLG88-2-62-5/125	2	62.5/125	0.28 7.0	7.5
TPE	LWL90412394	CFLG-2LB-50/125	2	50/125	0.33 8.5	5
TPE	LWL90412397	CFLG-2LB-62-5/125	2	62.5/125	0.33 8.5	5
TPE Robot	LWL90422492	CFROBOT5-501	2	50/125	0.33 8.5	10
TPE Robot	LWL90422495	CFROBOT5-500	2	62.5/125	0.33 8.5	10
TPE Patch	LWL90412400	FFLG-2G-50/125	2	50/125	0.26 6.5	5
TPE Patch	LWL90412403	FFLG-2G-62-5/125	2	50/125	0.26 6.5	5

ST/LC Connector

Pre-harnessed at both ends

PVC	LWL99230007	CFLG88-2-50/125	2	50/125	0.28 7.0	7.5
PVC	LWL99230008	CFLG88-2-62-5/125	2	62.5/125	0.28 7.0	7.5
TPE	LWL90412393	CFLG-2LB-50/125	2	50/125	0.33 8.5	5
TPE	LWL90412396	CFLG-2LB-62-5/125	2	62.5/125	0.33 8.5	5
TPE Robot	LWL90422491	CFROBOT5-501	2	50/125	0.33 8.5	10
TPE Robot	LWL90422494	CFROBOT5-500	2	62.5/125	0.33 8.5	10
TPE Patch	LWL90412399	FFLG-2G-50/125	2	50/125	0.26 6.5	5
TPE Patch	LWL90412402	FFLG-2G-62-5/125	2	50/125	0.26 6.5	5

LC/LC Connector

Pre-harnessed at both ends

PVC	LWL99230005	CFLG88-2-50/125	2	50/125	0.28 7.0	7.5
PVC	LWL99230006	CFLG88-2-62-5/125	2	62.5/125	0.28 7.0	7.5
TPE	LWL90412395	CFLG-2LB-50/125	2	50/125	0.33 8.5	5
TPE	LWL90412398	CFLG-2LB-62-5/125	2	62.5/125	0.33 8.5	5
TPE Robot	LWL90422493	CFROBOT5-501	2	50/125	0.33 8.5	10
TPE Robot	LWL90422496	CFROBOT5-500	2	62.5/125	0.33 8.5	10
TPE Patch	LWL90412401	FFLG-2G-50/125	2	50/125	0.26 6.5	5
TPE Patch	LWL90412404	FFLG-2G-62-5/125	2	50/125	0.26 6.5	5

SC/SC Connector

Pre-harnessed at both ends

PVC	LWL99230003	CFLG88-2-50/125	2	50/125	0.28 7.0	7.5
PVC	LWL99230004	CFLG88-2-62-5/125	2	62.5/125	0.28 7.0	7.5

Note: The given outer diameters are maximum values. Example images
Also available from the roll to your required length.



Harnessed Fiber Optic Cables for Video

* Technical information on the cable quality:

PVC **TPE** **TPE-ROBOT**
from page 210 from page 220 from page 384

Harnessed Fiber Optic Cables, Glass-fiber, 2 fibers, to your required length						
Cable quality	Part No.	chainflex® cable	No. of fibers	Fiber diameter	Ø	Minimum bend radius
				[µm]	[in] [mm]	[x d]

ST/SC Connector

Pre-harnessed at both ends

PVC	LWL99230009	CFLG88-2-50/125	2	50/125	0.28 7.0	7.5
PVC	LWL99230010	CFLG88-2-62-5/125	2	62.5/125	0.28 7.0	7.5

LC/SC Connector

Pre-harnessed at both ends

PVC	LWL99230011	CFLG88-2-50/125	2	50/125	0.28 7.0	7.5
PVC	LWL99230012	CFLG88-2-62-5/125	2	62.5/125	0.28 7.0	7.5

Harnessed Fiber Optic Cables, Glass-fiber, 4 fibers, to your required length

ST/LC Connector

Pre-harnessed at both ends

TPE	LWL9040093	CFLG-4LB-50/125	4	50/125	0.35 9.0	5
TPE	LWL9040094	CFLG-4LB-62-5/125	4	62.5/125	0.35 9.0	5

ST/ST Connector

Pre-harnessed at both ends

TPE	LWL9040086	CFLG-4LB-50/125	4	50/125	0.35 9.0	5
TPE	LWL9040085	CFLG-4LB-62-5/125	4	62.5/125	0.35 9.0	5

LC/LC Connector

Pre-harnessed at both ends

TPE	LWL90425050	CFLG-4LB-50/125	4	50/125	0.35 9.0	5
TPE	LWL9040092	CFLG-4LB-62-5/125	4	62.5/125	0.35 9.0	5

Note: The given outer diameters are maximum values. Example images
Also available from the roll to your required length.

Harnessed with these connectors



Tube sinking

Tube sinking



LWL90428935

Closed corrugated tube to feed in fiber optic cables
(shown cut open)

Harnessed Fiber Optic Cables for Network | TPE

* Technical information on the cable quality:

TPE

from page 216

Harnessed Fiber Optic Cables, glass-fiber, 6/12 fibers, to your required length						
Product range	igus® Part No.	Number of fibers	Fiber diameter	Ø		Minimum bend radius
			[µm]	[in]	[mm]	

ST/ST Connector

Pre-harnessed at both ends



CFLG-6LB-50/125	LWL9040091	6	50/125	0.43	11.0	5.0 x d
CFLG-6LB-62.5/125	LWL9040090	6	62.5/125	0.43	11.0	5.0 x d
CFLG-12LB-50/125	LWL90428938	12	50/125	0.55	14.0	5.0 x d
CFLG-12LB-62.5/125	LWL90428937	12	62.5/125	0.55	14.0	5.0 x d

LC/LC Connector

Pre-harnessed at both ends



CFLG-6LB-50/125	LWL90428946	6	50/125	0.43	11.0	5.0 x d
CFLG-6LB-62.5/125	LWL90428945	6	62.5/125	0.43	11.0	5.0 x d
CFLG-12LB-50/125	LWL90428942	12	50/125	0.55	14.0	5.0 x d
CFLG-12LB-62.5/125	LWL90428941	12	62.5/125	0.55	14.0	5.0 x d

SC/SC Connector

Pre-harnessed at both ends



CFLG-6LB-50/125	LWL90428944	6	50/125	0.43	11.0	5.0 x d
CFLG-6LB-62.5/125	LWL90428943	6	62.5/125	0.43	11.0	5.0 x d
CFLG-12LB-50/125	LWL90428940	12	50/125	0.55	14.0	5.0 x d
CFLG-12LB-62.5/125	LWL90428939	12	62.5/125	0.55	14.0	5.0 x d

Harnessed with these connectors



Tube sinking

Tube sinking

LWL90428935



Closed corrugated tube to feed in fiber optic cables (shown cut open)

Harnessed Fiber Optic Cables for Network | TPE

* Technical information on the cable quality:

TPE

from page 216

Harnessed Fiber Optic Cables, glass-fiber, 6/12 fibers, to your required length						
Product range	igus® Part No.	Number of fibers	Fiber diameter	Outer diameter	Outer diameter	Minimum bend radius
			[µm]	[in]	[mm]	

ST/ST Connector

Pre-harnessed at both ends



	LWL9040030	6	50/125	0.45	11.5	10 x d
incl. conversion to SC	LWL9040031	6	50/125	0.45	11.5	10 x d
incl. conversion to LC	LWL9040032	6	50/125	0.45	11.5	10 x d
	LWL9040045	6	62.5/125	0.45	11.5	10 x d
incl. conversion to SC	LWL9040046	6	62.5/125	0.45	11.5	10 x d
incl. conversion to LC	LWL9040047	6	62.5/125	0.45	11.5	10 x d

ST/ST Connector

Pre-harnessed at both ends



	LWL9040060	12	50/125	0.45	11.5	10 x d
incl. conversion to SC	LWL9040061	12	50/125	0.45	11.5	10 x d
incl. conversion to LC	LWL9040062	12	50/125	0.45	11.5	10 x d
	LWL9040075	12	62.5/125	0.45	11.5	10 x d
incl. conversion to SC	LWL9040076	12	62.5/125	0.45	11.5	10 x d
incl. conversion to LC	LWL9040077	12	62.5/125	0.45	11.5	10 x d

Tube sinking

Tube sinking

LWL90428936



Closed corrugated tube to feed in fiber optic cables (image shown cut open)




Fiber identification

Part No.	Fiber identification	Tube 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, lightblue, gray, brown, black, orange, pink	orange
CFLG-12G-50/125-TC	ecru, yellow, green, red, violet, blue, lightblue, gray, brown, black, orange, pink	blue



CE.FINI
Sensor/actuator

chainflex® ReadyCable®

Cable type	Jacket	Page
Sensor/actuator CF9 - CF.INI (minimum bend radius 5 x d)		
	TPE	487
	TPE	487
	TPE	489
	TPE	489
	TPE	491
	TPE	493
Sensor/actuator CF10 – CF.INI (minimum bend radius 5 x d) 360° shielded		
	TPE	495
	TPE	495
Sensor/actuator CF98 - CF.INI (minimum bend radius 4 x d)		
	TPE	497
	TPE	497
	TPE	499
	TPE	499
chainflex® cables for actuator/sensor distribution box		
	TPE	500
	TPE	500
	TPE	501



Harnessed sensor/actuator cables

Connection and Linking cables M12 x 1:
Bend radius, E-Chain®: minimum 5 x d

Electrical information

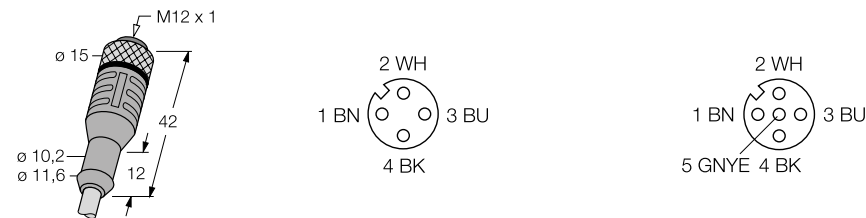
	5-pole	4-pole
Number of poles	5-pole	4-pole
Ampacity	4 A	4 A
Rated voltage of a winding	60 V	250 V
Insulating resistance	≥ 10 ⁹ Ω	≥ 10 ⁹ Ω
Contact resistance	≤ 5 mΩ	≤ 5 mΩ
Pollution degree	3/2	3/2
Ambient temperature Plug-type connector	-31 °F to +221 °F (-35 °C to +105 °C)	-31 °F to +221 °F (-35 °C 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

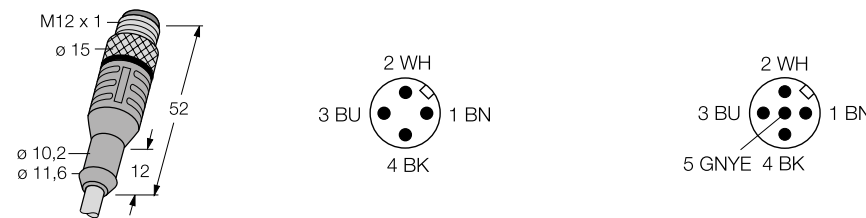
	Coupling	Connector
Design	Coupling, M12 x 1	Connector, M12 x 1
Connector	Plastic, PP, black	Plastic, PP, black
Handle base	Plastic, PP, black	Plastic, TPU, black
Union nut/screw	Metal, CuZn, nickel-plated	Metal, CuZn, nickel-plated
Contact base	Plastic, PP, black	Plastic, TPU, black
Contacts	Metal, CuZn, gold-plated	Metal, CuZn, gold-plated
Seal	Plastic, FPM (Viton)	

Harnessed with these connectors

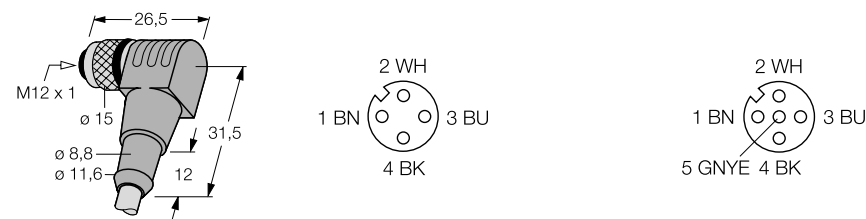
M12-BG



M12-SG



M12-BW



Connection cable M12

Type	igus® Part No.	Number of cores and conductor nominal cross section [mm²]	Number of poles	Cable length [ft] [m]
------	----------------	---	-----------------	-----------------------

Connection cable, straight (Socket/open cable end)



CF.INI-P4-M12-BG-3	MAT9043700	4x0,34	4	9.84 3
CF.INI-P4-M12-BG-5	MAT9043701	4x0,34	4	16.40 5
CF.INI-P4-M12-BG-7	MAT9043702	4x0,34	4	22.97 7
CF.INI-P4-M12-BG-10	MAT9043703	4x0,34	4	32.81 10
CF.INI-P4-M12-BG-15	MAT9049426	4x0,34	4	49.21 15
CF.INI-P5-M12-BG-3	MAT9043737	5x0,34	5	9.84 3
CF.INI-P5-M12-BG-5	MAT9043738	5x0,34	5	16.40 5
CF.INI-P5-M12-BG-7	MAT9043739	5x0,34	5	22.97 7
CF.INI-P5-M12-BG-10	MAT9043740	5x0,34	5	32.81 10
CF.INI-P5-M12-BG-15	MAT90410077	5x0,34	5	49.21 15

Connection cable, angled (Socket/open cable end)



CF.INI-P4-M12-BW-3	MAT9043704	4x0,34	4	9.84 3
CF.INI-P4-M12-BW-5	MAT9043705	4x0,34	4	16.40 5
CF.INI-P4-M12-BW-7	MAT9043706	4x0,34	4	22.97 7
CF.INI-P4-M12-BW-10	MAT9043707	4x0,34	4	32.81 10
CF.INI-P4-M12-BW-15	MAT9049430	4x0,34	4	49.21 15
CF.INI-P5-M12-BW-3	MAT9043742	5x0,34	5	9.84 3
CF.INI-P5-M12-BW-5	MAT9043743	5x0,34	5	16.40 5
CF.INI-P5-M12-BW-7	MAT9043744	5x0,34	5	22.97 7
CF.INI-P5-M12-BW-10	MAT9043745	5x0,34	5	32.81 10
CF.INI-P5-M12-BW-15	MAT90410078	5x0,34	5	49.21 15

Linking cable M12

Linking cable, straight (Socket/Pin)



CF.INI-P4-M12-BG/M12-SG-2	MAT90410312 ¹⁾	4x0,34	4	6.56 2
CF.INI-P4-M12-BG/M12-SG-5	MAT90410313 ¹⁾	4x0,34	4	16.40 5
CF.INI-P4-M12-BG/M12-SG-10	MAT90410314 ¹⁾	4x0,34	4	32.81 10
CF.INI-P5-M12-BG/M12-SG-2	MAT90410339 ¹⁾	5x0,34	5	6.56 2
CF.INI-P5-M12-BG/M12-SG-5	MAT90410340 ¹⁾	5x0,34	5	16.40 5
CF.INI-P5-M12-BG/M12-SG-10	MAT90410341 ¹⁾	5x0,34	5	32.81 10

Linking cable, angled (Socket/Pin)



CF.INI-P4-M12-BW/M12-SG-2	MAT90410315 ¹⁾	4x0,34	4	6.56 2
CF.INI-P4-M12-BW/M12-SG-5	MAT90410316 ¹⁾	4x0,34	4	16.40 5
CF.INI-P4-M12-BW/M12-SG-10	MAT90410317 ¹⁾	4x0,34	4	32.81 10
CF.INI-P5-M12-BW/M12-SG-2	MAT90410342 ¹⁾	5x0,34	5	6.56 2
CF.INI-P5-M12-BW/M12-SG-5	MAT90410343 ¹⁾	5x0,34	5	16.40 5
CF.INI-P5-M12-BW/M12-SG-10	MAT90410344 ¹⁾	5x0,34	5	32.81 10

¹⁾Delivery time upon request

Harnessed sensor/actuator cables

Connection cables with LED M12 x 1:
Bend radius, E-Chain®: minimum 5 x d

Electrical information

Number of poles	4-pole
Ampacity	4 A
Rated voltage of a winding	30 V
Insulating resistance	≥ 10 ⁹ Ω
Contact resistance	≤ 5 mΩ
Pollution degree	3/2
Operating voltage display	LED green
Switching state display	LED yellow/yellow
Switching function	pnp
Ambient temperature Plug-type connector	-35 °C up to +105 °C
Protection class	-31 °F to +221 °F (-35 °C to +105 °C)
Mechanical service life	max. 100 insertion cycles

Technical data

Design	
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)

Connection cable M12				
Type	igus® Part No.	Number of cores and conductor nominal cross section [mm²]	Number of poles	Cable length [ft] [m]

Connection cable with LED, straight (Socket with LED/ open cable end)



CF.INI-P4-M12-BGL2-3	MAT9043708	4x0,34	4	9.84 3
CF.INI-P4-M12-BGL2-5	MAT9043709	4x0,34	4	16.40 5
CF.INI-P4-M12-BGL2-7	MAT9043710	4x0,34	4	22.97 7
CF.INI-P4-M12-BGL2-10	MAT9043711	4x0,34	4	32.81 10
CF.INI-P4-M12-BGL2-15	MAT90410087	4x0,34	4	49.21 15

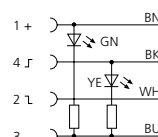
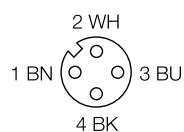
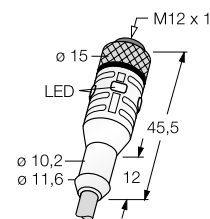
Connection cable with LED, angled (Socket with LED/ open cable end)



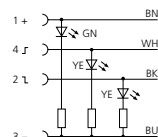
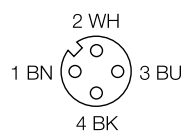
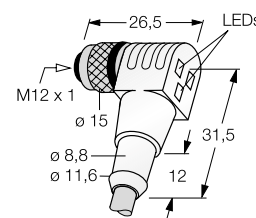
CF.INI-P4-M12-BWL3-3	MAT9043712	4x0,34	4	9.84 3
CF.INI-P4-M12-BWL3-5	MAT9043713	4x0,34	4	16.40 5
CF.INI-P4-M12-BWL3-7	MAT9043714	4x0,34	4	22.97 7
CF.INI-P4-M12-BWL3-10	MAT9043715	4x0,34	4	32.81 10
CF.INI-P4-M12-BWL3-15	MAT90410088	4x0,34	4	49.21 15

Harnessed with these connectors

M12-BGL



M12-BWL



Harnessed sensor/actuator cables

Connection and Linking cables M8 x 1: Bend radius, E-Chain®: minimum 5 x d

Electrical information

	3-pole	4-pole
Number of poles	3-pole	4-pole
Ampacity	4 A	4 A
Rated voltage of a winding	60 V	30 V
Insulating resistance	$\geq 10^9 \Omega$	$\geq 10^9 \Omega$
Contact resistance	$\leq 5 \text{ m}\Omega$	$\leq 5 \text{ m}\Omega$
Pollution degree	3/2	3/2
Ambient temperature Plug-type connector	-31 °F to +221 °F (-35 °C to +105 °C)	-31 °F to +221 °F (-35 °C 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

	Coupling	Connector
Design	Coupling, M8 x 1	Connector, M8 x 1
Connector	Plastic, PP, black	Plastic, PP, black
Handle base	Metal, CuZn, nickel-plated	Metal, CuZn, nickel-plated
Union nut/screw	Plastic, PP, black	Plastic, PP, black
Contact base	Metal, CuZn, gold-plated	Metal, CuZn, gold-plated
Contacts	Plastic, FPM (Viton)	
Seal		

Harnessed with these connectors

M8-BG

M8-SG

M8-BW

Connection cable M8					
Type	igus® Part No.	Number of cores and conductor nominal cross section [mm²]	Number of poles	Cable length	
				[ft]	[m]

Connection cable, straight (Socket/open cable end)



CF.INI-P3-M8-BG-3	MAT9043716	3x0,25	3	9.84	3
CF.INI-P3-M8-BG-5	MAT9043717	3x0,25	3	16.40	5
CF.INI-P3-M8-BG-7	MAT9043718	3x0,25	3	22.97	7
CF.INI-P3-M8-BG-10	MAT9043719	3x0,25	3	32.81	10
CF.INI-P3-M8-BG-15	MAT9049416	3x0,25	3	49.21	15
CF.INI-P4-M8-BG-3	MAT9043728	4x0,34	4	9.84	3
CF.INI-P4-M8-BG-5	MAT9043729	4x0,34	4	16.40	5
CF.INI-P4-M8-BG-7	MAT9043730	4x0,34	4	22.97	7
CF.INI-P4-M8-BG-10	MAT9043731	4x0,34	4	32.81	10
CF.INI-P4-M8-BG-15	MAT9049466	4x0,34	4	49.21	15

Connection cable, angled (Socket/open cable end)



CF.INI-P3-M8-BW-3	MAT9043724	3x0,25	3	9.84	3
CF.INI-P3-M8-BW-5	MAT9043725	3x0,25	3	16.40	5
CF.INI-P3-M8-BW-7	MAT9043726	3x0,25	3	22.97	7
CF.INI-P3-M8-BW-10	MAT9043727	3x0,25	3	32.81	10
CF.INI-P3-M8-BW-15	MAT9049419	3x0,25	3	49.21	15
CF.INI-P4-M8-BW-3	MAT9043732	4x0,34	4	9.84	3
CF.INI-P4-M8-BW-5	MAT9043733	4x0,34	4	16.40	5
CF.INI-P4-M8-BW-7	MAT9043734	4x0,34	4	22.97	7
CF.INI-P4-M8-BW-10	MAT9043735	4x0,34	4	32.81	10
CF.INI-P4-M8-BW-15	MAT9049467	4x0,34	4	49.21	15

Linking cable M8

Linking cable, straight (Socket/Pin)



CF.INI-P3-M8-BG/M8-SG-2	MAT90410324 ¹⁾	3x0,25	3	6.56	2
CF.INI-P3-M8-BG/M8-SG-5	MAT90410325 ¹⁾	3x0,25	3	16.40	5
CF.INI-P3-M8-BG/M8-SG-10	MAT90410326 ¹⁾	3x0,25	3	32.81	10
CF.INI-P4-M8-BG/M8-SG-2	MAT90410333 ¹⁾	4x0,34	4	6.56	2
CF.INI-P4-M8-BG/M8-SG-5	MAT90410334 ¹⁾	4x0,34	4	16.40	5
CF.INI-P4-M8-BG/M8-SG-10	MAT90410335 ¹⁾	4x0,34	4	32.81	10

Linking cable, angled (Socket/Pin)



CF.INI-P3-M8-BW/M8-SG-2	MAT90410330 ¹⁾	3x0,25	3	6.56	2
CF.INI-P3-M8-BW/M8-SG-5	MAT90410331 ¹⁾	3x0,25	3	16.40	5
CF.INI-P3-M8-BW/M8-SG-10	MAT90410332 ¹⁾	3x0,25	3	32.81	10
CF.INI-P4-M8-BW/M8-SG-2	MAT90410336 ¹⁾	4x0,34	4	6.56	2
CF.INI-P4-M8-BW/M8-SG-5	MAT90410337 ¹⁾	4x0,34	4	16.40	5
CF.INI-P4-M8-BW/M8-SG-10	MAT90410338 ¹⁾	4x0,34	4	32.81	10

¹⁾Delivery time upon request

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	4 A
Rated voltage of a winding	30 V
Insulating resistance	$\geq 10^9 \Omega$
Contact resistance	$\leq 5 \text{ m}\Omega$
Pollution degree	3/2
Operating voltage display	LED green
Switching state display	LED yellow/yellow
Switching function	pnp
Ambient temperature Plug-type connector	-31 °F to +221 °F (-35 °C 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)

Connection cable M8				
Type	igus® Part No.	Number of cores and conductor nominal cross section [mm²]	Number of poles	Cable length [ft] [m]

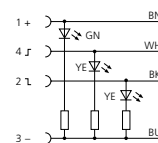
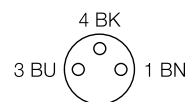
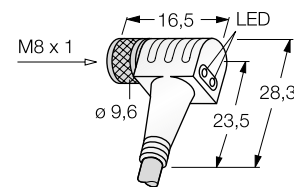
Connection cable with LED, angled



CF.INI-P3-M8-BWL2-3	MAT9043720	3x0,25	3	9.84	3
CF.INI-P3-M8-BWL2-5	MAT9043721	3x0,25	3	16.40	5
CF.INI-P3-M8-BWL2-7	MAT9043722	3x0,25	3	22.97	7
CF.INI-P3-M8-BWL2-10	MAT9043723	3x0,25	3	32.81	10
CF.INI-P3-M8-BWL2-15	MAT90410196	3x0,25	3	49.21	15

Harnessed with these connectors

M8-BWL



Harnessed sensor/actuator cables

Connection and Linking cables 360° shielded, M12 x 1:
Bend radius, E-Chain®: minimum 5 x d

Electrical information

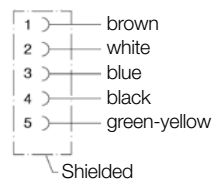
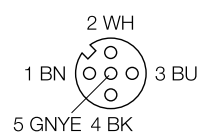
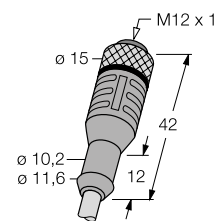
Number of poles	5-pole (4-pole + PE)
Ampacity	4 A
Rated voltage of a winding	60 V
Insulating resistance	≥ 10 ⁹ Ω
Contact resistance	≤ 5 mΩ
Pollution degree	3/2
Ambient temperature Plug-type connector	-31 °F to +221 °F (-35 °C to +105 °C)
Protection class	IP69K, in screwed state
Mechanical service life	max. 100 insertion cycles

Technical data

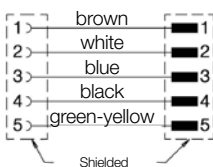
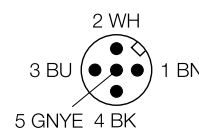
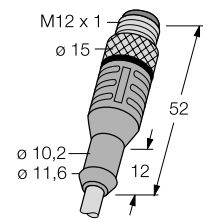
Design	Coupling
Connector	Coupling, M12 x 1
Handle base	Plastic, PP, black
Union nut/screw	Metal, CuZn, nickel-plated
Contact base	Plastic, PP, black
Contacts	Metal, CuZn, gold-plated
Seal	Plastic, FPM (Viton)

Harnessed with these connectors

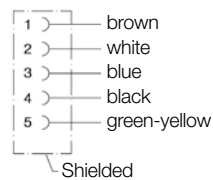
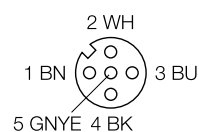
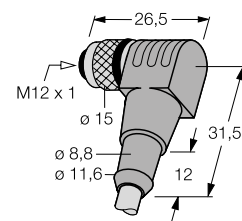
M12-BG



M12-SG



M12-BW



Connection cable M12

Type	igus® Part No.	Number of cores and conductor nominal cross section [mm²]	Number of poles	Cable length	
				[ft]	[m]

Connection cable 360° shielded, straight (Socket/open cable end)



CF10.INI-P5-C-M12-BG-3	MAT90424072	(5x0,34)C	5	9.84	3
CF10.INI-P5-C-M12-BG-5	MAT90424073	(5x0,34)C	5	16.40	5
CF10.INI-P5-C-M12-BG-7	MAT90424074	(5x0,34)C	5	22.97	7
CF10.INI-P5-C-M12-BG-10	MAT90424075	(5x0,34)C	5	32.81	10
CF10.INI-P5-C-M12-BG-15	MAT90424076	(5x0,34)C	5	49.21	15

Connection cable 360° shielded, angled (Socket/open cable end)



CF10.INI-P5-C-M12-BW-3	MAT90424077	(5x0,34)C	5	9.84	3
CF10.INI-P5-C-M12-BW-5	MAT90424078	(5x0,34)C	5	16.40	5
CF10.INI-P5-C-M12-BW-7	MAT90424079	(5x0,34)C	5	22.97	7
CF10.INI-P5-C-M12-BW-10	MAT90424080	(5x0,34)C	5	32.81	10
CF10.INI-P5-C-M12-BW-15	MAT90424081	(5x0,34)C	5	49.21	15

Linking cable M12

Linking cable 360° shielded, straight (Socket/Pin)



CF10.INI-P5-C-M12-BG/M12-SG-2	MAT90424082 ¹⁾	(5x0,34)C	5	6.56	2
CF10.INI-P5-C-M12-BG/M12-SG-5	MAT90424083 ¹⁾	(5x0,34)C	5	16.40	5
CF10.INI-P5-C-M12-BG/M12-SG-10	MAT90424084 ¹⁾	(5x0,34)C	5	32.81	10

Linking cable 360° shielded, angled (Socket/Pin)



CF10.INI-P5-C-M12-BW/M12-SG-2	MAT90424085 ¹⁾	(5x0,34)C	5	6.56	2
CF10.INI-P5-C-M12-BW/M12-SG-5	MAT90424086 ¹⁾	(5x0,34)C	5	16.40	5
CF10.INI-P5-C-M12-BW/M12-SG-10	MAT90424087 ¹⁾	(5x0,34)C	5	32.81	10

¹⁾Delivery time upon request

Harnessed sensor/actuator cables

Connection and Linking cables M12 x 1: Bend radius, E-Chain®: minimum 4 x d

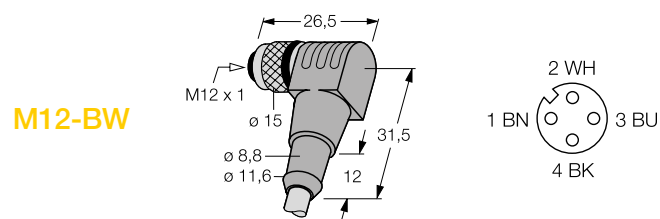
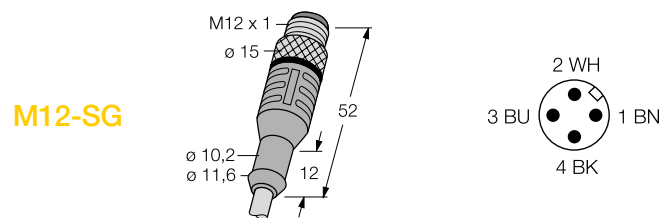
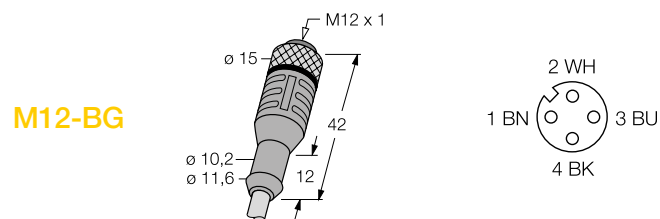
Electrical information

Number of poles	4-pole
Ampacity	4 A
Rated voltage of a winding	250 V
Insulating resistance	≥ 10 ⁹ Ω
Contact resistance	≤ 5 mΩ
Pollution degree	3/2
Ambient temperature Plug-type connector	-31 °F to +221 °F (-35 °C to +105 °C)
Protection class	IP69K, in screwed state
Mechanical service life	max. 100 insertion cycles

Technical data

	Coupling	Connector
Design	Coupling, M12 x 1	Connector, M12x1
Connector	Plastic, PP, black	Plastic, PP, black
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



Connection cable M12

Type	igus® Part No.	Number of cores and conductor nominal cross section [mm²]	Number of poles	Cable length	
				[ft]	[m]
Connection cable, straight (Socket/open cable end)					
CF98.INI-P4-M12-BG-3	MAT90410235 ¹⁾	4x0,34	4	9.84	3
CF98.INI-P4-M12-BG-5	MAT90410236 ¹⁾	4x0,34	4	16.40	5
CF98.INI-P4-M12-BG-7	MAT90410237 ¹⁾	4x0,34	4	22.97	7
CF98.INI-P4-M12-BG-10	MAT90410238 ¹⁾	4x0,34	4	32.81	10
CF98.INI-P4-M12-BG-15	MAT90410239 ¹⁾	4x0,34	4	49.21	15

Connection cable, angled (Socket/open cable end)

CF98.INI-P4-M12-BW-3	MAT90410240 ¹⁾	4x0,34	4	9.84	3
CF98.INI-P4-M12-BW-5	MAT90410241 ¹⁾	4x0,34	4	16.40	5
CF98.INI-P4-M12-BW-7	MAT90410242 ¹⁾	4x0,34	4	22.97	7
CF98.INI-P4-M12-BW-10	MAT90410243 ¹⁾	4x0,34	4	32.81	10
CF98.INI-P4-M12-BW-15	MAT90410244 ¹⁾	4x0,34	4	49.21	15

Linking cable M12

Linking cable, straight (Socket/Pin)

CF98.INI-P4-M12-BG/M12-SG-2	MAT90410300 ¹⁾	4x0,34	4	6.56	2
CF98.INI-P4-M12-BG/M12-SG-5	MAT90410301 ¹⁾	4x0,34	4	16.40	5
CF98.INI-P4-M12-BG/M12-SG-10	MAT90410302 ¹⁾	4x0,34	4	32.81	10

Linking cable, angled (Socket/Pin)

CF98.INI-P4-M12-BW/M12-SG-2	MAT90410303 ¹⁾	4x0,34	4	6.56	2
CF98.INI-P4-M12-BW/M12-SG-5	MAT90410304 ¹⁾	4x0,34	4	16.40	5
CF98.INI-P4-M12-BW/M12-SG-10	MAT90410305 ¹⁾	4x0,34	4	32.81	10

¹⁾Delivery time upon request

Harnessed sensor/actuator cables

Connection and linking cables M8 x 1:
Bend radius, E-Chain®: minimum 4 x d

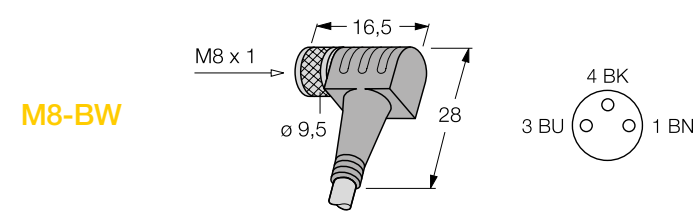
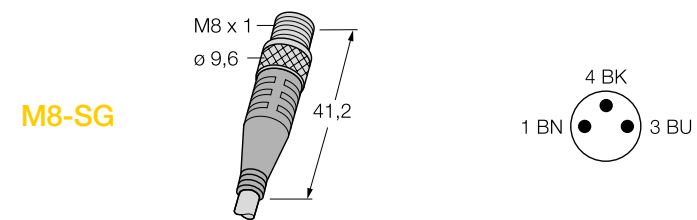
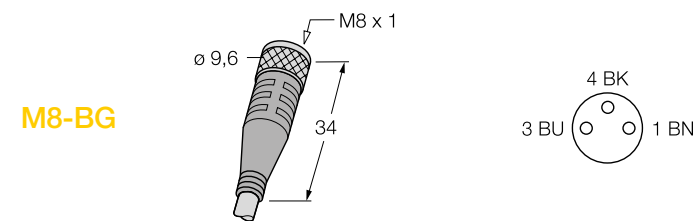
Electrical information

Number of poles	3-pole
Ampacity	4 A
Rated voltage of a winding	60 V
Insulating resistance	≥ 10 ⁹ Ω
Contact resistance	≤ 5 mΩ
Pollution degree	3/2
Ambient temperature Plug-type connector	-31 °F to +221 °F (-35 °C to +105 °C)
Protection class	IP69K, in screwed state
Mechanical service life	max. 100 insertion cycles

Technical data

	Coupling	Connector
Design	Coupling, M12 x 1	Connector, M12x1
Connector	Plastic, PP, black	Plastic, PP, black
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



Connection cable M8				
Type	igus® Part No.	Number of cores and conductor nominal cross section [mm²]	Number of poles	Cable length [ft] [m]

Connection cable, straight (Socket/open cable end)



CF98.INI-P3-M8-BG-3	MAT90410245 ¹⁾	3x0,25	3	9.84	3
CF98.INI-P3-M8-BG-5	MAT90410246 ¹⁾	3x0,25	3	16.40	5
CF98.INI-P3-M8-BG-7	MAT90410247 ¹⁾	3x0,25	3	22.97	7
CF98.INI-P3-M8-BG-10	MAT90410248 ¹⁾	3x0,25	3	32.81	10
CF98.INI-P3-M8-BG-15	MAT90410249 ¹⁾	3x0,25	3	49.21	15

Connection cable, angled (Socket/open cable end)



CF98.INI-P3-M8-BW-3	MAT90410250 ¹⁾	3x0,25	3	9.84	3
CF98.INI-P3-M8-BW-5	MAT90410251 ¹⁾	3x0,25	3	16.40	5
CF98.INI-P3-M8-BW-7	MAT90410252 ¹⁾	3x0,25	3	22.97	7
CF98.INI-P3-M8-BW-10	MAT90410253 ¹⁾	3x0,25	3	32.81	10
CF98.INI-P3-M8-BW-15	MAT90410254 ¹⁾	3x0,25	3	49.21	15

Linking cable M8

Linking cable, straight (Socket/Pin)



CF98.INI-P3-M8-BG/M8-SG-2	MAT90410306 ¹⁾	3x0,25	3	6.56	2
CF98.INI-P3-M8-BG/M8-SG-5	MAT90410307 ¹⁾	3x0,25	3	16.40	5
CF98.INI-P3-M8-BG/M8-SG-10	MAT90410308	3x0,25	3	32.81	10

Linking cable, angled (Socket/Pin)



CF98.INI-P3-M8-BW/M8-SG-2	MAT90410309 ¹⁾	3x0,25	3	6.56	2
CF98.INI-P3-M8-BW/M8-SG-5	MAT90410310 ¹⁾	3x0,25	3	16.40	5
CF98.INI-P3-M8-BW/M8-SG-10	MAT90410311 ¹⁾	3x0,25	3	32.81	10

¹⁾Delivery time upon request

CF.INI | chainflex® sensor/actuator distribution box

To connect sensor/actuator distribution boxes

Connection cable M23

Bend radius, E-Chain®: minimum 5 x d

- **Class 7.6.4.2**
- Oil resistant
- Hydrolysis-/microbe-resistant
- Temperature moved: -31 °F to +221 °F (-35 °C to +105 °C),
- Minimum bend radius 5 x d
- Nominal voltage: 300/500 V
- Color: steel blue, similar to RAL 5011

Connection cable M23				
Part No.	Number of poles	Number of cores and conductor nominal cross section [mm²]	Outer diameter [in]	Outer diameter [mm]
Connection cable* Socket/open cable end				
MAT90436630	16+3	(4x4x0.34+3x0.75)	0.43	11.0
Connection cable* Pin/open cable end				
MAT90436631	16+3	(4x4x0.34+3x0.75)	0.43	11.0

Linking cable M23				
Part No.	Number of poles	Number of cores and conductor nominal cross section [mm²]	Outer diameter [in]	Outer diameter [mm]
Linking cable, angled				
MAT90436628	16+3	(4x4x0.34+3x0.75)	0.43	11.0
Linking cable, straight				
MAT90436629	16+3	(4x4x0.34+3x0.75)	0.43	11.0

All cables available to your desired length.



Note: The given outer diameters are maximum values.Example images.
* igus® gladly pre-harnesses the cable according to your technical guidelines.
G = with green-yellow earth core x = without earth core

CF.INI | chainflex® sensor/actuator distribution box

To connect sensor/actuator distribution boxes

Connection cable M12

Bend radius, E-Chain®: minimum 5 x d

Connection cable M12				
Part No.	Number of poles	Number of cores and conductor nominal cross section [mm²]	Outer diameter [in]	Outer diameter [mm]
M12 8-pin socket/ M12 8-pin pin - A-coded				
MAT90478773	8	8x0.25	0.26	6.5
M12 8-pin socket - A-coded				
MAT90478774	8	8x0.25	0.26	6.5
M12 8-pin pin - A-coded				
MAT90478775	8	8x0.25	0.26	6.5
M12 12-pin socket/ M12 12-pin pin - A-coded				
MAT90478776	12	12x0.25	0.31	8.0
M12 12-pin socket - A-coded				
MAT90478777	12	12x0.25	0.31	8.0
M12 12-pin pin - A-coded				
MAT90478778	12	12x0.25	0.31	8.0

Note: The given outer diameters are maximum values.Example images.
G = with green-yellow earth core x = without earth core



















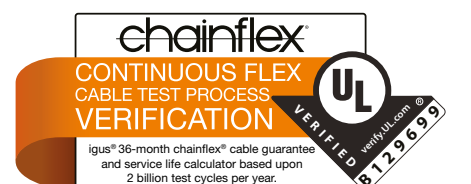
Industry

Chainflex® cables with industrial connectors




chainflex® ReadyCable®

Cable type		page
Chainflex® cables with industrial connectors		
	Han 6B	Harnessed cable, Single locking lever on both sides, straight 504
	Han 6B	Harnessed cable, Double locking lever on both sides, angled 504
	Han 10B	Harnessed cable, Single locking lever on both sides, straight 506
	Han 10B	Harnessed cable, Single locking lever on both sides, angled 506
	Han 10B	Harnessed cable, Double locking lever on both sides, straight 506
	Han 10B	Harnessed cable, Double locking lever on both sides, angled 506
	Han 16B	Harnessed cable, Single locking lever on both sides, straight 508
	Han 16B	Harnessed cable, Single locking lever on both sides, angled 508
	Han 16B	Harnessed cable, Double locking lever on both sides, straight 508
	Han 16B	Harnessed cable, Double locking lever on both sides, angled 508
	Han 24B	Harnessed cable, Single locking lever on both sides, straight 510
	Han 24B	Harnessed cable, Single locking lever on both sides, angled 510
	Han 24B	Harnessed cable, Double locking lever on both sides, straight 510
	Han 24B	Harnessed cable, Double locking lever on both sides, angled 510
HARTING Connector sets (chapter Connectors from page 710)		
	Connector sets with pin-inserts	752
	Connector sets Premium (pin + socket)	754



Harnessed control cables | HARTING Han 6B

Jacket material	igus® Part No.	Number of Conductors and rated cross section [mm²]	Outer diameter [in] [mm]	Copper Index [lbs/mt] [kg/km]	Weight [lbs/mt] [kg/km]	R min. [x d]	Chainflex® cable	Insert 1 HARTING Part No.	Housing 1 HARTING Part No.	Insert 2 HARTING Part No.	Housing 2 HARTING Part No.
Han 6B Connector housing (pin) to Han 6B Connector housing (socket), Single locking lever on both sides, straight 											
PVC	MAT90489360	7G1.5	0.39 10.0	73.24 109	112.22 167	12.5	CF880-15-07	09330062702	19300061440	09330062602	19300061440
PVC	MAT90489361	7G1.5	0.41 10.5	70.56 105	111.55 166	7.5	CF130-15-07-UL	09330062702	19300061440	09330062602	19300061440
PVC	MAT90489362	7G1.5	0.41 10.5	70.56 105	120.95 180	6.8	CF5-15-07	09330062702	19300061440	09330062602	19300061440
iguPUR	MAT90489363	7G1.5	0.39 10.0	73.24 109	109.53 163	12.5	CF890-15-07	09330062702	19300061440	09330062602	19300061440
PUR	MAT90489364	7G1.5	0.37 9.5	70.56 105	102.14 152	6.8	CF77-UL-15-07-D	09330062702	19300061440	09330062602	19300061440
PUR	MAT90489367	5G1.0+(2x1.0)C	0.39 10.0	55.10 82	91.39 136	10	CFROBOT9-001	09330062702	19300061440	09330062602	19300061440
TPE	MAT90489365	7G1.5	0.37 9.5	71.90 107	105.50 157	5	CF9-15-07	09330062702	19300061440	09330062602	19300061440
TPE	MAT90489366	7G1.5	0.45 11.5	70.56 105	133.72 199	5	CF9-UL-15-07	09330062702	19300061440	09330062602	19300061440

Han 6B Connector housing (pin) to Han 6B Connector housing (socket), Single locking lever on both sides, angled 											
PVC	MAT90489368	7G1.5	0.39 10.0	73.24 109	112.22 167	12.5	CF880-15-07	09330062702	19300061541	09330062602	19300061541
PVC	MAT90489369	7G1.5	0.41 10.5	70.56 105	111.55 166	7.5	CF130-15-07-UL	09330062702	19300061540	09330062602	19300061540
PVC	MAT90489370	7G1.5	0.41 10.5	70.56 105	120.95 180	6.8	CF5-15-07	09330062702	19300061540	09330062602	19300061540
iguPUR	MAT90489371	7G1.5	0.39 10.0	73.24 109	109.53 163	12.5	CF890-15-07	09330062702	19300061541	09330062602	19300061541
PUR	MAT90489372	7G1.5	0.37 9.5	70.56 105	102.14 152	6.8	CF77-UL-15-07-D	09330062702	19300061540	09330062602	19300061540
PUR	MAT90489375	5G1.0+(2x1.0)C	0.39 10.0	55.10 82	91.39 136	10	CFROBOT9-001	09330062702	19300061540	09330062602	19300061540
TPE	MAT90489373	7G1.5	0.37 9.5	71.90 107	105.50 157	5	CF9-15-07	09330062702	19300061540	09330062602	19300061540
TPE	MAT90489374	7G1.5	0.45 11.5	70.56 105	133.72 199	5	CF9-UL-15-07	09330062702	19300061540	09330062602	19300061540

Note: The mentioned outer diameters are maximum values. Images exemplary.
G= with green-yellow earth core x= without earth core

Jacket material	igus® Part No.	Number of Conductors and rated cross section [mm²]	Outer diameter [in] [mm]	Copper Index [lbs/mt] [kg/km]	Weight [lbs/mt] [kg/km]	R min. [x d]	Chainflex® cable	Insert 1 HARTING Part No.	Housing 1 HARTING Part No.	Insert 2 HARTING Part No.	Housing 2 HARTING Part No.
Han 10B Connector housing (pin) to Han 10B Connector housing (socket), Single locking lever on both sides, straight											
PVC	MAT90489376	12G1.5	0.47 12.0	124.99 186	174.71 260	12.5	CF880-15-12	09330102702	19300101441	09330102602	19300101441
PVC	MAT90489377	12G1.5	0.51 13.0	120.28 179	193.53 288	7.5	CF130-15-12-UL	09330102702	19300101441	09330102602	19300101441
PVC	MAT90489378	12G1.5	0.59 15.0	120.28 179	177.40 264	6.8	CF5-15-12	09330102702	19300101441	09330102602	19300101441
iguPUR	MAT90489379	12G1.5	0.47 12.0	124.99 186	172.02 256	12.5	CF890-15-12	09330102702	19300101441	09330102602	19300101441
PUR	MAT90489380	12G1.5	0.51 13.0	120.28 179	199.57 297	6.8	CF77-UL-15-12-D	09330102702	19300101441	09330102602	19300101441
PUR	MAT90489383	16G1.0+(2x1.0)C	0.61 15.5	130.36 194	206.29 307	10	CFROBOT9-004	09330102702	19300101441	09330102602	19300101441
TPE	MAT90489381	12G1.5	0.53 13.5	120.28 179	190.84 284	5	CF9-15-12	09330102702	19300101441	09330102602	19300101441
TPE	MAT90489382	12G1.5	0.63 16.0	120.28 179	247.96 369	5	CF9-UL-15-12	09330102702	19300101441	09330102602	19300101441



Han 10B Connector housing (pin) to Han 10B Connector housing (socket), Single locking lever on both sides, angled											
PVC	MAT90489384	12G1.5	0.47 12.0	124.99 186	174.71 260	12.5	CF880-15-12	09330102702	19300101541	09330102602	19300101541
PVC	MAT90489385	12G1.5	0.51 13.0	120.28 179	193.53 288	7.5	CF130-15-12-UL	09330102702	19300101541	09330102602	19300101541
PVC	MAT90489386	12G1.5	0.59 15.0	120.28 179	177.40 264	6.8	CF5-15-12	09330102702	19300101541	09330102602	19300101541
iguPUR	MAT90489387	12G1.5	0.47 12.0	124.99 186	172.02 256	12.5	CF890-15-12	09330102702	19300101541	09330102602	19300101541
PUR	MAT90489388	12G1.5	0.51 13.0	120.28 179	199.57 297	6.8	CF77-UL-15-12-D	09330102702	19300101541	09330102602	19300101541
PUR	MAT90489391	16G1.0+(2x1.0)C	0.61 15.5	130.36 194	206.29 307	10	CFROBOT9-004	09330102702	19300101541	09330102602	19300101541
TPE	MAT90489389	12G1.5	0.53 13.5	120.28 179	190.84 284	5	CF9-15-12	09330102702	19300101541	09330102602	19300101541
TPE	MAT90489390	12G1.5	0.63 16.0	120.28 179	247.96 369	5	CF9-UL-15-12	09330102702	19300101541	09330102602	19300101541



Han 10B Connector housing (pin) to Han 10B Connector housing (socket), Double locking lever on both sides, straight											
PVC	MAT90489392	12G1.5	0.47 12.0	124.99 186	174.71 260	12.5	CF880-15-12	09330102702	19300101421	09330102602	19300101421
PVC	MAT90489393	12G1.5	0.51 13.0	120.28 179	193.53 288	7.5	CF130-15-12-UL	09330102702	19300101421	09330102602	19300101421
PVC	MAT90489394	12G1.5	0.59 15.0	120.28 179	177.40 264	6.8	CF5-15-12	09330102702	19300101421	09330102602	19300101421
iguPUR	MAT90489395	12G1.5	0.47 12.0	124.99 186	172.02 256	12.5	CF890-15-12	09330102702	19300101421	09330102602	19300101421
PUR	MAT90489396	12G1.5	0.51 13.0	120.28 179	199.57 297	6.8	CF77-UL-15-12-D	09330102702	19300101421	09330102602	19300101421
PUR	MAT90489399	16G1.0+(2x1.0)C	0.61 15.5	130.36 194	206.29 307	10	CFROBOT9-004	09330102702	19300101421	09330102602	19300101421
TPE	MAT90489397	12G1.5	0.53 13.5	120.28 179	190.84 284	5	CF9-15-12	09330102702	19300101421	09330102602	19300101421
TPE	MAT90489398	12G1.5	0.63 16.0	120.28 179	247.96 369	5	CF9-UL-15-12	09330102702	19300101421	09330102602	19300101421



Han 10B Connector housing (pin) to Han 10B Connector housing (socket), Double locking lever on both sides, angled											
PVC	MAT90489400	12G1.5	0.47 12.0	124.99 186	174.71 260	12.5	CF880-15-12	09330102702	19300101521	09330102602	19300101521
PVC	MAT90489401	12G1.5	0.51 13.0	120.28 179	193.53 288	7.5	CF130-15-12-UL	09330102702	19300101521	09330102602	19300101521
PVC	MAT90489402	12G1.5	0.59 15.0	120.28 179	177.40 264	6.8	CF5-15-12	09330102702	19300101521	09330102602	19300101521
iguPUR	MAT90489403	12G1.5	0.47 12.0	124.99 186	172.02 256	12.5	CF890-15-12	09330102702	19300101521	09330102602	19300101521
PUR	MAT90489404	12G1.5	0.51 13.0	120.28 179	199.57 297	6.8	CF77-UL-15-12-D	09330102702	19300101521	09330102602	19300101521
PUR	MAT90489407	16G1.0+(2x1.0)C	0.61 15.5	130.36 194	206.29 307	10	CFROBOT9-004	09330102702	19300101521	09330102602	19300101521
TPE	MAT90489405	12G1.5	0.53 13.5	120.28 179	190.84 284	5	CF9-15-12	09330102702	19300101521	09330102602	19300101521
TPE	MAT90489406	12G1.5	0.63 16.0	120.28 179	247.96 369	5	CF9-UL-15-12	09330102702	19300101521	09330102602	19300101521



Note: The mentioned outer diameters are maximum values. Images exemplary.
G= with green-yellow earth core x= without earth core

Harnessed control cables | HARTING Han 16B

Jacket material	igus® Part No.	Number of Conductors and rated cross section [mm²]	Outer diameter		Copper Index		Weight		R min. [x d]	Chainflex® cable	Insert 1 HARTING Part No.	Housing 1 HARTING Part No.	Insert 2 HARTING Part No.	Housing 2 HARTING Part No.
			[in]	[mm]	[lbs/mt]	[kg/km]	[lbs/mt]	[kg/km]						
Han 16B Connector housing (pin) to Han 16B Connector housing (socket), Single locking lever on both sides, straight														
PVC	MAT90489408	18G1.5	0.57	14.5	187.48	279	248.63	370	12.5	CF880-15-18	09330162702	19300161442	09330162602	19300161442
PVC	MAT90489409	18G1.5	0.67	17.0	180.09	268	294.32	438	7.5	CF130-15-18-UL	09330162702	19300161442	09330162602	19300161442
PVC	MAT90489410	18G1.5	0.77	19.5	179.42	267	321.20	478	6.8	CF5-15-18	09330162702	19300161442	09330162602	19300161442
iguPUR	MAT90489411	18G1.5	0.57	14.5	187.48	279	243.25	362	12.5	CF890-15-18	09330162702	19300161442	09330162602	19300161442
PUR	MAT90489412	18G1.5	0.67	17.0	180.09	268	272.15	405	6.8	CF77-UL-15-18-D	09330162702	19300161442	09330162602	19300161442
PUR	MAT90489415	16G1.0+(2x1.0)C	0.61	15.5	130.36	194	206.29	307	10	CFROBOT9-004	09330162702	19300161442	09330162602	19300161442
TPE	MAT90489413	18G1.5	0.65	16.5	180.09	268	283.57	422	5	CF9-15-18	09330162702	19300161442	09330162602	19300161442
TPE	MAT90489414	18G1.5	0.75	19.0	180.09	268	355.47	529	5	CF9-UL-15-18	09330162702	19300161442	09330162602	19300161442



Han 16B Connector housing (pin) to Han 16B Connector housing (socket), Single locking lever on both sides, angled														
PVC	MAT90489416	18G1.5	0.57	14.5	187.48	279	248.63	370	12.5	CF880-15-18	09330162702	19300161542	09330162602	19300161542
PVC	MAT90489417	18G1.5	0.67	17.0	180.09	268	294.32	438	7.5	CF130-15-18-UL	09330162702	19300161542	09330162602	19300161542
PVC	MAT90489418	18G1.5	0.77	19.5	179.42	267	321.20	478	6.8	CF5-15-18	09330162702	19300161542	09330162602	19300161542
iguPUR	MAT90489419	18G1.5	0.57	14.5	187.48	279	243.25	362	12.5	CF890-15-18	09330162702	19300161542	09330162602	19300161542
PUR	MAT90489420	18G1.5	0.67	17.0	180.09	268	272.15	405	6.8	CF77-UL-15-18-D	09330162702	19300161542	09330162602	19300161542
PUR	MAT90489423	16G1.0+(2x1.0)C	0.61	15.5	130.36	194	206.29	307	10	CFROBOT9-004	09330162702	19300161542	09330162602	19300161542
TPE	MAT90489421	18G1.5	0.65	16.5	180.09	268	283.57	422	5	CF9-15-18	09330162702	19300161542	09330162602	19300161542
TPE	MAT90489422	18G1.5	0.75	19.0	180.09	268	355.47	529	5	CF9-UL-15-18	09330162702	19300161542	09330162602	19300161542



Han 16B Connector housing (pin) to Han 16B Connector housing (socket), Double locking lever on both sides, straight														
PVC	MAT90489424	18G1.5	0.57	14.5	187.48	279	248.63	370	12.5	CF880-15-18	09330162702	19300161422	09330162602	19300161422
PVC	MAT90489425	18G1.5	0.67	17.0	180.09	268	294.32	438	7.5	CF130-15-18-UL	09330162702	19300161422	09330162602	19300161422
PVC	MAT90489426	18G1.5	0.77	19.5	179.42	267	321.20	478	6.8	CF5-15-18	09330162702	19300161422	09330162602	19300161422
iguPUR	MAT90489427	18G1.5	0.57	14.5	187.48	279	243.25	362	12.5	CF890-15-18	09330162702	19300161422	09330162602	19300161422
PUR	MAT90489428	18G1.5	0.67	17.0	180.09	268	272.15	405	6.8	CF77-UL-15-18-D	09330162702	19300161422	09330162602	19300161422
PUR	MAT90489431	16G1.0+(2x1.0)C	0.61	15.5	130.36	194	206.29	307	10	CFROBOT9-004	09330162702	19300161422	09330162602	19300161422
TPE	MAT90489429	18G1.5	0.65	16.5	180.09	268	283.57	422	5	CF9-15-18	09330162702	19300161422	09330162602	19300161422
TPE	MAT90489430	18G1.5	0.75	19.0	180.09	268	355.47	529	5	CF9-UL-15-18	09330162702	19300161422	09330162602	19300161422

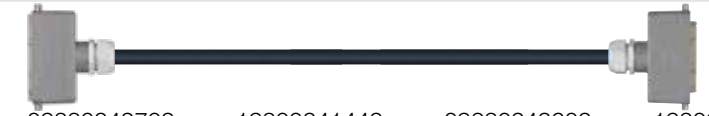


Han 16B Connector housing (pin) to Han 16B Connector housing (socket), Double locking lever on both sides, angled														
PVC	MAT90489432	18G1.5	0.57	14.5	187.48	279	248.63	370	12.5	CF880-15-18	09330162702	19300161522	09330162602	19300161522
PVC	MAT90489433	18G1.5	0.67	17.0	180.09	268	294.32	438	7.5	CF130-15-18-UL	09330162702	19300161522	09330162602	19300161522
PVC	MAT90489434	18G1.5	0.77	19.5	179.42	267	321.20	478	6.8	CF5-15-18	09330162702	19300161522	09330162602	19300161522
iguPUR	MAT90489435	18G1.5	0.57	14.5	187.48	279	243.25	362	12.5	CF890-15-18	09330162702	19300161522	09330162602	19300161522
PUR	MAT90489436	18G1.5	0.67	17.0	180.09	268	272.15	405	6.8	CF77-UL-15-18-D	09330162702	19300161522	09330162602	19300161522
PUR	MAT90489439	16G1.0+(2x1.0)C	0.61	15.5	130.36	194	206.29	307	10	CFROBOT9-004	09330162702	19300161522	09330162602	19300161522
TPE	MAT90489437	18G1.5	0.65	16.5	180.09	268	283.57	422	5	CF9-15-18	09330162702	19300161522	09330162602	19300161522
TPE	MAT90489438	18G1.5	0.75	19.0	180.09	268	355.47	529	5	CF9-UL-15-18	09330162702	19300161522	09330162602	19300161522



Note: The mentioned outer diameters are maximum values. Images exemplary.
G= with green-yellow earth core x= without earth core

Jacket material	igus® Part No.	Number of Conductors and rated cross section [mm²]	Outer diameter [in] [mm]	Copper Index [lbs/mt] [kg/km]	Weight [lbs/mt] [kg/km]	R min. [x d]	Chainflex® cable	Insert 1 HARTING Part No.	Housing 1 HARTING Part No.	Insert 2 HARTING Part No.	Housing 2 HARTING Part No.
Han 24B Connector housing (pin) to Han 24B Connector housing (socket), Single locking lever on both sides, straight											
PVC	MAT90489440	25G1.5	0.69 17.5	260.05 387	345.39 514	12.5	CF880-15-25	09330242702	19300241442	09330242602	19300241442
PVC	MAT90489441	25G1.5	0.77 19.5	249.30 371	378.32 563	7.5	CF130-15-25-UL	09330242702	19300241442	09330242602	19300241442
PVC	MAT90489442	25G1.5	0.85 21.5	249.30 371	433.42 645	6.8	CF5-15-25	09330242702	19300241442	09330242602	19300241442
iguPUR	MAT90489443	25G1.5	0.69 17.5	260.05 387	337.33 502	12.5	CF890-15-25	09330242702	19300241442	09330242602	19300241442
PUR	MAT90489444	25G1.5	0.77 19.5	199.57 297	378.99 564	6.8	CF77-UL-15-25-D	09330242702	19300241442	09330242602	19300241442
PUR	MAT90489447	23G1.0+(2x1.0)C	0.77 19.5	180.09 268	298.35 444	10	CFROBOT9-005	09330242702	19300241442	09330242602	19300241442
TPE	MAT90489445	25G1.5	0.79 20.0	249.30 371	403.18 600	5	CF9-15-25	09330242702	19300241442	09330242602	19300241442
TPE	MAT90489446	25G1.5	0.87 22.0	249.30 371	485.16 722	5	CF9-UL-15-25	09330242702	19300241442	09330242602	19300241442



Han 24B Connector housing (pin) to Han 24B Connector housing (socket), Single locking lever on both sides, angled											
PVC	MAT90489448	25G1.5	0.69 17.5	260.05 387	345.39 514	12.5	CF880-15-25	09330242702	19300241542	09330242602	19300241542
PVC	MAT90489449	25G1.5	0.77 19.5	249.30 371	378.32 563	7.5	CF130-15-25-UL	09330242702	19300241542	09330242602	19300241542
PVC	MAT90489450	25G1.5	0.85 21.5	249.30 371	433.42 645	6.8	CF5-15-25	09330242702	19300241542	09330242602	19300241542
iguPUR	MAT90489451	25G1.5	0.69 17.5	260.05 387	337.33 502	12.5	CF890-15-25	09330242702	19300241542	09330242602	19300241542
PUR	MAT90489452	25G1.5	0.77 19.5	199.57 297	378.99 564	6.8	CF77-UL-15-25-D	09330242702	19300241542	09330242602	19300241542
PUR	MAT90489455	23G1.0+(2x1.0)C	0.77 19.5	180.09 268	298.35 444	10	CFROBOT9-005	09330242702	19300241542	09330242602	19300241542
TPE	MAT90489453	25G1.5	0.79 20.0	249.30 371	403.18 600	5	CF9-15-25	09330242702	19300241542	09330242602	19300241542
TPE	MAT90489454	25G1.5	0.87 22.0	249.30 371	485.16 722	5	CF9-UL-15-25	09330242702	19300241542	09330242602	19300241542



Han 24B Connector housing (pin) to Han 24B Connector housing (socket), Double locking lever on both sides, straight											
PVC	MAT90489456	25G1.5	0.69 17.5	260.05 387	345.39 514	12.5	CF880-15-25	09330242702	19300241422	09330242602	19300241422
PVC	MAT90489457	25G1.5	0.77 19.5	249.30 371	378.32 563	7.5	CF130-15-25-UL	09330242702	19300241422	09330242602	19300241422
PVC	MAT90489458	25G1.5	0.85 21.5	249.30 371	433.42 645	6.8	CF5-15-25	09330242702	19300241422	09330242602	19300241422
iguPUR	MAT90489459	25G1.5	0.69 17.5	260.05 387	337.33 502	12.5	CF890-15-25	09330242702	19300241422	09330242602	19300241422
PUR	MAT90489460	25G1.5	0.77 19.5	199.57 297	378.99 564	6.8	CF77-UL-15-25-D	09330242702	19300241422	09330242602	19300241422
PUR	MAT90489463	23G1.0+(2x1.0)C	0.77 19.5	180.09 268	298.35 444	10	CFROBOT9-005	09330242702	19300241422	09330242602	19300241422
TPE	MAT90489461	25G1.5	0.79 20.0	249.30 371	403.18 600	5	CF9-15-25	09330242702	19300241422	09330242602	19300241422
TPE	MAT90489462	25G1.5	0.87 22.0	249.30 371	485.16 722	5	CF9-UL-15-25	09330242702	19300241422	09330242602	19300241422



Han 24B Connector housing (pin) to Han 24B Connector housing (socket), Double locking lever on both sides, angled											
PVC	MAT90489464	25G1.5	0.69 17.5	260.05 387	345.39 514	12.5	CF880-15-25	09330242702	19300241522	09330242602	19300241522
PVC	MAT90489465	25G1.5	0.77 19.5	249.30 371	378.32 563	7.5	CF130-15-25-UL	09330242702	19300241522	09330242602	19300241522
PVC	MAT90489466	25G1.5	0.85 21.5	249.30 371	433.42 645	6.8	CF5-15-25	09330242702	19300241522	09330242602	19300241522
iguPUR	MAT90489467	25G1.5	0.69 17.5	260.05 387	337.33 502	12.5	CF890-15-25	09330242702	19300241522	09330242602	19300241522
PUR	MAT90489468	25G1.5	0.77 19.5	199.57 297	378.99 564	6.8	CF77-UL-15-25-D	09330242702	19300241522	09330242602	19300241522
PUR	MAT90489471	23G1.0+(2x1.0)C	0.77 19.5	180.09 268	298.35 444	10	CFROBOT9-005	09330242702	19300241522	09330242602	19300241522
TPE	MAT90489469	25G1.5	0.79 20.0	249.30 371	403.18 600	5	CF9-15-25	09330242702	19300241522	09330242602	19300241522
TPE	MAT90489470	25G1.5	0.87 22.0	249.30 371	485.16 722	5	CF9-UL-15-25	09330242702	19300241522	09330242602	19300241522











Note: The mentioned outer diameters are maximum values. Images exemplary.
G= with green-yellow earth core x= without earth core

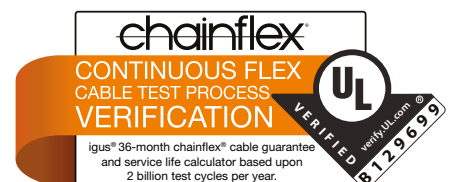
Robot

Harnessed dress packs
and cables for robots



chainflex® ReadyCable®

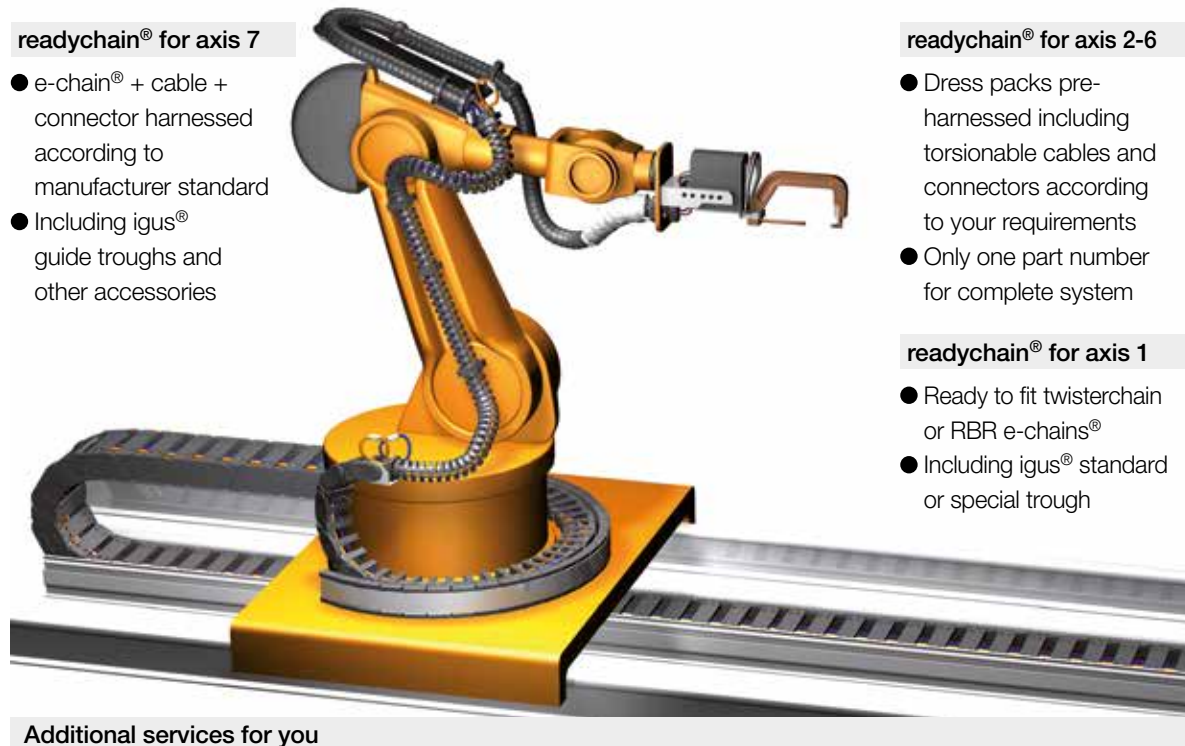
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Dress packs for robots		
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Cables according to AIDA specifications		
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Assembled energy supply systems, connectors and cables from igus[®]. Everything from a single 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 pre-harnessed including torsionable cables and connectors according to your requirements
- Only 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.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.

Product range dress packs for welding robots

Part No.

Welding axis 1-3

(1 m projection/side + 1 m e-chain[®] for each)



RRC.S.001

Consisting of:

- 1 m TRLF.85.135.0, including mounting brackets
- Welding cable (2x35 mm² + 1x25 mm²) including multi-contact TSB and TSS welding connector
- Control cable (18x0.75 mm² + 5x0.75 mm²) including rectangular connector on both ends
- Welding control cable (5x2x0.5 mm²) 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:

- 1 m TRC.85.135.0 including protectors and mounting brackets
- Welding cable (2x35 mm² + 1x25 mm²) including multi-contact TSB and TSS welding connector
- Control cable (18x0.75 mm² + 5x0.75 mm²) including round connector and rectangular connector
- Welding control cable (5x2x0.5 mm²) including rectangular connector on both ends
- 3x hoses - DN12 red, green, blue - including fixture at both ends

Harnessed cables for Kuka Quantec, to your required length

Part No.	chainflex® cable	Manufacturer description	Number of cores and conductor nominal cross section	Ø	
				[mm²]	[in] [mm]
Motor cable (straight socket)					
MAT904105003	CFSPECIAL-792-011	X30/X30.1	(5x(2x6.0+2x2.5)+2x(6x1.0)C)C	1.40	35.5
Motor cable (angled socket)					
MAT904105004	CFSPECIAL-792-011	X30/X30.1	(5x(2x6.0+2x2.5)+2x(6x1.0)C)C	1.40	35.5
Data cable					
MAT904105005	CFBUS-PUR-H01-060	X31/X31.1	((4x0.38)C+4x1.5)C	0.45	11.5
Motor cable single axis (axis 7)					
MAT904105006	CF270-UL-25-15-02-01-D	XM.../X...	(4G2.5+(2x1.5)C)C	0.55	14.0
MAT904105007	CF270-UL-40-15-02-01-D	XM.../X...	(4G4.0+(2x1.5)C)C	0.59	15.0
Motor cable single axis (axis 7)					
MAT904105008	CF270-UL-60-15-02-01-D	XM.../X...	(4G6.0+(2x1.5)C)C	0.65	16.5
Control cable (axis 7)					
MAT904105009	CF112-02-04-02	Control cable single axis	(4x(2x0.25)C)C	0.43	11.0
Earth-core					
MAT904105010	CFPE-160-01	Connector plate/Robot	1G16	0.37	9.5

Direct connection cables for Kuka Quantec, to your required length

Part No.	chainflex® cable	Number of cores and conductor nominal cross section	Ø	
			[mm²]	[in] [mm]
Motor cable (direct connection cable)				
MAT904141225	CFSPECIAL-792-011	(5x(2x6.0+2x2.5)+2x(6x1.0)C)C	1.40	35.5
Motor cable (direct connection cable)				
MAT904141226	CFSPECIAL-792-011	(5x(2x6.0+2x2.5)+2x(6x1.0)C)C	1.40	35.5
Signal cable (direct connection cable)				
MAT904141227	CFBUS-PUR-H01-060	((4x0.38)C+4x1.5)C	0.45	11.5

Harnessed cables for Kuka Fortec, to your required length

Part No.	chainflex® cable	Manufacturer description	Number of cores and conductor nominal cross section	Ø	
				[mm ²]	[in] [mm]

Motor cable
(angled socket)

MAT904105011	CFSPECIAL-792-014	X30.1/X30.1.1	(2x(3x1.5)C+3x(3x10)+1G10)C	1.40	35.5
MAT904105012	CFSPECIAL-792-014	X30.4/X30.4.1	(2x(3x1.5)C+3x(3x10)+1G10)C	1.40	35.5

Data cable



MAT904105005	CFBUS-PUR-H01-060	X31/X31.1	((4x0.38)C+4x1.5)C	0.45	11.5
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Motor cable single axis
(axis 7)

MAT904105006	CF270-UL-25-15-02-01-D	XM.../X...	(4G2.5+(2x1.5)C)C	0.55	14.0
MAT904105007	CF270-UL-40-15-02-01-D	XM.../X...	(4G4.0+(2x1.5)C)C	0.59	15.0

Motor cable single axis
(axis 7)

MAT904105008	CF270-UL-60-15-02-01-D	XM.../X...	(4G6.0+(2x1.5)C)C	0.65	16.5
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Control cable
(axis 7)

MAT904105013	CF112-02-04-02	Control cable single axis	(4x(2x0.25)C)C	0.43	11.0
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Earth-core



MAT904105010	CFPE-160-01	Connector plate/Robot	1G16	0.37	9.5
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Direct connection cables for Kuka Fortec, to your required length

Part No.	chainflex® cable	Number of cores and conductor nominal cross section	Ø	
			[mm ²]	[in] [mm]

Motor cable
(direct connection cable)

MAT904141228	CFSPECIAL-792-014	(2x(3x1.5)C+3x(3x10)+1G10)C	1.40	35.5
MAT904141229	CFSPECIAL-792-013	((6x1.5)C+3x(3x4)+1G6)C	1.10	28.0

Signal cable
(direct connection cable)

MAT904141227	CFBUS-PUR-H01-060	((4x0.38)C+4x1.5)C	0.45	11.5
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Harnessed cables for Kuka Titan, to your required length

Part No.	chainflex® cable	Manufacturer description	Number of cores and conductor nominal cross section	Ø	
				[mm ²]	[in] [mm]

Motor cable
(angled socket)

MAT904105011	CFSPECIAL-792-014	X30.1/X30.1.1	(2x(3x1.5)C+3x(3x10)+1G10)C	1.40	35.5
MAT904105014	CFSPECIAL-792-014	X30.2/X30.2.1	(2x(3x1.5)C+3x(3x10)+1G10)C	1.40	35.5
MAT904105015	CFSPECIAL-792-014	X30.3/X30.3.1	(2x(3x1.5)C+3x(3x10)+1G10)C	1.40	35.5

Data cable



MAT904105005	CFBUS-PUR-H01-060	X31/X31.1	((4x0.38)C+4x1.5)C	0.45	11.5
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Motor cable single axis
(axis 7)

MAT904105006	CF270-UL-25-15-02-01-D	XM.../X...	(4G2.5+(2x1.5)C)C	0.55	14.0
MAT904105007	CF270-UL-40-15-02-01-D	XM.../X...	(4G4.0+(2x1.5)C)C	0.59	15.0

Motor cable single axis
(axis 7)

MAT904105008	CF270-UL-60-15-02-01-D	XM.../X...	(4G6.0+(2x1.5)C)C	0.65	16.5
--------------	------------------------	------------	-------------------	------	------

Control cable
(axis 7)

MAT904105013	CF112-02-04-02	Control cable single axis	(4x(2x0.25)C)C	0.43	11.0
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Earth-core



MAT904105010	CFPE-160-01	Connector plate/Robot	1G16	0.37	9.5
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Direct connection cables for Kuka Titan, to your required length

Part No.	chainflex® cable	Manufacturer description	Number of cores and conductor nominal cross section	Ø	
				[mm ²]	[in] [mm]

Motor cable
(direct connection cable)

MAT904141228	CFSPECIAL-792-014	X30.1/X30.1.1	(2x(3x1.5)C+3x(3x10)+1G10)C	1.40	35.5
MAT904141230	CFSPECIAL-792-014	X30.2/X30.2.1	(2x(3x1.5)C+3x(3x10)+1G10)C	1.40	35.5
MAT904141231	CFSPECIAL-792-014	X30.3/X30.3.1	(2x(3x1.5)C+3x(3x10)+1G10)C	1.40	35.5

Signal cable
(direct connection cable)

MAT904141227	CFBUS-PUR-H01-060		((4x0.38)C+4x1.5)C	0.45	11.5
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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	Ø	
				[mm²]	[in] [mm]
Motor cable (Extension cable axis 7)					
MAT904117141	CFSPECIAL-792-015	RM1.2	(7x(6x2.0))C	1.44	36.5
MAT904117142	CFSPECIAL-792-015	RM2.2	(7x(6x2.0))C	1.44	36.5
Pulse encoder (Extension cable axis 7)					
MAT904117143	CFSPECIAL-792-016	RP1.2	(5x(4x0.25)+10x(3x0.75))C	1.04	26.5
Earth-core (Extension cable axis 7)					
MAT904117144	CFPE-160-01	Earth-core	1G16	0.37	9.5
Earth-core (Extension cable axis 7)					
MAT904117145	CFPE-60-01	Earth-core	1G6.0	0.28	7.0
Motor cable single axis (axis 7)					
MAT904117146	CF270-UL-60-15-02-01-D	RM7.2	(4G6.0+(2x1.5))C	0.65	16.5
Pulse encoder single axis (axis 7)					
MAT904117147	CF240-PUR-03-03 +CF113-05-04-02	RP7.2	(3x0.34)C	0.20	5.0



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	Ø	
			[mm²]	[in] [mm]
Motor cable (direct connection cable)				
MAT904141222	CFSPECIAL-792-015	(7x(6x2.0))C	1.44	36.5
MAT904141223	CFSPECIAL-792-015	(7x(6x2.0))C	1.44	36.5
Signal cable (direct connection cable)				
MAT904141224	CFSPECIAL-792-016	(5x(4x0.25)+10x(3x0.75))C	1.04	26.5



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	Ø	
				[mm²]	[in] [mm]
Motor cable (Extension cable axis 7)					
MAT904117141	CFSPECIAL-792-015	RM1.2	(7x(6x2.0))C	1.44	36.5
Pulse encoder (Extension cable axis 7)					
MAT904117143	CFSPECIAL-792-016	RP1.2	(5x(4x0.25)+10x(3x0.75))C	1.04	26.5
Earth-core (Extension cable axis 7)					
MAT904117144	CFPE-160-01	Earth-core	1G16	0.37	9.5
Earth-core (Extension cable axis 7)					
MAT904117145	CFPE-60-01	Earth-core	1G6.0	0.28	7.0
Motor cable single axis (axis 7)					
MAT904117146	CF270-UL-60-15-02-01-D	RM7.2	(4G6.0+(2x1.5))C	0.65	16.5
Pulse encoder single axis (axis 7)					
MAT904117147	CF240-PUR-03-03 +CF113-05-04-02	RP7.2	(3x0.34)C	0.20	5.0

Direct connection cables for robots

Fanuc R-2000iC

New

Direct connection cables for Fanuc M-2000iC, to your required length

Part No.	chainflex® cable	Number of cores and conductor nominal cross section	Ø	
			[mm²]	[in] [mm]
Motor cable (direct connection cable)				
MAT904141222	CFSPECIAL-792-015	(7x(6x2.0))C	1.44	36.5
Signal cable (direct connection cable)				
MAT904141224	CFSPECIAL-792-016	(5x(4x0.25)+10x(3x0.75))C	1.04	26.5

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	Ø
			[mm ²]	[in] [mm]
Power cable				
MAT904128539	CFSPECIAL-792-012	R1MP	(18G2.5)C	1.00 25.5
Signal cable				
MAT904128540	CF211-PUR-02-06-02	R1.SMB	(6x(2x0.25))C	0.35 9.0
Power cable				
MAT904128547	CF270-UL-40-15-02-02-D		(4G4.0+2x(2x1.5)C)C	0.67 17.0
Resolver cable				
MAT904128548	CF211-PUR-02-03-02		(3x(2x0.25))C	0.28 7.0
Earth-core (Extension cable axis 7)				
MAT904117144	CFPE-160-01	Earth-core	1G16	0.37 9.5

Direct connection cables for robots

ABB IRB 6620, IRB 6640, IRB 6650S, IRB 7600

New

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	Ø
			[mm ²]	[in] [mm]
Motor cable (direct connection cable)				
MAT904141219	CFSPECIAL-792-012		(18G2.5)C	1.00 25.5
Signal cable (direct connection cable)				
MAT904141220	CF211-02-06-02		(6x(2x0.25))C	0.35 9.0

Harnessed cables for ABB IRB 6700, to your desired length

Part No.	chainflex® cable	Manufacturer description	Number of cores and conductor nominal cross section	
			[mm ²]	[in] [mm]
Power cable				
MAT904128539	CFSPECIAL-792-012	R1MP	(18G2.5)C	1.00 25.5
Signal cable				
MAT904128541	CF211-PUR-02-06-02	R1.SMB	(6x(2x0.25))C	0.35 9.0
Power cable				
MAT904128547	CF270-UL-40-15-02-02-D		(4G4.0+2x(2x1.5))C	0.67 17.0
Resolver cable				
MAT904128548	CF211-PUR-02-03-02		(3x(2x0.25))C	0.28 7.0
Earth-core (Extension cable axis 7)				
MAT904117144	CFPE-160-01	Earth-core	1G16	0.37 9.5



Direct connection cable for ABB IRB 6700, to your required length

Part No.	chainflex® cable	Manufacturer description	Number of cores and conductor nominal cross section	
			[mm ²]	[in] [mm]
Motor cable (direct connection cable)				
MAT904141219	CFSPECIAL-792-012		(18G2.5)C	1.00 25.5
Signal cable (direct connection cable)				
MAT904141221	CF211-PUR-02-06-02		(6x(2x0.25))C	0.35 9.0



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]	[in] [mm]
Power cable				
MAT904128542	CFSPECIAL-792-012	R1MP-A	(18G2.5)C	1.00 25.5
MAT904128543	CFSPECIAL-792-012	R1MP-B	(18G2.5)C	1.00 25.5
Signal cable				
MAT904128541	CF211-PUR-02-06-02	R1.SMB	(6x(2x0.25))C	0.35 9.0
Power cable				
MAT904128547	CF270-UL-40-15-02-02-D		(4G4.0+2x(2x1.5)C)C	0.67 17.0
Resolver cable				
MAT904128548	CF211-PUR-02-03-02		(3x(2x0.25))C	0.28 7.0
Earth-core (Extension cable axis 7)				
MAT904117144	CFPE-160-01	Earth-core	1G16	0.37 9.5

Direct connection cable for ABB IRB 8700, to your required length









Part No.	chainflex® cable	Number of cores and conductor nominal cross section	
		[mm²]	[in] [mm]
Motor cable (direct connection cable)			
MAT9041445759	2xCFSPECIAL-792-012	(18G2.5)C	1.00 25.5
MAT9041445759	2xCFSPECIAL-792-012	(18G2.5)C	1.00 25.5
Signal cable (direct connection cable)			
MAT904141221	CF211-PUR-02-06-02	(6x(2x0.25))C	0.35 9.0

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 from page 178 **CFLK** from page 198 **CF77.UL.D** from page 86 **CF211.PUR** from page 136

Harnessed cables according to AIDA specifications, to your required length				
Part no.	chainflex® cable	Number of cores and conductor nominal cross section	Ø	
			[mm²]	[in] [mm]
Extension cable axis 7				
AIDA Profinet - RJ-45				
MAT904117091	CFBUS-PUR-060	(4x0.38)C	0.28	7.0
AIDA Profinet FOC				
MAT904117092	CFLK-L1-02	1x980/1000 µm	0.28	7.0
AIDA Power				
MAT904117093	CF77-UL-25-05-D	5G2.5	0.41	10.5
AIDA Signal				
MAT904117094	CF211-PUR-05-05-02	(5x(2x0.5))C	0.41	10.5
Extension cable axis 1-6				
AIDA Profinet - RJ-45				
MAT904117095	CFROBOT8-060	(2x(2x0.34))C	0.33	8.5
AIDA Profinet FOC ¹⁾				
upon request 1)	CFLK-L1-02	1x980/1000 µm	0.28	7.0
AIDA Power				
MAT904117097	CF77-UL-25-05-D	5G2.5	0.41	10.5
AIDA Signal				
MAT904117098	CFROBOT3-05-05-02	(5x(2x0.5))C	0.49	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.
G = with green-yellow earth core **x** = without earth core
















... harnessed cables for 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 542
	B&R	Motor cables Servo cables EnDat cables Encoder cables Resolver cables Bus cables	PVC/PUR/TPE 543
	Baumüller	Servo cables Resolver cables Pulse encoder cables	PVC/PUR/TPE 543
	Beckhoff	Motor cables Servo cables Hybrid Servo cables Encoder cables Thermal protection cables Resolver cables Network cables EtherCat	PVC/PUR/TPE 546
	Berger Lahr	Servo cables Resolver cables	PVC/PUR/TPE 546
	Bosch Rexroth	Motor cables Servo cables Encoder cables	PVC/PUR/TPE 546
	ELAU/ Schneider Electric	Servo cables Hybrid Servo cables Encoder cables	PVC/PUR/TPE 549
	FAGOR	Path measuring cables	PUR/TPE 549
	Fanuc	Motor cables Servo cables Brake cables Signal cables	PVC/PUR/TPE 549
	Festo	Servo cables Control cables Encoder cables Data cables Bus cables	PVC/PUR/TPE 550
	Heidenhain	Servo cables Adapter cables	PVC/PUR/TPE 550

More harnessed cables for drive technology ▶ Page 536

To make the choice easier for you, we have classified all chainflex® cables according to the criteria "Basic requirements, oil resistance and travel distance". For detailed information see inside the front cover.

... 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	551
	Kolmorgen/ Danaher Motion	Motor cables Servo cables Signal cables PVC/PUR/TPE	551
	Lenze	Servo cables Fan cables Decoder cables Encoder cables Feedback cables Resolver cables PVC/PUR/TPE	553
	LinMot	Motor cables Servo cables Encoder cables PVC/PUR	554
	LTi DRIVES	Servo cables Encoder cables PVC/PUR/TPE	554
	Mitsubishi Electric	Motor cables Encoder cables PVC/PUR	555
	Nidec/Control Techniques	Motor cables Servo cables Encoder cables PVC/PUR/TPE	555
	NUM	Power cables Servo cables Fan cables Encoder cables PVC/PUR/TPE	556
	Omron	Motor cables Control cables Encoder cables PVC/PUR/TPE	556
	Parker	Motor cables Resolver cables PVC/PUR/TPE	557
	SEW	Motor cables Servo cables Hybrid Servo cables Control cables Encoder cables PVC/PUR/TPE	557
	Siemens	Power cables Servo cables Signal cables Signal cables DriveCliq PVC/PUR/TPE	558
	Stöber	Servo cables Encoder cables PVC/PUR/TPE	562

More harnessed cables for drive technology ▶ Page 535

To make the choice easier for you, we have classified all chainflex® cables according to the criteria "Basic requirements, oil resistance and travel distance". For detailed information see inside the front cover.

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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 > 41 °F
- Unsupported travel distances and up to 328 ft for gliding applications
- Storage and retrieval units for high-bay warehouses, machining units/package machines, quick handling, indoor cranes, woodworking

Example: chainflex® PUR cables for the machine tools industry



Typical application areas – PUR

- For extremely heavy duty applications
- Almost unlimited resistance to oil
- Indoor and outdoor applications, UV-resistant
- Unsupported travel distances and up to 328 ft for gliding applications
- Storage and retrieval units for high-bay warehouses, machining units/machine tools, quick handling, clean room, semiconductor insertion, outdoor cranes, low-temperature applications

Example: chainflex® TPE cables for outdoor use



Typical application areas – TPE

- For extremely heavy duty applications
- Almost unlimited resistance to oil, also with bio-oils
- Indoor and outdoor applications, UV-resistant
- Unsupported travel distances and up to 1312 ft and more for gliding applications
- Storage and retrieval units for high-bay warehouses, machining units/machine tools, quick handling, clean room, 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.

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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 [x d]	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 [ft]	≤ 328.1	≤ 1,312	≤ 1,312	≤ 32.81	≤ 328.1	≤ 32.81	≤ 328.1
Oil-resistant	✓	✓	✓	✓	✓	✓	✓
Oil-/coolant-resistant						✓	✓
Flame-retardant	✓	✓		✓	✓	✓	✓
Halogen-free			✓			✓	✓
Notch-resistant						✓	✓
Hydrolysis-/microbe-resistant		✓	✓			✓	✓
Temperature, from/to [°F]	23/+158	-31/+194	-31/+194	+41/+158	+41/+158	-13/+176	-13/+176
Nominal voltage [V]	1000	1000	1000	1000	1000	1000	1000
Colour	Jet black	Signal black	Jet black	Pastel orange	Moss green	Pastel orange	Pastel orange
CE/CEI							
RoHS							
CleanRoom							
EAC/CTP							
UL/CSA + NFPA							
Desina							
More Information							
▶ Catalogue page	316	336	342	270	274	280	284
www.igus.com/	CF31	CF35UL	CF38	CF210UL	CF21UL	CF270ULD	CF27D

... harnessed cables for drive technology ... chainflex® readycable® ▶▶

the product pages of the respective manufacturers)

	8	9	10	11	12	13	14	15	16
chainflex® series	CF211 Mess	CF111.D	CF113.D	CF11.D	CFBUS	CF240.PUR	CF211	CF113	CF11
Class	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	6.5.3	6.6.4.1
Outer jacket	PVC	PUR	PUR	TPE	TPE	PUR	PVC	PUR	TPE
Shielded	✓	✓	✓	✓	✓	✓	✓	✓	✓
Minimum bend radius [x d]	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	10 x d	6.8 x d
Travel distance [ft]	≤ 32.81	≤ 32.81	≤ 328.1	≤ 1,312	≤ 1,312	≤ 65.62	≤ 328.1	≤ 328.1	≤ 1,312
Oil-resistant	✓	✓	✓	✓	✓	✓	✓	✓	✓
Oil-/coolant-resistant		✓	✓			✓		✓	
Flame-retardant	✓	✓	✓		✓	✓	✓	✓	
Halogen-free		✓	✓	✓		✓		✓	✓
Notch-resistant		✓	✓			✓		✓	
Hydrolysis-/microbe-resistant		✓	✓	✓	✓	✓		✓	✓
Temperature, from/to [°F]	+41/+158	-13/+176	-13/+176	-31/+194	-31/+158	-13/+176	+41/+158	-13/+176	-31/+212
Nominal voltage [V]	50	50	50	50	50	300	300	300	300
Colour	Yellow green	Yellow green	Yellow green	Yellow green	Red lilac	Silver grey	Silver grey	Anthracite grey	Steel blue
CE/CEI									
RoHS									
CleanRoom									
EAC/CTP									
UL/CSA + NFPA									
Desina									
More Information									
▶ Catalogue page	234	244	250	256	192	136	140	-	148
www.igus.com/	CF211M	CF111D	CF113D	CF11D	CFBUS	CF240PUR	CF211	CF113	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 [x d]	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 [ft]	≤ 65.62	≤ 65.62	≤ 65.62	≤ 65.62	≤ 328.1	≤ 328.1	> 1,312
Oil-resistant			✓	✓	✓	✓	✓
Oil-/coolant-resistant					✓	✓	
Flame-retardant	✓	✓	✓	✓	✓	✓	
Halogen-free					✓	✓	✓
Notch-resistant					✓	✓	
Hydrolysis-/microbe-resistant					✓	✓	✓
Temperature, from/to [°F]	+41/+158	+41/+158	+41/+158	+41/+158	-13/+176	-13/+176	-35/+100
Nominal voltage [V]	500	500	600	600	1000	1000	500
Colour	Silver grey	Silver grey	Moss green	Moss green	Window grey	Window grey	Steel blue
CE/CEI							
RoHS							
CleanRoom							
EAC/CTP							
UL/CSA + NFPA							
Desina							
More Information							
▶ Catalogue page	66	70	74	78	94	98	106
www.igus.com/	CF130	CF140	CF5	CF6	CF77	CF78	CF9

... harnessed cables for drive technology ... chainflex® readycable® ▶▶

the product pages of the respective manufacturers)

	24	25	26	27	28	29	30	31	32
chainflex® series	CF10	CF9.UL	CF211.PUR	CF220.UL.H	CF280.UL.H	CFBUS.PVC	CFBUS.PUR	CF240	CF29.D
Class	7.6.4.1	6.6.4.2	5.5.3.1	4.2.2.1	4.2.3.1	4.3.2.1	4.3.3.1	4.4.2.1	7.6.4.1
Outer jacket	TPE	TPE	PUR	PVC	PUR	PVC	PUR	PVC	TPE
Shielded	✓		✓	✓	✓	✓	✓	✓	✓
Minimum bend radius [x d]	5 x d	5 x d	7.5 x d	10 x d	10 x d	12.5 x d	12.5 x d	10 x d	6.8 x d
Travel distance [ft]	> 1,312	> 1,312	≤ 328.1	≤ 32.81	≤ 32.81	≤ 65.62	≤ 65.62	≤ 65.62	≤ 1,312
Oil-resistant	✓	✓	✓	✓	✓	✓	✓	✓	✓
Oil-/coolant-resistant			✓		✓		✓		✓
Flame-retardant		✓	✓	✓	✓	✓	✓	✓	
Halogen-free	✓				✓		✓		✓
Notch-resistant			✓		✓		✓		
Hydrolysis-/microbe-resistant	✓	✓	✓		✓		✓		✓
Temperature, from/to [°F]	-31/+212	-31/+212	-13/+176	+41/+158	-13/+176	+41/+158	-4/+158	5/+158	-55/+100
Nominal voltage [V]	500	500	300	1000	1000	50	50	300	1000
Colour	Steel blue	Slate grey	Silver grey	Pastel orange	Pastel orange	Red lilac	Red lilac	Silver grey	Pastel orange
CE/CEI									
RoHS									
CleanRoom									
EAC/CTP									
UL/CSA + NFPA									
Desina									
More Information									
▶ Catalogue page	110	114	144	290	294	178	186	136	288
www.igus.com/	CF10	CF9UL	CF211PUR	CF220ULH	CF280ULH	CFBUSPVC	CFBUSPUR	CF240	CF29.D

Basic cables	Jacket	Page	Extension cables	Jacket	Page
Allen-Bradley/Rockwell					
Motor cables					
2090-CPWM4DF-08AFxx	PVC/PUR/TPE	564			
2090-CPWM4DF-10AFxx	PVC/PUR/TPE	564			
2090-CPWM4DF-12AFxx	PVC/PUR/TPE	564			
2090-CPWM4DF-14AFxx	PVC/PUR/TPE	564			
2090-CPWM4DF-16AFxx	PVC/PUR/TPE	564			
2090-CPWM7DF-02AF	PVC/PUR	564			
2090-CPWM7DF-04AF	PVC/PUR/TPE	564			
2090-CPWM7DF-06AF	PVC/PUR/TPE	565			
2090-CPWM7DF-08AFxx	PVC/PUR/TPE	565			
2090-CPWM7DF-10AFxx	PVC/PUR/TPE	565			
2090-CPWM7DF-12AFxx	PVC/PUR/TPE	565			
2090-CPWM7DF-14AFxx	PVC/PUR/TPE	565			
2090-CPWM7DF-16AFxx	PVC/PUR/TPE	565			
2090-XX_PMP-10SXX	PVC/TPE/PUR	565			
2090-XX_PMP-14SXX	PVC/PUR/TPE	566			
2090-XX_PMP-16SXX	PVC/PUR/TPE	566			
Servo cables					
2090-CPBM4DF-08AFxx	PVC/PUR	566			
2090-CPBM4DF-10AFxx	PVC/PUR	566			
2090-CPBM4DF-12AFxx	PVC/PUR	567			
2090-CPBM4DF-14AFxx	PVC/PUR	567			
2090-CPBM4DF-16AFxx	PVC/PUR	567			
2090-CPBM7DF-02AF	PUR	567			
2090-CPBM7DF-04AF	PUR	567			
2090-CPBM7DF-06AF	PUR	567			
2090-CPBM7DF-08AFxx	PVC/PUR	567	2090-CPBM7E7-08AFxx	PVC/PUR	568
2090-CPBM7DF-10AFxx	PVC/PUR	567	2090-CPBM7E7-10AFxx	PVC/PUR	568
2090-CPBM7DF-12AFxx	PVC/PUR	567	2090-CPBM7E7-12AFxx	PVC/PUR	569
2090-CPBM7DF-14AFxx	PVC/PUR	568	2090-CPBM7E7-14AFxx	PVC/PUR	569
2090-CPBM7DF-16AFxx	PVC/PUR	568	2090-CPBM7E7-16AFxx	PVC/PUR	569
2090-XX_PMF-10SXX	PVC/PUR	568			
2090-XX_PMF-14SXX	PVC/PUR	568			
2090-XX_PMF-16SXX	PVC/PUR	568			
Hybrid servo cables					
2090-CSBM1DE-10AF	PUR	569			
2090-CSBM1DE-14AF	PVC/PUR	569			
2090-CSBM1DE-18AF	PVC/PUR	569			
2090-CSBM1DF-10AF	PUR	569			
2090-CSBM1DF-14AF	PVC/PUR	569			
2090-CSBM1DF-18AF	PVC/PUR	569			
2090-CSBM1DG-10AF	PUR	570			
2090-CSBM1DG-14AF	PVC/PUR	570			
2090-CSBM1DG-18AF	PVC/PUR	570			
2090-CSWM1DE-10AF	PUR	570			
2090-CSWM1DE-14AF	PVC/PUR	570			
2090-CSWM1DE-18AF	PVC/PUR	570			
2090-CSWM1DF-10AF	PUR	570			
2090-CSWM1DF-14AF	PVC/PUR	570			
2090-CSWM1DF-18AF	PVC/PUR	570			

Basic cables	Jacket	Page	Extension cables	Jacket	Page
2090-CSWM1DG-10AF	PUR	570			
2090-CSWM1DG-14AF	PVC/PUR	571			
2090-CSWM1DG-18AF	PVC/PUR	571			
Brake cables					
2090-UX_BMP-18SXX	PVC/PUR	571			
Feedback cables					
2090-CFBM4DF-CDAFxx	PUR/TPE	572			
2090-CFBM4DF-CEAFxx	PUR/TPE	572			
2090-CFBM7DD-CDAFxx	PUR	572			
2090-CFBM7DD-CEAFxx	PUR	572			
2090-CFBM7DF-CDAFxx	PUR/TPE	572	2090-CFBM7E7-CDAFxx	PUR/TPE	572
2090-CFBM7DF-CEAFxx	PUR/TPE	572	2090-CFBM7E7-CEAFxx	PUR/TPE	573
2090-XX_FMF-Sxx	PUR/TPE	572			
2090-XX_FMP-Sxx	PUR/TPE	572			
Adapter cables (Transition Cable)					
2090-CFBM4E2-CATR	PUR	573			
2090-CPWM4E2-14TR	PUR	573			
B&R					
Motor cables					
8BCMxxx.1011A-0	PUR/PVC	574			
8BCMxxx.1034C-0	PUR/PVC	574			
8BCMxxx.1312A-0	PUR/PVC	574			
8BCMxxx.1322A-0	PUR/PVC	574			
8CMxxx.12-0	PUR/PVC	574			
Servo cables					
8BCMxxx.1111A-0	PUR/PVC	574			
8BCMxxx.1311A-0	PUR/PVC	575			
8CMxxx.12-1	PUR/PVC	575			
8CMxxx.12-3	PUR/PVC	575			
8CMxxx.12-5	PUR/PVC	575			
8ECHxxx.1111A-0	PUR	575			
EnDat cables					
8BCExxx.1111A-0	TPE/PVC/PUR	576			
8CExxx.12-1	TPE/PVC/PUR	576			
Encoder cables					
8BCFxxx.1221B-0	PVC/PUR	576			
8BCRxxx.1121A-0	TPE/PVC/PUR	576			
8BCSxxx.1111A-0	TPE/PVC/PUR	576			
Resolver cables					
8BCRxxx.1111A-0	TPE/PVC/PUR	576			
8CRxxx.12-1	TPE/PVC/PUR	576			
Bus cables					
X20CA3E61.xxxx	PVC/PUR/TPE	577			
X67CA0E41.xxxx	PVC/PUR/TPE	577			
Baumüller					
Servo cables					
324781 (5 m)	PVC/PUR	578	324781 (5 m) (ext.)	PVC/PUR	579
324782 (7 m)	PVC/PUR	578	324781 (5 m) (ext.)	PVC/PUR	579
324783 (10 m)	PVC/PUR	578	324781 (5 m) (ext.)	PVC/PUR	579
324784 (15 m)	PVC/PUR	578	324781 (5 m) (ext.)	PVC/PUR	579
324785 (20 m)	PVC/PUR	578	324781 (5 m) (ext.)	PVC/PUR	579

Basic cables	Jacket	Page	Extension cables	Jacket	Page
Baumüller					
Servo cables					
324786 (25 m)	PVC/PUR	578	324781 (5 m) (ext.)	PVC/PUR	579
324787 (30 m)	PVC/PUR	578	324781 (5 m) (ext.)	PVC/PUR	579
324788 (35 m)	PVC/PUR	578	324781 (5 m) (ext.)	PVC/PUR	579
324789 (40 m)	PVC/PUR	578	324781 (5 m) (ext.)	PVC/PUR	579
324790 (50 m)	PVC/PUR	579	324781 (5 m) (ext.)	PVC/PUR	579
324791 (75 m)	PVC/PUR	579	324781 (5 m) (ext.)	PVC/PUR	579
324792 (100 m)	PVC/PUR	579	324781 (5 m) (ext.)	PVC/PUR	579
326577 (5 m)	PVC/PUR	581	326577 (5 m) (ext.)	PVC/PUR	582
326578 (7 m)	PVC/PUR	581	326577 (5 m) (ext.)	PVC/PUR	582
326579 (10 m)	PVC/PUR	581	326577 (5 m) (ext.)	PVC/PUR	582
326580 (15 m)	PVC/PUR	581	326577 (5 m) (ext.)	PVC/PUR	582
326581 (20 m)	PVC/PUR	581	326577 (5 m) (ext.)	PVC/PUR	582
326582 (25 m)	PVC/PUR	581	326577 (5 m) (ext.)	PVC/PUR	582
326583 (30 m)	PVC/PUR	581	326577 (5 m) (ext.)	PVC/PUR	582
326584 (35 m)	PVC/PUR	582	326577 (5 m) (ext.)	PVC/PUR	582
326585 (40 m)	PVC/PUR	582	326577 (5 m) (ext.)	PVC/PUR	582
326586 (50 m)	PVC/PUR	582	326577 (5 m) (ext.)	PVC/PUR	582
326587 (75 m)	PVC/PUR	582	326577 (5 m) (ext.)	PVC/PUR	582
326588 (100 m)	PVC/PUR	582	326577 (5 m) (ext.)	PVC/PUR	582
326589 (5 m)	PVC/PUR	582	326589 (5 m) (ext.)	PVC/PUR	583
326591 (7 m)	PVC/PUR	582	326589 (5 m) (ext.)	PVC/PUR	583
326592 (10 m)	PVC/PUR	583	326589 (5 m) (ext.)	PVC/PUR	583
326593 (15 m)	PVC/PUR	583	326589 (5 m) (ext.)	PVC/PUR	583
326594 (20 m)	PVC/PUR	583	326589 (5 m) (ext.)	PVC/PUR	583
326596 (25 m)	PVC/PUR	583	326589 (5 m) (ext.)	PVC/PUR	583
326597 (30 m)	PVC/PUR	583	326589 (5 m) (ext.)	PVC/PUR	583
326598 (35 m)	PVC/PUR	583	326589 (5 m) (ext.)	PVC/PUR	583
326599 (40 m)	PVC/PUR	583	326589 (5 m) (ext.)	PVC/PUR	583
326600 (5 m)	PVC/PUR	584	326600 (5 m) (ext.)	PVC/PUR	585
326601 (7 m)	PVC/PUR	584	326600 (5 m) (ext.)	PVC/PUR	585
326602 (10 m)	PVC/PUR	584	326600 (5 m) (ext.)	PVC/PUR	585
326603 (15 m)	PVC/PUR	584	326600 (5 m) (ext.)	PVC/PUR	585
326604 (20 m)	PVC/PUR	584	326600 (5 m) (ext.)	PVC/PUR	585
326605 (25 m)	PVC/PUR	584	326600 (5 m) (ext.)	PVC/PUR	585
326606 (30 m)	PVC/PUR	584	326600 (5 m) (ext.)	PVC/PUR	585
326607 (35 m)	PVC/PUR	584	326600 (5 m) (ext.)	PVC/PUR	585
326608 (40 m)	PVC/PUR	584	326600 (5 m) (ext.)	PVC/PUR	585
326609 (5 m)	PVC/PUR	585	326609 (5 m) (ext.)	PVC/PUR	586
326610 (7 m)	PVC/PUR	585	326609 (5 m) (ext.)	PVC/PUR	586
326611 (10 m)	PVC/PUR	585	326609 (5 m) (ext.)	PVC/PUR	586
326612 (15 m)	PVC/PUR	585	326609 (5 m) (ext.)	PVC/PUR	586
326613 (20 m)	PVC/PUR	585	326609 (5 m) (ext.)	PVC/PUR	586
326614 (25 m)	PVC/PUR	585	326609 (5 m) (ext.)	PVC/PUR	586
326615 (30 m)	PVC/PUR	585	326609 (5 m) (ext.)	PVC/PUR	586
326616 (35 m)	PVC/PUR	585	326609 (5 m) (ext.)	PVC/PUR	586
326617 (40 m)	PVC/PUR	585	326609 (5 m) (ext.)	PVC/PUR	586
380967 (7 m)	PVC/PUR	579	414840 (5 m) (ext.)	PVC/PUR	581
413410 (10 m)	PVC/PUR	579	414840 (5 m) (ext.)	PVC/PUR	581
414840 (5 m)	PVC/PUR	579	414840 (5 m) (ext.)	PVC/PUR	581

Basic cables	Jacket	Page	Extension cables	Jacket	Page
414841 (15 m)	PVC/PUR		414840 (5 m) (ext.)	PVC/PUR	581
414842 (20 m)	PVC/PUR	580	414840 (5 m) (ext.)	PVC/PUR	581
414843 (25 m)	PVC/PUR	580	414840 (5 m) (ext.)	PVC/PUR	581
414846 (30 m)	PVC/PUR	580	414840 (5 m) (ext.)	PVC/PUR	581
414848 (35 m)	PVC/PUR	580	414840 (5 m) (ext.)	PVC/PUR	581
414849 (40 m)	PVC/PUR	580	414840 (5 m) (ext.)	PVC/PUR	581
414850 (50 m)	PVC/PUR	580	414840 (5 m) (ext.)	PVC/PUR	581
414851 (75 m)	PVC/PUR	580	414840 (5 m) (ext.)	PVC/PUR	581
414852 (100 m)	PVC/PUR		414840 (5 m) (ext.)	PVC/PUR	581
Resolver cables					
239540 (5 m)	PVC/TPE/PUR	586	246658 (3 m) (ext.)	PVC/TPE/PUR	588
239541 (8 m)	PVC/TPE/PUR	586	246658 (3 m) (ext.)	PVC/TPE/PUR	588
239542 (10 m)	PVC/TPE/PUR	586	246658 (3 m) (ext.)	PVC/TPE/PUR	588
239543 (15 m)	PVC/TPE/PUR	586	246658 (3 m) (ext.)	PVC/TPE/PUR	588
239544 (20 m)	PUR	586	246658 (3 m) (ext.)	PUR	588
239544 (20m)	PVC/TPE	586	246658 (3 m) (ext.)	PVC/TPE	588
239545 (25 m)	PVC/TPE/PUR	586	246658 (3 m) (ext.)	PVC/TPE/PUR	588
239546 (30 m)	PVC/TPE/PUR	586	246658 (3 m) (ext.)	PVC/TPE/PUR	588
239547 (35 m)	PVC/TPE/PUR	586	246658 (3 m) (ext.)	PVC/TPE/PUR	588
240520 (40 m)	PVC/TPE/PUR	587	246658 (3 m) (ext.)	PVC/TPE/PUR	588
240521 (45 m)	PVC/TPE/PUR	587	246658 (3 m) (ext.)	PVC/TPE/PUR	588
240522 (50 m)	PVC/TPE/PUR	587	246658 (3 m) (ext.)	PVC/TPE/PUR	588
242954 (6 m)	PVC/TPE/PUR	587	246658 (3 m) (ext.)	PVC/TPE/PUR	588
243379 (4 m)	PVC/TPE/PUR	587	246658 (3 m) (ext.)	PVC/TPE/PUR	588
244033 (55 m)	PVC/TPE/PUR	587	246658 (3 m) (ext.)	PVC/TPE/PUR	588
245484 (60 m)	PVC/TPE/PUR	587	246658 (3 m) (ext.)	PVC/TPE/PUR	588
246658 (3 m)	PVC/TPE/PUR	587	246658 (3 m) (ext.)	PVC/TPE/PUR	588
Pulse encoder cables					
198962 (3 m)	PVC/TPE/PUR	588	198962 (3m) (ext.)	PVC/TPE/PUR	589
198963 (5 m)	PVC/TPE/PUR	588	198962 (3m) (ext.)	PVC/TPE/PUR	589
198964 (8 m)	PVC/TPE/PUR	588	198962 (3m) (ext.)	PVC/TPE/PUR	589
198965 (10 m)	PVC/TPE/PUR	588	198962 (3m) (ext.)	PVC/TPE/PUR	589
198966 (15 m)	PVC/TPE/PUR	588	198962 (3m) (ext.)	PVC/TPE/PUR	589
198967 (20 m)	PVC/TPE/PUR	588	198962 (3m) (ext.)	PVC/TPE/PUR	589
198968 (25 m)	PVC/TPE/PUR	588	198962 (3m) (ext.)	PVC/TPE/PUR	589
198969 (30 m)	PVC/TPE/PUR	589	198962 (3m) (ext.)	PVC/TPE/PUR	589
208829 (40 m)	PVC/TPE/PUR	589	198962 (3m) (ext.)	PVC/TPE/PUR	589
225360 (35 m)	PVC/TPE/PUR	589	198962 (3m) (ext.)	PVC/TPE/PUR	589
369864 (3 m)	PVC/TPE/PUR	589	393889 (2 m) (ext.)	PVC/TPE/PUR	591
371494 (20 m)	PVC/TPE/PUR	589	393889 (2 m) (ext.)	PVC/TPE/PUR	591
378022 (50 m)	PVC/TPE/PUR	589	393889 (2 m) (ext.)	PVC/TPE/PUR	591
380358 (35 m)	PVC/TPE/PUR	589	393889 (2 m) (ext.)	PVC/TPE/PUR	591
382005 (45 m)	PVC/TPE/PUR	590	393889 (2 m) (ext.)	PVC/TPE/PUR	591
389807 (7 m)	PVC/TPE/PUR	590	393889 (2 m) (ext.)	PVC/TPE/PUR	591
389808 (9 m)	PVC/TPE	590	393889 (2 m) (ext.)	PVC/TPE	591
389808 (9m)	PUR	590	393889 (2 m) (ext.)	PUR	591
391216 (40 m)	PVC/TPE/PUR	590	393889 (2 m) (ext.)	PVC/TPE/PUR	591
393889 (2 m)	PVC/TPE	590	393889 (2 m) (ext.)	PVC/TPE	591
393889 (2m)	PUR	590	393889 (2 m) (ext.)	PUR	591
393890 (8 m)	PVC/TPE/PUR	590	393889 (2 m) (ext.)	PVC/TPE/PUR	591
393891 (10 m)	PVC/TPE/PUR	590	393889 (2 m) (ext.)	PVC/TPE/PUR	591

Basic cables	Jacket	Page	Extension cables	Jacket	Page
Baumüller					
Pulse encoder cables					
393892 (15 m)	PVC/TPE/PUR	590	393889 (2 m) (ext.)	PVC/TPE/PUR	591
393893 (25 m)	PVC/TPE/PUR	590	393889 (2 m) (ext.)	PVC/TPE/PUR	591
393894 (30 m)	PVC/TPE/PUR	591	393889 (2 m) (ext.)	PVC/TPE/PUR	591
394014 (5 m)	PVC/TPE/PUR	591	393889 (2 m) (ext.)	PVC/TPE/PUR	591
Beckhoff					
Motor cables					
ZK4500-8015-xxx	PUR	592			
ZK4500-8024-xxx	PVC/PUR	592			
ZK4501-8024-xxx	PVC/PUR	592			
ZK4530-8110-xxxx	PVC/PUR	592			
Servo cables					
ZK4000-2111-xxxx	PVC/PUR	592			
ZK4000-2112-xxxx	PVC/PUR	592			
ZK4000-2711-xxxx	PVC/PUR	593			
ZK4500-0023-xxxx	PVC/PUR	593	ZK4501-0023-xxxx	PVC/PUR	593
ZK4500-0024-xxxx	PVC/PUR	593	ZK4501-0024-xxxx	PVC/PUR	593
Hybrid servo cables					
ZK4500-8022-xxxx	PVC/PUR	593	ZK4501-8022-xxxx	PVC/PUR	594
ZK4500-8023-xxxx	PVC/PUR	594	ZK4501-8023-xxxx	PVC/PUR	594
ZK4704-0421-xxxx	PVC/PUR	594			
Encoder cables					
ZK4000-2410-xxxx	PVC/PUR	594			
ZK4000-2610-xxxx	PVC/PUR	594			
ZK4510-0020-xxxx	PVC/PUR	594	ZK4511-0020-xxxx	PVC/PUR	595
ZK4520-0020-xxxx	PVC/PUR	594			
Thermal protection cables					
ZK4000-2510-xxxx	PVC/TPE	595			
Resolver cables					
ZK4000-2210-xxxx	PVC/PUR/TPE	595			
ZK4530-0010-xxxx	PVC/PUR/TPE	595	ZK4531-0020-xxxx	PVC/PUR/TPE	595
ZK4530-8010-xxxx	PVC/PUR/TPE	595			
Network cables EtherCAT					
ZK1090-9191-xxxx	TPE/PUR	596			
Berger Lahr					
Servo cables					
VW3M5101Rxxx	PUR/PVC	597			
VW3M5102Rxxx	PUR/PVC	597			
Resolver cables					
VW3M8101Rxxx	TPE/PUR/PVC	597			
Bosch Rexroth					
Power cables					
IKG0331	PUR/PVC	598	IKG0332	PUR/PVC	605
IKG4008	PUR/PVC	598	IKG4006	PUR/PVC	605
IKG4009	PUR/PVC	598	IKG4006	PUR/PVC	605
IKG4017	PUR/PVC	598	IKG4006	PUR/PVC	605
IKG4018	PUR/PVC	598			
IKG4020	PUR/PVC	598			
IKG4055	PUR/PVC	598			
IKG4060	PUR/PVC	598			

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IKG4067	PUR/PVC	598	IKG4061	PUR/PVC	605
IKG4070	PUR/PVC	598	IKG4061	PUR/PVC	605
IKG4072	PUR/PVC	598	IKG4074	PUR/PVC	605
IKG4087	PUR/PVC	599	IKG4081	PUR/PVC	605
IKG4090	PUR/PVC	599	IKG4081	PUR/PVC	605
IKG4100	PUR/PVC	599			
IKG4103	PUR/PVC	599			
IKG4107	PUR/PVC	599			
IKG4118	PUR/PVC	599			
IKG4119	PUR/PVC	599			
IKG4147	PUR/PVC	599	IKG4141	PUR/PVC	606
IKG4150	PUR/PVC	599	IKG4141	PUR/PVC	606
IKG4155	PUR/PVC	599	IKG4141	PUR/PVC	606
IKG4164	PUR/PVC	600			
IKG4167	PUR/PVC	600	IKG4161	PUR/PVC	606
IKG4172	PUR/PVC	600			
IKG4173	PUR/PVC	600			
IKG4186	PUR/PVC	600			
IKG4200	PUR/PVC	600			
IKG4204	PUR/PVC	600			
IKL0001	PUR/PVC	600	IKL0003	PUR/PVC	606
IKL0002	PVC/PUR	600			
IKL0006	PUR/PVC	600			
IKL0011	PUR/PVC	600			
IKL0012	PVC/PUR	600			
IKL0021	PUR/PVC	601	IKL0023	PUR/PVC	606
IKL0022	PVC/PUR	601			
IKL0041	PUR/PVC	601			
IKL0042	PUR/PVC	601			
IKL0061	PUR/PVC	601			
IKL0081	PUR/PVC	601	IKL0089	PUR/PVC	606
IKL0101	PUR/PVC	601			
IKL0121	PUR/PVC	601			
IKL0161	PUR/PVC	601	IKL0168	PUR/PVC	606
RKL0006	PVC/PUR	602			
RKL0013	PVC/PUR	602			
RKL0014	PVC/PUR	602			
RKL0019	PVC/PUR	602			
RKL0053	PVC/PUR	602			
RKL0054	PVC/PUR	602			
RKL4300	PUR/PVC	602	RKL4304	PUR/PVC	606
RKL4301	PUR/PVC	602	RKL4304	PUR/PVC	606
RKL4302	PUR/PVC	602	RKL4305	PUR/PVC	606
RKL4303	PUR/PVC	602	RKL4305	PUR/PVC	606
RKL4306	PUR/PVC	602	RKL4311	PUR/PVC	606
RKL4307	PUR/PVC	603	RKL4311	PUR/PVC	606
RKL4308	PUR/PVC	603			
RKL4309	PUR/PVC	603			
RKL4310	PUR/PVC	603	RKL4312	PUR/PVC	607
RKL4313	PUR/PVC	603	RKL4316	PUR/PVC	607
RKL4314	PUR/PVC	603	RKL4316	PUR/PVC	607

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Bosch Rexroth					
Power cables					
RKL4315	PUR/PVC	603	RKL4316	PUR/PVC	607
RKL4317	PUR/PVC	603	RKL4319	PUR/PVC	607
RKL4318	PUR/PVC	603	RKL4319	PUR/PVC	607
RKL4320	PUR/PVC	604			
RKL4321	PUR/PVC	604	RKL4336	PUR/PVC	607
RKL4322	PUR/PVC	604			
RKL4323	PUR/PVC	604	RKL4338	PUR/PVC	607
RKL4324	PUR/PVC	604			
RKL4325	PUR/PVC	604			
RKL4326	PUR/PVC	604	RKL4336	PUR/PVC	607
RKL4327	PUR/PVC	604			
RKL4328	PUR/PVC	604	RKL4338	PUR/PVC	607
RKL4329	PUR/PVC	604			
RKL4330	PUR/PVC	605	RKL4340	PUR/PVC	607
RKL4331	PUR/PVC	605	RKL4341	PUR/PVC	607
RKL4332	PVC/PUR	605			
RKL4343	PVC/PUR	605			
RKL4344	PVC/PUR	605			
Servo cables					
RL2-002CBB-NN-xxx,x	PVC/PUR	608	RL2-500CBB-NN-xxx,x	PVC/PUR	608
RL2-022CBB-NN-xxx,x	PVC/PUR	608	RL2-521CBB-NN-xxx,x	PVC/PUR	608
RL2-045EBB-NN-xxx,x	PVC/PUR	608	RL2-542EBB-NN-xxx,x	PVC/PUR	608
Hybrid servo cables					
RH2-021DBB-NN	PUR	608			
RH2-022DBB-NN	PUR	608			
RH2-023DBB-NN	PUR	608			
RKH0101	PUR	608			
RKH0900	PUR	608			
Encoder cables					
IKS0230	TPE/PVC/PUR	609	IKS0232	TPE/PVC/PUR	611
IKS0251	TPE	609	IKS0255	TPE	611
IKS0253	TPE	609	IKS0255	TPE	611
IKS0259	TPE	609			
IKS0262	TPE	609			
IKS0301	TPE/PVC/PUR	609	IKS0303	TPE/PVC/PUR	611
IKS0315	TPE/PVC/PUR	609			
IKS0374	TPE/PVC/PUR	609			
IKS4001	TPE/PVC/PUR	609			
IKS4002	TPE/PVC/PUR	609			
IKS4020	TPE/PVC/PUR	609	IKS4376	TPE/PVC/PUR	612
IKS4038	TPE/PVC/PUR	609			
IKS4041	TPE/PVC/PUR	609			
IKS4042	TPE/PVC/PUR	609	IKS4151	TPE/PVC/PUR	611
IKS4066	TPE/PVC/PUR	610			
IKS4103	TPE/PVC/PUR	609	IKS4322	TPE/PVC/PUR	611
IKS4142	TPE/PVC/PUR	610	IKS4376	TPE/PVC/PUR	612
IKS4314	TPE/PVC/PUR	610			
IKS4374	TPE/PVC/PUR	610			
IKS4375	TPE/PVC/PUR	610			

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IKS4384	TPE/PVC/PUR	610			
IKS4389	TPE/PVC/PUR	610			
RG2-002AAB-NN-xxx,x	PVC/TPE	610	RG2-510AAB-NN-xxx,x	PVC/TPE	612
RKG0014	TPE/PVC/PUR	611			
RKG0020	TPE/PVC/PUR	611			
RKG0026	TPE/PVC/PUR	611			
RKG0028	TPE/PVC/PUR	611			
RKG4200	TPE/PVC/PUR	611	RKG4201	TPE/PVC/PUR	612
Elau/Schneider Electric					
Servo cables					
E-MO-067	PVC/PUR	613			
E-MO-087	PVC/PUR	613			
E-MO-092	PVC/PUR	613			
E-MO-111 SH-Motor 1.5	PVC/PUR	613			
E-MO-113 SH-Motor 2.5	PVC/PUR	613			
Hybrid servo cables					
E-MO-109, VW3E1109Rxxx	PUR	614			
E-MO-117, VW3E1117Rxxx	PUR	614			
E-MO-118, VW3E1118Rxxx	PUR	614			
E-MO-119, VW3E1119Rxxx	PUR	614			
E-MO-120, VW3E1120Rxxx	PUR	614			
E-MO-121, VW3E1121Rxxx	PUR	614			
E-MO-124, VW3E1124Rxxx	PUR	614			
E-MO-125, VW3E1125Rxxx	PUR	614			
E-MO-126, VW3E1126Rxxx	PUR	614			
E-MO-127, VW3E1127Rxxx	PUR	614			
Encoder cables					
E-FB-060	PVC/TPE	614			
E-FB-071	PVC/TPE/PUR	614			
E-FB-080	PVC/TPE/PUR	614			
FAGOR					
Path measuring cables					
			IIEEC-x	PUR/TPE	615
			iXC-C2-D	PUR/TPE	615
			iXC-C2-FN2	PUR/TPE	615
			iXC-C2-H	PUR/TPE	615
			iXC-C4-D	PUR/TPE	615
			iXC-C8-F-C9	PUR/TPE	615
			iXC-C8-F-D	PUR/TPE	615
			iXC-C8-FN	PUR/TPE	616
Fanuc					
Power cables					
LX660-8077-T261	PUR/PVC/TPE	617			
LX660-8077-T264	PUR/PVC/TPE	617			
LX660-8077-T265	PUR/PVC/TPE	617			
LX660-8077-T266	PUR/PVC/TPE	617			
LX660-8077-T267	PUR/PVC/TPE	617			
LX660-8077-T270	PUR/PVC/TPE	617			
LX660-8077-T271	PUR/PVC/TPE	618			
LX660-8077-T272	PUR/PVC/TPE	618			
LX660-8077-T273	PUR/PVC/TPE	618			

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Fanuc					
Power cables					
LX660-8077-T291	PUR/PVC/TPE	618			
LX660-8077-T292	PUR/PVC/TPE	618			
LX660-8077-T293	PUR/PVC/TPE	618			
LX660-8077-T296	PUR/PVC/TPE	618			
LX660-8077-T298	PUR/PVC/TPE	619			
LX660-8077-T300	PUR/PVC/TPE	619			
Servo cables					
LX660-8077-T259	PUR	619			
LX660-8077-T274	PUR	619			
LX660-8077-T416	PUR	619			
LX660-8077-T451	PUR	619			
LX660-8077-T470	PUR	619			
LX660-8077-T471	PUR	619			
Brake cables					
LX660-8077-T311	PUR	619			
Signal cables					
LX660-2018-T015	PVC	620			
LX660-4077-T296	PUR/TPE	620			
LX660-4077-T297	PUR/TPE	620			
LX660-4077-T302	PUR/TPE	620			
LX660-4077-T303	PUR/TPE	620			
LX660-4077-T310	TPE	620			
LX660-4077-T319	PUR/TPE	620			
Festo					
Servo cables					
NEBM-M16G8-E-xxx-Q7-LE8	PUR	621			
NEBM-M23G6-E-xxx-N-LE7	PVC/PUR	621			
NEBM-M23G8-E-xxx-N-LE8	PVC/PUR	621			
NEBM-M40G8-E-xxx-N-LE7	PVC/PUR	621			
Control cables					
KPWR-MC-1-SUB-9HC-xxx	PVC/PUR	621			
Encoder cables					
NEBM-M23G12-E-xxx-N-S1G9	PVC/PUR/TPE	621			
Data cables					
KDI-MC-M8-SUB-9-xxx	PVC/PUR	622			
KES-MC-1-SUB-9-xxx	PVC/PUR	622			
NEBM-M12G8-E-xxx-N-S1G15	PVC/PUR/TPE	622			
NEBM-M12G8-E-xxx-S1G9	PVC/PUR/TPE	622			
NEBM-M12W8-E-xxx-N-S1G15	PVC/PUR/TPE	622			
NEBM-S1G15-E-xxx-LE6	PVC/PUR/TPE	622			
NEBM-S1G9-E-xxx-LE6	PVC/PUR	623			
Bus cables					
FBA-CO-SUB-9-M12	PVC/PUR/TPE	623			
Heidenhain					
Adapter cables					
298 401-xx	PVC/PUR/TPE	624			
333 164-xx	PVC/PUR/TPE	624			
368 330-xx	PVC/PUR	624			
524 599-xx	PVC/PUR/TPE	625			

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534 855-xx	PVC/PUR/TPE	625			
605 424-xx	PVC/PUR/TPE	625			
Jetter					
Motor cables					
Kabel Nr. 201	PVC/PUR/TPE	629			
Kabel Nr. 203	PVC/PUR/TPE	629			
Kabel Nr. 26.1	PVC/PUR/TPE	629			
Servo cables					
Kabel Nr. 202	PVC/PUR	629			
Kabel Nr. 204	PVC/PUR	629			
Kabel Nr. 24.1	PVC/PUR	629			
Resolver cables					
Kabel Nr. 23	PVC/PUR/TPE	629			
Kabel Nr. 423	PVC/PUR/TPE	629			
Kabel Nr. 523	PVC/PUR/TPE	630			
Kabel Nr. 723	PVC/PUR/TPE	630			
Kollmorgen/Danaher Motion					
Motor cables					
102575 (5 m)	PVC/TPE	632			
102576 (10 m)	PVC/TPE	632			
102806 (15 m)	PVC/TPE	632			
102807 (20 m)	PVC/TPE	632			
102808 (25 m)	PVC/TPE	632			
107473 (5 m)	PVC/TPE	632			
107474 (10 m)	PVC/TPE	632			
107475 (15 m)	PVC/TPE	632			
107476 (20 m)	PVC/TPE	633			
107477 (25 m)	PVC/TPE	633			
107485 (5 m)	PVC/TPE	633			
107486 (10 m)	PVC/TPE	633			
107487 (15 m)	PVC/TPE	633			
107488 (20 m)	PVC/TPE	633			
107489 (25 m)	PVC/TPE	633			
200456 (5 m)	PVC/TPE	633			
200457 (10 m)	PVC/TPE	633			
200458 (15 m)	PVC/TPE	633			
200459 (20 m)	PVC/TPE	634			
200460 (25 m)	PVC/TPE	634			
200468 (5 m)	PVC/TPE	634			
200469 (10 m)	PVC/TPE	634			
200470 (15 m)	PVC/TPE	634			
200471 (20 m)	PVC/TPE	634			
200472 (25 m)	PVC/TPE	634			
200618 (5 m)	PVC/TPE	634			
200619 (10 m)	PVC/TPE	634			
200620 (15 m)	PVC/TPE	634			
200621 (20 m)	PVC/TPE	634			
200622 (25 m)	PVC/TPE	634			
88959 (5 m)	TPE	631			
88960 (10 m)	TPE	631			
88962 (15 m)	TPE	631			

Basic cables	Jacket	Page	Extension cables	Jacket	Page
Kollmorgen/Danaher Motion					
Motor cables					
88964 (20 m)	TPE	631			
88966 (25 m)	TPE	631			
89918 (5 m)	PVC/TPE	631			
89952 (10 m)	PVC/TPE	631			
89953 (15 m)	PVC/TPE	631			
89954 (20 m)	PVC/TPE	631			
89956 (25 m)	PVC/TPE	631			
89959 (5 m)	PVC/TPE	631			
89960 (10 m)	PVC/TPE	631			
89962 (15 m)	PVC/TPE	631			
89964 (20 m)	PVC/TPE	631			
89966 (25 m)	PVC/TPE	631			
90083 (5 m)	PVC/TPE	631			
90084 (10 m)	PVC/TPE	631			
90085 (15 m)	PVC/TPE	632			
90086 (20 m)	PVC/TPE	632			
90087 (25 m)	PVC/TPE	632			
Servo cables					
102579 (5 m)	PVC/PUR	636			
102580 (10 m)	PVC/PUR	636			
102809 (15 m)	PVC/PUR	637			
102810 (20 m)	PVC/PUR	637			
102811 (25 m)	PVC/PUR	637			
107479 (5 m)	PVC/PUR	637			
107480 (10 m)	PVC/PUR	637			
107481 (15 m)	PVC/PUR	637			
107482 (20 m)	PVC/PUR	637			
107483 (25 m)	PVC/PUR	637			
107491 (5 m)	PVC/PUR	638			
107492 (10 m)	PVC/PUR	638			
107493 (15 m)	PVC/PUR	638			
107494 (20 m)	PVC/PUR	638			
107495 (25 m)	PVC/PUR	638			
200462 (5 m)	PVC/PUR	638			
200463 (10 m)	PVC/PUR	638			
200464 (15 m)	PVC/PUR	638			
200465 (20 m)	PVC/PUR	639			
200466 (25 m)	PVC/PUR	639			
200474 (5 m)	PVC/PUR	639			
200475 (10 m)	PVC/PUR	639			
200476 (15 m)	PVC/PUR	639			
200477 (20 m)	PVC/PUR	639			
200478 (25 m)	PVC/PUR	639			
200623 (5 m)	PVC/PUR	639			
200624 (10 m)	PVC/PUR	639			
200625 (15 m)	PVC/PUR	640			
200626 (20 m)	PVC/PUR	640			
200627 (25 m)	PVC/PUR	640			
89957 (5 m)	PVC/PUR	635			

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89961 (10 m)	PVC/PUR	635			
89963 (15 m)	PVC/PUR	635			
89965 (20 m)	PVC/PUR	635			
89967 (25 m)	PVC/PUR	635			
89968 (5 m)	PVC/PUR	635			
89969 (25 m)	PVC/PUR	635			
89970 (10 m)	PVC/PUR	635			
89971 (15 m)	PVC/PUR	635			
89972 (20 m)	PVC/PUR	636			
90088 (5 m)	PVC/PUR	636			
90089 (10 m)	PVC/PUR	636			
90090 (15 m)	PVC/PUR	636			
90091 (20 m)	PVC/PUR	636			
90092 (25 m)	PVC/PUR	636			
Signal cables					
107915 (5 m)	PVC/TPE	640			
107916 (10 m)	PVC/TPE	640			
107917 (15 m)	PVC/TPE	640			
107918 (20 m)	PVC/TPE	640			
107919 (25 m)	PVC/TPE	640			
84972 (5 m)	PVC/TPE/PUR	640			
84973 (10 m)	PVC/TPE/PUR	640			
84974 (15 m)	PVC/TPE/PUR	640			
84975 (20 m)	PVC/TPE/PUR	640			
85034 (5 m)	PVC/TPE/PUR	641			
85035 (10 m)	PVC/TPE/PUR	641			
85036 (15 m)	PVC/TPE/PUR	641			
85037 (20 m)	PVC/TPE/PUR	641			
85039 (5 m)	PVC/TPE/PUR	641			
85040 (10 m)	PVC/TPE/PUR	641			
85041 (15 m)	PVC/TPE/PUR	642			
85042 (20 m)	PVC/TPE/PUR	642			
87655 (25 m)	PVC/TPE/PUR	641			
90287 (5 m)	PVC/TPE	641			
91019 (10 m)	PVC/TPE	641			
91807 (20 m)	PVC/TPE	641			
91811 (15 m)	PVC/TPE	641			
92205 (25 m)	PVC/TPE	641			
Lenze					
Servo cables					
EWLMxxxGMS-015C	PUR/PVC	643	EWLMxxxZM-015C	PUR/PVC	645
EWLMxxxGMS-025	PUR/PVC	643	EWLMxxxZM-025	PUR/PVC	645
EWLMxxxGMS-040I	PVC/PUR	643			
EYP0010AxxxxA00P01	PUR/PVC	643	EYP0010VxxxxM01P01	PUR/PVC	645
EYP0010AxxxxM01A00	PUR/PVC	643	EYP0010VxxxxM01P01	PUR/PVC	645
EYP0011AxxxxA00P01	PUR/PVC	643	EYP0011VxxxxM01P01	PUR/PVC	645
EYP0011AxxxxM01A00	PUR/PVC	643	EYP0011VxxxxM01P01	PUR/PVC	645
EYP0012AxxxxA00P01	PUR/PVC	643	EYP0012VxxxxM01P01	PUR/PVC	645
EYP0012AxxxxA00P02	PUR/PVC	643	EYP0012VxxxxM02P02	PUR/PVC	645
EYP0012AxxxxM01A00	PUR/PVC	644	EYP0012VxxxxM01P01	PUR/PVC	645
EYP0012AxxxxM02A00	PUR/PVC	644	EYP0012VxxxxM02P02	PUR/PVC	645

Basic cables	Jacket	Page	Extension cables	Jacket	Page
Lenze					
Servo cables					
EYP0013AxxxxA00P02	PUR/PVC	644	EYP0013VxxxxM02P02	PUR/PVC	645
EYP0013AxxxxM02A00	PUR/PVC	644	EYP0013VxxxxM02P02	PUR/PVC	645
EYP0014AxxxxA00P03	PUR/PVC	644	EYP0014VxxxxM03P03	PUR/PVC	645
EYP0014AxxxxM03A00	PUR/PVC	644	EYP0014VxxxxM03P03	PUR/PVC	645
EYP0015AxxxxA00P03	PUR/PVC	644	EYP0015VxxxxM03P03	PUR/PVC	645
EYP0015AxxxxM03A00	PUR/PVC	644	EYP0015VxxxxM03P03	PUR/PVC	645
EYP0016AxxxxA00P03	PUR/PVC	644	EYP0016VxxxxM03P03	PUR/PVC	645
EYP0016AxxxxM03A00	PUR/PVC	644	EYP0016VxxxxM03P03	PUR/PVC	645
Fan cables					
EWLLxxxGMS	TPE/PVC	646	EWLLxxxZM	TPE/PVC	646
EYL002AxxxxL01A00	TPE/PVC	646	EYL002VxxxxL01J01	TPE/PVC	646
EYL002AxxxxL02A00	TPE/PVC	646	EYL002VxxxxL02J02	TPE/PVC	646
Encoder cables					
EWLExxxGM-T	TPE/PVC/PUR	647	EWLExxxZMST	TPE/PVC/PUR	647
EWLExxxGX-T	TPE/PVC/PUR	647			
Feedback cables					
EYF0017AxxxxA00W02	PUR	648			
EYF0018AxxxxA00S03	TPE/PUR/PVC	648			
EYF0018AxxxxA00W02	TPE/PVC	648			
EYF0018AxxxxF02S03	TPE/PVC	648			
EYF0018AxxxxF02W02	TPE/PUR/PVC	648			
EYF0019AxxxxF02S03	PUR	648	EYF0019VxxxxA00G02	PUR	650
EYF0020AxxxxA00S04	TPE/PUR/PVC	648			
EYF0020AxxxxA00S05	TPE/PUR/PVC	649			
EYF0020AxxxxF01S04	TPE/PUR/PVC	649			
EYF0020AxxxxF01S05	TPE/PUR/PVC	649			
EYF0021AxxxxA00S03	TPE/PUR	649			
EYF0021AxxxxF03S03	TPE/PUR	649			
EYF0021AxxxxF07S03	PUR/TPE	649			
Resolver cables					
EWLRxxxGM-T	TPE/PVC/PUR	650	EWLRxxxZMST	TPE/PVC/PUR	650
EWLRxxxGX-T	TPE/PVC/PUR	650			
LinMot					
Motor cables					
P10-70x...-D01/D02-MS	PVC/PUR	651			
Servo cables					
P10-70x...-D03-MS	PVC/PUR	651			
Encoder cables					
P10-70x...D0x-SMC20		651			
P10-70x...D0x-SME20		651			
LTI DRIVES					
Servo cables					
KM3-KSxxx	PUR/PVC	652	KM3-KSxxx (ext.)	PUR/PVC	652
KM3-KSxxx-24A	PUR/PVC	652	KM3-KSxxx-24A (ext.)	PUR/PVC	652
KM3-KSxxx-63A	PUR/PVC	652	KM3-KSxxx-63A (ext.)	PUR/PVC	652
Encoder cables					
KGH2-KSxxx	TPE/PVC	652	KGH2-KSxxx (ext.)	TPE/PVC	653
KGH3-KSxxx	TPE/PVC	653	KGH3-KSxxx (ext.)	TPE/PVC	653
KGS2-KSxxx	TPE/PUR	653	KGS2-KSxxx (ext.)	TPE/PUR	653

Basic cables	Jacket	Page	Extension cables	Jacket	Page
KRY2-CDF-KSxxx	TPE/PUR/PVC	653	KRY2-CDF-KSxxx (ext.)	TPE/PUR/PVC	653
KRY2-KSxxx	TPE/PUR/PVC	653	KRY2-KSxxx (ext.)	TPE/PUR/PVC	653
Mitsubishi Electric					
Motor cables					
MR-BKS1CBL-xxx-A1-H	PVC/PUR	654			
MR-BKS1CBL-xxx-A2-H	PVC/PUR	654			
MR-PWS1CBL-xxx-A1-H	PVC/PUR	654			
MR-PWS1CBL-xxx-A2-H	PVC/PUR	654			
PCS015N-xxx-0-0C4	PVC/PUR	654			
PCS025N-xxx-0-0C5	PVC/PUR	654			
PCS025N-xxx-C4	PVC/PUR	654			
PCS040N-xxx-0-0C4	PVC/PUR/TPE	654			
PCS040N-xxx-0-0C5	PVC/PUR/TPE	654			
PCS060N-xxx-0-0C5	PVC/PUR/TPE	654			
Encoder cables					
MR-J3ENCBL-xxx-A1-H	PVC/PUR	655			
MR-J3ENCBL-xxx-A2-H	PVC/PUR	655			
MR-J3ENSCBL-xxx-H	PVC/PUR	655			
Nidec/Control Techniques					
Motor cables					
PS B A A A XXX	TPE/PVC	656			
PS B A A B XXX	TPE/PVC	656			
PS B A B B XXX	TPE/PVC	656			
PS B A F A XXX	TPE/PVC	656			
PS B A F B XXX	TPE/PVC	656			
PS B B A A XXX	TPE/PVC	656			
PS B B A B XXX	TPE/PVC	656			
PS B B B B XXX	TPE/PVC	656			
PS B B F A XXX	TPE/PVC	656			
PS B B F B XXX	TPE/PVC	657			
PS B C A B XXX	TPE/PVC	657			
PS B C B B XXX	TPE/PVC	657			
PS B C F B XXX	TPE/PVC	657			
PS B D A B XXX	TPE/PVC	657			
PS B D B B XXX	TPE/PVC	657			
PS B D F B XXX	TPE/PVC	657			
PS B E A B XXX	TPE/PVC	657			
PS B E B B XXX	TPE/PVC	657			
PS B E F B XXX	TPE/PVC	657			
PS B G A A XXX	TPE/PVC	656			
PS B G A B XXX	TPE/PVC	657			
PS B G B B XXX	TPE/PVC	657			
PS B G F A XXX	TPE/PVC	656			
PS B G F B XXX	TPE/PVC	658			
Servo cables					
PB B A A A XXX	PUR/PVC	658			
PB B A A B XXX	PUR/PVC	658			
PB B A B B XXX	PUR/PVC	658			
PB B A F A XXX	PUR/PVC	658			
PB B A F B XXX	PUR/PVC	658			
PB B A G B XXX	PUR/PVC	658			

Basic cables	Jacket	Page	Extension cables	Jacket	Page
Nidec/Control Techniques					
Servo cables					
PB B B A A XXX	PUR/PVC	658			
PB B B A B XXX	PUR/PVC	658			
PB B B B B XXX	PUR/PVC	659			
PB B B F A XXX	PUR/PVC	658			
PB B B F B XXX	PUR/PVC	659			
PB B B G B XXX	PUR/PVC	659			
PB B C A B XXX	PUR/PVC	659			
PB B C B B XXX	PUR/PVC	659			
PB B C F B XXX	PUR/PVC	659			
PB B C G B XXX	PUR/PVC	659			
PB B D A B XXX	PUR/PVC	659			
PB B D B B XXX	PUR/PVC	659			
PB B D F B XXX	PUR/PVC	659			
PB B D G B XXX	PUR/PVC	659			
PB B E A B XXX	PUR/PVC	659			
PB B E B B XXX	PUR/PVC	659			
PB B E F B XXX	PUR/PVC	659			
PB B E G B XXX	PUR/PVC	659			
PB B G A A XXX	PUR/PVC	658			
PB B G A B XXX	PUR/PVC	660			
PB B G B B XXX	PUR/PVC	660			
PB B G F A XXX	PUR/PVC	658			
PB B G F B XXX	PUR/PVC	660			
PB B G G B XXX	PUR/PVC	660			
Encoder cables					
SS B A H C XXX	TPE/PVC/PUR	660			
SS B A H H XXX	TPE/PVC/PUR	660			
SS B A H N XXX	TPE/PVC/PUR	660			
NUM					
Power cables					
AGOFRU018LMxxx	PVC/TPE	661	AGOFRU018LMxxx (ext.)	PVC/TPE	661
AGOFRU019LMxxx	PVC/TPE	661	AGOFRU019LMxxx (ext.)	PVC/TPE	661
Servo cables					
AGOFRU018Mxxx	PVC/PUR	661	AGOFRU018Mxxx (ext.)	PVC/PUR	661
AGOFRU019Mxxx	PVC/PUR	661	AGOFRU019Mxxx (ext.)	PVC/PUR	661
AGOFRU020Mxxx	PVC/PUR	661	AGOFRU020Mxxx (ext.)	PVC/PUR	662
Fan cables					
AGOFRU012Mxxx	PVC/TPE	662	AGOFRU012Mxxx (ext.)	PVC/TPE	662
Encoder cables					
AGOFRU029Mxxx	PVC/TPE	662	AGOFRU029Mxxx (ext.)	PVC/TPE	662
AGOFRU030Mxxx	PVC/TPE	662	AGOFRU030Mxxx (ext.)	PVC/TPE	662
Omron					
Motor cables					
R88A-CAWA-xxxS-DE	TPE	663			
R88A-CAWCxxx	PVC/TPE	663			
R88A-CAWCxxxS-E	PVC/TPE	663			
R88A-CAWDxxxS	PVC/TPE	663			
R88A-CAWDxxxS-E	PVC/TPE	663			
R88A-CAWFxxxS-E	PVC/TPE	663			

Basic cables	Jacket	Page	Extension cables	Jacket	Page
Control cables					
JZSP-CHM000-xx-E	PVC/PUR/TPE	663			
JZSP-CHM000-xx-ME	PVC/PUR/TPE	663			
JZSP-CHM030-xx-E	PVC/PUR/TPE	664			
JZSP-CHM030-xx-ME	PVC/PUR/TPE	664			
JZSP-CSM22-xx-E-G1	PVC/PUR/TPE	664			
R88A-CAWCxxxB-E	PVC/PUR/TPE	664			
R88A-CAWExxxB	PVC/PUR/TPE	664			
Encoder cables					
JZSP-CHP800-xx-E	PVC/TPE/PUR	665			
JZSP-CHP800-xx-ME	PVC/TPE/PUR	665			
JZSP-CSP21-xx-E-G1	PVC/TPE/PUR	665			
R88A-CRWA-xxxC-DE	PVC/TPE/PUR	665			
R88A-CRWBxxxN	PVC/TPE/PUR	665			
R88A-CRWBxxxN-E	PVC/TPE/PUR	665			
Parker					
Motor cables					
iMOK42	PVC/PUR	666			
iMOK43	PUR/PVC	666			
iMOK44	PUR/PVC	666			
iMOK45	PUR/PVC	666			
iMOK54	PVC/PUR	666			
iMOK55	PVC/PUR	666			
iMOK56	PVC/PUR	666			
iMOK57	PUR/PVC	666			
Resolver cables					
iREK32	PVC/PUR/TPE	667			
iREK33	PVC/PUR/TPE	667			
iREK41	PVC/PUR/TPE	667			
iREK42	PVC/PUR/TPE	667			
SEW					
Motor cables					
0590 4773	TPE/PVC/PUR	668	0590 3610	TPE/PVC/PUR	669
0590 4803	PVC/PUR/TPE	668			
0590 6245	PVC/PUR/TPE	668			
0590 6253	PVC/PUR/TPE	668			
1335 0293	PVC/PUR/TPE	668	1335 0021	PVC/PUR/TPE	670
1335 0307	PVC/PUR/TPE	669	1335 0048	PVC/PUR/TPE	670
1335 0315	PVC/PUR/TPE	669	1335 0056	PVC/PUR/TPE	670
Servo cables					
1332 4861	PUR/PVC	671	0593 6500	PUR/PVC	673
1333 1221	PVC/PUR/TPE	671			
1333 2155	PVC/PUR/TPE	671			
1335 0153	PVC/PUR	671	1335 0099	PVC/PUR	673
1335 0161	PVC/PUR	671	1335 0102	PVC/PUR	673
1335 0188	PVC/PUR	671	1335 0110	PVC/PUR	673
1335 0234	PVC/PUR	671	1335 4221	PUR	673
1335 0242	PVC/PUR	671	1335 4248	PVC/PUR	673
1335 0250	PVC/PUR	672			
1335 4302	PUR	672			
1335 4310	PVC/PUR	672			

Basic cables	Jacket	Page	Extension cables	Jacket	Page
SEW					
Servo cables					
1335 4329	PVC/PUR	672	1335 4337	PVC/PUR	673
1335 4388	PUR	672			
1335 4396	PUR	672			
Hybrid servo cables					
0186 725 3	PUR	674			
0187 889 5	PUR	674			
0593 278 5	PUR	674			
0593 755 8	PUR	674			
0816 208 5	PUR	674			
0816 325 1	PUR	674			
0816 326 X	PUR	674			
0817 886 0	PUR	674			
0817 887 9	PUR	674			
0817 888 7	PUR	674			
0817 948 4	PUR	674			
1811 8119	PUR	674			
Control cables					
0199 560x	PVC/PUR/TPE	674			
Encoder cables					
0198 9308	PUR	674			
0199 3194	PUR	674	0199 5413	PUR	675
0199 4875	PVC	674	0199 5421	PVC	675
0595 1518	PVC/PUR/TPE	674			
1332 4551	PVC/PUR	674	0199 5405	PVC/PUR	675
1332 7437	PVC/PUR	674			
Siemens					
Power cables					
6FX8002-5CN06	PVC/PUR/TPE	676			
6FX8002-5CN16	PVC/PUR/TPE	676			
6FX8002-5CN26	PVC/PUR/TPE	676			
6FX8002-5CN36	PVC/PUR/TPE	676			
6FX8002-5CN46	PVC/PUR/TPE	676			
6FX8002-5CN56	PVC/PUR/TPE	676			
6FX8002-5CS06	PVC/PUR/TPE	676			
6FX_002-5CA01	TPE/PVC/PUR	676	6FX_002-5CA05	TPE/PVC/PUR	686
6FX_002-5CA11	TPE/PVC/PUR	677	6FX_002-5CA15	TPE/PVC/PUR	686
6FX_002-5CA13	TPE/PVC/PUR	677			
6FX_002-5CA21	TPE/PVC/PUR	677	6FX_002-5CA28	TPE/PVC/PUR	686
6FX_002-5CA23	TPE/PVC/PUR	677	6FX_002-5CX28	TPE/PVC/PUR	687
6FX_002-5CA31	TPE/PVC/PUR	677	6FX_002-5CA38	TPE/PVC/PUR	686
6FX_002-5CA41	TPE/PVC/PUR	677	6FX_002-5CA48	TPE/PVC/PUR	686
6FX_002-5CA51	TPE/PVC/PUR	677	6FX_002-5CA58	TPE/PVC/PUR	686
6FX_002-5CA61	TPE/PVC/PUR	677	6FX_002-5CA68	TPE/PVC/PUR	686
6FX_002-5CG01	PVC/PUR/TPE	678			
6FX_002-5CG10	PVC/PUR/TPE	678			
6FX_002-5CG11	PVC/PUR/TPE	678	6FX_002-5CA15	PVC/PUR/TPE	686
6FX_002-5CG12	PVC/PUR/TPE	678			
6FX_002-5CG13	PVC/PUR/TPE	678	6FX_002-5CX18	PVC/PUR/TPE	687
6FX_002-5CG21	PVC/PUR/TPE	678	6FX_002-5CA28	PVC/PUR/TPE	686

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6FX_002-5CG22	PVC/PUR/TPE	679			
6FX_002-5CG23	PVC/PUR/TPE	679	6FX_002-5CX28	PVC/PUR/TPE	687
6FX_002-5CG31	PVC/PUR/TPE	679			
6FX_002-5CG32	PVC/PUR/TPE	679	6FX_002-5CQ38	PVC/PUR/TPE	687
6FX_002-5CG41	PVC/PUR/TPE	679			
6FX_002-5CG42	PVC/PUR/TPE	679			
6FX_002-5CG51	PVC/PUR/TPE	680			
6FX_002-5CG52	PVC/PUR/TPE	680			
6FX_002-5CG61	PVC/PUR/TPE	680			
6FX_002-5CG62	PVC/PUR/TPE	680	6FX_002-5CQ68	PVC/PUR/TPE	687
6FX_002-5CK01	PUR/TPE	680			
6FX_002-5CL01	PVC/PUR/TPE	680			
6FX_002-5CL02	PVC/PUR/TPE	681			
6FX_002-5CL12	PVC/PUR/TPE	681			
6FX_002-5CN01	PVC/PUR/TPE	681			
6FX_002-5CN11	PVC/PUR/TPE	681			
6FX_002-5CN21	PVC/PUR/TPE	681			
6FX_002-5CN31	PVC/PUR/TPE	681	6FX_002-5CQ38	PVC/PUR/TPE	687
6FX_002-5CN41	PVC/PUR/TPE	681			
6FX_002-5CN51	PVC/PUR/TPE	681			
6FX_002-5CN54	PVC/PUR/TPE	682			
6FX_002-5CN61	PVC/PUR/TPE	682	6FX_002-5CQ68	PVC/PUR/TPE	687
6FX_002-5CN64	PVC/PUR/TPE	682	6FX_002-5CQ68	PVC/PUR/TPE	687
6FX_002-5CQ01	PVC/PUR/TPE	682			
6FX_002-5CQ11	PVC/PUR/TPE	682			
6FX_002-5CQ21	PVC/PUR/TPE	682			
6FX_002-5CQ31	PVC/PUR/TPE	682	6FX_002-5CQ38	PVC/PUR/TPE	687
6FX_002-5CQ41	PVC/PUR/TPE	682			
6FX_002-5CQ51	PVC/PUR/TPE	683			
6FX_002-5CQ61	PVC/PUR/TPE	683	6FX_002-5CQ68	PVC/PUR/TPE	687
6FX_002-5CS01	TPE/PVC/PUR	683			
6FX_002-5CS02	PVC/PUR/TPE	683			
6FX_002-5CS11	PVC/PUR/TPE	683	6FX_002-5CA15	PVC/PUR/TPE	686
6FX_002-5CS12	PVC/PUR/TPE	683			
6FX_002-5CS13	PVC/PUR/TPE	684	6FX_002-5CX18	PVC/PUR/TPE	687
6FX_002-5CS21	TPE/PVC/PUR	684			
6FX_002-5CS23	PVC/PUR/TPE	684	6FX_002-5CX28	PVC/PUR/TPE	687
6FX_002-5CS24	PVC/PUR/TPE	684			
6FX_002-5CS31	TPE/PVC/PUR	684			
6FX_002-5CS41	TPE/PVC/PUR	684	6FX_002-5CA48	TPE/PVC/PUR	686
6FX_002-5CS42	PVC/PUR/TPE	684			
6FX_002-5CS51	TPE/PVC/PUR	685	6FX_002-5CA58	TPE/PVC/PUR	686
6FX_002-5CS52	PVC/PUR/TPE	685			
6FX_002-5CS54	PVC/PUR/TPE	685	6FX_002-5CA68	PVC/PUR/TPE	686
6FX_002-5CS61	PVC/PUR/TPE	685	6FX_002-5CA68	PVC/PUR/TPE	686
6FX_002-5CS62	PVC/PUR/TPE	685			
6FX_002-5CS64	PVC/PUR/TPE	685	6FX_002-5CX18	PVC/PUR/TPE	687
Servo cables					
6FX_002-5DA01	PUR/PVC	687	6FX_002-5DA05	PUR/PVC	697
6FX_002-5DA11	PUR/PVC	687	6FX_002-5DA15	PUR/PVC	698
6FX_002-5DA21	PUR/PVC	688	6FX_002-5DA28	PUR/PVC	698

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Siemens					
Servo cables					
6FX_002-5DA23	PUR/PVC	688	6FX_002-5DX28	PUR/PVC	699
6FX_002-5DA30	PVC/PUR	688			
6FX_002-5DA31	PUR/PVC	688	6FX_002-5DA38	PUR/PVC	698
6FX_002-5DA33	PUR/PVC	688	6FX_002-5DX38	PUR/PVC	699
6FX_002-5DA41	PUR/PVC	688	6FX_002-5DA48	PUR/PVC	698
6FX_002-5DA43	PUR/PVC	689	6FX_002-5DX48	PUR/PVC	699
6FX_002-5DA51	PUR/PVC	689	6FX_002-5DA58	PUR/PVC	698
6FX_002-5DA61	PUR/PVC	689	6FX_002-5DA68	PUR/PVC	698
6FX_002-5DG01	PVC/PUR	689	6FX_002-5DA05	PVC/PUR	697
6FX_002-5DG10	PVC/PUR	689	6FX_002-5DN05	PVC/PUR	698
6FX_002-5DG11	PVC/PUR	689	6FX_002-5DA15	PVC/PUR	698
6FX_002-5DG12	PVC/PUR	690	6FX_002-5DN15	PVC/PUR	698
6FX_002-5DG13	PVC/PUR	690			
6FX_002-5DG21	PVC/PUR	690			
6FX_002-5DG22	PVC/PUR	690	6FX_002-5DQ28	PVC/PUR	699
6FX_002-5DG23	PUR	690			
6FX_002-5DG31	PVC/PUR	690			
6FX_002-5DG32	PVC/PUR	690	6FX_002-5DQ38	PVC/PUR	699
6FX_002-5DG33	PUR	691			
6FX_002-5DG41	PVC/PUR	691	6FX_002-5DA48	PVC/PUR	698
6FX_002-5DG42	PVC/PUR	691	6FX_002-5DQ48	PVC/PUR	699
6FX_002-5DG43	PUR	691			
6FX_002-5DG51	PVC/PUR	691			
6FX_002-5DG52	PVC/PUR	691	6FX_002-5DQ58	PVC/PUR	699
6FX_002-5DG61	PVC/PUR	691			
6FX_002-5DG62	PVC/PUR	692	6FX_002-5DQ68	PVC/PUR	699
6FX_002-5DN01	PVC/PUR	692	6FX_002-5DN05	PVC/PUR	698
6FX_002-5DN06	PVC/PUR	692			
6FX_002-5DN11	PVC/PUR	692	6FX_002-5DN15	PVC/PUR	698
6FX_002-5DN16	PVC/PUR	692			
6FX_002-5DN21	PVC/PUR	692	6FX_002-5DQ28	PVC/PUR	699
6FX_002-5DN26	PVC/PUR	693			
6FX_002-5DN27	PVC/PUR	693			
6FX_002-5DN30	PUR/PVC	693			
6FX_002-5DN31	PVC/PUR	693	6FX_002-5DQ38	PVC/PUR	699
6FX_002-5DN41	PVC/PUR	693	6FX_002-5DQ48	PVC/PUR	699
6FX_002-5DN46	PVC/PUR	693			
6FX_002-5DN51	PVC/PUR	694			
6FX_002-5DN54	PVC/PUR	694	6FX_002-5DQ58	PVC/PUR	699
6FX_002-5DN56	PVC/PUR	694			
6FX_002-5DN61	PVC/PUR	694	6FX_002-5DQ68	PVC/PUR	699
6FX_002-5DN64	PVC/PUR	694	6FX_002-5DQ68	PVC/PUR	699
6FX_002-5DQ01	PVC/PUR	694	6FX_002-5DN05	PVC/PUR	698
6FX_002-5DQ11	PVC/PUR	695	6FX_002-5DN15	PVC/PUR	698
6FX_002-5DQ21	PVC/PUR	695	6FX_002-5DQ28	PVC/PUR	699
6FX_002-5DQ31	PVC/PUR	695	6FX_002-5DQ38	PVC/PUR	699
6FX_002-5DQ41	PVC/PUR	695	6FX_002-5DQ48	PVC/PUR	699
6FX_002-5DQ51	PVC/PUR	695	6FX_002-5DQ58	PVC/PUR	699
6FX_002-5DQ61	PVC/PUR	695	6FX_002-5DQ68	PVC/PUR	699

Basic cables	Jacket	Page	Extension cables	Jacket	Page
6FX_002-5DS01	PUR/PVC	695			
6FX_002-5DS06	PVC/PUR	695			
6FX_002-5DS11	PVC/PUR	696	6FX_002-5DA15	PVC/PUR	698
6FX_002-5DS13	PVC/PUR	696			
6FX_002-5DS21	PUR/PVC	696			
6FX_002-5DS23	PUR	696			
6FX_002-5DS33	PUR	696			
6FX_002-5DS36	PVC/PUR	696			
6FX_002-5DS41	PVC/PUR	696	6FX_002-5DA48	PVC/PUR	698
6FX_002-5DS43	PUR	696			
6FX_002-5DS51	PVC/PUR	697			
6FX_002-5DS54	PVC/PUR	697			
6FX_002-5DS61	PUR/PVC	697			
6FX_002-5DS64	PVC/PUR	697			
6FX_002-8QN04	PUR	697			
6FX_002-8QN08	PUR	697			
Signal cables					
6FX8002-2CF20	PVC/PUR/TPE	700			
6FX8002-2CQ31	PVC/PUR/TPE	700	6FX8002-2CQ34	PVC/PUR/TPE	704
6FX8002-2DC40	PVC/PUR	700			
6FX8002-2DC42	PVC/PUR	700			
6FX_002-1DC00	PUR/PVC	700	6FX_002-2DC34	PUR/PVC	705
6FX_002-2AD00	TPE/PVC/PUR	701	6FX_002-2AD04	TPE/PVC/PUR	705
6FX_002-2AH00	TPE/PVC/PUR	701	6FX_002-2AH04	TPE/PVC/PUR	705
6FX_002-2AH11	PVC/PUR/TPE	701			
6FX_002-2CA11	TPE/PVC/PUR	701	6FX_002-2CB54	TPE/PVC/PUR	705
6FX_002-2CA15	TPE/PVC/PUR	701	6FX_002-2CA54	TPE/PVC/PUR	705
6FX_002-2CA31	TPE/PVC/PUR	701	6FX_002-2CA34	TPE/PVC/PUR	705
6FX_002-2CA51	TPE/PVC/PUR	701	6FX_002-2CA54	TPE/PVC/PUR	705
6FX_002-2CA71	TPE/PVC/PUR	702			
6FX_002-2CB31	TPE/PUR	702			
6FX_002-2CB51	TPE/PVC/PUR	702	6FX_002-2CC14	TPE/PVC/PUR	705
6FX_002-2CC11	TPE/PVC/PUR	702	6FX_002-2CB54	TPE/PVC/PUR	705
6FX_002-2CD01	TPE/PVC/PUR	702	6FX_002-2CB54	TPE/PVC/PUR	705
6FX_002-2CF01	TPE/PVC/PUR	702			
6FX_002-2CF02	TPE/PVC/PUR	702	6FX_002-2CF04	TPE/PVC/PUR	705
6FX_002-2CG00	TPE/PVC/PUR	702	6FX_002-2CB54	TPE/PVC/PUR	705
6FX_002-2CH00	TPE/PVC/PUR	702	6FX_002-2AD04	TPE/PVC/PUR	705
6FX_002-2CK00	TPE/PVC/PUR	703			
6FX_002-2CL00	TPE/PVC/PUR	703			
6FX_002-2CR00	PVC/PUR/TPE	703			
6FX_002-2CT12	PVC/PUR/TPE	703			
6FX_002-2DB10	PUR	703			
6FX_002-2DC10	PUR/PVC	703	6FX_002-2DC34	PUR/PVC	705
6FX_002-2DC36	PVC/PUR	703			
6FX_002-2EQ00	TPE/PVC/PUR	704			
6FX_002-2EQ10	TPE/PVC/PUR	704	6FX_002-2EQ14	TPE/PVC/PUR	706
6FX_002-2EQ20	PVC/PUR/TPE	704			
6FX_002-2EQ31	PVC/PUR/TPE	704			
6FX_002-5BL03	PVC/PUR	704			
6fx3002-2CT10	PVC/PUR/TPE	704			

Basic cables	Jacket	Page	Extension cables	Jacket	Page
Siemens					
Signal cables DriveCliq					
6FX8002-2DC30-1AD0(3m)	PUR	706	6FX8002-2DC34-1DA0(30m)	PUR	706
6FX8002-2DC30-1AF0(5m)	PUR	706	6FX8002-2DC34-1AF0(5m)	PUR	706
6FX8002-2DC30-1BA0(10m)	PUR	706	6FX8002-2DC34-1BA0(10m)	PUR	706
6FX8002-2DC30-1BF0(15m)	PUR	706	6FX8002-2DC34-1BF0(15m)	PUR	706
6FX8002-2DC30-1CA0(20m)	PUR	706	6FX8002-2DC34-1CA0(20m)	PUR	706
6FX8002-2DC30-1CF0(25m)	PUR	706	6FX8002-2DC34-1CF0(25m)	PUR	706
6FX8002-2DC30-1DA0(30m)	PUR	706	6FX8002-2DC34-1DA0(30m)	PUR	706
Stöber					
Servo cables					
Gr.1,5-Motor-10,0mm ²	PUR/PVC	707			
Gr.1,5-Motor-4,0mm ²	PUR/PVC	707			
Gr.1,5-Motor-6,0mm ²	PUR/PVC	707			
Gr.1-Motor-1,0mm ²	PUR/PVC	707			
Gr.1-Motor-1,5mm ²	PUR/PVC	707			
Gr.1-Motor-2,5mm ²	PUR/PVC	707			
Gr.1-Motor-4,0mm ²	PUR/PVC	707			
Encoder cables					
Encoder ED/EK iSDS4000	TPE/PVC/PUR	707			
Encoder ES iSDS4000	TPE/PUR	708			
Encoder HTL	TPE/PVC/PUR	708			
Stöber					
Encoder cables					
Encoder iMDS5000	TPE/PVC/PUR	708			
Resolver iMDS5000	TPE/PVC/PUR	708			
Resolver iSDS4000	TPE/PVC/PUR	708			



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Harnessed drive cables | Allen-Bradley/Rockwell

PVC/PUR/TPE

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø	Bend radius	Cable page
			[mm²]	[in.] [mm]	[x d]	538-541

Allen-Bradley/Rockwell Motor cables

Basic cable



2090-CPWM4DF-08AFxx	PVC	MAT9761795	(4G10)C	0.73	18.5	7.5	01
	PUR	MAT9861793	(4G10)C	0.71	18.0	10	06
	TPE	MAT9961791	(4G10)C	0.73	18.5	7.5	02
	TPE	MAT9961790	(4G10)C	0.73	18.5	7.5	03
2090-CPWM4DF-10AFxx	PVC	MAT9761796	(4G6.0)C	0.63	16.0	7.5	01
	PUR	MAT9861794	(4G6.0)C	0.59	15.0	10	06
	TPE	MAT9961793	(4G6.0)C	0.63	16.0	7.5	02
	TPE	MAT9961792	(4G6.0)C	0.63	16.0	7.5	03

Basic cable



2090-CPWM4DF-12AFxx	PVC	MAT9761797	(4G4.0)C	0.51	13.0	7.5	01
	PUR	MAT9861795	(4G4.0)C	0.51	13.0	10	06
	TPE	MAT9961795	(4G4.0)C	0.51	13.0	7.5	02
	TPE	MAT9961794	(4G4.0)C	0.51	13.0	7.5	03
2090-CPWM4DF-14AFxx	PVC	MAT9761798	(4G2.5)C	0.45	11.5	7.5	01
	PUR	MAT9861796	(4G2.5)C	0.45	11.5	10	06
	PUR	MAT9861798	(4G2.5)C	0.49	12.5	7.5	07
	TPE	MAT9961797	(4G2.5)C	0.45	11.5	7.5	02
	TPE	MAT9961796	(4G2.5)C	0.45	11.5	7.5	03
2090-CPWM4DF-16AFxx	PVC	MAT9761799	(4G1.5)C	0.39	10.0	7.5	01
	PUR	MAT9861797	(4G1.5)C	0.39	10.0	10	06
	PUR	MAT9861799	(4G1.5)C	0.43	11.0	7.5	07
	TPE	MAT9961799	(4G1.5)C	0.39	10.0	7.5	02
	TPE	MAT9961798	(4G1.5)C	0.39	10.0	7.5	03

Basic cable



2090-CPWM7DF-02AF	PVC	MAT9761715	(4G35)C	1.22	31.0	7.5	01
	PUR	MAT9861711	(4G35)C	1.30	33.0	10	06
2090-CPWM7DF-04AF	PVC	MAT9761714	(4G25)C	1.08	27.5	7.5	01
	PUR	MAT9861710	(4G25)C	1.00	25.5	10	06
	TPE	MAT9961725	(4G25)C	1.08	27.5	7.5	02
	TPE	MAT9961726	(4G25)C	1.06	27.0	7.5	03

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 specifications.
G = with green-yellow earth core x = without earth core

Harnessed drive cables | Allen-Bradley/Rockwell

PVC/PUR/TPE

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø	Bend radius	Cable page
			[mm²]	[in.] [mm]	[x d]	538-541

Allen-Bradley/Rockwell Motor cables

Basic cable



2090-CPWM7DF-06AF	PVC	MAT9761713	(4G16)C	0.91	23.0	7.5	01
	PUR	MAT9861709	(4G16)C	0.87	22.0	10	06
	TPE	MAT9961723	(4G16)C	0.91	23.0	7.5	02
	TPE	MAT9961724	(4G16)C	0.91	23.0	7.5	03
2090-CPWM7DF-08AFxx	PVC	MAT9761704	(4G10)C	0.73	18.5	7.5	01
	PUR	MAT9861706	(4G10)C	0.71	18.0	10	06
	TPE	MAT9961707	(4G10)C	0.73	18.5	7.5	02
	TPE	MAT9961708	(4G10)C	0.73	18.5	7.5	03
2090-CPWM7DF-10AFxx	PVC	MAT9761703	(4G6.0)C	0.63	16.0	7.5	01
	PUR	MAT9861705	(4G6.0)C	0.59	15.0	10	06
	TPE	MAT9961705	(4G6.0)C	0.63	16.0	7.5	02
	TPE	MAT9961706	(4G6.0)C	0.63	16.0	7.5	03

Basic cable



2090-CPWM7DF-12AFxx	PVC	MAT9761702	(4G4.0)C	0.51	13.0	7.5	01
	PUR	MAT9861704	(4G4.0)C	0.51	13.0	10	06
	TPE	MAT9961709	(4G4.0)C	0.51	13.0	7.5	02
	TPE	MAT9961704	(4G4.0)C	0.51	13.0	7.5	03
2090-CPWM7DF-14AFxx	PVC	MAT9761701	(4G2.5)C	0.45	11.5	7.5	01
	PUR	MAT9861703	(4G2.5)C	0.45	11.5	10	06
	PUR	MAT9861702	(4G2.5)C	0.49	12.5	7.5	07
	TPE	MAT9961710	(4G2.5)C	0.45	11.5	7.5	02
	TPE	MAT9961711	(4G2.5)C	0.45	11.5	7.5	03
2090-CPWM7DF-16AFxx	PVC	MAT9761758	(4G1.5)C	0.39	10.0	7.5	01
	PUR	MAT9861760	(4G1.5)C	0.39	10.0	10	06
	PUR	MAT9861759	(4G1.5)C	0.43	11.0	7.5	07
	TPE	MAT9961761	(4G1.5)C	0.39	10.0	7.5	02

Basic cable



2090-XX_PMP-10SXX	PVC	MAT9761712	(4G6.0)C	0.63	16.0	7.5	01
	PUR	MAT9961718	(4G6.0)C	0.59	15.0	10	06
	TPE	MAT9961703	(4G6.0)C	0.63	16.0	7.5	02
	TPE	MAT9961715	(4G6.0)C	0.63	16.0	7.5	03

Harnessed drive cables | Allen-Bradley/Rockwell

PVC/PUR/TPE

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø		Bend radius	Cable page 538-541
				[in.]	[mm]		
Allen-Bradley/Rockwell Motor cables							
Basic cable							
2090-XX_PMP-14SXX	PVC	MAT9761711	(4G2.5)C	0.45	11.5	7.5	01
	PUR	MAT9961717	(4G2.5)C	0.45	11.5	10	06
	PUR	MAT9851711	(4G2.5)C	0.49	12.5	7.5	07
	TPE	MAT9961702	(4G2.5)C	0.45	11.5	7.5	02
	TPE	MAT9961714	(4G2.5)C	0.45	11.5	7.5	03
2090-XX_PMP-16SXX	PVC	MAT9761710	(4G1.5)C	0.39	10.0	7.5	01
	PUR	MAT9961716	(4G1.5)C	0.39	10.0	10	06
	PUR	MAT9861701	(4G1.5)C	0.43	11.0	7.5	07
	TPE	MAT9961701	(4G1.5)C	0.39	10.0	7.5	02
	TPE	MAT9961713	(4G1.5)C	0.39	10.0	7.5	03

Extension cable

2090-CPWM7E7-08AF	PUR	MAT9861716	(4G10)C	0.71	18.0	10	06
2090-CPWM7E7-10AF	PUR	MAT9861715	(4G6.0)C	0.59	15.0	10	06

Extension cable

2090-CPWM7E7-12AF	PUR	MAT9861714	(4G4.0)C	0.51	13.0	10	06
2090-CPWM7E7-14AF	PUR	MAT9861713	(4G2.5)C	0.45	11.5	10	06
2090-CPWM7E7-16AF	PUR	MAT9861712	(4G1.5)C	0.39	10.0	10	06

Allen-Bradley/Rockwell Servo cables**Basic cable**

2090-CPBM4DF-08AFxx	PVC	MAT9751799	(4G10+(2x1.5)C)C	0.85	21.5	7.5	05
	PUR	MAT9851798	(4G10+(2x1.5)C)C	0.83	21.0	10	06
	PUR	MAT9851799	(4G10+(2x1.5)C)C	0.83	21.0	7.5	07
2090-CPBM4DF-10AFxx	PVC	MAT9751797	(4G6.0+(2x1.5)C)C	0.65	16.5	10	04
	PVC	MAT9751798	(4G6.0+(2x1.5)C)C	0.71	18.0	7.5	05
	PUR	MAT9851796	(4G6.0+(2x1.5)C)C	0.65	16.5	10	06
	PUR	MAT9851797	(4G6.0+(2x1.5)C)C	0.69	17.5	7.5	07

Harnessed drive cables | Allen-Bradley/Rockwell

PVC/PUR/TPE

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø		Bend radius	Cable page 538-541
				[in.]	[mm]		
Allen-Bradley/Rockwell Servo cables							
Basic cable							
2090-CPBM4DF-12AFxx	PVC	MAT9751795	(4G4.0+(2x1.5)C)C	0.59	15.0	10	04
	PVC	MAT9751796	(4G4.0+(2x1.5)C)C	0.63	16.0	7.5	05
	PUR	MAT9851794	(4G4.0+(2x1.5)C)C	0.59	15.0	10	06
	PUR	MAT9851795	(4G4.0+(2x1.5)C)C	0.63	16.0	7.5	07
2090-CPBM4DF-14AFxx	PVC	MAT9751791	(4G2.5+(2x1.5)C)C	0.55	14.0	10	04
	PVC	MAT9751792	(4G2.5+(2x1.5)C)C	0.57	14.5	7.5	05
	PUR	MAT9851790	(4G2.5+(2x1.5)C)C	0.55	14.0	10	06
2090-CPBM4DF-16AFxx	PUR	MAT9851791	(4G2.5+(2x1.5)C)C	0.57	14.5	7.5	07
	PVC	MAT9751757	(4G1.5+(2x1.5)C)C	0.49	12.5	10	04
	PVC	MAT9751756	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	05
	PUR	MAT9851755	(4G1.5+(2x1.5)C)C	0.49	12.5	10	06
	PUR	MAT9851754	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	07

Basic cable

2090-CPBM7DF-02AF	PUR	MAT9851745	(4G35+(2x1.5)C)C	1.26	32.0	7.5	07
2090-CPBM7DF-04AF	PUR	MAT9851743	(4G25+(2x1.5)C)C	1.12	28.5	10	06
	PUR	MAT9851744	(4G25+(2x1.5)C)C	1.10	28.0	7.5	07

Basic cable

2090-CPBM7DF-06AF	PUR	MAT9851741	(4G16+(2x1.5)C)C	0.94	24.0	10	06
	PUR	MAT9851742	(4G16+(2x1.5)C)C	0.94	24.0	7.5	07

Basic cable

2090-CPBM7DF-08AFxx	PVC	MAT9751745	(4G10+(2x1.5)C)C	0.85	21.5	7.5	05
	PUR	MAT9851736	(4G10+(2x1.5)C)C	0.83	21.0	10	06
	PUR	MAT9851735	(4G10+(2x1.5)C)C	0.83	21.0	7.5	07
2090-CPBM7DF-10AFxx	PVC	MAT9751706	(4G6.0+(2x1.5)C)C	0.65	16.5	10	04
	PVC	MAT9751705	(4G6.0+(2x1.5)C)C	0.71	18.0	7.5	05
	PUR	MAT9851712	(4G6.0+(2x1.5)C)C	0.65	16.5	10	06
	PUR	MAT9851705	(4G6.0+(2x1.5)C)C	0.69	17.5	7.5	07
2090-CPBM7DF-12AFxx	PVC	MAT9751793	(4G4.0+(2x1.5)C)C	0.59	15.0	10	04
	PVC	MAT9751794	(4G4.0+(2x1.5)C)C	0.63	16.0	7.5	05
	PUR	MAT9851792	(4G4.0+(2x1.5)C)C	0.59	15.0	10	06
	PUR	MAT9851793	(4G4.0+(2x1.5)C)C	0.63	16.0	7.5	07

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 specifications.
G = with green-yellow earth core x = without earth core

Harnessed drive cables | Allen-Bradley/Rockwell

PVC/PUR/TPE

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø	Bend radius	Cable page
			[mm²]	[in.] [mm]	[x d]	538-541

Allen-Bradley/Rockwell Servo cables

Basic cable



2090-CPBM7DF-14AFxx	PVC	MAT9751744	(4G2.5+(2x1.5)C)C	0.55	14.0	10	04
	PVC	MAT9751743	(4G2.5+(2x1.5)C)C	0.57	14.5	7.5	05
	PUR	MAT9851734	(4G2.5+(2x1.5)C)C	0.55	14.0	10	06
	PUR	MAT9851733	(4G2.5+(2x1.5)C)C	0.57	14.5	7.5	07
2090-CPBM7DF-16AFxx	PVC	MAT9751742	(4G1.5+(2x1.5)C)C	0.49	12.5	10	04
	PVC	MAT9751741	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	05
	PUR	MAT9851732	(4G1.5+(2x1.5)C)C	0.49	12.5	10	06
	PUR	MAT9851731	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	07

Basic cable



2090-XX_PMF-10SXX	PVC	MAT9711730	(4G6.0+(2x1.5)C)C	0.65	16.5	10	04
	PVC	MAT9961722	(4G6.0+(2x1.5)C)C	0.71	18.0	7.5	05
	PUR	MAT9811726	(4G6.0+(2x1.5)C)C	0.65	16.5	10	06
	PUR	MAT9851708	(4G6.0+(2x1.5)C)C	0.69	17.5	7.5	07

Basic cable



2090-XX_PMF-14SXX	PVC	MAT9711729	(4G2.5+(2x1.5)C)C	0.55	14.0	10	04
	PVC	MAT9961721	(4G2.5+(2x1.5)C)C	0.57	14.5	7.5	05
	PUR	MAT9811725	(4G2.5+(2x1.5)C)C	0.55	14.0	10	06
	PUR	MAT9851707	(4G2.5+(2x1.5)C)C	0.57	14.5	7.5	07
2090-XX_PMF-16SXX	PVC	MAT9711728	(4G1.5+(2x1.5)C)C	0.49	12.5	10	04
	PVC	MAT9961720	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	05
	PUR	MAT9811724	(4G1.5+(2x1.5)C)C	0.49	12.5	10	06
	PUR	MAT9851706	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	07

Extension cable



2090-CPBM7E7-08AFxx	PVC	MAT9751709	(4G10+(2x1.5)C)C	0.85	21.5	7.5	05
	PUR	MAT9851710	(4G10+(2x1.5)C)C	0.83	21.0	10	06
	PUR	MAT9851709	(4G10+(2x1.5)C)C	0.83	21.0	7.5	07
2090-CPBM7E7-10AFxx	PVC	MAT9751708	(4G6.0+(2x1.5)C)C	0.65	16.5	10	04
	PVC	MAT9751707	(4G6.0+(2x1.5)C)C	0.71	18.0	7.5	05
	PUR	MAT9851714	(4G6.0+(2x1.5)C)C	0.65	16.5	10	06
	PUR	MAT9851713	(4G6.0+(2x1.5)C)C	0.69	17.5	7.5	07

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 specifications.
G = with green-yellow earth core x = without earth core

Harnessed drive cables | Allen-Bradley/Rockwell

PVC/PUR/TPE

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø	Bend radius	Cable page
			[mm²]	[in.] [mm]	[x d]	538-541

Allen-Bradley/Rockwell Servo cables

Extension cable



2090-CPBM7E7-12AFxx	PVC	MAT9751789	(4G2.5+(2x1.5)C)C	0.55	14.0	10	04
	PVC	MAT9751790	(4G2.5+(2x1.5)C)C	0.57	14.5	7.5	05
	PUR	MAT9851788	(4G2.5+(2x1.5)C)C	0.55	14.0	10	06
	PUR	MAT9851789	(4G2.5+(2x1.5)C)C	0.57	14.5	7.5	07
2090-CPBM7E7-14AFxx	PVC	MAT9751747	(4G2.5+(2x1.5)C)C	0.55	14.0	10	04
	PVC	MAT9751746	(4G2.5+(2x1.5)C)C	0.57	14.5	7.5	05
	PUR	MAT9851738	(4G2.5+(2x1.5)C)C	0.55	14.0	10	06
	PUR	MAT9851737	(4G2.5+(2x1.5)C)C	0.57	14.5	7.5	07
2090-CPBM7E7-16AFxx	PVC	MAT9751749	(4G1.5+(2x1.5)C)C	0.49	12.5	10	04
	PVC	MAT9751748	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	05
	PUR	MAT9851740	(4G1.5+(2x1.5)C)C	0.49	12.5	10	06
	PUR	MAT9851739	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	07

Allen-Bradley/Rockwell Hybrid servo cables

Basic cable



2090-CSBM1DE-10AF	PUR	MAT9851723	(4G6.0+(2x1.0)C)+(2xAWG22)C)C	0.69	17.5	10	28
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Basic cable



2090-CSBM1DE-14AF	PVC	MAT9751711	(4G2.5+(2x1.0)C)+(2xAWG22)C)C	0.57	14.5	10	27
	PUR	MAT9851720	(4G2.5+(2x1.0)C)+(2xAWG22)C)C	0.57	14.5	10	28
2090-CSBM1DE-18AF	PVC	MAT9751710	(4G2.5+(2x1.0)C)+(2xAWG22)C)C	0.57	14.5	10	27
	PUR	MAT9851719	(4G2.5+(2x1.0)C)+(2xAWG22)C)C	0.57	14.5	10	28

Basic cable



2090-CSBM1DF-10AF	PUR	MAT9851717	(4G6.0+(2x1.0)C)+(2xAWG22)C)C	0.69	17.5	10	28
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Basic cable



2090-CSBM1DF-14AF	PVC	MAT9751703	(4G2.5+(2x1.0)C)+(2xAWG22)C)C	0.57	14.5	10	27
	PUR	MAT9851703	(4G2.5+(2x1.0)C)+(2xAWG22)C)C	0.57	14.5	10	28
2090-CSBM1DF-18AF	PVC	MAT9751701	(4G1.0+(2x0.75)C)+(2xAWG22)C)C	0.47	12.0	10	27
	PUR	MAT9851701	(4G1.0+(2x0.75)C)+(2xAWG22)C)C	0.47	12.0	10	28

Harnessed drive cables | Allen-Bradley/Rockwell

PVC/PUR/TPE

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø	Bend radius	Cable page
			[mm ²]	[in.] [mm]	[x d]	538-541
Allen-Bradley/Rockwell Hybrid servo cables						
Basic cable						
2090-CSBM1DG-10AF	PUR	MAT9851750	(4G6.0+(2x1.0)C+(2xAWG22)C)C	0.69	17.5	10 28
Basic cable						
2090-CSBM1DG-14AF	PVC	MAT9751719	(4G2.5+(2x1.0)C+(2xAWG22)C)C	0.57	14.5	10 27
	PUR	MAT9851747	(4G2.5+(2x1.0)C+(2xAWG22)C)C	0.57	14.5	10 28
2090-CSBM1DG-18AF	PVC	MAT9751718	(4G1.0+(2x0.75)C+(2xAWG22)C)C	0.47	12.0	10 27
	PUR	MAT9851746	(4G1.0+(2x0.75)C+(2xAWG22)C)C	0.47	12.0	10 28
Basic cable						
2090-CSWM1DE-10AF	PUR	MAT9851724	(4G6.0+(2x1.0)C+(2xAWG22)C)C	0.69	17.5	10 28
Basic cable						
2090-CSWM1DE-14AF	PVC	MAT9751713	(4G2.5+(2x1.0)C+(2xAWG22)C)C	0.57	14.5	10 27
	PUR	MAT9851722	(4G2.5+(2x1.0)C+(2xAWG22)C)C	0.57	14.5	10 28
2090-CSWM1DE-18AF	PVC	MAT9751712	(4G1.0+(2x0.75)C+(2xAWG22)C)C	0.47	12.0	10 27
	PUR	MAT9851721	(4G1.0+(2x0.75)C+(2xAWG22)C)C	0.47	12.0	10 28
Basic cable						
2090-CSWM1DF-10AF	PUR	MAT9851718	(4G6.0+(2x1.0)C+(2xAWG22)C)C	0.69	17.5	10 28
Basic cable						
2090-CSWM1DF-14AF	PVC	MAT9751704	(4G2.5+(2x1.0)C+(2xAWG22)C)C	0.57	14.5	10 27
	PUR	MAT9851704	(4G2.5+(2x1.0)C+(2xAWG22)C)C	0.57	14.5	10 28
2090-CSWM1DF-18AF	PVC	MAT9751702	(4G1.0+(2x0.75)C+(2xAWG22)C)C	0.47	12.0	10 27
	PUR	MAT9851702	(4G1.0+(2x0.75)C+(2xAWG22)C)C	0.47	12.0	10 28
Basic cable						
2090-CSWM1DG-10AF	PUR	MAT9851751	(4G6.0+(2x1.0)C+(2xAWG22)C)C	0.69	17.5	10 28

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 specifications.
G = with green-yellow earth core x = without earth core

Harnessed drive cables | Allen-Bradley/Rockwell

PVC/PUR/TPE

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø	Bend radius	Cable page
			[mm ²]	[in.] [mm]	[x d]	538-541
Allen-Bradley/Rockwell Hybrid servo cables						
Basic cable						
2090-CSWM1DG-14AF	PVC	MAT9751721	(4G2.5+(2x1.0)C+(2xAWG22)C)C	0.57	14.5	10 27
	PUR	MAT9851749	(4G2.5+(2x1.0)C+(2xAWG22)C)C	0.57	14.5	10 28
2090-CSWM1DG-18AF	PVC	MAT9751720	(4G1.0+(2x0.75)C+(2xAWG22)C)C	0.47	12.0	10 27
	PUR	MAT9851748	(4G1.0+(2x0.75)C+(2xAWG22)C)C	0.47	12.0	10 28
Extension cable						
2090-CSBM1E1-10AF	PUR	MAT9851729	(4G6.0+(2x1.0)C+(2xAWG22)C)C	0.69	17.5	10 28
Extension cable						
2090-CSBM1E1-14AF	PVC	MAT9751715	(4G2.5+(2x1.0)C+(2xAWG22)C)C	0.57	14.5	10 27
	PUR	MAT9851726	(4G2.5+(2x1.0)C+(2xAWG22)C)C	0.57	14.5	10 28
2090-CSBM1E1-18AF	PVC	MAT9751714	(4G1.0+(2x0.75)C+(2xAWG22)C)C	0.47	12.0	10 27
	PUR	MAT9851725	(4G1.0+(2x0.75)C+(2xAWG22)C)C	0.47	12.0	10 28
Extension cable						
2090-CSWM1E1-10AF	PUR	MAT9851730	(4G6.0+(2x1.0)C+(2xAWG22)C)C	0.69	17.5	10 28
Extension cable						
2090-CSWM1E1-14AF	PVC	MAT9751717	(4G2.5+(2x1.0)C+(2xAWG22)C)C	0.57	14.5	10 27
	PUR	MAT9851728	(4G2.5+(2x1.0)C+(2xAWG22)C)C	0.57	14.5	10 28
2090-CSWM1E1-18AF	PVC	MAT9751716	(4G1.0+(2x0.75)C+(2xAWG22)C)C	0.47	12.0	10 27
	PUR	MAT9851727	(4G1.0+(2x0.75)C+(2xAWG22)C)C	0.47	12.0	10 28
Allen-Bradley/Rockwell Brake cables						
Basic cable						
2090-UX_BMP-18SXX	PVC	MAT9711727	(3G0.75)C	0.31	8.0	7.5 18
	PVC	MAT9961719	(3G0.75)C	0.31	8.0	6.8 20
	PUR	MAT9811705	(3G0.75)C	0.31	8.0	6.8 22

Harnessed drive cables | Allen-Bradley/Rockwell

PVC/PUR/TPE

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø	Bend radius	Cable page
			[mm ²]	[in.] [mm]	[x d]	538-541
Allen-Bradley/Rockwell Feedback cables						
Basic cable						
2090-CFBM4DF-CDAFxx	PUR	MAT9841775	(3x(4x0.14)+(2x0.14+2x0.34)+2x1.5)C	0.35 9.0	10	09
	PUR	MAT9841753	(3x(4x0.14)+(2x0.14+2x0.34)+2x1.5)C	0.39 10.0	7.5	10
	TPE	MAT9941768	(3x(4x0.14)+(2x0.14+2x0.34)+2x1.5)C	0.39 10.0	7.5	11
2090-CFBM4DF-CEAFxx	PUR	MAT9841796	(3x(4x0.14)+(2x0.14+2x0.34)+2x1.5)C	0.35 9.0	10	09
	PUR	MAT9841798	(3x(4x0.14)+(2x0.14+2x0.34)+2x1.5)C	0.39 10.0	7.5	10
	TPE	MAT9941799	(3x(4x0.14)+(2x0.14+2x0.34)+2x1.5)C	0.39 10.0	7.5	11
Basic cable						
2090-CFBM7DD-CDAFxx	PUR	MAT9841795	(3x(4x0.14)+(2x0.14+2x0.34)+2x1.5)C	0.39 10.0	7.5	10
2090-CFBM7DD-CEAFxx	PUR	MAT9841797	(3x(4x0.14)+(2x0.14+2x0.34)+2x1.5)C	0.39 10.0	7.5	10
Basic cable						
2090-CFBM7DF-CDAFxx	PUR	MAT9841771	(3x(4x0.14)+(2x0.14+2x0.34)+2x1.5)C	0.35 9.0	10	09
	PUR	MAT9841750	(3x(4x0.14)+(2x0.14+2x0.34)+2x1.5)C	0.39 10.0	7.5	10
	TPE	MAT9941764	(3x(4x0.14)+(2x0.14+2x0.34)+2x1.5)C	0.39 10.0	7.5	11
2090-CFBM7DF-CEAFxx	PUR	MAT9841774 ¹⁾	(3x(4x0.14)+(2x0.14+2x0.34)+2x1.5)C	0.35 9.0	10	09
	PUR	MAT9841752 ¹⁾	(3x(4x0.14)+(2x0.14+2x0.34)+2x1.5)C	0.39 10.0	7.5	10
	TPE	MAT9941767 ¹⁾	(3x(4x0.14)+(2x0.14+2x0.34)+2x1.5)C	0.39 10.0	7.5	11
Basic cable						
2090-XX_FMF-Sxx	PUR	MAT9941709	(3x(4x0.14)+(2x0.14+2x0.34)+2x1.5)C	0.35 9.0	10	09
	PUR	MAT9841770	(3x(4x0.14)+(2x0.14+2x0.34)+2x1.5)C	0.39 10.0	7.5	10
	TPE	MAT9941763	(3x(4x0.14)+(2x0.14+2x0.34)+2x1.5)C	0.39 10.0	7.5	11
Basic cable						
2090-XX_FMP-Sxx	PUR	MAT9841769	(3x(4x0.14)+(2x0.14+2x0.34)+2x1.5)C	0.35 9.0	10	09
	PUR	MAT9941704	(3x(4x0.14)+(2x0.14+2x0.34)+2x1.5)C	0.39 10.0	7.5	10
	TPE	MAT9941762	(3x(4x0.14)+(2x0.14+2x0.34)+2x1.5)C	0.39 10.0	7.5	11
Extension cable						
2090-CFBM7E7-CDAFxx	PUR	MAT9841772	(3x(4x0.14)+(2x0.14+2x0.34)+2x1.5)C	0.35 9.0	10	09
	PUR	MAT9841751	(3x(4x0.14)+(2x0.14+2x0.34)+2x1.5)C	0.39 10.0	7.5	10
	TPE	MAT9941765	(3x(4x0.14)+(2x0.14+2x0.34)+2x1.5)C	0.39 10.0	7.5	11

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 specifications.

G = with green-yellow earth core x = without earth core

Harnessed drive cables | Allen-Bradley/Rockwell

PVC/PUR/TPE

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø	Bend radius	Cable page
			[mm ²]	[in.] [mm]	[x d]	538-541
Allen-Bradley/Rockwell Feedback cables						
Extension cable						
2090-CFBM7E7-CEAFxx	PUR	MAT9841773	(3x(4x0.14)+(2x0.14+2x0.34)+2x1.5)C	0.35 9.0	10	09
	PUR	MAT9741776	(3x(4x0.14)+(2x0.14+2x0.34)+2x1.5)C	0.39 10.0	7.5	10
	TPE	MAT9941766	(3x(4x0.14)+(2x0.14+2x0.34)+2x1.5)C	0.39 10.0	7.5	11
Allen-Bradley/Rockwell Adapter cables (Transition Cable)						
Basic cable						
2090-CFBM4E2-CATR	PUR	MAT9841799	(3x(4x0.14)+(2x0.14+2x0.34)+2x1.5)C	0.35 9.0	10	09
Basic cable						
2090-CPWM4E2-14TR	PUR	MAT9861792	(4G2.5)C	0.45 11.5	10	06

¹⁾Alternative cable construction possible for Hiperface DSL applications

Harnessed drive cables | B&R

PVC/PUR/TPE

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø		Bend radius	Cable page 538-541
				[in.]	[mm]		
B&R Motor cables							
Basic cable							
8BCMxxxx.1011A-0	PVC	MAT9610008	(4G0.75+2x(2x0.34)C)C	0.49	12.5	7.5	05
	PUR	MAT9850108	(4G0.75+2x(2x0.34)C)C	0.47	12.0	10	06
	PUR	MAT9600008	(4G0.75+2x(2x0.34)C)C	0.49	12.5	7.5	07
Basic cable							
8BCMxxxx.1034C-0	PVC	MAT9610009	(4G0.75+2x(2x0.34)C)C	0.49	12.5	7.5	05
	PUR	MAT9850109	(4G0.75+2x(2x0.34)C)C	0.47	12.0	10	06
	PUR	MAT9600009	(4G0.75+2x(2x0.34)C)C	0.49	12.5	7.5	07
Basic cable							
8BCMxxxx.1312A-0	PVC	MAT9750106	(4G4.0+2x(2x1.5)C)C	0.67	17.0	10	04
	PVC	MAT9610012	(4G4.0+2x(2x1.5)C)C	0.71	18.0	7.5	05
	PUR	MAT9850106	(4G4.0+2x(2x1.5)C)C	0.67	17.0	10	06
	PUR	MAT9600012	(4G4.0+2x(2x1.5)C)C	0.69	17.5	7.5	07
Basic cable							
8BCMxxxx.1322A-0	PVC	MAT9750107	(4G4.0+2x(2x1.5)C)C	0.67	17.0	10	04
	PVC	MAT9610013	(4G4.0+2x(2x1.5)C)C	0.71	18.0	7.5	05
	PUR	MAT9850107	(4G4.0+2x(2x1.5)C)C	0.67	17.0	10	06
	PUR	MAT9600013	(4G4.0+2x(2x1.5)C)C	0.69	17.5	7.5	07
Basic cable							
8CMxxx.12-0	PVC	MAT9610000	(4G0.75+2x(2x0.34)C)C	0.49	12.5	7.5	05
	PUR	MAT9850100	(4G0.75+2x(2x0.34)C)C	0.47	12.0	10	06
	PUR	MAT9600000	(4G0.75+2x(2x0.34)C)C	0.49	12.5	7.5	07
B&R Servo cables							
Basic cable							
8BCMxxxx.1111A-0	PVC	MAT9750104	(4G1.5+2x(2x0.75)C)C	0.53	13.5	10	04
	PVC	MAT9610010	(4G1.5+2x(2x0.75)C)C	0.57	14.5	7.5	05
	PUR	MAT9850104	(4G1.5+2x(2x0.75)C)C	0.53	13.5	10	06
	PUR	MAT9600010	(4G1.5+2x(2x0.75)C)C	0.57	14.5	7.5	07

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 specifications.
G = with green-yellow earth core x = without earth core

Harnessed drive cables | B&R

PVC/PUR/TPE

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø	Bend radius	Cable page
			[mm ²]	[in.] [mm]	[x d]	538-541
B&R EnDat cables						
Basic cable						
8BCExxx.1111A-0	PVC	MAT9670002	(5x(2x0.14)+2x0.5)C	0.31	8.0	10 08
	PUR	MAT9820102	(5x(2x0.14)+2x0.5)C	0.35	9.0	7.5 10
	TPE	MAT9660002	(5x(2x0.14)+2x0.5)C	0.33	8.5	7.5 11
8CExxx.12-1	PVC	MAT9670001	(5x(2x0.14)+2x0.5)C	0.31	8.0	10 08
	PUR	MAT9820101	(5x(2x0.14)+2x0.5)C	0.35	9.0	7.5 10
	TPE	MAT9660001	(5x(2x0.14)+2x0.5)C	0.33	8.5	7.5 11
B&R Encoder cables						
Basic cable						
8BCFxxx.1221B-0	PVC	MAT9670003	((4x0.14)+2x(2x0.34))C	0.28	7.0	10 08
	PUR	MAT9840103	((4x0.14)+2x(2x0.34))C	0.28	7.0	10 09
Basic cable						
8BCRxxx.1121A-0	PVC	MAT9640015	(3x(2x0.25))C	0.28	7.0	7.5 14
	PUR	MAT9840105	(3x(2x0.25))C	0.28	7.0	7.5 26
	TPE	MAT9630015	(3x(2x0.25))C	0.31	8.0	6.8 16
Basic cable						
8BCSxxx.1111A-0	PVC	MAT9670004	(5x(2x0.14)+2x0.5)C	0.31	8.0	10 08
	PUR	MAT9840114	(5x(2x0.14)+2x0.5)C	0.31	8.0	10 09
	PUR	MAT9820104	(5x(2x0.14)+2x0.5)C	0.35	9.0	7.5 10
	TPE	MAT9660004	(5x(2x0.14)+2x0.5)C	0.33	8.5	7.5 11
B&R Resolver cables						
Basic cable						
8BCRxxx.1111A-0	PVC	MAT9640010	(3x(2x0.25))C	0.28	7.0	7.5 14
	PUR	MAT9840102	(3x(2x0.25))C	0.33	8.5	10 15
	TPE	MAT9630010	(3x(2x0.25))C	0.31	8.0	6.8 16
8CRxxx.12-1	PVC	MAT9640001	(3x(2x0.25))C	0.28	7.0	7.5 14
	PUR	MAT9840101	(3x(2x0.25))C	0.33	8.5	10 15
	TPE	MAT9630001	(3x(2x0.25))C	0.31	8.0	6.8 16

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 specifications.

G = with green-yellow earth core x = without earth core

Harnessed drive cables | B&R

PVC/PUR/TPE

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø	Bend radius	Cable page
			[mm ²]	[in.] [mm]	[x d]	538-541
B&R Bus cables						
Basic cable						
X20CA3E61.xxxx	PVC	MAT9630100	(4x0.38)C	0.28	7.0	12.5 29
	PUR	MAT9730101	(4x0.38)C	0.28	7.0	12.5 30
	TPE	MAT9930102	(4x0.38)C	0.30	7.5	10 12
Basic cable						
X67CA0E41.xxxx	PVC	MAT9630103	(4x0.38)C	0.28	7.0	12.5 29
	PUR	MAT9730104	(4x0.38)C	0.28	7.0	12.5 30
	TPE	MAT9930105	(4x0.38)C	0.30	7.5	10 12

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PVC/PUR/TPE

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø	Bend radius	Cable page
			[mm ²]	[in.] [mm]	[x d]	538-541

Baumüller Servo cables

15 A Basic cable



324781 (5 m)	PVC	MAT9750201	(4G1.5+2x(2x0.75)C)C	0.53	13.5	10	04
	PVC	MAT9295001	(4G1.5+2x(2x0.75)C)C	0.57	14.5	7.5	05
	PUR	MAT9850201	(4G1.5+2x(2x0.75)C)C	0.53	13.5	10	06
	PUR	MAT9296001	(4G1.5+2x(2x0.75)C)C	0.57	14.5	7.5	07
324782 (7 m)	PVC	MAT9750202	(4G1.5+2x(2x0.75)C)C	0.53	13.5	10	04
	PVC	MAT9295002	(4G1.5+2x(2x0.75)C)C	0.57	14.5	7.5	05
	PUR	MAT9850202	(4G1.5+2x(2x0.75)C)C	0.53	13.5	10	06
	PUR	MAT9296002	(4G1.5+2x(2x0.75)C)C	0.57	14.5	7.5	07
324783 (10 m)	PVC	MAT9750203	(4G1.5+2x(2x0.75)C)C	0.53	13.5	10	04
	PVC	MAT9295003	(4G1.5+2x(2x0.75)C)C	0.57	14.5	7.5	05
	PUR	MAT9850203	(4G1.5+2x(2x0.75)C)C	0.53	13.5	10	06
	PUR	MAT9296003	(4G1.5+2x(2x0.75)C)C	0.57	14.5	7.5	07
324784 (15 m)	PVC	MAT9750204	(4G1.5+2x(2x0.75)C)C	0.53	13.5	10	04
	PVC	MAT9295004	(4G1.5+2x(2x0.75)C)C	0.57	14.5	7.5	05
	PUR	MAT9850204	(4G1.5+2x(2x0.75)C)C	0.53	13.5	10	06
	PUR	MAT9296004	(4G1.5+2x(2x0.75)C)C	0.57	14.5	7.5	07
324785 (20 m)	PVC	MAT9750205	(4G1.5+2x(2x0.75)C)C	0.53	13.5	10	04
	PVC	MAT9295005	(4G1.5+2x(2x0.75)C)C	0.57	14.5	7.5	05
	PUR	MAT9850205	(4G1.5+2x(2x0.75)C)C	0.53	13.5	10	06
	PUR	MAT9296005	(4G1.5+2x(2x0.75)C)C	0.57	14.5	7.5	07
	PUR	MAT9296005	(4G1.5+2x(2x0.75)C)C	0.57	14.5	7.5	07
324786 (25 m)	PVC	MAT9750206	(4G1.5+2x(2x0.75)C)C	0.53	13.5	10	04
	PVC	MAT9295006	(4G1.5+2x(2x0.75)C)C	0.57	14.5	7.5	05
	PUR	MAT9850206	(4G1.5+2x(2x0.75)C)C	0.53	13.5	10	06
	PUR	MAT9296006	(4G1.5+2x(2x0.75)C)C	0.57	14.5	7.5	07
324787 (30 m)	PVC	MAT9750207	(4G1.5+2x(2x0.75)C)C	0.53	13.5	10	04
	PVC	MAT9295007	(4G1.5+2x(2x0.75)C)C	0.57	14.5	7.5	05
	PUR	MAT9850207	(4G1.5+2x(2x0.75)C)C	0.53	13.5	10	06
	PUR	MAT9296007	(4G1.5+2x(2x0.75)C)C	0.57	14.5	7.5	07
324788 (35 m)	PVC	MAT9750208	(4G1.5+2x(2x0.75)C)C	0.53	13.5	10	04
	PVC	MAT9295008	(4G1.5+2x(2x0.75)C)C	0.57	14.5	7.5	05
	PUR	MAT9850208	(4G1.5+2x(2x0.75)C)C	0.53	13.5	10	06
	PUR	MAT9296008	(4G1.5+2x(2x0.75)C)C	0.57	14.5	7.5	07
324789 (40 m)	PVC	MAT9750209	(4G1.5+2x(2x0.75)C)C	0.53	13.5	10	04
	PVC	MAT9295009	(4G1.5+2x(2x0.75)C)C	0.57	14.5	7.5	05
	PUR	MAT9850209	(4G1.5+2x(2x0.75)C)C	0.53	13.5	10	06
	PUR	MAT9296009	(4G1.5+2x(2x0.75)C)C	0.57	14.5	7.5	07

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 specifications.
G = with green-yellow earth core x = without earth core

Harnessed drive cables | Baumüller

PVC/PUR/TPE

* Technical information on the cable quality: ► page 538-541

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			[mm ²]	[in.] [mm]	[x d]	538-541

Baumüller Servo cables

15 A Basic cable



324790 (50 m)	PVC	MAT9750210	(4G1.5+2x(2x0.75)C)C	0.53	13.5	10	04
	PVC	MAT9295010	(4G1.5+2x(2x0.75)C)C	0.57	14.5	7.5	05
	PUR	MAT9850210	(4G1.5+2x(2x0.75)C)C	0.53	13.5	10	06
	PUR	MAT9296010	(4G1.5+2x(2x0.75)C)C	0.57	14.5	7.5	07
324791 (75 m)	PVC	MAT9750211	(4G1.5+2x(2x0.75)C)C	0.53	13.5	10	04
	PVC	MAT9295011	(4G1.5+2x(2x0.75)C)C	0.57	14.5	7.5	05
	PUR	MAT9850211	(4G1.5+2x(2x0.75)C)C	0.53	13.5	10	06
	PUR	MAT9296011	(4G1.5+2x(2x0.75)C)C	0.57	14.5	7.5	07
324792 (100 m)	PVC	MAT9750212	(4G1.5+2x(2x0.75)C)C	0.53	13.5	10	04
	PVC	MAT9295012	(4G1.5+2x(2x0.75)C)C	0.57	14.5	7.5	05
	PUR	MAT9850212	(4G1.5+2x(2x0.75)C)C	0.53	13.5	10	06
	PUR	MAT9296012	(4G1.5+2x(2x0.75)C)C	0.57	14.5	7.5	07

15 A Extension cable



324781 (5 m) (ext.)	PVC	MAT9750213	(4G1.5+2x(2x0.75)C)C	0.53	13.5	10	04
	PVC	MAT9297001	(4G1.5+2x(2x0.75)C)C	0.57	14.5	7.5	05
	PUR	MAT9850213	(4G1.5+2x(2x0.75)C)C	0.53	13.5	10	06
	PUR	MAT9298001	(4G1.5+2x(2x0.75)C)C	0.57	14.5	7.5	07

20 A Basic cable



380967 (7 m)	PVC	MAT9750215	(4G2.5+2x(2x1.5)C)C	0.63	16.0	10	04
	PVC	MAT9295021	(4G2.5+2x(2x1.5)C)C	0.67	17.0	7.5	05
	PUR	MAT9850215	(4G2.5+2x(2x1.5)C)C	0.63	16.0	10	06
	PUR	MAT9296021	(4G2.5+2x(2x1.5)C)C	0.63	16.0	7.5	07
413410 (10 m)	PVC	MAT9750216	(4G2.5+2x(2x1.5)C)C	0.63	16.0	10	04
	PVC	MAT9295022	(4G2.5+2x(2x1.5)C)C	0.67	17.0	7.5	05
	PUR	MAT9850216	(4G2.5+2x(2x1.5)C)C	0.63	16.0	10	06
	PUR	MAT9296022	(4G2.5+2x(2x1.5)C)C	0.63	16.0	7.5	07
414840 (5 m)	PVC	MAT9750214	(4G2.5+2x(2x1.5)C)C	0.63	16.0	10	04
	PVC	MAT9295020	(4G2.5+2x(2x1.5)C)C	0.67	17.0	7.5	05
	PUR	MAT9850214	(4G2.5+2x(2x1.5)C)C	0.63	16.0	10	06
	PUR	MAT9296020	(4G2.5+2x(2x1.5)C)C	0.63	16.0	7.5	07
414841 (15 m)	PVC	MAT9750217	(4G2.5+2x(2x1.5)C)C	0.63	16.0	10	04
	PVC	MAT9295023	(4G2.5+2x(2x1.5)C)C	0.67	17.0	7.5	05
	PUR	MAT9850217	(4G2.5+2x(2x1.5)C)C	0.63	16.0	10	06
	PUR	MAT9296023	(4G2.5+2x(2x1.5)C)C	0.63	16.0	7.5	07

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* Technical information on the cable quality: ► page 538-541

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			[mm²]	[in.] [mm]	[x d]	538-541
Baumüller Servo cables						
20 A Basic cable						
414842 (20 m)	PVC	MAT9750218	(4G2.5+2x(2x1.5)C)C	0.63	16.0	10 04
	PVC	MAT9295024	(4G2.5+2x(2x1.5)C)C	0.67	17.0	7.5 05
	PUR	MAT9850218	(4G2.5+2x(2x1.5)C)C	0.63	16.0	10 06
	PUR	MAT9296024	(4G2.5+2x(2x1.5)C)C	0.63	16.0	7.5 07
414843 (25 m)	PVC	MAT9750219	(4G2.5+2x(2x1.5)C)C	0.63	16.0	10 04
	PVC	MAT9295025	(4G2.5+2x(2x1.5)C)C	0.67	17.0	7.5 05
	PUR	MAT9850219	(4G2.5+2x(2x1.5)C)C	0.63	16.0	10 06
	PUR	MAT9296025	(4G2.5+2x(2x1.5)C)C	0.63	16.0	7.5 07
414846 (30 m)	PVC	MAT9750220	(4G2.5+2x(2x1.5)C)C	0.63	16.0	10 04
	PVC	MAT9295026	(4G2.5+2x(2x1.5)C)C	0.67	17.0	7.5 05
	PUR	MAT9850220	(4G2.5+2x(2x1.5)C)C	0.63	16.0	10 06
	PUR	MAT9296026	(4G2.5+2x(2x1.5)C)C	0.63	16.0	7.5 07
	PUR	MAT9296026	(4G2.5+2x(2x1.5)C)C	0.63	16.0	7.5 07
414848 (35 m)	PVC	MAT9750221	(4G2.5+2x(2x1.5)C)C	0.63	16.0	10 04
	PVC	MAT9295027	(4G2.5+2x(2x1.5)C)C	0.67	17.0	7.5 05
	PUR	MAT9850221	(4G2.5+2x(2x1.5)C)C	0.63	16.0	10 06
	PUR	MAT9296027	(4G2.5+2x(2x1.5)C)C	0.63	16.0	7.5 07
	PUR	MAT9296027	(4G2.5+2x(2x1.5)C)C	0.63	16.0	7.5 07
414849 (40 m)	PVC	MAT9750222	(4G2.5+2x(2x1.5)C)C	0.63	16.0	10 04
	PVC	MAT9295028	(4G2.5+2x(2x1.5)C)C	0.67	17.0	7.5 05
	PUR	MAT9850222	(4G2.5+2x(2x1.5)C)C	0.63	16.0	10 06
	PUR	MAT9296028	(4G2.5+2x(2x1.5)C)C	0.63	16.0	7.5 07
	PUR	MAT9296028	(4G2.5+2x(2x1.5)C)C	0.63	16.0	7.5 07
414850 (50 m)	PVC	MAT9750223	(4G2.5+2x(2x1.5)C)C	0.63	16.0	10 04
	PVC	MAT9295029	(4G2.5+2x(2x1.5)C)C	0.67	17.0	7.5 05
	PUR	MAT9850223	(4G2.5+2x(2x1.5)C)C	0.63	16.0	10 06
	PUR	MAT9296029	(4G2.5+2x(2x1.5)C)C	0.63	16.0	7.5 07
	PUR	MAT9296029	(4G2.5+2x(2x1.5)C)C	0.63	16.0	7.5 07
414851 (75 m)	PVC	MAT9750224	(4G2.5+2x(2x1.5)C)C	0.63	16.0	10 04
	PVC	MAT9295030	(4G2.5+2x(2x1.5)C)C	0.67	17.0	7.5 05
	PUR	MAT9850224	(4G2.5+2x(2x1.5)C)C	0.63	16.0	10 06
	PUR	MAT9296030	(4G2.5+2x(2x1.5)C)C	0.63	16.0	7.5 07
	PUR	MAT9296030	(4G2.5+2x(2x1.5)C)C	0.63	16.0	7.5 07
414852 (100 m)	PVC	MAT9750225	(4G2.5+2x(2x1.5)C)C	0.63	16.0	10 04
	PVC	MAT9295031	(4G2.5+2x(2x1.5)C)C	0.67	17.0	7.5 05
	PUR	MAT9850225	(4G2.5+2x(2x1.5)C)C	0.63	16.0	10 06
	PUR	MAT9296031	(4G2.5+2x(2x1.5)C)C	0.63	16.0	7.5 07
	PUR	MAT9296031	(4G2.5+2x(2x1.5)C)C	0.63	16.0	7.5 07



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 specifications.
G = with green-yellow earth core x = without earth core

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			[mm²]	[in.] [mm]	[x d]	538-541
Baumüller Servo cables						
20 A Extension cable						
414840 (5 m) (ext.)	PVC	MAT9750226	(4G2.5+2x(2x1.5)C)C	0.63	16.0	10 04
	PVC	MAT9297020	(4G2.5+2x(2x1.5)C)C	0.67	17.0	7.5 05
	PUR	MAT9850226	(4G2.5+2x(2x1.5)C)C	0.63	16.0	10 06
	PUR	MAT9298020	(4G2.5+2x(2x1.5)C)C	0.63	16.0	7.5 07
	PUR	MAT9298020	(4G2.5+2x(2x1.5)C)C	0.63	16.0	7.5 07
21 A Basic cable						
326577 (5 m)	PVC	MAT9750227	(4G2.5+2x(2x1.5)C)C	0.63	16.0	10 04
	PVC	MAT9295040	(4G2.5+2x(2x1.5)C)C	0.67	17.0	7.5 05
	PUR	MAT9850227	(4G2.5+2x(2x1.5)C)C	0.63	16.0	10 06
	PUR	MAT9296040	(4G2.5+2x(2x1.5)C)C	0.63	16.0	7.5 07
	PUR	MAT9296040	(4G2.5+2x(2x1.5)C)C	0.63	16.0	7.5 07
326578 (7 m)	PVC	MAT9750228	(4G2.5+2x(2x1.5)C)C	0.63	16.0	10 04
	PVC	MAT9295041	(4G2.5+2x(2x1.5)C)C	0.67	17.0	7.5 05
	PUR	MAT9850228	(4G2.5+2x(2x1.5)C)C	0.63	16.0	10 06
	PUR	MAT9296041	(4G2.5+2x(2x1.5)C)C	0.63	16.0	7.5 07
	PUR	MAT9296041	(4G2.5+2x(2x1.5)C)C	0.63	16.0	7.5 07
326579 (10 m)	PVC	MAT9750229	(4G2.5+2x(2x1.5)C)C	0.63	16.0	10 04
	PVC	MAT9295042	(4G2.5+2x(2x1.5)C)C	0.67	17.0	7.5 05
	PUR	MAT9850229	(4G2.5+2x(2x1.5)C)C	0.63	16.0	10 06
	PUR	MAT9296042	(4G2.5+2x(2x1.5)C)C	0.63	16.0	7.5 07
	PUR	MAT9296042	(4G2.5+2x(2x1.5)C)C	0.63	16.0	7.5 07
326580 (15 m)	PVC	MAT9750230	(4G2.5+2x(2x1.5)C)C	0.63	16.0	10 04
	PVC	MAT9295043	(4G2.5+2x(2x1.5)C)C	0.67	17.0	7.5 05
	PUR	MAT9850230	(4G2.5+2x(2x1.5)C)C	0.63	16.0	10 06
	PUR	MAT9296043	(4G2.5+2x(2x1.5)C)C	0.63	16.0	7.5 07
	PUR	MAT9296043	(4G2.5+2x(2x1.5)C)C	0.63	16.0	7.5 07
326581 (20 m)	PVC	MAT9750231	(4G2.5+2x(2x1.5)C)C	0.63	16.0	10 04
	PVC	MAT9295044	(4G2.5+2x(2x1.5)C)C	0.67	17.0	7.5 05
	PUR	MAT9850231	(4G2.5+2x(2x1.5)C)C	0.63	16.0	10 06
	PUR	MAT9296044	(4G2.5+2x(2x1.5)C)C	0.63	16.0	7.5 07
	PUR	MAT9296044	(4G2.5+2x(2x1.5)C)C	0.63	16.0	7.5 07
326582 (25 m)	PVC	MAT9750232	(4G2.5+2x(2x1.5)C)C	0.63	16.0	10 04
	PVC	MAT9295045	(4G2.5+2x(2x1.5)C)C	0.67	17.0	7.5 05
	PUR	MAT9850232	(4G2.5+2x(2x1.5)C)C	0.63	16.0	10 06
	PUR	MAT9296045	(4G2.5+2x(2x1.5)C)C	0.63	16.0	7.5 07
	PUR	MAT9296045	(4G2.5+2x(2x1.5)C)C	0.63	16.0	7.5 07
326583 (30 m)	PVC	MAT9750233	(4G2.5+2x(2x1.5)C)C	0.63	16.0	10 04
	PVC	MAT9295046	(4G2.5+2x(2x1.5)C)C	0.67	17.0	7.5 05
	PUR	MAT9850233	(4G2.5+2x(2x1.5)C)C	0.63	16.0	10 06
	PUR	MAT9296046	(4G2.5+2x(2x1.5)C)C	0.63	16.0	7.5 07
	PUR	MAT9296046	(4G2.5+2x(2x1.5)C)C	0.63	16.0	7.5 07



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			[mm ²]	[in.] [mm]	[x d]	538-541

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21 A Basic cable



326584 (35 m)	PVC	MAT9750234	(4G2.5+2x(2x1.5)C)C	0.63	16.0	10	04
	PVC	MAT9295047	(4G2.5+2x(2x1.5)C)C	0.67	17.0	7.5	05
	PUR	MAT9850234	(4G2.5+2x(2x1.5)C)C	0.63	16.0	10	06
	PUR	MAT9296047	(4G2.5+2x(2x1.5)C)C	0.63	16.0	7.5	07
326585 (40 m)	PVC	MAT9750235	(4G2.5+2x(2x1.5)C)C	0.63	16.0	10	04
	PVC	MAT9295048	(4G2.5+2x(2x1.5)C)C	0.67	17.0	7.5	05
	PUR	MAT9850235	(4G2.5+2x(2x1.5)C)C	0.63	16.0	10	06
	PUR	MAT9296048	(4G2.5+2x(2x1.5)C)C	0.63	16.0	7.5	07
326586 (50 m)	PVC	MAT9750236	(4G2.5+2x(2x1.5)C)C	0.63	16.0	10	04
	PVC	MAT9295049	(4G2.5+2x(2x1.5)C)C	0.67	17.0	7.5	05
	PUR	MAT9850236	(4G2.5+2x(2x1.5)C)C	0.63	16.0	10	06
	PUR	MAT9296049	(4G2.5+2x(2x1.5)C)C	0.63	16.0	7.5	07
326587 (75 m)	PVC	MAT9750237	(4G2.5+2x(2x1.5)C)C	0.63	16.0	10	04
	PVC	MAT9295050	(4G2.5+2x(2x1.5)C)C	0.67	17.0	7.5	05
	PUR	MAT9850237	(4G2.5+2x(2x1.5)C)C	0.63	16.0	10	06
	PUR	MAT9296050	(4G2.5+2x(2x1.5)C)C	0.63	16.0	7.5	07
326588 (100 m)	PVC	MAT9750238	(4G2.5+2x(2x1.5)C)C	0.63	16.0	10	04
	PVC	MAT9295051	(4G2.5+2x(2x1.5)C)C	0.67	17.0	7.5	05
	PUR	MAT9850238	(4G2.5+2x(2x1.5)C)C	0.63	16.0	10	06
	PUR	MAT9296051	(4G2.5+2x(2x1.5)C)C	0.63	16.0	7.5	07

21 A Extension cable



326577 (5 m) (ext.)	PVC	MAT9750239	(4G2.5+2x(2x1.5)C)C	0.63	16.0	10	04
	PVC	MAT9297040	(4G2.5+2x(2x1.5)C)C	0.67	17.0	7.5	05
	PUR	MAT9850239	(4G2.5+2x(2x1.5)C)C	0.63	16.0	10	06
	PUR	MAT9298040	(4G2.5+2x(2x1.5)C)C	0.63	16.0	7.5	07

28 A Basic cable



326589 (5 m)	PVC	MAT9750240	(4G4.0+2x(2x1.5)C)C	0.67	17.0	10	04
	PVC	MAT9295060	(4G4.0+2x(2x1.5)C)C	0.71	18.0	7.5	05
	PUR	MAT9850240	(4G4.0+2x(2x1.5)C)C	0.67	17.0	10	06
	PUR	MAT9296060	(4G2.5+2x(2x1.5)C)C	0.63	16.0	7.5	07
326591 (7 m)	PVC	MAT9750241	(4G4.0+2x(2x1.5)C)C	0.67	17.0	10	04
	PVC	MAT9295061	(4G4.0+2x(2x1.5)C)C	0.71	18.0	7.5	05
	PUR	MAT9850241	(4G4.0+2x(2x1.5)C)C	0.67	17.0	10	06
	PUR	MAT9296061	(4G2.5+2x(2x1.5)C)C	0.63	16.0	7.5	07

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 specifications.
G = with green-yellow earth core x = without earth core

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PVC/PUR/TPE

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø	Bend radius	Cable page
			[mm ²]	[in.] [mm]	[x d]	538-541

Baumüller Servo cables

28 A Basic cable



326592 (10 m)	PVC	MAT9750242	(4G4.0+2x(2x1.5)C)C	0.67	17.0	10	04
	PVC	MAT9295062	(4G4.0+2x(2x1.5)C)C	0.71	18.0	7.5	05
	PUR	MAT9850242	(4G4.0+2x(2x1.5)C)C	0.67	17.0	10	06
	PUR	MAT9296062	(4G2.5+2x(2x1.5)C)C	0.63	16.0	7.5	07
326593 (15 m)	PVC	MAT9750243	(4G4.0+2x(2x1.5)C)C	0.67	17.0	10	04
	PVC	MAT9295063	(4G4.0+2x(2x1.5)C)C	0.71	18.0	7.5	05
	PUR	MAT9850243	(4G4.0+2x(2x1.5)C)C	0.67	17.0	10	06
	PUR	MAT9296063	(4G2.5+2x(2x1.5)C)C	0.63	16.0	7.5	07
326594 (20 m)	PVC	MAT9750244	(4G4.0+2x(2x1.5)C)C	0.67	17.0	10	04
	PVC	MAT9295064	(4G4.0+2x(2x1.5)C)C	0.71	18.0	7.5	05
	PUR	MAT9850244	(4G4.0+2x(2x1.5)C)C	0.67	17.0	10	06
	PUR	MAT9296064	(4G2.5+2x(2x1.5)C)C	0.63	16.0	7.5	07
326596 (25 m)	PVC	MAT9750245	(4G4.0+2x(2x1.5)C)C	0.67	17.0	10	04
	PVC	MAT9295065	(4G4.0+2x(2x1.5)C)C	0.71	18.0	7.5	05
	PUR	MAT9850245	(4G4.0+2x(2x1.5)C)C	0.67	17.0	10	06
	PUR	MAT9296065	(4G2.5+2x(2x1.5)C)C	0.63	16.0	7.5	07
326597 (30 m)	PVC	MAT9750246	(4G4.0+2x(2x1.5)C)C	0.67	17.0	10	04
	PVC	MAT9295066	(4G4.0+2x(2x1.5)C)C	0.71	18.0	7.5	05
	PUR	MAT9850246	(4G4.0+2x(2x1.5)C)C	0.67	17.0	10	06
	PUR	MAT9296066	(4G2.5+2x(2x1.5)C)C	0.63	16.0	7.5	07
326598 (35 m)	PVC	MAT9750247	(4G4.0+2x(2x1.5)C)C	0.67	17.0	10	04
	PVC	MAT9295067	(4G4.0+2x(2x1.5)C)C	0.71	18.0	7.5	05
	PUR	MAT9850247	(4G4.0+2x(2x1.5)C)C	0.67	17.0	10	06
	PUR	MAT9296067	(4G2.5+2x(2x1.5)C)C	0.63	16.0	7.5	07
326599 (40 m)	PVC	MAT9750248	(4G4.0+2x(2x1.5)C)C	0.67	17.0	10	04
	PVC	MAT9295068	(4G4.0+2x(2x1.5)C)C	0.71	18.0	7.5	05
	PUR	MAT9850248	(4G4.0+2x(2x1.5)C)C	0.67	17.0	10	06
	PUR	MAT9296068	(4G2.5+2x(2x1.5)C)C	0.63	16.0	7.5	07

28 A Extension cable



326589 (5 m) (ext.)	PVC	MAT9750249	(4G4.0+2x(2x1.5)C)C	0.67	17.0	10	04
	PVC	MAT9297060	(4G4.0+2x(2x1.5)C)C	0.71	18.0	7.5	05
	PUR	MAT9850249	(4G4.0+2x(2x1.5)C)C	0.67	17.0	10	06
	PUR	MAT9298060	(4G2.5+2x(2x1.5)C)C	0.63	16.0	7.5	07

Harnessed drive cables | Baumüller

PVC/PUR/TPE

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø		Bend radius	Cable page 538-541
				[in.]	[mm]		
Baumüller Servo cables							
36 A Basic cable							
326600 (5 m)	PVC	MAT9750250	(4G6.0+2x(2x1.5)C)C	0.75	19.0	10	04
	PVC	MAT9295070	(4G6.0+2x(2x1.5)C)C	0.83	21.0	7.5	05
	PUR	MAT9850250	(4G6.0+2x(2x1.5)C)C	0.75	19.0	10	06
	PUR	MAT9296070	(4G6.0+2x(2x1.5)C)C	0.77	19.5	7.5	07
326601 (7 m)	PVC	MAT9750251	(4G6.0+2x(2x1.5)C)C	0.75	19.0	10	04
	PVC	MAT9295071	(4G6.0+2x(2x1.5)C)C	0.83	21.0	7.5	05
	PUR	MAT9850251	(4G6.0+2x(2x1.5)C)C	0.75	19.0	10	06
	PUR	MAT9296071	(4G6.0+2x(2x1.5)C)C	0.77	19.5	7.5	07
326602 (10 m)	PVC	MAT9750252	(4G6.0+2x(2x1.5)C)C	0.75	19.0	10	04
	PVC	MAT9295072	(4G6.0+2x(2x1.5)C)C	0.83	21.0	7.5	05
	PUR	MAT9850252	(4G6.0+2x(2x1.5)C)C	0.75	19.0	10	06
	PUR	MAT9296072	(4G6.0+2x(2x1.5)C)C	0.77	19.5	7.5	07
326603 (15 m)	PVC	MAT9750253	(4G6.0+2x(2x1.5)C)C	0.75	19.0	10	04
	PVC	MAT9295073	(4G6.0+2x(2x1.5)C)C	0.83	21.0	7.5	05
	PUR	MAT9850253	(4G6.0+2x(2x1.5)C)C	0.75	19.0	10	06
	PUR	MAT9296073	(4G6.0+2x(2x1.5)C)C	0.77	19.5	7.5	07
326604 (20 m)	PVC	MAT9750254	(4G6.0+2x(2x1.5)C)C	0.75	19.0	10	04
	PVC	MAT9295074	(4G6.0+2x(2x1.5)C)C	0.83	21.0	7.5	05
	PUR	MAT9850254	(4G6.0+2x(2x1.5)C)C	0.75	19.0	10	06
	PUR	MAT9296074	(4G6.0+2x(2x1.5)C)C	0.77	19.5	7.5	07
326605 (25 m)	PVC	MAT9750255	(4G6.0+2x(2x1.5)C)C	0.75	19.0	10	04
	PVC	MAT9295075	(4G6.0+2x(2x1.5)C)C	0.83	21.0	7.5	05
	PUR	MAT9850255	(4G6.0+2x(2x1.5)C)C	0.75	19.0	10	06
	PUR	MAT9296075	(4G6.0+2x(2x1.5)C)C	0.77	19.5	7.5	07
326606 (30 m)	PVC	MAT9750256	(4G6.0+2x(2x1.5)C)C	0.75	19.0	10	04
	PVC	MAT9295076	(4G6.0+2x(2x1.5)C)C	0.83	21.0	7.5	05
	PUR	MAT9850256	(4G6.0+2x(2x1.5)C)C	0.75	19.0	10	06
	PUR	MAT9296076	(4G6.0+2x(2x1.5)C)C	0.77	19.5	7.5	07
326607 (35 m)	PVC	MAT9750257	(4G6.0+2x(2x1.5)C)C	0.75	19.0	10	04
	PVC	MAT9295077	(4G6.0+2x(2x1.5)C)C	0.83	21.0	7.5	05
	PUR	MAT9850257	(4G6.0+2x(2x1.5)C)C	0.75	19.0	10	06
	PUR	MAT9296077	(4G6.0+2x(2x1.5)C)C	0.77	19.5	7.5	07
326608 (40 m)	PVC	MAT9750258	(4G6.0+2x(2x1.5)C)C	0.75	19.0	10	04
	PVC	MAT9295078	(4G6.0+2x(2x1.5)C)C	0.83	21.0	7.5	05
	PUR	MAT9850258	(4G6.0+2x(2x1.5)C)C	0.75	19.0	10	06
	PUR	MAT9296078	(4G6.0+2x(2x1.5)C)C	0.77	19.5	7.5	07



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 specifications.
G = with green-yellow earth core x = without earth core

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PVC/PUR/TPE

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø		Bend radius	Cable page 538-541
				[in.]	[mm]		
Baumüller Servo cables							
36 A Extension cable							
326600 (5 m) (ext.)	PVC	MAT9750259	(4G6.0+2x(2x1.5)C)C	0.75	19.0	10	04
	PVC	MAT9297070	(4G6.0+2x(2x1.5)C)C	0.83	21.0	7.5	05
	PUR	MAT9850259	(4G6.0+2x(2x1.5)C)C	0.75	19.0	10	06
	PUR	MAT9298070	(4G6.0+2x(2x1.5)C)C	0.77	19.5	7.5	07
50 A Basic cable							
326609 (5 m)	PVC	MAT9295080	(4G10+2x(2x1.5)C)C	0.91	23.0	7.5	05
	PUR	MAT9850260	(4G10+2x(2x1.5)C)C	0.89	22.5	10	06
	PUR	MAT9296080	(4G10+2x(2x1.5)C)C	0.89	22.5	7.5	07
326610 (7 m)	PVC	MAT9295081	(4G10+2x(2x1.5)C)C	0.91	23.0	7.5	05
	PUR	MAT9850261	(4G10+2x(2x1.5)C)C	0.89	22.5	10	06
326611 (10 m)	PUR	MAT9296081	(4G10+2x(2x1.5)C)C	0.89	22.5	7.5	07
	PVC	MAT9295082	(4G10+2x(2x1.5)C)C	0.91	23.0	7.5	05
326612 (15 m)	PUR	MAT9850262	(4G10+2x(2x1.5)C)C	0.89	22.5	10	06
	PUR	MAT9296082	(4G10+2x(2x1.5)C)C	0.89	22.5	7.5	07
	PVC	MAT9295083	(4G10+2x(2x1.5)C)C	0.91	23.0	7.5	05
326613 (20 m)	PUR	MAT9850263	(4G10+2x(2x1.5)C)C	0.89	22.5	10	06
	PUR	MAT9296083	(4G10+2x(2x1.5)C)C	0.89	22.5	7.5	07
	PVC	MAT9295084	(4G10+2x(2x1.5)C)C	0.91	23.0	7.5	05
326614 (25 m)	PUR	MAT9850264	(4G10+2x(2x1.5)C)C	0.89	22.5	10	06
	PUR	MAT9296084	(4G10+2x(2x1.5)C)C	0.89	22.5	7.5	07
	PVC	MAT9295085	(4G10+2x(2x1.5)C)C	0.91	23.0	7.5	05
326615 (30 m)	PUR	MAT9850265	(4G10+2x(2x1.5)C)C	0.89	22.5	10	06
	PUR	MAT9296085	(4G10+2x(2x1.5)C)C	0.89	22.5	7.5	07
	PVC	MAT9295086	(4G10+2x(2x1.5)C)C	0.91	23.0	7.5	05
326616 (35 m)	PUR	MAT9850266	(4G10+2x(2x1.5)C)C	0.89	22.5	10	06
	PUR	MAT9296086	(4G10+2x(2x1.5)C)C	0.89	22.5	7.5	07
	PVC	MAT9295087	(4G10+2x(2x1.5)C)C	0.91	23.0	7.5	05
326617 (40 m)	PUR	MAT9850267	(4G10+2x(2x1.5)C)C	0.89	22.5	10	06
	PUR	MAT9296087	(4G10+2x(2x1.5)C)C	0.89	22.5	7.5	07
	PVC	MAT9295088	(4G10+2x(2x1.5)C)C	0.91	23.0	7.5	05
326618 (40 m)	PUR	MAT9850268	(4G10+2x(2x1.5)C)C	0.89	22.5	10	06
	PUR	MAT9296088	(4G10+2x(2x1.5)C)C	0.89	22.5	7.5	07



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PVC/PUR/TPE

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø	Bend radius	Cable page
			[mm ²]	[in.] [mm]	[x d]	538-541

Baumüller Servo cables

50 A Extension cable



326609 (5 m) (ext.)	PVC	MAT9297080	(4G10+2x(2x1.5)C)C	0.91	23.0	7.5	05
	PUR	MAT9850269	(4G10+2x(2x1.5)C)C	0.89	22.5	10	06
	PUR	MAT9298080	(4G10+2x(2x1.5)C)C	0.89	22.5	7.5	07

Baumüller Resolver cables

SRS/SRM50 & SKS/SKM36 Basic cable



239540 (5 m)	PVC	MAT9290003	(5x(2x0.14)+2x0.5)C	0.31	8.0	10	08
	PUR	MAT9940203	(5x(2x0.14)+2x0.5)C	0.31	8.0	10	09
	PUR	MAT9840203	(5x(2x0.14)+2x0.5)C	0.35	9.0	7.5	10
	TPE	MAT9291003	(5x(2x0.14)+2x0.5)C	0.33	8.5	7.5	11
239541 (8 m)	PVC	MAT9290005	(5x(2x0.14)+2x0.5)C	0.31	8.0	10	08
	PUR	MAT9940205	(5x(2x0.14)+2x0.5)C	0.31	8.0	10	09
	PUR	MAT9840205	(5x(2x0.14)+2x0.5)C	0.35	9.0	7.5	10
239542 (10 m)	TPE	MAT9291005	(5x(2x0.14)+2x0.5)C	0.33	8.5	7.5	11
	PVC	MAT9290006	(5x(2x0.14)+2x0.5)C	0.31	8.0	10	08
	PUR	MAT9940206	(5x(2x0.14)+2x0.5)C	0.31	8.0	10	09
239543 (15 m)	PUR	MAT9840206	(5x(2x0.14)+2x0.5)C	0.35	9.0	7.5	10
	TPE	MAT9291006	(5x(2x0.14)+2x0.5)C	0.33	8.5	7.5	11
	PVC	MAT9290007	(5x(2x0.14)+2x0.5)C	0.31	8.0	10	08
239544 (20 m)	PUR	MAT9940207	(5x(2x0.14)+2x0.5)C	0.31	8.0	10	09
	PUR	MAT9840207	(5x(2x0.14)+2x0.5)C	0.35	9.0	7.5	10
	TPE	MAT9291007	(5x(2x0.14)+2x0.5)C	0.33	8.5	7.5	11
239544 (20m)	PUR	MAT9940208	(5x(2x0.14)+2x0.5)C	0.31	8.0	10	09
	PUR	MAT9840208	(5x(2x0.14)+2x0.5)C	0.35	9.0	7.5	10
239545 (25 m)	PVC	MAT9290008	(5x(2x0.14)+2x0.5)C	0.31	8.0	10	08
	TPE	MAT9291008	(5x(2x0.14)+2x0.5)C	0.33	8.5	7.5	11
	PUR	MAT9940209	(5x(2x0.14)+2x0.5)C	0.31	8.0	10	09
239546 (30 m)	PUR	MAT9840209	(5x(2x0.14)+2x0.5)C	0.35	9.0	7.5	10
	TPE	MAT9291009	(5x(2x0.14)+2x0.5)C	0.33	8.5	7.5	11
	PVC	MAT9290010	(5x(2x0.14)+2x0.5)C	0.31	8.0	10	08
239546 (30 m)	PUR	MAT9940210	(5x(2x0.14)+2x0.5)C	0.31	8.0	10	09
	PUR	MAT9840210	(5x(2x0.14)+2x0.5)C	0.35	9.0	7.5	10
	TPE	MAT9291010	(5x(2x0.14)+2x0.5)C	0.33	8.5	7.5	11

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 specifications.
G = with green-yellow earth core x = without earth core

Harnessed drive cables | Baumüller

PVC/PUR/TPE

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø	Bend radius	Cable page
			[mm ²]	[in.] [mm]	[x d]	538-541

Baumüller Resolver cables

SRS/SRM50 & SKS/SKM36 Basic cable



239547 (35 m)	PVC	MAT9290011	(5x(2x0.14)+2x0.5)C	0.31	8.0	10	08
	PUR	MAT9940211	(5x(2x0.14)+2x0.5)C	0.31	8.0	10	09
	PUR	MAT9840211	(5x(2x0.14)+2x0.5)C	0.35	9.0	7.5	10
	TPE	MAT9291011	(5x(2x0.14)+2x0.5)C	0.33	8.5	7.5	11
240520 (40 m)	PVC	MAT9290012	(5x(2x0.14)+2x0.5)C	0.31	8.0	10	08
	PUR	MAT9940212	(5x(2x0.14)+2x0.5)C	0.31	8.0	10	09
	PUR	MAT9840212	(5x(2x0.14)+2x0.5)C	0.35	9.0	7.5	10
240521 (45 m)	TPE	MAT9291012	(5x(2x0.14)+2x0.5)C	0.33	8.5	7.5	11
	PVC	MAT9290013	(5x(2x0.14)+2x0.5)C	0.31	8.0	10	08
	PUR	MAT9940213	(5x(2x0.14)+2x0.5)C	0.31	8.0	10	09
240522 (50 m)	PUR	MAT9840213	(5x(2x0.14)+2x0.5)C	0.35	9.0	7.5	10
	TPE	MAT9291013	(5x(2x0.14)+2x0.5)C	0.33	8.5	7.5	11
	PVC	MAT9290014	(5x(2x0.14)+2x0.5)C	0.31	8.0	10	08
242954 (6 m)	PUR	MAT9940214	(5x(2x0.14)+2x0.5)C	0.31	8.0	10	09
	PUR	MAT9840214	(5x(2x0.14)+2x0.5)C	0.35	9.0	7.5	10
	TPE	MAT9291014	(5x(2x0.14)+2x0.5)C	0.33	8.5	7.5	11
243379 (4 m)	PVC	MAT9290004	(5x(2x0.14)+2x0.5)C	0.31	8.0	10	08
	PUR	MAT9940204	(5x(2x0.14)+2x0.5)C	0.31	8.0	10	09
	PUR	MAT9840204	(5x(2x0.14)+2x0.5)C	0.35	9.0	7.5	10
243379 (4 m)	TPE	MAT9291004	(5x(2x0.14)+2x0.5)C	0.33	8.5	7.5	11
	PVC	MAT9290002	(5x(2x0.14)+2x0.5)C	0.31	8.0	10	08
	PUR	MAT9940202	(5x(2x0.14)+2x0.5)C	0.31	8.0	10	09
244033 (55 m)	PUR	MAT9840202	(5x(2x0.14)+2x0.5)C	0.35	9.0	7.5	10
	TPE	MAT9291002	(5x(2x0.14)+2x0.5)C	0.33	8.5	7.5	11
	PVC	MAT9290015	(5x(2x0.14)+2x0.5)C	0.31	8.0	10	08
245484 (60 m)	PUR	MAT9940215	(5x(2x0.14)+2x0.5)C	0.31	8.0	10	09
	PUR	MAT9840215	(5x(2x0.14)+2x0.5)C	0.35	9.0	7.5	10
	TPE	MAT9291015	(5x(2x0.14)+2x0.5)C	0.33	8.5	7.5	11
246658 (3 m)	PVC	MAT9290016	(5x(2x0.14)+2x0.5)C	0.31	8.0	10	08
	PUR	MAT9940216	(5x(2x0.14)+2x0.5)C	0.31	8.0	10	09
	PUR	MAT9840216	(5x(2x0.14)+2x0.5)C	0.35	9.0	7.5	10
246658 (3 m)	TPE	MAT9291016	(5x(2x0.14)+2x0.5)C	0.33	8.5	7.5	11
	PVC	MAT9290001	(5x(2x0.14)+2x0.5)C	0.31	8.0	10	08
	PUR	MAT9940201	(5x(2x0.14)+2x0.5)C	0.31	8.0	10	09
246658 (3 m)	PUR	MAT9840201	(5x(2x0.14)+2x0.5)C	0.35	9.0	7.5	10
	TPE	MAT9291001	(5x(2x0.14)+2x0.5)C	0.33	8.5	7.5	11

Harnessed drive cables | Baumüller

PVC/PUR/TPE

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø	Bend radius	Cable page 538-541
			[mm²]	[in.] [mm]	[x d]	

Baumüller Resolver cables

SRS/SRM50 & SKS/SKM36 Extension cable

246658 (3 m) (ext.)	PVC	MAT9292001	(5x(2x0.14)+2x0.5)C	0.31	8.0	10	08
	PUR	MAT9940217	(5x(2x0.14)+2x0.5)C	0.31	8.0	10	09
	PUR	MAT9840217	(5x(2x0.14)+2x0.5)C	0.35	9.0	7.5	10
	TPE	MAT9293001	(5x(2x0.14)+2x0.5)C	0.33	8.5	7.5	11

Baumüller Pulse encoder cables

Pulse encoder Basic cable

198962 (3 m)	PVC	MAT9290020	(5x(2x0.14)+2x0.5)C	0.31	8.0	10	08
	PUR	MAT9940218	(5x(2x0.14)+2x0.5)C	0.31	8.0	10	09
	PUR	MAT9840218	(5x(2x0.14)+2x0.5)C	0.35	9.0	7.5	10
	TPE	MAT9291020	(5x(2x0.14)+2x0.5)C	0.33	8.5	7.5	11
198963 (5 m)	PVC	MAT9290021	(5x(2x0.14)+2x0.5)C	0.31	8.0	10	08
	PUR	MAT9940219	(5x(2x0.14)+2x0.5)C	0.31	8.0	10	09
	PUR	MAT9840219	(5x(2x0.14)+2x0.5)C	0.35	9.0	7.5	10
	TPE	MAT9291021	(5x(2x0.14)+2x0.5)C	0.33	8.5	7.5	11
198964 (8 m)	PVC	MAT9290022	(5x(2x0.14)+2x0.5)C	0.31	8.0	10	08
	PUR	MAT9940220	(5x(2x0.14)+2x0.5)C	0.31	8.0	10	09
	PUR	MAT9840220	(5x(2x0.14)+2x0.5)C	0.35	9.0	7.5	10
	TPE	MAT9291022	(5x(2x0.14)+2x0.5)C	0.33	8.5	7.5	11
198965 (10 m)	PVC	MAT9290023	(5x(2x0.14)+2x0.5)C	0.31	8.0	10	08
	PUR	MAT9940221	(5x(2x0.14)+2x0.5)C	0.31	8.0	10	09
	PUR	MAT9840221	(5x(2x0.14)+2x0.5)C	0.35	9.0	7.5	10
	TPE	MAT9291023	(5x(2x0.14)+2x0.5)C	0.33	8.5	7.5	11
198966 (15 m)	PVC	MAT9290024	(5x(2x0.14)+2x0.5)C	0.31	8.0	10	08
	PUR	MAT9940222	(5x(2x0.14)+2x0.5)C	0.31	8.0	10	09
	PUR	MAT9840222	(5x(2x0.14)+2x0.5)C	0.35	9.0	7.5	10
	TPE	MAT9291024	(5x(2x0.14)+2x0.5)C	0.33	8.5	7.5	11
198967 (20 m)	PVC	MAT9290025	(5x(2x0.14)+2x0.5)C	0.31	8.0	10	08
	PUR	MAT9940223	(5x(2x0.14)+2x0.5)C	0.31	8.0	10	09
	PUR	MAT9840223	(5x(2x0.14)+2x0.5)C	0.35	9.0	7.5	10
	TPE	MAT9291025	(5x(2x0.14)+2x0.5)C	0.33	8.5	7.5	11
198968 (25 m)	PVC	MAT9290026	(5x(2x0.14)+2x0.5)C	0.31	8.0	10	08
	PUR	MAT9940224	(5x(2x0.14)+2x0.5)C	0.31	8.0	10	09
	PUR	MAT9840224	(5x(2x0.14)+2x0.5)C	0.35	9.0	7.5	10
	TPE	MAT9291026	(5x(2x0.14)+2x0.5)C	0.33	8.5	7.5	11

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 specifications.
G = with green-yellow earth core x = without earth core

Harnessed drive cables | Baumüller

PVC/PUR/TPE

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø	Bend radius	Cable page 538-541
			[mm²]	[in.] [mm]	[x d]	

Baumüller Pulse encoder cables

Pulse encoder Basic cable

198969 (30 m)	PVC	MAT9290027	(5x(2x0.14)+2x0.5)C	0.31	8.0	10	08
	PUR	MAT9940225	(5x(2x0.14)+2x0.5)C	0.31	8.0	10	09
	PUR	MAT9840225	(5x(2x0.14)+2x0.5)C	0.35	9.0	7.5	10
	TPE	MAT9291027	(5x(2x0.14)+2x0.5)C	0.33	8.5	7.5	11
208829 (40 m)	PVC	MAT9290029	(5x(2x0.14)+2x0.5)C	0.31	8.0	10	08
	PUR	MAT9940227	(5x(2x0.14)+2x0.5)C	0.31	8.0	10	09
	PUR	MAT9840227	(5x(2x0.14)+2x0.5)C	0.35	9.0	7.5	10
	TPE	MAT9291029	(5x(2x0.14)+2x0.5)C	0.33	8.5	7.5	11
225360 (35 m)	PVC	MAT9290028	(5x(2x0.14)+2x0.5)C	0.31	8.0	10	08
	PUR	MAT9940226	(5x(2x0.14)+2x0.5)C	0.31	8.0	10	09
	PUR	MAT9840226	(5x(2x0.14)+2x0.5)C	0.35	9.0	7.5	10
	TPE	MAT9291028	(5x(2x0.14)+2x0.5)C	0.33	8.5	7.5	11

Pulse encoder Extension cable



198962 (3 m) (ext.)	PUR	MAT9940228	(5x(2x0.14)+2x0.5)C	0.31	8.0	10	09
	PUR	MAT9840228	(5x(2x0.14)+2x0.5)C	0.35	9.0	7.5	10
	TPE	MAT9293020	(5x(2x0.14)+2x0.5)C	0.33	8.5	7.5	11
198962 (3m) (ext.)	PVC	MAT9292020	(5x(2x0.14)+2x0.5)C	0.31	8.0	10	08

ECN1313/EQN1325 Basic cable



369864 (3 m)	PVC	MAT9290031	(5x(2x0.14)+2x0.5)C	0.31	8.0	10	08
	PUR	MAT9940230	(5x(2x0.14)+2x0.5)C	0.31	8.0	10	09
	PUR	MAT9840230	(5x(2x0.14)+2x0.5)C	0.35	9.0	7.5	10
	TPE	MAT9291031	(5x(2x0.14)+2x0.5)C	0.33	8.5	7.5	11
371494 (20 m)	PVC	MAT9290038	(5x(2x0.14)+2x0.5)C	0.31	8.0	10	08
	PUR	MAT9940237	(5x(2x0.14)+2x0.5)C	0.31	8.0	10	09
	PUR	MAT9840237	(5x(2x0.14)+2x0.5)C	0.35	9.0	7.5	10
	TPE	MAT9291038	(5x(2x0.14)+2x0.5)C	0.33	8.5	7.5	11
378022 (50 m)	PVC	MAT9290044	(5x(2x0.14)+2x0.5)C	0.31	8.0	10	08
	PUR	MAT9940243	(5x(2x0.14)+2x0.5)C	0.31	8.0	10	09
	PUR	MAT9840243	(5x(2x0.14)+2x0.5)C	0.35	9.0	7.5	10
	TPE	MAT9291044	(5x(2x0.14)+2x0.5)C	0.33	8.5	7.5	11
380358 (35 m)	PVC	MAT9290041	(5x(2x0.14)+2x0.5)C	0.31	8.0	10	08
	PUR	MAT9940240	(5x(2x0.14)+2x0.5)C	0.31	8.0	10	09
	PUR	MAT9840240	(5x(2x0.14)+2x0.5)C	0.35	9.0	7.5	10
	TPE	MAT9291041	(5x(2x0.14)+2x0.5)C	0.33	8.5	7.5	11

Harnessed drive cables | Baumüller

PVC/PUR/TPE

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø		Bend radius	Cable page 538-541
				[in.]	[mm]		

Baumüller Pulse encoder cables

ECN1313/EQN1325 Basic cable



382005 (45 m)	PVC	MAT9290043	(5x(2x0.14)+2x0.5)C	0.31	8.0	10	08
	PUR	MAT9940242	(5x(2x0.14)+2x0.5)C	0.31	8.0	10	09
	PUR	MAT9840242	(5x(2x0.14)+2x0.5)C	0.35	9.0	7.5	10
	TPE	MAT9291043	(5x(2x0.14)+2x0.5)C	0.33	8.5	7.5	11
389807 (7 m)	PVC	MAT9290033	(5x(2x0.14)+2x0.5)C	0.31	8.0	10	08
	PUR	MAT9940232	(5x(2x0.14)+2x0.5)C	0.31	8.0	10	09
	PUR	MAT9840232	(5x(2x0.14)+2x0.5)C	0.35	9.0	7.5	10
	TPE	MAT9291033	(5x(2x0.14)+2x0.5)C	0.33	8.5	7.5	11
389808 (9 m)	PVC	MAT9290035	(5x(2x0.14)+2x0.5)C	0.31	8.0	10	08
	TPE	MAT9291035	(5x(2x0.14)+2x0.5)C	0.33	8.5	7.5	11
389808 (9m)	PUR	MAT9940234	(5x(2x0.14)+2x0.5)C	0.31	8.0	10	09
	PUR	MAT9840234	(5x(2x0.14)+2x0.5)C	0.35	9.0	7.5	10
391216 (40 m)	PVC	MAT9290042	(5x(2x0.14)+2x0.5)C	0.31	8.0	10	08
	PUR	MAT9940241	(5x(2x0.14)+2x0.5)C	0.31	8.0	10	09
	PUR	MAT9840241	(5x(2x0.14)+2x0.5)C	0.35	9.0	7.5	10
	TPE	MAT9291042	(5x(2x0.14)+2x0.5)C	0.33	8.5	7.5	11
	TPE	MAT9291030	(5x(2x0.14)+2x0.5)C	0.33	8.5	7.5	11
393889 (2 m)	PVC	MAT9290030	(5x(2x0.14)+2x0.5)C	0.31	8.0	10	08
	TPE	MAT9291030	(5x(2x0.14)+2x0.5)C	0.33	8.5	7.5	11
393889 (2m)	PUR	MAT9940229	(5x(2x0.14)+2x0.5)C	0.31	8.0	10	09
	PUR	MAT9840229	(5x(2x0.14)+2x0.5)C	0.35	9.0	7.5	10
	PUR	MAT9840229	(5x(2x0.14)+2x0.5)C	0.35	9.0	7.5	10
393890 (8 m)	PVC	MAT9290034	(5x(2x0.14)+2x0.5)C	0.31	8.0	10	08
	PUR	MAT9940233	(5x(2x0.14)+2x0.5)C	0.31	8.0	10	09
	PUR	MAT9840233	(5x(2x0.14)+2x0.5)C	0.35	9.0	7.5	10
	TPE	MAT9291034	(5x(2x0.14)+2x0.5)C	0.33	8.5	7.5	11
	TPE	MAT9291034	(5x(2x0.14)+2x0.5)C	0.33	8.5	7.5	11
393891 (10 m)	PVC	MAT9290036	(5x(2x0.14)+2x0.5)C	0.31	8.0	10	08
	PUR	MAT9940235	(5x(2x0.14)+2x0.5)C	0.31	8.0	10	09
	PUR	MAT9840235	(5x(2x0.14)+2x0.5)C	0.35	9.0	7.5	10
	TPE	MAT9291036	(5x(2x0.14)+2x0.5)C	0.33	8.5	7.5	11
393892 (15 m)	PVC	MAT9290037	(5x(2x0.14)+2x0.5)C	0.31	8.0	10	08
	PUR	MAT9940236	(5x(2x0.14)+2x0.5)C	0.31	8.0	10	09
	PUR	MAT9840236	(5x(2x0.14)+2x0.5)C	0.35	9.0	7.5	10
	TPE	MAT9291037	(5x(2x0.14)+2x0.5)C	0.33	8.5	7.5	11
393893 (25 m)	PVC	MAT9290039	(5x(2x0.14)+2x0.5)C	0.31	8.0	10	08
	PUR	MAT9940238	(5x(2x0.14)+2x0.5)C	0.31	8.0	10	09
	PUR	MAT9840238	(5x(2x0.14)+2x0.5)C	0.35	9.0	7.5	10
	TPE	MAT9291039	(5x(2x0.14)+2x0.5)C	0.33	8.5	7.5	11

Harnessed drive cables | Baumüller

PVC/PUR/TPE

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Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø		Bend radius	Cable page 538-541
				[in.]	[mm]		

Baumüller Pulse encoder cables

ECN1313/EQN1325 Basic cable



393894 (30 m)	PVC	MAT9290040	(5x(2x0.14)+2x0.5)C	0.31	8.0	10	08
	PUR	MAT9940239	(5x(2x0.14)+2x0.5)C	0.31	8.0	10	09
	PUR	MAT9840239	(5x(2x0.14)+2x0.5)C	0.35	9.0	7.5	10
	TPE	MAT9291040	(5x(2x0.14)+2x0.5)C	0.33	8.5	7.5	11
394014 (5 m)	PVC	MAT9290032	(5x(2x0.14)+2x0.5)C	0.31	8.0	10	08
	PUR	MAT9940231	(5x(2x0.14)+2x0.5)C	0.31	8.0	10	09
	PUR	MAT9840231	(5x(2x0.14)+2x0.5)C	0.35	9.0	7.5	10
	TPE	MAT9291032	(5x(2x0.14)+2x0.5)C	0.33	8.5	7.5	11

ECN1313/EQN1325 Extension cable



393889 (2 m) (ext.)	PVC	MAT9292030	(5x(2x0.14)+2x0.5)C	0.31	8.0	10	08
	PUR	MAT9840244	(5x(2x0.14)+2x0.5)C	0.35	9.0	7.5	10
	TPE	MAT9293030	(5x(2x0.14)+2x0.5)C	0.33	8.5	7.5	11
393889 (2m) (ext.)	PUR	MAT9940244	(5x(2x0.14)+2x0.5)C	0.31	8.0	10	09

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 specifications.
G = with green-yellow earth core x = without earth core

Harnessed drive cables | Beckhoff

PVC/PUR/TPE

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø	Bend radius	Cable page
			[mm ²]	[in.] [mm]	[x d]	538-541
Beckhoff Motor cables						
Basic cable						
ZK4500-8015-xxx	PUR	MAT9850314	(4G4.0+(2x1.0)C+(2xAWG22)C)C	0.63 16.0	10	06
ZK4500-8024-xxx	PVC	MAT9750312	(4G2.5+(2x1.0)C+(2xAWG22)C)C	0.59 15.0	10	04
	PUR	MAT9850312	(4G2.5+(2x1.0)C+(2xAWG22)C)C	0.59 15.0	10	06
Basic cable						
ZK4501-8024-xxx	PVC	MAT9750313	(4G2.5+(2x1.0)C+(2xAWG22)C)C	0.59 15.0	10	04
	PUR	MAT9850313	(4G2.5+(2x1.0)C+(2xAWG22)C)C	0.59 15.0	10	06
Basic cable						
ZK4530-8110-xxxx	PVC	MAT9381006	(4x(2x0.25))C	0.30 7.5	7.5	14
	PUR	MAT9382006	(4x(2x0.25))C	0.30 7.5	7.5	26
Extension cable						
ZK4704-0411-xxxx	PVC	MAT9371008	(4G0.75+(2x0.5)C)C	0.43 11.0	7.5	05
	PUR	MAT9750316	(4G0.75+(2x0.5)C)C	0.45 11.5	7.5	07
Beckhoff Servo cables						
Basic cable						
ZK4000-2111-xxxx	PVC	MAT9750305	(4G1.5+(2x1.5)C)C	0.49 12.5	10	04
	PVC	MAT9371005	(4G1.5+(2x1.5)C)C	0.51 13.0	7.5	05
	PUR	MAT9850305	(4G1.5+(2x1.5)C)C	0.49 12.5	10	06
	PUR	MAT9372005	(4G1.5+(2x1.5)C)C	0.51 13.0	7.5	07
Basic cable						
ZK4000-2112-xxxx	PVC	MAT9750306	(4G2.5+(2x1.5)C)C	0.55 14.0	10	04
	PVC	MAT9371006	(4G2.5+(2x1.5)C)C	0.57 14.5	7.5	05
	PUR	MAT9850306	(4G2.5+(2x1.5)C)C	0.55 14.0	10	06
	PUR	MAT9372006	(4G2.5+(2x1.5)C)C	0.57 14.5	7.5	07

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 specifications.
G = with green-yellow earth core x = without earth core

Harnessed drive cables | Beckhoff

PVC/PUR/TPE

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø	Bend radius	Cable page
			[mm ²]	[in.] [mm]	[x d]	538-541
Beckhoff Servo cables						
Basic cable						
ZK4000-2711-xxxx	PVC	MAT9750307	(4G1.5+(2x1.5)C)C	0.49 12.5	10	04
	PVC	MAT9371007	(4G1.5+(2x1.5)C)C	0.51 13.0	7.5	05
	PUR	MAT9850307	(4G1.5+(2x1.5)C)C	0.49 12.5	10	06
	PUR	MAT9372007	(4G1.5+(2x1.5)C)C	0.51 13.0	7.5	07
Basic cable						
ZK4500-0023-xxxx	PVC	MAT9750301	(4G1.5+2x(2x0.75)C)C	0.53 13.5	10	04
	PVC	MAT9371001	(4G1.5+2x(2x0.75)C)C	0.57 14.5	7.5	05
	PUR	MAT9850301	(4G1.5+2x(2x0.75)C)C	0.53 13.5	10	06
	PUR	MAT9372001	(4G1.5+2x(2x0.75)C)C	0.57 14.5	7.5	07
Basic cable						
ZK4500-0024-xxxx	PVC	MAT9750302	(4G2.5+2x(2x1.5)C)C	0.63 16.0	10	04
	PVC	MAT9371002	(4G2.5+2x(2x1.5)C)C	0.67 17.0	7.5	05
	PUR	MAT9850302	(4G2.5+2x(2x1.5)C)C	0.63 16.0	10	06
	PUR	MAT9372002	(4G2.5+2x(2x1.5)C)C	0.63 16.0	7.5	07
Extension cable						
ZK4501-0023-xxxx	PVC	MAT9750303	(4G1.5+2x(2x0.75)C)C	0.53 13.5	10	04
	PVC	MAT9371003	(4G1.5+2x(2x0.75)C)C	0.57 14.5	7.5	05
	PUR	MAT9850303	(4G1.5+2x(2x0.75)C)C	0.53 13.5	10	06
	PUR	MAT9372003	(4G1.5+2x(2x0.75)C)C	0.57 14.5	7.5	07
Extension cable						
ZK4501-0024-xxxx	PVC	MAT9750304	(4G2.5+2x(2x1.5)C)C	0.63 16.0	10	04
	PVC	MAT9371004	(4G2.5+2x(2x1.5)C)C	0.67 17.0	7.5	05
	PUR	MAT9850304	(4G2.5+2x(2x1.5)C)C	0.63 16.0	10	06
	PUR	MAT9372004	(4G2.5+2x(2x1.5)C)C	0.63 16.0	7.5	07
Beckhoff Hybrid servo cables						
Basic cable						
ZK4500-8022-xxxx	PVC	MAT9750308	(4G1.0+(2x0.75)C+(2xAWG22)C)C	0.47 12.0	10	27
	PUR	MAT9850308	(4G1.0+(2x0.75)C+(2xAWG22)C)C	0.47 12.0	10	28

Harnessed drive cables | Beckhoff

PVC/PUR/TPE

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø	Bend radius	Cable page
			[mm ²]	[in.] [mm]	[x d]	538-541
Beckhoff Hybrid servo cables						
Basic cable						
ZK4500-8023-xxxx	PVC	MAT9750309	(4G2.5+(2x1.0)C)+(2xAWG22)C	0.57	14.5	10 27
	PUR	MAT9850309	(4G2.5+(2x1.0)C)+(2xAWG22)C	0.57	14.5	10 28
Basic cable						
ZK4704-0421-xxxx	PVC	MAT9750315	(4G0.75+(2x0.34)C)+(2xAWG22)C	0.47	12.0	10 27
	PUR	MAT9850315	(4G0.75+(2x0.34)C)+(2xAWG22)C	0.47	12.0	10 28
Extension cable						
ZK4501-8022-xxxx	PVC	MAT9750310	(4G1.0+(2x0.75)C)+(2xAWG22)C	0.47	12.0	10 27
	PUR	MAT9850310	(4G1.0+(2x0.75)C)+(2xAWG22)C	0.47	12.0	10 28
Extension cable						
ZK4501-8023-xxxx	PVC	MAT9750311	(4G1.5+(2x0.75)C)+(2xAWG22)C	0.51	13.0	10 27
	PUR	MAT9850311	(4G1.5+(2x0.75)C)+(2xAWG22)C	0.51	13.0	10 28
Beckhoff Encoder cables						
Basic cable						
ZK4000-2410-xxxx	PVC	MAT9381005	(8x(2x0.25))C	0.41	10.5	7.5 14
	PUR	MAT9382005	(8x(2x0.25))C	0.45	11.5	10 15
Basic cable						
ZK4000-2610-xxxx	PVC	MAT9381004	(8x(2x0.25))C	0.41	10.5	7.5 14
	PUR	MAT9382004	(8x(2x0.25))C	0.45	11.5	10 15
Basic cable						
ZK4510-0020-xxxx	PVC	MAT9381001	(8x(2x0.25))C	0.41	10.5	7.5 14
	PUR	MAT9382001	(8x(2x0.25))C	0.45	11.5	10 15
Basic cable						
ZK4520-0020-xxxx	PVC	MAT9381002	(6x(2x0.25))C	0.35	9.0	7.5 14
	PUR	MAT9382002	(6x(2x0.25))C	0.39	10.0	10 15

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 specifications.

G = with green-yellow earth core x = without earth core

Harnessed drive cables | Beckhoff

PVC/PUR/TPE

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø	Bend radius	Cable page
			[mm ²]	[in.] [mm]	[x d]	538-541
Beckhoff Encoder cables						
Extension cable						
ZK4511-0020-xxxx	PVC	MAT9381003	(8x(2x0.25))C	0.41	10.5	7.5 14
	PUR	MAT9382003	(8x(2x0.25))C	0.45	11.5	10 15
Beckhoff Thermal protection cables						
Basic cable						
ZK4000-2510-xxxx	PVC	MAT9386001	(2x0.25)C	0.20	5.0	7.5 14
	TPE	MAT9387001	(4x0.34)C	0.24	6.0	7.5 11
Beckhoff Resolver cables						
Basic cable						
ZK4000-2210-xxxx	PVC	MAT9383003	(4x(2x0.25))C	0.30	7.5	7.5 14
	PUR	MAT9384003	(4x(2x0.25))C	0.30	7.5	7.5 26
	TPE	MAT9920303	(4x(2x0.25))C	0.33	8.5	6.8 16
Basic cable						
ZK4530-0010-xxxx	PVC	MAT9383001	(4x(2x0.25))C	0.30	7.5	7.5 14
	PUR	MAT9384001	(4x(2x0.25))C	0.30	7.5	7.5 26
	TPE	MAT9920301	(4x(2x0.25))C	0.33	8.5	6.8 16
Basic cable						
ZK4530-8010-xxxx	PVC	MAT9383005	(4x(2x0.25))C	0.30	7.5	7.5 14
	PUR	MAT9384005	(4x(2x0.25))C	0.30	7.5	7.5 26
	TPE	MAT9920306	(4x(2x0.25))C	0.33	8.5	6.8 16
Extension cable						
ZK4531-0020-xxxx	PVC	MAT9383002	(4x(2x0.25))C	0.30	7.5	7.5 14
	PUR	MAT9384002	(4x(2x0.25))C	0.30	7.5	7.5 26
	TPE	MAT9920302	(4x(2x0.25))C	0.33	8.5	6.8 16

Harnessed drive cables | Beckhoff

PVC/PUR/TPE

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø		Bend radius	Cable page 538-541
				[in.]	[mm]		
Beckhoff Resolver cables							
Extension cable							
ZK4724-0410-xxxx	PVC	MAT9383004	(3x(2x0.25))C	0.28	7.0	7.5	14
	PUR	MAT9384004	(3x(2x0.25))C	0.28	7.0	7.5	26
	TPE	MAT9920305	(3x(2x0.25))C	0.31	8.0	6.8	16
Beckhoff Network cables EtherCAT							
Basic cable							
ZK1090-9191-xxxx	PUR	MAT9385003	(4x(2x0.15))C	0.30	7.5	12.5	30
	TPE	MAT9385002	(4x(2x0.15))C	0.33	8.5	10	12



Harnessed drive cables | Berger Lahr

PUR/TPE/PVC

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø		Bend radius	Cable page 538-541
				[in.]	[mm]		
Berger Lahr Servo cables							
Basic cable							
VW3M5101Rxxx	PVC	MAT94503001	(4G1.5+(2x1.5)C)C	0.49	12.5	10	04
	PVC	MAT94502001	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	05
	PUR	MAT94501001	(4G1.5+(2x1.5)C)C	0.49	12.5	10	06
	PUR	MAT94500001	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	07
VW3M5102Rxxx	PVC	MAT94503002	(4G2.5+(2x1.5)C)C	0.55	14.0	10	04
	PVC	MAT94502003	(4G2.5+(2x1.5)C)C	0.57	14.5	7.5	05
	PUR	MAT94501003	(4G2.5+(2x1.5)C)C	0.55	14.0	10	06
	PUR	MAT94500003	(4G2.5+(2x1.5)C)C	0.57	14.5	7.5	07
Berger Lahr Resolver cables							
Basic cable							
VW3M8101Rxxx	PVC	MAT94603001	(4x(2x0.34)+4x0.5)C	0.37	9.5	10	08
	PUR	MAT94601001	(4x(2x0.34)+4x0.5)C	0.39	10.0	7.5	10
	TPE	MAT94600001	(4x(2x0.34)+4x0.5)C	0.39	10.0	7.5	11



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 specifications.
G = with green-yellow earth core x = without earth core

Harnessed drive cables | Bosch Rexroth

PVC/PUR/TPE

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø	Bend radius	Cable page
			[mm ²]	[in.] [mm]	[x d]	538-541

Bosch Rexroth Power cables

Basic cable



IKG0331	PVC	MAT9190014	(4G0.75+(2x0.5)C)C	0.43	11.0	7.5	05
	PUR	MAT9090014	(4G0.75+(2x0.5)C)C	0.45	11.5	7.5	07
IKG4008	PVC	MAT9190064	(4G1.0+2x(2x0.75)C)C	0.53	13.5	7.5	05
	PUR	MAT9851315	(4G1.0+2x(2x0.75)C)C	0.51	13.0	10	06
	PUR	MAT9090064	(4G1.0+2x(2x0.75)C)C	0.53	13.5	7.5	07
IKG4009	PVC	MAT9190001	(4G1.0+2x(2x0.75)C)C	0.53	13.5	7.5	05
	PUR	MAT9851316	(4G1.0+2x(2x0.75)C)C	0.51	13.0	10	06
	PUR	MAT9090001	(4G1.0+2x(2x0.75)C)C	0.53	13.5	7.5	07
IKG4017	PVC	MAT9190002	(4G1.0+2x(2x0.75)C)C	0.53	13.5	7.5	05
	PUR	MAT9851317	(4G1.0+2x(2x0.75)C)C	0.51	13.0	10	06
	PUR	MAT9090002	(4G1.0+2x(2x0.75)C)C	0.53	13.5	7.5	07
IKG4018	PVC	MAT9190003	(4G1.0+2x(2x0.75)C)C	0.53	13.5	7.5	05
	PUR	MAT9851318	(4G1.0+2x(2x0.75)C)C	0.51	13.0	10	06
	PUR	MAT9090003	(4G1.0+2x(2x0.75)C)C	0.53	13.5	7.5	07
IKG4020	PVC	MAT9190004	(4G1.0+2x(2x0.75)C)C	0.53	13.5	7.5	05
	PUR	MAT9851319	(4G1.0+2x(2x0.75)C)C	0.51	13.0	10	06
	PUR	MAT9090004	(4G1.0+2x(2x0.75)C)C	0.53	13.5	7.5	07
IKG4055	PVC	MAT9751309	(4G1.5+2x(2x0.75)C)C	0.53	13.5	10	04
	PVC	MAT9190005	(4G1.5+2x(2x0.75)C)C	0.57	14.5	7.5	05
	PUR	MAT9851320	(4G1.5+2x(2x0.75)C)C	0.53	13.5	10	06
	PUR	MAT9090005	(4G1.5+2x(2x0.75)C)C	0.57	14.5	7.5	07
IKG4060	PVC	MAT9751310	(4G1.5+2x(2x0.75)C)C	0.53	13.5	10	04
	PVC	MAT9190006	(4G1.5+2x(2x0.75)C)C	0.57	14.5	7.5	05
	PUR	MAT9851321	(4G1.5+2x(2x0.75)C)C	0.53	13.5	10	06
	PUR	MAT9090006	(4G1.5+2x(2x0.75)C)C	0.57	14.5	7.5	07
IKG4067	PVC	MAT9751311	(4G2.5+2x(2x1.5)C)C	0.63	16.0	10	04
	PVC	MAT9190007	(4G2.5+2x(2x1.5)C)C	0.67	17.0	7.5	05
	PUR	MAT9851322	(4G2.5+2x(2x1.5)C)C	0.63	16.0	10	06
	PUR	MAT9090007	(4G2.5+2x(2x1.5)C)C	0.63	16.0	7.5	07
IKG4070	PVC	MAT9751312	(4G2.5+2x(2x1.5)C)C	0.63	16.0	10	04
	PVC	MAT9190008	(4G2.5+2x(2x1.5)C)C	0.67	17.0	7.5	05
	PUR	MAT9851323	(4G2.5+2x(2x1.5)C)C	0.63	16.0	10	06
	PUR	MAT9090008	(4G2.5+2x(2x1.5)C)C	0.63	16.0	7.5	07
IKG4072	PVC	MAT9751313	(4G2.5+2x(2x1.5)C)C	0.63	16.0	10	04
	PVC	MAT9190068	(4G2.5+2x(2x1.5)C)C	0.67	17.0	7.5	05
	PUR	MAT9851324	(4G2.5+2x(2x1.5)C)C	0.63	16.0	10	06
	PUR	MAT9090068	(4G2.5+2x(2x1.5)C)C	0.63	16.0	7.5	07

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 specifications.
G = with green-yellow earth core x = without earth core

Harnessed drive cables | Bosch Rexroth

PVC/PUR/TPE

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø	Bend radius	Cable page
			[mm ²]	[in.] [mm]	[x d]	538-541

Bosch Rexroth Power cables

Basic cable



IKG4087	PVC	MAT9751314	(4G4.0+2x(2x1.5)C)C	0.67	17.0	10	04
	PVC	MAT9190009	(4G4.0+2x(2x1.5)C)C	0.71	18.0	7.5	05
IKG4090	PUR	MAT9851325	(4G4.0+2x(2x1.5)C)C	0.67	17.0	10	06
	PUR	MAT9090009	(4G4.0+2x(2x1.5)C)C	0.69	17.5	7.5	07
	PVC	MAT9751315	(4G4.0+2x(2x1.5)C)C	0.67	17.0	10	04
IKG4100	PVC	MAT9190010	(4G4.0+2x(2x1.5)C)C	0.71	18.0	7.5	05
	PUR	MAT9851326	(4G4.0+2x(2x1.5)C)C	0.67	17.0	10	06
	PUR	MAT9090010	(4G4.0+2x(2x1.5)C)C	0.69	17.5	7.5	07
IKG4103	PVC	MAT9190020	(4G1.0+2x(2x0.75)C)C	0.53	13.5	7.5	05
	PUR	MAT9851327	(4G1.0+2x(2x0.75)C)C	0.51	13.0	10	06
	PUR	MAT9090020	(4G1.0+2x(2x0.75)C)C	0.53	13.5	7.5	07
IKG4107	PVC	MAT9751316	(4G6.0+2x(2x1.5)C)C	0.75	19.0	10	04
	PVC	MAT9190076	(4G6.0+2x(2x1.5)C)C	0.83	21.0	7.5	05
	PUR	MAT9851328	(4G6.0+2x(2x1.5)C)C	0.75	19.0	10	06
IKG4118	PUR	MAT9090076	(4G6.0+2x(2x1.5)C)C	0.77	19.5	7.5	07
	PVC	MAT9751317	(4G6.0+2x(2x1.5)C)C	0.75	19.0	10	04
	PVC	MAT9190011	(4G6.0+2x(2x1.5)C)C	0.83	21.0	7.5	05
	PUR	MAT9851329	(4G6.0+2x(2x1.5)C)C	0.75	19.0	10	06
IKG4119	PUR	MAT9090011	(4G6.0+2x(2x1.5)C)C	0.77	19.5	7.5	07
	PVC	MAT9751318	(4G6.0+2x(2x1.5)C)C	0.75	19.0	10	04
	PVC	MAT9190070	(4G6.0+2x(2x1.5)C)C	0.83	21.0	7.5	05
	PUR	MAT9851330	(4G6.0+2x(2x1.5)C)C	0.75	19.0	10	06
IKG4147	PUR	MAT9090070	(4G6.0+2x(2x1.5)C)C	0.77	19.5	7.5	07
	PVC	MAT9751319	(4G6.0+2x(2x1.5)C)C	0.75	19.0	10	04
	PVC	MAT9190038	(4G6.0+2x(2x1.5)C)C	0.83	21.0	7.5	05
	PUR	MAT9851332	(4G6.0+2x(2x1.5)C)C	0.75	19.0	10	06
IKG4150	PUR	MAT9090038	(4G6.0+2x(2x1.5)C)C	0.77	19.5	7.5	07
	PVC	MAT9751320	(4G6.0+2x(2x1.5)C)C	0.75	19.0	10	04
	PVC	MAT9190012	(4G6.0+2x(2x1.5)C)C	0.83	21.0	7.5	05
	PUR	MAT9851333	(4G6.0+2x(2x1.5)C)C	0.75	19.0	10	06
IKG4155	PUR	MAT9090012	(4G6.0+2x(2x1.5)C)C	0.77	19.5	7.5	07
	PVC	MAT9751321	(4G6.0+2x(2x1.5)C)C	0.75	19.0	10	04
	PVC	MAT9190028	(4G6.0+2x(2x1.5)C)C	0.83	21.0	7.5	05
	PUR	MAT9851334	(4G6.0+2x(2x1.5)C)C	0.75	19.0	10	06
	PUR	MAT9090028	(4G6.0+2x(2x1.5)C)C	0.77	19.5	7.5	07

Harnessed drive cables | Bosch Rexroth

PVC/PUR/TPE

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø	Bend radius	Cable page
			[mm ²]	[in.] [mm]	[x d]	538-541
Bosch Rexroth Power cables						
Basic cable						
IKG4164	PVC	MAT9190035	(4G10+2x(2x1.5)C)C	0.91	23.0	7.5 05
	PUR	MAT9851335	(4G10+2x(2x1.5)C)C	0.89	22.5	10 06
	PUR	MAT9090035	(4G10+2x(2x1.5)C)C	0.89	22.5	7.5 07
IKG4167	PVC	MAT9190013	(4G10+2x(2x1.5)C)C	0.91	23.0	7.5 05
	PUR	MAT9851336	(4G10+2x(2x1.5)C)C	0.89	22.5	10 06
	PUR	MAT9090013	(4G10+2x(2x1.5)C)C	0.89	22.5	7.5 07
IKG4172	PVC	MAT9190069	(4G16+2x(2x1.5)C)C	1.04	26.5	7.5 05
	PUR	MAT9851337	(4G16+2x(2x1.5)C)C	1.02	26.0	10 06
	PUR	MAT9090069	(4G16+2x(2x1.5)C)C	1.02	26.0	7.5 07
IKG4173	PVC	MAT9190072	(4G25+2x(2x1.5)C)C	1.22	31.0	7.5 05
	PUR	MAT9851338	(4G25+2x(2x1.5)C)C	1.12	28.5	10 06
	PUR	MAT9090072	(4G25+2x(2x1.5)C)C	1.22	31.0	7.5 07
IKG4186	PVC	MAT9190021	(4G16+2x(2x1.5)C)C	1.04	26.5	7.5 05
	PUR	MAT9851339	(4G16+2x(2x1.5)C)C	1.02	26.0	10 06
	PUR	MAT9090021	(4G16+2x(2x1.5)C)C	1.02	26.0	7.5 07
IKG4200	PVC	MAT9190032	(4G16+2x(2x1.5)C)C	1.04	26.5	7.5 05
	PUR	MAT9851340	(4G16+2x(2x1.5)C)C	1.02	26.0	10 06
	PUR	MAT9090032	(4G16+2x(2x1.5)C)C	1.02	26.0	7.5 07
IKG4204	PVC	MAT9190052	(4G25+2x(2x1.5)C)C	1.22	31.0	7.5 05
	PUR	MAT9851341	(4G25+2x(2x1.5)C)C	1.12	28.5	10 06
	PUR	MAT9090052	(4G25+2x(2x1.5)C)C	1.22	31.0	7.5 07
IKL0001	PVC	MAT9190022	(4G1.0+2x(2x0.75)C)C	0.53	13.5	7.5 05
	PUR	MAT9851301	(4G1.0+2x(2x0.75)C)C	0.51	13.0	10 06
	PUR	MAT9090022	(4G1.0+2x(2x0.75)C)C	0.53	13.5	7.5 07
IKL0002	PVC	MAT9751354	(4G1.0+2x(2x0.75)C)C	0.53	13.5	7.5 05
	PUR	MAT9851385	(4G1.0+2x(2x0.75)C)C	0.51	13.0	10 06
	PUR	MAT9851384	(4G1.0+2x(2x0.75)C)C	0.53	13.5	7.5 07
IKL0006	PVC	MAT9190067	(4G1.0+2x(2x0.75)C)C	0.53	13.5	7.5 05
	PUR	MAT9851302	(4G1.0+2x(2x0.75)C)C	0.51	13.0	10 06
	PUR	MAT9090067	(4G1.0+2x(2x0.75)C)C	0.53	13.5	7.5 07
IKL0011	PVC	MAT9190023	(4G1.0+2x(2x0.75)C)C	0.53	13.5	7.5 05
	PUR	MAT9851303	(4G1.0+2x(2x0.75)C)C	0.51	13.0	10 06
	PUR	MAT9090023	(4G1.0+2x(2x0.75)C)C	0.53	13.5	7.5 07
IKL0012	PVC	MAT9751355	(4G1.0+2x(2x0.75)C)C	0.53	13.5	7.5 05
	PUR	MAT9851387	(4G1.0+2x(2x0.75)C)C	0.51	13.0	10 06
	PUR	MAT9851386	(4G1.0+2x(2x0.75)C)C	0.53	13.5	7.5 07



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 specifications.
G = with green-yellow earth core x = without earth core

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* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø	Bend radius	Cable page
			[mm ²]	[in.] [mm]	[x d]	538-541
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IKL0021	PVC	MAT9751301	(4G1.5+2x(2x0.75)C)C	0.53	13.5	10 04
	PVC	MAT9190024	(4G1.5+2x(2x0.75)C)C	0.57	14.5	7.5 05
	PUR	MAT9851304	(4G1.5+2x(2x0.75)C)C	0.53	13.5	10 06
IKL0022	PUR	MAT9090024	(4G1.5+2x(2x0.75)C)C	0.57	14.5	7.5 07
	PVC	MAT9751357	(4G1.5+2x(2x0.75)C)C	0.53	13.5	10 04
	PVC	MAT9751356	(4G1.5+2x(2x0.75)C)C	0.57	14.5	7.5 05
IKL0041	PUR	MAT9851389	(4G1.5+2x(2x0.75)C)C	0.53	13.5	10 06
	PUR	MAT9851388	(4G1.5+2x(2x0.75)C)C	0.57	14.5	7.5 07
	PVC	MAT9751302	(4G2.5+2x(2x1.5)C)C	0.63	16.0	10 04
IKL0042	PVC	MAT9190017	(4G1.5+2x(2x0.75)C)C	0.57	14.5	7.5 05
	PUR	MAT9851305	(4G2.5+2x(2x1.5)C)C	0.63	16.0	10 06
	PUR	MAT9090017	(4G2.5+2x(2x1.5)C)C	0.63	16.0	7.5 07
IKL0061	PVC	MAT9751303	(4G2.5+2x(2x1.5)C)C	0.63	16.0	10 04
	PVC	MAT9190077	(4G1.5+2x(2x0.75)C)C	0.57	14.5	7.5 05
	PUR	MAT9851306	(4G2.5+2x(2x1.5)C)C	0.63	16.0	10 06
IKL0081	PUR	MAT9090077	(4G2.5+2x(2x1.5)C)C	0.63	16.0	7.5 07
	PVC	MAT9751304	(4G4.0+2x(2x1.5)C)C	0.67	17.0	10 04
	PVC	MAT9190018	(4G4.0+2x(2x1.5)C)C	0.71	18.0	7.5 05
IKL0101	PUR	MAT9851307	(4G4.0+2x(2x1.5)C)C	0.67	17.0	10 06
	PUR	MAT9090018	(4G4.0+2x(2x1.5)C)C	0.69	17.5	7.5 07
	PVC	MAT9751305	(4G6.0+2x(2x1.5)C)C	0.75	19.0	10 04
IKL0101	PVC	MAT9190030	(4G6.0+2x(2x1.5)C)C	0.83	21.0	7.5 05
	PUR	MAT9851308	(4G6.0+2x(2x1.5)C)C	0.75	19.0	10 06
	PUR	MAT9090030	(4G6.0+2x(2x1.5)C)C	0.77	19.5	7.5 07
IKL0121	PUR	MAT9851309	(4G6.0+2x(2x1.5)C)C	0.75	19.0	10 06
	PUR	MAT9090025	(4G6.0+2x(2x1.5)C)C	0.77	19.5	7.5 07
	PVC	MAT9751306	(4G6.0+2x(2x1.5)C)C	0.75	19.0	10 04
IKL0161	PVC	MAT9190025	(4G6.0+2x(2x1.5)C)C	0.83	21.0	7.5 05
	PUR	MAT9851309	(4G6.0+2x(2x1.5)C)C	0.75	19.0	10 06
	PUR	MAT9090019	(4G10+2x(2x1.5)C)C	0.91	23.0	7.5 05
IKL0161	PUR	MAT9851310	(4G10+2x(2x1.5)C)C	0.89	22.5	10 06
	PUR	MAT9090019	(4G10+2x(2x1.5)C)C	0.89	22.5	7.5 07
	PVC	MAT9190063	(4G25+2x(2x1.5)C)C	1.22	31.0	7.5 05
IKL0161	PUR	MAT9851311	(4G25+2x(2x1.5)C)C	1.12	28.5	10 06
	PUR	MAT9090063	(4G25+2x(2x1.5)C)C	1.22	31.0	7.5 07



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* Technical information on the cable quality: ► page 538-541

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				[in.]	[mm]		

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RKL0006	PVC	MAT9751359	(4G1.0+2x(2x0.75)C)C	0.53	13.5	7.5	05
	PUR	MAT9851393	(4G1.0+2x(2x0.75)C)C	0.51	13.0	10	06
	PUR	MAT9851392	(4G1.0+2x(2x0.75)C)C	0.53	13.5	7.5	07
RKL0013	PVC	MAT9751360	(4G0.75+(2x0.5)C)C	0.43	11.0	7.5	05
	PUR	MAT9851394	(4G0.75+(2x0.5)C)C	0.45	11.5	7.5	07
RKL0014	PVC	MAT9751361	(4G1.0+2x(2x0.75)C)C	0.53	13.5	7.5	05
	PUR	MAT9851396	(4G1.0+2x(2x0.75)C)C	0.51	13.0	10	06
	PUR	MAT9851395	(4G1.0+2x(2x0.75)C)C	0.53	13.5	7.5	07
RKL0019	PVC	MAT9751363	(4G1.5+2x(2x0.75)C)C	0.53	13.5	10	04
	PVC	MAT9751362	(4G1.5+2x(2x0.75)C)C	0.57	14.5	7.5	05
	PUR	MAT9851398	(4G1.0+2x(2x0.75)C)C	0.51	13.0	10	06
	PUR	MAT9851397	(4G1.5+2x(2x0.75)C)C	0.57	14.5	7.5	07
RKL0053	PVC	MAT9751364	(4G1.0+2x(2x0.75)C)C	0.53	13.5	7.5	05
	PUR	MAT98513100	(4G1.0+2x(2x0.75)C)C	0.51	13.0	10	06
	PUR	MAT9851399	(4G1.0+2x(2x0.75)C)C	0.53	13.5	7.5	07
RKL0054	PVC	MAT9751366	(4G1.5+2x(2x0.75)C)C	0.53	13.5	10	04
	PVC	MAT9751365	(4G1.5+2x(2x0.75)C)C	0.57	14.5	7.5	05
	PUR	MAT98513102	(4G1.5+2x(2x0.75)C)C	0.53	13.5	10	06
	PUR	MAT98513101	(4G1.5+2x(2x0.75)C)C	0.57	14.5	7.5	07
RKL4300	PVC	MAT9751326	(4G1.5+2x(2x0.75)C)C	0.53	13.5	10	04
	PVC	MAT9190071	(4G1.5+2x(2x0.75)C)C	0.57	14.5	7.5	05
	PUR	MAT9851349	(4G1.5+2x(2x0.75)C)C	0.53	13.5	10	06
	PUR	MAT9090071	(4G1.5+2x(2x0.75)C)C	0.57	14.5	7.5	07
RKL4301	PVC	MAT9751327	(4G1.5+2x(2x0.75)C)C	0.53	13.5	10	04
	PVC	MAT9190037	(4G1.5+2x(2x0.75)C)C	0.57	14.5	7.5	05
	PUR	MAT9851350	(4G1.5+2x(2x0.75)C)C	0.53	13.5	10	06
	PUR	MAT9090037	(4G1.5+2x(2x0.75)C)C	0.57	14.5	7.5	07
RKL4302	PVC	MAT9190026	(4G1.0+2x(2x0.75)C)C	0.53	13.5	7.5	05
	PUR	MAT9851351	(4G1.0+2x(2x0.75)C)C	0.51	13.0	10	06
	PUR	MAT9090026	(4G1.0+2x(2x0.75)C)C	0.53	13.5	7.5	07
RKL4303	PVC	MAT9190029	(4G1.0+2x(2x0.75)C)C	0.53	13.5	7.5	05
	PUR	MAT9851352	(4G1.0+2x(2x0.75)C)C	0.51	13.0	10	06
	PUR	MAT9090029	(4G1.0+2x(2x0.75)C)C	0.53	13.5	7.5	07
RKL4306	PVC	MAT9751328	(4G1.5+2x(2x0.75)C)C	0.53	13.5	10	04
	PVC	MAT9190040	(4G1.5+2x(2x0.75)C)C	0.57	14.5	7.5	05
	PUR	MAT9851353	(4G1.5+2x(2x0.75)C)C	0.53	13.5	10	06
	PUR	MAT9090040	(4G1.5+2x(2x0.75)C)C	0.57	14.5	7.5	07

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 specifications.
G = with green-yellow earth core x = without earth core

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				[in.]	[mm]		

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RKL4307	PVC	MAT9751329	(4G1.5+2x(2x0.75)C)C	0.53	13.5	10	04
	PVC	MAT9190041	(4G1.5+2x(2x0.75)C)C	0.57	14.5	7.5	05
	PUR	MAT9851354	(4G1.5+2x(2x0.75)C)C	0.53	13.5	10	06
	PUR	MAT9090041	(4G1.5+2x(2x0.75)C)C	0.57	14.5	7.5	07
RKL4308	PVC	MAT9751330	(4G2.5+2x(2x1.5)C)C	0.63	16.0	10	04
	PVC	MAT9190033	(4G2.5+2x(2x1.5)C)C	0.67	17.0	7.5	05
	PUR	MAT9851355	(4G2.5+2x(2x1.5)C)C	0.63	16.0	10	06
	PUR	MAT9090033	(4G2.5+2x(2x1.5)C)C	0.63	16.0	7.5	07
	PVC	MAT9751331	(4G2.5+2x(2x1.5)C)C	0.63	16.0	10	04
	PVC	MAT9190042	(4G2.5+2x(2x1.5)C)C	0.67	17.0	7.5	05
	PUR	MAT9851356	(4G2.5+2x(2x1.5)C)C	0.63	16.0	10	06
	PUR	MAT9090042	(4G2.5+2x(2x1.5)C)C	0.63	16.0	7.5	07
	PVC	MAT9751332	(4G2.5+2x(2x1.5)C)C	0.63	16.0	10	04
RKL4310	PVC	MAT9190043	(4G2.5+2x(2x1.5)C)C	0.67	17.0	7.5	05
	PUR	MAT9851357	(4G2.5+2x(2x1.5)C)C	0.63	16.0	10	06
	PUR	MAT9090043	(4G2.5+2x(2x1.5)C)C	0.63	16.0	7.5	07
RKL4313	PVC	MAT9751333	(4G4.0+2x(2x1.5)C)C	0.67	17.0	10	04
	PVC	MAT9190062	(4G4.0+2x(2x1.5)C)C	0.71	18.0	7.5	05
	PUR	MAT9851358	(4G4.0+2x(2x1.5)C)C	0.67	17.0	10	06
	PUR	MAT9090062	(4G4.0+2x(2x1.5)C)C	0.69	17.5	7.5	07
RKL4314	PVC	MAT9751334	(4G4.0+2x(2x1.5)C)C	0.67	17.0	10	04
	PVC	MAT9190060	(4G4.0+2x(2x1.5)C)C	0.71	18.0	7.5	05
	PUR	MAT9851359	(4G4.0+2x(2x1.5)C)C	0.67	17.0	10	06
	PUR	MAT9090060	(4G4.0+2x(2x1.5)C)C	0.69	17.5	7.5	07
RKL4315	PVC	MAT9751335	(4G4.0+2x(2x1.5)C)C	0.67	17.0	10	04
	PVC	MAT9190059	(4G4.0+2x(2x1.5)C)C	0.71	18.0	7.5	05
	PUR	MAT9851360	(4G4.0+2x(2x1.5)C)C	0.67	17.0	10	06
	PUR	MAT9090059	(4G4.0+2x(2x1.5)C)C	0.69	17.5	7.5	07
	PVC	MAT9751336	(4G6.0+2x(2x1.5)C)C	0.75	19.0	10	04
RKL4317	PVC	MAT9190061	(4G6.0+2x(2x1.5)C)C	0.83	21.0	7.5	05
	PUR	MAT9851361	(4G6.0+2x(2x1.5)C)C	0.75	19.0	10	06
	PUR	MAT9090061	(4G6.0+2x(2x1.5)C)C	0.77	19.5	7.5	07
RKL4318	PVC	MAT9751337	(4G6.0+2x(2x1.5)C)C	0.75	19.0	10	04
	PVC	MAT9190047	(4G6.0+2x(2x1.5)C)C	0.83	21.0	7.5	05
	PUR	MAT9851362	(4G6.0+2x(2x1.5)C)C	0.75	19.0	10	06
	PUR	MAT9090047	(4G6.0+2x(2x1.5)C)C	0.77	19.5	7.5	07

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RKL4320	PVC	MAT9751338	(4G1.5+2x(2x0.75)C)C	0.53	13.5	10	04
	PVC	MAT9190039	(4G1.5+2x(2x0.75)C)C	0.57	14.5	7.5	05
	PUR	MAT9851363	(4G1.5+2x(2x0.75)C)C	0.53	13.5	10	06
	PUR	MAT9090039	(4G1.5+2x(2x0.75)C)C	0.57	14.5	7.5	07
RKL4321	PVC	MAT9751339	(4G2.5+2x(2x1.5)C)C	0.63	16.0	10	04
	PVC	MAT9190075	(4G2.5+2x(2x1.5)C)C	0.67	17.0	7.5	05
	PUR	MAT9851364	(4G2.5+2x(2x1.5)C)C	0.63	16.0	10	06
	PUR	MAT9090075	(4G2.5+2x(2x1.5)C)C	0.63	16.0	7.5	07
RKL4322	PVC	MAT9751340	(4G4.0+2x(2x1.5)C)C	0.67	17.0	10	04
	PVC	MAT9190078	(4G4.0+2x(2x1.5)C)C	0.71	18.0	7.5	05
	PUR	MAT9851365	(4G4.0+2x(2x1.5)C)C	0.67	17.0	10	06
	PUR	MAT9090078	(4G4.0+2x(2x1.5)C)C	0.69	17.5	7.5	07
RKL4323	PVC	MAT9751341	(4G6.0+2x(2x1.5)C)C	0.75	19.0	10	04
	PVC	MAT9190073	(4G6.0+2x(2x1.5)C)C	0.83	21.0	7.5	05
	PUR	MAT9851366	(4G6.0+2x(2x1.5)C)C	0.75	19.0	10	06
	PUR	MAT9090073	(4G6.0+2x(2x1.5)C)C	0.77	19.5	7.5	07
RKL4324	PVC	MAT9190079	(4G10+2x(2x1.5)C)C	0.91	23.0	7.5	05
	PUR	MAT9851367	(4G10+2x(2x1.5)C)C	0.89	22.5	10	06
	PUR	MAT9090079	(4G10+2x(2x1.5)C)C	0.89	22.5	7.5	07
RKL4325	PVC	MAT9751342	(4G1.5+2x(2x0.75)C)C	0.53	13.5	10	04
	PVC	MAT9190049	(4G1.5+2x(2x0.75)C)C	0.57	14.5	7.5	05
	PUR	MAT9851368	(4G1.5+2x(2x0.75)C)C	0.53	13.5	10	06
	PUR	MAT9090049	(4G1.5+2x(2x0.75)C)C	0.57	14.5	7.5	07
RKL4326	PVC	MAT9751343	(4G2.5+2x(2x1.5)C)C	0.63	16.0	10	04
	PVC	MAT9190045	(4G2.5+2x(2x1.5)C)C	0.67	17.0	7.5	05
	PUR	MAT9851369	(4G2.5+2x(2x1.5)C)C	0.63	16.0	10	06
	PUR	MAT9090045	(4G2.5+2x(2x1.5)C)C	0.63	16.0	7.5	07
	PUR	MAT9090045	(4G2.5+2x(2x1.5)C)C	0.63	16.0	7.5	07
RKL4327	PVC	MAT9751344	(4G4.0+2x(2x1.5)C)C	0.67	17.0	10	04
	PVC	MAT9190050	(4G4.0+2x(2x1.5)C)C	0.71	18.0	7.5	05
	PUR	MAT9851370	(4G4.0+2x(2x1.5)C)C	0.67	17.0	10	06
	PUR	MAT9090050	(4G4.0+2x(2x1.5)C)C	0.69	17.5	7.5	07
RKL4328	PVC	MAT9751345	(4G6.0+2x(2x1.5)C)C	0.75	19.0	10	04
	PVC	MAT9190057	(4G6.0+2x(2x1.5)C)C	0.83	21.0	7.5	05
	PUR	MAT9851371	(4G6.0+2x(2x1.5)C)C	0.75	19.0	10	06
	PUR	MAT9090057	(4G6.0+2x(2x1.5)C)C	0.77	19.5	7.5	07
RKL4329	PVC	MAT9190051	(4G10+2x(2x1.5)C)C	0.91	23.0	7.5	05
	PUR	MAT9851372	(4G10+2x(2x1.5)C)C	0.89	22.5	10	06
	PUR	MAT9090051	(4G10+2x(2x1.5)C)C	0.89	22.5	7.5	07

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 specifications.
G = with green-yellow earth core x = without earth core

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RKL4330	PVC	MAT9190080	(4G16+2x(2x1.5)C)C	1.04	26.5	7.5	05
	PUR	MAT9851373	(4G16+2x(2x1.5)C)C	1.02	26.0	10	06
	PUR	MAT9090080	(4G16+2x(2x1.5)C)C	1.02	26.0	7.5	07
RKL4331	PVC	MAT9190081	(4G25+2x(2x1.5)C)C	1.22	31.0	7.5	05
	PUR	MAT9851374	(4G25+2x(2x1.5)C)C	1.12	28.5	10	06
RKL4332	PUR	MAT9090081	(4G25+2x(2x1.5)C)C	1.22	31.0	7.5	07
	PVC	MAT9751367	(4G35+2x(2x1.5)C)C	1.34	34.0	7.5	05
RKL4343	PUR	MAT98513104	(4G35+2x(2x1.5)C)C	1.38	35.0	10	06
	PVC	MAT9751369	(4G2.5+2x(2x1.5)C)C	0.63	16.0	10	04
RKL4344	PVC	MAT9751368	(4G2.5+2x(2x1.5)C)C	0.67	17.0	7.5	05
	PUR	MAT98513106	(4G2.5+2x(2x1.5)C)C	0.63	16.0	10	06
	PUR	MAT98513105	(4G2.5+2x(2x1.5)C)C	0.63	16.0	7.5	07
	PUR	MAT98513107	(4G16+2x(2x1.5)C)C	1.02	26.0	7.5	07

Linking cable with adapter plug



IKG0332	PVC	MAT9190015	(4G0.75+(2x0.5)C)C	0.43	11.0	7.5	05
	PUR	MAT9090015	(4G0.75+(2x0.5)C)C	0.45	11.5	7.5	07
IKG4006	PVC	MAT9191001	(4G1.0+2x(2x0.75)C)C	0.53	13.5	7.5	05
	PUR	MAT9851342	(4G1.0+2x(2x0.75)C)C	0.51	13.0	10	06
	PUR	MAT9091001	(4G1.0+2x(2x0.75)C)C	0.53	13.5	7.5	07
IKG4016	PVC	MAT9191002	(4G1.0+2x(2x0.75)C)C	0.53	13.5	7.5	05
	PUR	MAT9851343	(4G1.0+2x(2x0.75)C)C	0.51	13.0	10	06
	PUR	MAT9091002	(4G1.0+2x(2x0.75)C)C	0.53	13.5	7.5	07
IKG4061	PVC	MAT9751322	(4G2.5+2x(2x1.5)C)C	0.63	16.0	10	04
	PVC	MAT9191004	(4G2.5+2x(2x1.5)C)C	0.67	17.0	7.5	05
	PUR	MAT9851344	(4G2.5+2x(2x1.5)C)C	0.63	16.0	10	06
IKG4074	PUR	MAT9091004	(4G2.5+2x(2x1.5)C)C	0.63	16.0	7.5	07
	PVC	MAT9751323	(4G2.5+2x(2x1.5)C)C	0.63	16.0	10	04
	PVC	MAT9191014	(4G2.5+2x(2x1.5)C)C	0.67	17.0	7.5	05
IKG4081	PUR	MAT9851345	(4G2.5+2x(2x1.5)C)C	0.63	16.0	10	06
	PUR	MAT9091014	(4G2.5+2x(2x1.5)C)C	0.63	16.0	7.5	07
	PVC	MAT9751324	(4G4.0+2x(2x1.5)C)C	0.67	17.0	10	04
	PVC	MAT9191016	(4G4.0+2x(2x1.5)C)C	0.71	18.0	7.5	05
IKG4081	PUR	MAT9851346	(4G4.0+2x(2x1.5)C)C	0.67	17.0	10	06
	PUR	MAT9091016	(4G4.0+2x(2x1.5)C)C	0.69	17.5	7.5	07

Harnessed drive cables | Bosch Rexroth

PVC/PUR/TPE

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø	Bend radius	Cable page
			[mm ²]	[in.] [mm]	[x d]	538-541

Bosch Rexroth Power cables

Linking cable with adapter plug



IKG4141	PVC	MAT9751325	(4G6.0+2x(2x1.5)C)C	0.75 19.0	10	04
	PVC	MAT9191003	(4G6.0+2x(2x1.5)C)C	0.83 21.0	7.5	05
	PUR	MAT9851347	(4G6.0+2x(2x1.5)C)C	0.75 19.0	10	06
	PUR	MAT9091003	(4G6.0+2x(2x1.5)C)C	0.77 19.5	7.5	07
IKG4161	PVC	MAT9190036	(4G10+2x(2x1.5)C)C	0.91 23.0	7.5	05
	PUR	MAT9851348	(4G10+2x(2x1.5)C)C	0.89 22.5	10	06
	PUR	MAT9090036	(4G10+2x(2x1.5)C)C	0.89 22.5	7.5	07
IKL0003	PVC	MAT9751358	(4G1.0+2x(2x0.75)C)C	0.53 13.5	7.5	05
	PUR	MAT9851391	(4G1.0+2x(2x0.75)C)C	0.51 13.0	10	06
	PUR	MAT9851390	(4G1.0+2x(2x0.75)C)C	0.53 13.5	7.5	07
IKL0023	PVC	MAT9751307	(4G1.5+2x(2x0.75)C)C	0.53 13.5	10	04
	PVC	MAT9191013	(4G1.5+2x(2x0.75)C)C	0.57 14.5	7.5	05
	PUR	MAT9851312	(4G1.5+2x(2x0.75)C)C	0.53 13.5	10	06
	PUR	MAT9091013	(4G1.5+2x(2x0.75)C)C	0.57 14.5	7.5	07
IKL0089	PVC	MAT9751308	(4G6.0+2x(2x1.5)C)C	0.75 19.0	10	04
	PVC	MAT9191005	(4G6.0+2x(2x1.5)C)C	0.83 21.0	7.5	05
	PUR	MAT9851313	(4G6.0+2x(2x1.5)C)C	0.75 19.0	10	06
	PUR	MAT9091005	(4G6.0+2x(2x1.5)C)C	0.77 19.5	7.5	07
IKL0168	PVC	MAT9191006	(4G25+2x(2x1.5)C)C	1.22 31.0	7.5	05
	PUR	MAT9851314	(4G25+2x(2x1.5)C)C	1.12 28.5	10	06
	PUR	MAT9091006	(4G25+2x(2x1.5)C)C	1.22 31.0	7.5	07

Extension cable



RKL0035	PVC	MAT9751371	(4G0.75+(2x0.5)C)C	0.43 11.0	7.5	05
	PUR	MAT98513109	(4G0.75+(2x0.5)C)C	0.45 11.5	7.5	07
RKL4304	PVC	MAT9751346	(4G1.5+2x(2x0.75)C)C	0.53 13.5	10	04
	PVC	MAT9191007	(4G1.5+2x(2x0.75)C)C	0.57 14.5	7.5	05
	PUR	MAT9851375	(4G1.5+2x(2x0.75)C)C	0.53 13.5	10	06
	PUR	MAT9091007	(4G1.5+2x(2x0.75)C)C	0.57 14.5	7.5	07
RKL4305	PVC	MAT9191008	(4G1.0+2x(2x0.75)C)C	0.53 13.5	7.5	05
	PUR	MAT9851376	(4G1.0+2x(2x0.75)C)C	0.51 13.0	10	06
	PUR	MAT9091008	(4G1.0+2x(2x0.75)C)C	0.53 13.5	7.5	07
RKL4311	PVC	MAT9751347	(4G1.5+2x(2x0.75)C)C	0.53 13.5	10	04
	PVC	MAT9191009	(4G1.5+2x(2x0.75)C)C	0.57 14.5	7.5	05
	PUR	MAT9851377	(4G1.5+2x(2x0.75)C)C	0.53 13.5	10	06
	PUR	MAT9091009	(4G1.5+2x(2x0.75)C)C	0.57 14.5	7.5	07

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 specifications.
G = with green-yellow earth core x = without earth core

Harnessed drive cables | Bosch Rexroth

PVC/PUR/TPE

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø	Bend radius	Cable page
			[mm ²]	[in.] [mm]	[x d]	538-541

Bosch Rexroth Power cables

Extension cable



RKL4312	PVC	MAT9751348	(4G2.5+2x(2x1.5)C)C	0.63 16.0	10	04
	PVC	MAT9191010	(4G2.5+2x(2x1.5)C)C	0.67 17.0	7.5	05
	PUR	MAT9851378	(4G2.5+2x(2x1.5)C)C	0.63 16.0	10	06
	PUR	MAT9091010	(4G2.5+2x(2x1.5)C)C	0.63 16.0	7.5	07
RKL4316	PVC	MAT9751349	(4G4.0+2x(2x1.5)C)C	0.67 17.0	10	04
	PVC	MAT9191011	(4G4.0+2x(2x1.5)C)C	0.71 18.0	7.5	05
	PUR	MAT9851379	(4G4.0+2x(2x1.5)C)C	0.67 17.0	10	06
RKL4319	PUR	MAT9091011	(4G4.0+2x(2x1.5)C)C	0.69 17.5	7.5	07
	PVC	MAT9751350	(4G6.0+2x(2x1.5)C)C	0.75 19.0	10	04
	PVC	MAT9191012	(4G6.0+2x(2x1.5)C)C	0.83 21.0	7.5	05
RKL4335	PUR	MAT9851380	(4G6.0+2x(2x1.5)C)C	0.75 19.0	10	06
	PUR	MAT9091012	(4G6.0+2x(2x1.5)C)C	0.77 19.5	7.5	07
	PVC	MAT9751373	(4G1.5+2x(2x0.75)C)C	0.53 13.5	10	04
RKL4336	PVC	MAT9751372	(4G1.5+2x(2x0.75)C)C	0.57 14.5	7.5	05
	PUR	MAT98513111	(4G1.5+2x(2x0.75)C)C	0.53 13.5	10	06
	PUR	MAT98513110	(4G1.5+2x(2x0.75)C)C	0.57 14.5	7.5	07
RKL4337	PVC	MAT9751351	(4G2.5+2x(2x1.5)C)C	0.63 16.0	10	04
	PVC	MAT9191018	(4G2.5+2x(2x1.5)C)C	0.67 17.0	7.5	05
	PUR	MAT9851381	(4G2.5+2x(2x1.5)C)C	0.63 16.0	10	06
	PUR	MAT9091018	(4G2.5+2x(2x1.5)C)C	0.63 16.0	7.5	07
RKL4338	PVC	MAT9751375	(4G4.0+2x(2x1.5)C)C	0.67 17.0	10	04
	PVC	MAT9751374	(4G4.0+2x(2x1.5)C)C	0.71 18.0	7.5	05
	PUR	MAT98513113	(4G4.0+2x(2x1.5)C)C	0.67 17.0	10	06
	PUR	MAT98513112	(4G4.0+2x(2x1.5)C)C	0.69 17.5	7.5	07
RKL4339	PVC	MAT9751352	(4G6.0+2x(2x1.5)C)C	0.75 19.0	10	04
	PVC	MAT9191017	(4G6.0+2x(2x1.5)C)C	0.83 21.0	7.5	05
	PUR	MAT9851382	(4G6.0+2x(2x1.5)C)C	0.75 19.0	10	06
RKL4340	PUR	MAT9091017	(4G6.0+2x(2x1.5)C)C	0.77 19.5	7.5	07
	PVC	MAT9751376	(4G10+2x(2x1.5)C)C	0.91 23.0	7.5	05
	PUR	MAT98513115	(4G10+2x(2x1.5)C)C	0.89 22.5	10	06
RKL4341	PUR	MAT98513114	(4G10+2x(2x1.5)C)C	0.89 22.5	7.5	07
	PVC	MAT9191015	(4G16+2x(2x1.5)C)C	1.04 26.5	7.5	05
	PUR	MAT9851383	(4G16+2x(2x1.5)C)C	1.02 26.0	10	06
RKL4341	PUR	MAT9091015	(4G16+2x(2x1.5)C)C	1.02 26.0	7.5	07
	PVC	MAT9751377	(4G25+2x(2x1.5)C)C	1.22 31.0	7.5	05
	PUR	MAT98513117	(4G25+2x(2x1.5)C)C	1.12 28.5	10	06
	PUR	MAT98513116	(4G25+2x(2x1.5)C)C	1.22 31.0	7.5	07

Harnessed drive cables | Bosch Rexroth

PVC/PUR/TPE

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø	Bend radius	Cable page
			[mm ²]	[in.] [mm]	[x d]	538-541

Bosch Rexroth Servo cables

Basic cable



RL2-002CBB-NN-xxx,x	PVC	MAT97513150	(4C)			
	PUR	MAT98513156	(4G1.0+2x(2x0.75)C)C	0.51	13.0	10
	PUR	MAT98513150	(4G1.0+2x(2x0.75)C)C	0.53	13.5	7.5
RL2-022CBB-NN-xxx,x	PVC	MAT97513152	(4G1.0+2x(2x0.75)C)C	0.53	13.5	7.5
	PUR	MAT98513158	(4G1.0+2x(2x0.75)C)C	0.51	13.0	10
	PUR	MAT98513152	(4G1.0+2x(2x0.75)C)C	0.53	13.5	7.5
RL2-045EBB-NN-xxx,x	PVC	MAT97513154	(4G2.5+2x(2x1.5)C)C	0.67	17.0	7.5
	PUR	MAT98513160	(4G2.5+2x(2x1.5)C)C	0.63	16.0	10
	PUR	MAT98513154	(4G2.5+2x(2x1.5)C)C	0.63	16.0	7.5

Extension cable



RL2-500CBB-NN-xxx,x	PVC	MAT97513151	(4G1.0+2x(2x0.75)C)C	0.53	13.5	7.5
	PUR	MAT98513157	(4G1.0+2x(2x0.75)C)C	0.51	13.0	10
	PUR	MAT98513151	(4G1.0+2x(2x0.75)C)C	0.53	13.5	7.5
RL2-521CBB-NN-xxx,x	PVC	MAT97513153	(4G1.0+2x(2x0.75)C)C	0.53	13.5	7.5
	PUR	MAT98513159	(4G1.0+2x(2x0.75)C)C	0.51	13.0	10
	PUR	MAT98513153	(4G1.0+2x(2x0.75)C)C	0.53	13.5	7.5
RL2-542EBB-NN-xxx,x	PVC	MAT97513155	(4G2.5+2x(2x1.5)C)C	0.67	17.0	7.5
	PUR	MAT98513161	(4G2.5+2x(2x1.5)C)C	0.63	16.0	10
	PUR	MAT98513155	(4G2.5+2x(2x1.5)C)C	0.63	16.0	7.5

Bosch Rexroth Hybrid servo cables

Basic cable



RH2-021DBB-NN	PUR	New	MAT98513122	(4G1.5+(2x0.75)C)+(2x2x0.14+2x0.25)C)C	0.59	15.0	10
RH2-022DBB-NN	PUR	New	MAT98513123	(4G1.5+(2x0.75)C)+(2x2x0.14+2x0.25)C)C	0.59	15.0	10
RH2-023DBB-NN	PUR	New	MAT98513124	(4G1.5+(2x0.75)C)+(2x2x0.14+2x0.25)C)C	0.59	15.0	10

Basic cable



RKH0101	PUR	New	MAT98513120	(5x2.5+(5x0.35)+(4xAWG22)C)C	0.67	17.0	10
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Basic cable



RKH0900	PUR	New	MAT98513121	(5x2.5+(5x0.35)+(4xAWG22)C)C	0.67	17.0	10
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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 specifications.
G = with green-yellow earth core x = without earth core

Harnessed drive cables | Bosch Rexroth

PVC/PUR/TPE

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø	Bend radius	Cable page
			[mm ²]	[in.] [mm]	[x d]	538-541

Bosch Rexroth Encoder cables

Basic cable



IKS4103	TPE	MAT9100001	(4x(2x0.25)+2x0.5)C	0.33	8.5	7.5
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Basic cable



IKS0230	PVC	MAT9110008	(2x(2x0.25)+2x0.5)C	0.26	6.5	10
	PUR	MAT9841307	(2x(2x0.25)+2x0.5)C	0.26	6.5	7.5
	TPE	MAT9100008	(2x(2x0.25)+2x0.5)C	0.26	6.5	7.5
IKS0251	TPE	MAT9100014	(12x0.5)C	0.45	11.5	5
IKS0253	TPE	MAT9100023	(12x0.5)C	0.45	11.5	5
IKS0259	TPE	MAT9100032	(12x0.5)C	0.45	11.5	5
IKS0262	TPE	MAT9100016	(12x0.5)C	0.45	11.5	5
IKS0301	PVC	MAT9110015	(4x(2x0.25)+2x1.0)C	0.33	8.5	10
	PUR	MAT9841308	(4x(2x0.25)+2x1.0)C	0.35	9.0	7.5
	TPE	MAT9100015	(4x(2x0.25)+2x1.0)C	0.35	9.0	7.5
IKS0315	PVC	MAT9110020	(4x(2x0.25)+2x1.0)C	0.33	8.5	10
	PUR	MAT9841309	(4x(2x0.25)+2x1.0)C	0.35	9.0	7.5
	TPE	MAT9100020	(4x(2x0.25)+2x1.0)C	0.35	9.0	7.5
IKS0374	PVC	MAT9110011	(4x(2x0.25)+2x1.0)C	0.33	8.5	10
	PUR	MAT9841310	(4x(2x0.25)+2x1.0)C	0.35	9.0	7.5
	TPE	MAT9100011	(4x(2x0.25)+2x1.0)C	0.35	9.0	7.5
IKS4001	PVC	MAT9110026	(4x(2x0.14)+(4x0.14)C+4x1.0)C	0.39	10.0	10
	PUR	MAT9841311	(4x(2x0.14)+(4x0.14)C+4x1.0)C	0.39	10.0	7.5
	TPE	MAT9100026	(4x(2x0.14)+(4x0.14)C+4x1.0)C	0.39	10.0	7.5
IKS4002	PVC	MAT9110010	(3x(2x0.25)C+(3x0.25)+2x1.0)C	0.39	10.0	10
	PUR	MAT9841312	(3x(2x0.25)C+(3x0.25)+2x1.0)C	0.39	10.0	7.5
	TPE	MAT9100010	(3x(2x0.25)C+(3x0.25)+2x1.0)C	0.39	10.0	7.5
IKS4020	PVC	MAT9110006	(4x(2x0.14)+(4x0.14)C+4x1.0)C	0.39	10.0	10
	PUR	MAT9841313	(4x(2x0.14)+(4x0.14)C+4x1.0)C	0.39	10.0	7.5
	TPE	MAT9100006	(4x(2x0.14)+(4x0.14)C+4x1.0)C	0.39	10.0	7.5
IKS4038	PVC	MAT9110027	(4x(2x0.14)+(4x0.14)C+4x1.0)C	0.39	10.0	10
	PUR	MAT9841314	(4x(2x0.14)+(4x0.14)C+4x1.0)C	0.39	10.0	7.5
	TPE	MAT9100027	(4x(2x0.14)+(4x0.14)C+4x1.0)C	0.39	10.0	7.5
IKS4041	PVC	MAT9110028	(3x(2x0.25)C+(3x0.25)+2x1.0)C	0.39	10.0	10
	PUR	MAT9841315	(3x(2x0.25)C+(3x0.25)+2x1.0)C	0.39	10.0	7.5
	TPE	MAT9100028	(3x(2x0.25)C+(3x0.25)+2x1.0)C	0.39	10.0	7.5
IKS4042	PVC	MAT9110017	(4x(2x0.25)+2x0.5)C	0.31	8.0	10
	PUR	MAT9841316	(4x(2x0.25)+2x0.5)C	0.33	8.5	7.5
	TPE	MAT9100017	(4x(2x0.25)+2x0.5)C	0.33	8.5	7.5

Harnessed drive cables | Bosch Rexroth

PVC/PUR/TPE

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø		Bend radius	Cable page 538-541
				[in.]	[mm]		
Bosch Rexroth Encoder cables							
Basic cable							
IKS4066	PVC	MAT9110025	(4x(2x0.25)+2x0.5)C	0.31	8.0	10	08
	PUR	MAT9841317	(4x(2x0.25)+2x0.5)C	0.33	8.5	7.5	10
	TPE	MAT9100025	(4x(2x0.25)+2x0.5)C	0.33	8.5	7.5	11
Basic cable							
IKS4103	PVC	MAT9110001	(4x(2x0.25)+2x0.5)C	0.31	8.0	10	08
	PUR	MAT9841318	(4x(2x0.25)+2x0.5)C	0.33	8.5	7.5	10
Basic cable							
IKS4142	PVC	MAT9110007	(4x(2x0.14)+(4x0.14)C+4x1.0)C	0.39	10.0	10	08
	PUR	MAT9841319	(4x(2x0.14)+(4x0.14)C+4x1.0)C	0.39	10.0	7.5	10
	TPE	MAT9100007	(4x(2x0.14)+(4x0.14)C+4x1.0)C	0.39	10.0	7.5	11
IKS4314	PVC	MAT9110004	(4x(2x0.25)+2x1.0)C	0.33	8.5	10	08
	PUR	MAT9841320	(4x(2x0.25)+2x1.0)C	0.35	9.0	7.5	10
	TPE	MAT9100004	(4x(2x0.25)+2x1.0)C	0.35	9.0	7.5	11
IKS4374	PVC	MAT9110002	(4x(2x0.25)+2x0.5)C	0.31	8.0	10	08
	PUR	MAT9841321	(4x(2x0.25)+2x0.5)C	0.33	8.5	7.5	10
	TPE	MAT9100002	(4x(2x0.25)+2x0.5)C	0.33	8.5	7.5	11
IKS4375	PVC	MAT9110003	(4x(2x0.25)+2x0.5)C	0.31	8.0	10	08
	PUR	MAT9841322	(4x(2x0.25)+2x0.5)C	0.33	8.5	7.5	10
	TPE	MAT9100003	(4x(2x0.25)+2x0.5)C	0.33	8.5	7.5	11
IKS4384	PVC	MAT9110005	(3x(2x0.25)C+(3x0.25)+2x1.0)C	0.39	10.0	10	08
	PUR	MAT9841323	(3x(2x0.25)C+(3x0.25)+2x1.0)C	0.39	10.0	7.5	10
	TPE	MAT9100005	(3x(2x0.25)C+(3x0.25)+2x1.0)C	0.39	10.0	7.5	11
IKS4389	PVC	MAT9110033	(3x(2x0.25)C+(3x0.25)+2x1.0)C	0.39	10.0	10	08
	PUR	MAT9841324	(3x(2x0.25)C+(3x0.25)+2x1.0)C	0.39	10.0	7.5	10
	TPE	MAT9100033	(3x(2x0.25)C+(3x0.25)+2x1.0)C	0.39	10.0	7.5	11
Basic cable							
RG2-002AAB-NN-xxx,x	PVC	MAT9741301	(2x(2x0.25)+2x0.5)C	0.26	6.5	10	08
	TPE	MAT9941301	(2x(2x0.25)+2x0.5)C	0.26	6.5	7.5	11

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 specifications.
G = with green-yellow earth core x = without earth core

Harnessed drive cables | Bosch Rexroth

PVC/PUR/TPE

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø		Bend radius	Cable page 538-541	
				[in.]	[mm]			
Bosch Rexroth Encoder cables								
Basic cable								
RKG0014	PVC	MAT9110030	(3x(2x0.25)C+(3x0.25)+2x1.0)C	0.39	10.0	10	08	
	PUR	MAT9841301	(3x(2x0.25)C+(3x0.25)+2x1.0)C	0.39	10.0	7.5	10	
	TPE	MAT9100030	(3x(2x0.25)C+(3x0.25)+2x1.0)C	0.39	10.0	7.5	11	
RKG0020	PVC	MAT9110034	(4x(2x0.25)+2x0.5)C	0.31	8.0	10	08	
	PUR	MAT9841302	(4x(2x0.25)+2x0.5)C	0.33	8.5	7.5	10	
	TPE	MAT9100034	(4x(2x0.25)+2x0.5)C	0.33	8.5	7.5	11	
RKG0026	PVC	MAT9110029	(3x(2x0.25)C+(3x0.25)+2x1.0)C	0.39	10.0	10	08	
	PUR	MAT9841303	(3x(2x0.25)C+(3x0.25)+2x1.0)C	0.39	10.0	7.5	10	
	TPE	MAT9100029	(3x(2x0.25)C+(3x0.25)+2x1.0)C	0.39	10.0	7.5	11	
RKG0028	PVC	MAT9110031	(3x(2x0.25)C+(3x0.25)+2x1.0)C	0.39	10.0	10	08	
	PUR	MAT9841304	(3x(2x0.25)C+(3x0.25)+2x1.0)C	0.39	10.0	7.5	10	
	TPE	MAT9100031	(3x(2x0.25)C+(3x0.25)+2x1.0)C	0.39	10.0	7.5	11	
RKG4200	PVC	MAT9110013	(4x(2x0.25)+2x0.5)C	0.31	8.0	10	08	
	PUR	MAT9841305	(4x(2x0.25)+2x0.5)C	0.33	8.5	7.5	10	
	TPE	MAT9100013	(4x(2x0.25)+2x0.5)C	0.33	8.5	7.5	11	
Linking cable with adapter plug								
IKS0232	PVC	MAT9110009	(2x(2x0.25)+2x0.5)C	0.26	6.5	10	08	
	PUR	MAT9841325	(2x(2x0.25)+2x0.5)C	0.26	6.5	7.5	10	
	TPE	MAT9100009	(2x(2x0.25)+2x0.5)C	0.26	6.5	7.5	11	
IKS0255	TPE		MAT9100018	(12x0.5)C	0.45	11.5	5	24
	IKS0303	PVC	MAT9110019	(4x(2x0.25)+2x1.0)C	0.33	8.5	10	08
PUR		MAT9841326	(4x(2x0.25)+2x1.0)C	0.35	9.0	7.5	10	
TPE		MAT9100019	(4x(2x0.25)+2x1.0)C	0.35	9.0	7.5	11	
IKS4065	PVC	MAT9111001	(4x(2x0.25)+2x0.5)C	0.31	8.0	10	08	
	PUR	MAT9841327	(4x(2x0.25)+2x0.5)C	0.33	8.5	7.5	10	
	TPE	MAT9101001	(4x(2x0.25)+2x0.5)C	0.33	8.5	7.5	11	
IKS4151	PVC	MAT9111002	(4x(2x0.25)+2x0.5)C	0.31	8.0	10	08	
	PUR	MAT9841328	(4x(2x0.25)+2x0.5)C	0.33	8.5	7.5	10	
	TPE	MAT9101002	(4x(2x0.25)+2x0.5)C	0.33	8.5	7.5	11	
IKS4153	PVC	MAT9111003	(4x(2x0.25)+2x0.5)C	0.31	8.0	10	08	
	PUR	MAT9841329	(4x(2x0.25)+2x0.5)C	0.33	8.5	7.5	10	
	TPE	MAT9101003	(4x(2x0.25)+2x0.5)C	0.33	8.5	7.5	11	
IKS4322	PVC	MAT9111005	(4x(2x0.25)+2x0.5)C	0.31	8.0	10	08	
	PUR	MAT9841331	(4x(2x0.25)+2x0.5)C	0.33	8.5	7.5	10	
	TPE	MAT9101005	(4x(2x0.25)+2x0.5)C	0.33	8.5	7.5	11	

Harnessed drive cables | Bosch Rexroth

PVC/PUR/TPE

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø		Bend radius	Cable page 538-541
				[in.]	[mm]		
Bosch Rexroth Encoder cables							
Linking cable with adapter plug							
IKS4376	PVC	MAT9111004	(4x(2x0.25)+2x0.5)C	0.31	8.0	10	08
	PUR	MAT9841330	(4x(2x0.25)+2x0.5)C	0.33	8.5	7.5	10
	TPE	MAT9101004	(4x(2x0.25)+2x0.5)C	0.33	8.5	7.5	11
Extension cable with adapter plug							
RG2-510AAB-NN-xxx,x	PVC	MAT9741302	(2x(2x0.25)+2x0.5)C	0.26	6.5	10	08
	TPE	MAT9941302	(2x(2x0.25)+2x0.5)C	0.26	6.5	7.5	11
Linking cable with adapter plug							
RKG4201	PVC	MAT9111006	(4x(2x0.25)+2x0.5)C	0.31	8.0	10	08
	PUR	MAT9841306	(4x(2x0.25)+2x0.5)C	0.33	8.5	7.5	10
	TPE	MAT9101006	(4x(2x0.25)+2x0.5)C	0.33	8.5	7.5	11

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 specifications.
G = with green-yellow earth core x = without earth core

Harnessed drive cables | Elau/Schneider Electric

PVC/PUR/TPE

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø		Bend radius	Cable page 538-541
				[in.]	[mm]		
Elau/Schneider Electric Servo cables							
Basic cable							
E-MO-067	PVC	MAT9750701	(4G1.5+2x(2x0.75)C)C	0.53	13.5	10	04
	PVC	MAT9470001	(4G1.5+2x(2x0.75)C)C	0.57	14.5	7.5	05
	PUR	MAT9850701	(4G1.5+2x(2x0.75)C)C	0.53	13.5	10	06
	PUR	MAT9470101	(4G1.5+2x(2x0.75)C)C	0.57	14.5	7.5	07
E-MO-092	PVC	MAT9750704	(4G1.5+2x(2x0.75)C)C	0.53	13.5	10	04
	PVC	MAT9470004	(4G1.5+2x(2x0.75)C)C	0.57	14.5	7.5	05
	PUR	MAT9850704	(4G1.5+2x(2x0.75)C)C	0.53	13.5	10	06
	PUR	MAT9470104	(4G1.5+2x(2x0.75)C)C	0.57	14.5	7.5	07
Basic cable							
E-MO-087	PVC	MAT9750703	(4G2.5+2x(2x1.5)C)C	0.63	16.0	10	04
	PVC	MAT9470003	(4G2.5+2x(2x1.5)C)C	0.67	17.0	7.5	05
	PUR	MAT9850703	(4G1.5+2x(2x0.75)C)C	0.53	13.5	10	06
	PUR	MAT9470103	(4G2.5+2x(2x1.5)C)C	0.63	16.0	7.5	07
Basic cable							
E-MO-111 SH-Motor 1.5	PVC	MAT9750702	(4G1.5+2x(2x0.75)C)C	0.53	13.5	10	04
	PVC	MAT9470002	(4G1.5+2x(2x0.75)C)C	0.57	14.5	7.5	05
	PUR	MAT9850702	(4G1.5+2x(2x0.75)C)C	0.53	13.5	10	06
	PUR	MAT9470102	(4G1.5+2x(2x0.75)C)C	0.57	14.5	7.5	07
Basic cable							
E-MO-113 SH-Motor 2.5	PVC	MAT9750705	(4G2.5+2x(2x1.5)C)C	0.63	16.0	10	04
	PVC	MAT9470005	(4G2.5+2x(2x1.5)C)C	0.67	17.0	7.5	05
	PUR	MAT9850705	(4G1.5+2x(2x0.75)C)C	0.53	13.5	10	06
	PUR	MAT9470105	(4G2.5+2x(2x1.5)C)C	0.63	16.0	7.5	07

Harnessed drive cables | Elau/Schneider Electric

PVC/PUR/TPE

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø	Bend radius	Cable page
			[mm ²]	[in.] [mm]	[x d]	538-541

Elau/Schneider Electric Hybrid servo cables

Basic cable



E-MO-109, VW3E1109Rxxx	PUR	MAT9850706	(4G25+2x(2x1.5)C)C	1.12	28.5	10	06
E-MO-117, VW3E1117Rxxx	PUR	MAT9850707	5G2.5+(4xAWG24)C+(2x0.25)C	0.57	14.5	10	28
E-MO-118, VW3E1118Rxxx	PUR	MAT9850708	5G2.5+(4xAWG24)C+(2x0.25)C	0.57	14.5	10	28
E-MO-119, VW3E1119Rxxx	PUR	MAT9850709	5G2.5+(4xAWG24)C+(2x0.25)C	0.57	14.5	10	28
E-MO-120, VW3E1120Rxxx	PUR	MAT9850710	5G2.5+(4xAWG24)C+(2x0.25)C	0.57	14.5	10	28
E-MO-121, VW3E1121Rxxx	PUR	MAT9850711	5G2.5+(4xAWG24)C+(2x0.25)C	0.57	14.5	10	28
E-MO-124, VW3E1124Rxxx	PUR	MAT9850712	5G2.5+(4xAWG24)C+(2x0.25)C	0.57	14.5	10	28
E-MO-125, VW3E1125Rxxx	PUR	MAT9850713	5G2.5+(4xAWG24)C+(2x0.25)C	0.57	14.5	10	28
E-MO-126, VW3E1126Rxxx	PUR	MAT9850714	5G2.5+(4xAWG24)C+(2x0.25)C	0.57	14.5	10	28
E-MO-127, VW3E1127Rxxx	PUR	MAT9850715	5G2.5+(4xAWG24)C+(2x0.25)C	0.57	14.5	10	28

Elau/Schneider Electric Encoder cables

Basic cable



E-FB-060	PVC	MAT9480001	(4x(2x0.25)+2x0.5)C	0.31	8.0	10	08
	TPE	MAT9480101	(4x(2x0.25)+2x0.5)C	0.33	8.5	7.5	11
E-FB-071	PVC	MAT9480002	(4x(2x0.25)+2x0.5)C	0.31	8.0	10	08
	PUR	MAT9940702	(4x(2x0.25)+2x0.5)C	0.33	8.5	7.5	10
	TPE	MAT9480102	(4x(2x0.25)+2x0.5)C	0.33	8.5	7.5	11

Basic cable



E-FB-080	PVC	MAT9480003	(4x(2x0.25)+2x0.5)C	0.31	8.0	10	08
	PUR	MAT9940703	(4x(2x0.25)+2x0.5)C	0.33	8.5	7.5	10
	TPE	MAT9480103	(4x(2x0.25)+2x0.5)C	0.33	8.5	7.5	11

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 specifications.
G = with green-yellow earth core x = without earth core

Harnessed drive cables | Fagor

PUR/TPE

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø	Bend radius	Cable page
			[mm ²]	[in.] [mm]	[x d]	538-541

Fagor Path measuring cables

Extension cable



iEEC-x	PUR	MAT9950808	(4x(2x0.14)+4x0.5)C	0.33	8.5	10	09
	PUR	MAT9850808	(4x(2x0.14)+4x0.5)C	0.35	9.0	7.5	10
	TPE	MAT9520070	(4x(2x0.14)+4x0.5)C	0.35	9.0	7.5	11

Extension cable



iXC-C2-D	PUR	MAT9950801	(4x(2x0.14)+4x0.5)C	0.33	8.5	10	09
	PUR	MAT9850801	(4x(2x0.14)+4x0.5)C	0.35	9.0	7.5	10
	TPE	MAT9520001	(4x(2x0.14)+4x0.5)C	0.35	9.0	7.5	11

Extension cable



iXC-C2-FN2	PUR	MAT9950807	(4x(2x0.14)+4x0.5)C	0.33	8.5	10	09
	PUR	MAT9850807	(4x(2x0.14)+4x0.5)C	0.35	9.0	7.5	10
	TPE	MAT9520060	(4x(2x0.14)+4x0.5)C	0.35	9.0	7.5	11

Extension cable



iXC-C2-H	PUR	MAT9950803	(4x(2x0.14)+4x0.5)C	0.33	8.5	10	09
	PUR	MAT9850803	(4x(2x0.14)+4x0.5)C	0.35	9.0	7.5	10
	TPE	MAT9520020	(4x(2x0.14)+4x0.5)C	0.35	9.0	7.5	11

Extension cable



iXC-C4-D	PUR	MAT9950802	(4x(2x0.14)+4x0.5)C	0.33	8.5	10	09
	PUR	MAT9850802	(4x(2x0.14)+4x0.5)C	0.35	9.0	7.5	10
	TPE	MAT9520010	(4x(2x0.14)+4x0.5)C	0.35	9.0	7.5	11

Extension cable



iXC-C8-F-C9	PUR	MAT9950805	(2x(2x(2x0.14)))+(4x0.14)C+(4x0.5)C	0.41	10.5	10	09
	PUR	MAT9850805	(2x(2x(2x0.14)))+(4x0.14)C+(4x0.5)C	0.43	11.0	7.5	10
	TPE	MAT9520040	(2x(2x(2x0.14)))+(4x0.14)C+(4x0.5)C	0.43	11.0	7.5	11

Extension cable



iXC-C8-F-D	PUR	MAT9950804	(2x(2x(2x0.14)))+(4x0.14)C+(4x0.5)C	0.41	10.5	10	09
	PUR	MAT9850804	(2x(2x(2x0.14)))+(4x0.14)C+(4x0.5)C	0.43	11.0	7.5	10
	TPE	MAT9520030	(2x(2x(2x0.14)))+(4x0.14)C+(4x0.5)C	0.43	11.0	7.5	11

Harnessed drive cables | Fagor

PUR/TPE

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø		Bend radius	Cable page 538-541
				[in.]	[mm]		
Fagor Path measuring cables							
Extension cable							
iXC-C8-FN	PUR	MAT9950806	(4x(2x0.14)+4x0.5)C	0.33	8.5	10	09
	PUR	MAT9850806	(4x(2x0.14)+4x0.5)C	0.35	9.0	7.5	10
	TPE	MAT9520050	(4x(2x0.14)+4x0.5)C	0.35	9.0	7.5	11



Harnessed drive cables | Fanuc

PVC/PUR/TPE

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø		Bend radius	Cable page 538-541
				[in.]	[mm]		
Fanuc Power cables							
Basic cable							
LX660-8077-T261	PVC	MAT9760901	(4G1.5)C	0.39	10.0	7.5	01
	PUR	MAT9200061	(4G1.5)C	0.39	10.0	10	06
	PUR	MAT9210061	(4G1.5)C	0.43	11.0	7.5	07
	TPE	MAT9960901	(4G1.5)C	0.39	10.0	7.5	02
Basic cable							
LX660-8077-T264	PVC	MAT9760902	(4G2.5)C	0.45	11.5	7.5	01
	PUR	MAT9200064	(4G2.5)C	0.45	11.5	10	06
	PUR	MAT9210064	(4G2.5)C	0.49	12.5	7.5	07
	TPE	MAT9960902	(4G2.5)C	0.45	11.5	7.5	02
LX660-8077-T266	PVC	MAT9760904	(4G2.5)C	0.45	11.5	7.5	01
	PUR	MAT9200066	(4G2.5)C	0.45	11.5	10	06
	PUR	MAT9210066	(4G2.5)C	0.49	12.5	7.5	07
	TPE	MAT9960904	(4G2.5)C	0.45	11.5	7.5	02
Basic cable							
LX660-8077-T265	PVC	MAT9760903	(4G2.5)C	0.45	11.5	7.5	01
	PUR	MAT9200065	(4G2.5)C	0.45	11.5	10	06
	PUR	MAT9210065	(4G2.5)C	0.49	12.5	7.5	07
	TPE	MAT9960903	(4G2.5)C	0.45	11.5	7.5	02
LX660-8077-T267	PVC	MAT9760905	(4G2.5)C	0.45	11.5	7.5	01
	PUR	MAT9200067	(4G2.5)C	0.45	11.5	10	06
	PUR	MAT9210067	(4G2.5)C	0.49	12.5	7.5	07
	TPE	MAT9960905	(4G2.5)C	0.45	11.5	7.5	02
Basic cable							
LX660-8077-T270	PVC	MAT9760906	(4G4.0)C	0.51	13.0	7.5	01
	PUR	MAT9200070	(4G4.0)C	0.51	13.0	10	06
	PUR	MAT9210070	(4G4.0+(2x1.5)C)C	0.63	16.0	7.5	07
	TPE	MAT9960906	(4G4.0)C	0.51	13.0	7.5	02



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 specifications.
G = with green-yellow earth core x = without earth core

Harnessed drive cables | Fanuc

PVC/PUR/TPE

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø	Bend radius	Cable page
			[mm ²]	[in.] [mm]	[x d]	538-541
Fanuc Power cables						
Basic cable						
LX660-8077-T271	PVC	MAT9760907	(4G4.0)C	0.51	13.0	7.5 01
	PUR	MAT9200071	(4G4.0)C	0.51	13.0	10 06
	PUR	MAT9210071	(4G4.0+(2x1.5)C)C	0.63	16.0	7.5 07
	TPE	MAT9960907	(4G4.0)C	0.51	13.0	7.5 02
LX660-8077-T272	PVC	MAT9760908	(4G10)C	0.73	18.5	7.5 01
	PUR	MAT9200072	(4G10)C	0.71	18.0	10 06
	PUR	MAT9210072	(4G10+(2x1.5)C)C	0.83	21.0	7.5 07
	TPE	MAT9960908	(4G10)C	0.73	18.5	7.5 02
LX660-8077-T273	PVC	MAT9760909	(4G10)C	0.73	18.5	7.5 01
	PUR	MAT9200073	(4G10)C	0.71	18.0	10 06
	PUR	MAT9210073	(4G10+(2x1.5)C)C	0.83	21.0	7.5 07
	PUR	MAT9960909	(4G10)C	0.73	18.5	7.5 02
	TPE	MAT9960909	(4G10)C	0.73	18.5	7.5 02
Basic cable						
LX660-8077-T291	PVC	MAT9760910	(4G2.5)C	0.45	11.5	7.5 01
	PUR	MAT9200091	(4G2.5)C	0.45	11.5	10 06
	PUR	MAT9210091	(4G2.5)C	0.49	12.5	7.5 07
	TPE	MAT9960910	(4G2.5)C	0.45	11.5	7.5 02
LX660-8077-T293	PVC	MAT9760912	(4G4.0)C	0.51	13.0	7.5 01
	PUR	MAT9200093	(4G4.0)C	0.51	13.0	10 06
	PUR	MAT9210093	(4G4.0+(2x1.5)C)C	0.63	16.0	7.5 07
	TPE	MAT9960912	(4G4.0)C	0.51	13.0	7.5 02
Basic cable						
LX660-8077-T292	PVC	MAT9760911	(4G4.0)C	0.51	13.0	7.5 01
	PUR	MAT9200092	(4G4.0)C	0.51	13.0	10 06
	PUR	MAT9210092	(4G4.0+(2x1.5)C)C	0.63	16.0	7.5 07
	TPE	MAT9960911	(4G4.0)C	0.51	13.0	7.5 02
Basic cable						
LX660-8077-T296	PVC	MAT9760913	(4G2.5)C	0.45	11.5	7.5 01
	PUR	MAT9200096	(4G2.5)C	0.45	11.5	10 06
	PUR	MAT9210096	(4G2.5)C	0.49	12.5	7.5 07
	TPE	MAT9960913	(4G2.5)C	0.45	11.5	7.5 02

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 specifications.

G = with green-yellow earth core x = without earth core

Harnessed drive cables | Fanuc

PVC/PUR/TPE

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø	Bend radius	Cable page
			[mm ²]	[in.] [mm]	[x d]	538-541
Fanuc Power cables						
Basic cable						
LX660-8077-T298	PVC	MAT9760914	(4G4.0)C	0.51	13.0	7.5 01
	PUR	MAT9200098	(4G4.0)C	0.51	13.0	10 06
	PUR	MAT9210098	(4G4.0+(2x1.5)C)C	0.63	16.0	7.5 07
	TPE	MAT9960914	(4G4.0)C	0.51	13.0	7.5 02
Basic cable						
LX660-8077-T300	PVC	MAT9760915	(4G2.5)C	0.45	11.5	7.5 01
	PUR	MAT9200300	(4G2.5)C	0.45	11.5	10 06
	PUR	MAT9210300	(4G2.5)C	0.49	12.5	7.5 07
	TPE	MAT9960915	(4G2.5)C	0.45	11.5	7.5 02
Fanuc Servo cables						
Basic cable						
LX660-8077-T259	PUR	MAT9850916	(4G1.5)C	0.39	10.0	10 06
Basic cable						
LX660-8077-T274	PUR	MAT9850921	(4G2.5)C	0.45	11.5	10 06
LX660-8077-T416	PUR	MAT9850923	(4G1.5+(2x1.5)C)C	0.49	12.5	10 06
LX660-8077-T451	PUR	MAT9850920	(4G2.5)C	0.45	11.5	10 06
Basic cable						
LX660-8077-T470	PUR	MAT9850925	(4G4.0)C	0.51	13.0	10 06
Basic cable						
LX660-8077-T471	PUR	MAT9850917	(4G4.0)C	0.51	13.0	10 06
Fanuc Brake cables						
Basic cable						
LX660-8077-T311	PUR	MAT9810919	(3G0.75)C	0.31	8.0	6.8 22

Harnessed drive cables | Fanuc

PVC/PUR/TPE

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø		Bend radius	Cable page 538-541
				[in.]	[mm]		
Fanuc Signal cables							
Basic cable							
LX660-2018-T015	PVC	MAT9840924	(10x(2x0.25))C	0.47	12.0	7.5	14
Basic cable							
LX660-4077-T296	PUR	MAT9300296	((2x0.25)+5x0.5)C	0.28	7.0	10	09
	PUR	MAT9840901	((2x0.25)+5x0.5)C	0.31	8.0	7.5	10
	TPE	MAT9310296	((2x0.25)+5x0.5)C	0.30	7.5	7.5	11
Basic cable							
LX660-4077-T297	PUR	MAT9300297	((2x0.25)+5x0.5)C	0.28	7.0	10	09
	PUR	MAT9840902	((2x0.25)+5x0.5)C	0.31	8.0	7.5	10
	TPE	MAT9310297	((2x0.25)+5x0.5)C	0.30	7.5	7.5	11
Basic cable							
LX660-4077-T302	PUR	MAT9300302	((4x0.25)+3x(2x0.25+2x0.5))C	0.37	9.5	10	09
	PUR	MAT9840903	((4x0.25)+3x(2x0.25+2x0.5))C	0.43	11.0	7.5	10
	TPE	MAT9310302	((4x0.25)+3x(2x0.25+2x0.5))C	0.39	10.0	7.5	11
Basic cable							
LX660-4077-T303	PUR	MAT9300303	((4x0.25)+3x(2x0.25+2x0.5))C	0.37	9.5	10	09
	PUR	MAT9840904	((4x0.25)+3x(2x0.25+2x0.5))C	0.43	11.0	7.5	10
	TPE	MAT9310303	((4x0.25)+3x(2x0.25+2x0.5))C	0.39	10.0	7.5	11
LX660-4077-T310	TPE	MAT9940922	((4x0.25)+3x(2x0.25+2x0.5))C	0.39	10.0	7.5	11
Basic cable							
LX660-4077-T319	PUR	MAT9300319	((4x0.25)+3x(2x0.25+2x0.5))C	0.37	9.5	10	09
	PUR	MAT9840905	((4x0.25)+3x(2x0.25+2x0.5))C	0.43	11.0	7.5	10
	TPE	MAT9310319	((4x0.25)+3x(2x0.25+2x0.5))C	0.39	10.0	7.5	11

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 specifications.

G = with green-yellow earth core x = without earth core

Harnessed drive cables | Festo

PVC/PUR/TPE

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø		Bend radius	Cable page 538-541
				[in.]	[mm]		
Festo Servo cables							
Basic cable							
NEBM-M16G8-E-xxx-Q7-LE8	PUR	MAT9852303	(4G0.75+2x(2x0.34))C	0.47	12.0	10	06
Basic cable							
NEBM-M23G6-E-xxx-N-LE7	PVC	MAT9752301	(4G1.5+2x(2x0.75))C	0.53	13.5	10	04
	PVC	MAT9752317	(4G1.5+2x(2x0.75))C	0.57	14.5	7.5	05
	PUR	MAT9852301	(4G1.5+2x(2x0.75))C	0.53	13.5	10	06
NEBM-M23G8-E-xxx-N-LE8	PUR	MAT9852317	(4G1.5+2x(2x0.75))C	0.57	14.5	7.5	07
	PVC	MAT9752300	(4G2.5+2x(2x1.5))C	0.63	16.0	10	04
	PVC	MAT9752316	(4G2.5+2x(2x1.5))C	0.67	17.0	7.5	05
NEBM-M23G8-E-xxx-N-LE8	PUR	MAT9852300	(4G2.5+(4x0.5))C	0.53	13.5	10	06
	PUR	MAT9852316	(4G2.5+(4x0.5))C	0.55	14.0	7.5	07
Basic cable							
NEBM-M40G8-E-xxx-N-LE7	PVC	MAT9752302	(4G2.5+2x(2x1.5))C	0.63	16.0	10	04
	PVC	MAT9752318	(4G2.5+2x(2x1.5))C	0.67	17.0	7.5	05
	PUR	MAT9852302	(4G2.5+2x(2x1.5))C	0.63	16.0	10	06
	PUR	MAT9852318	(4G2.5+2x(2x1.5))C	0.63	16.0	7.5	07
Festo Control cables							
Basic cable							
KPWR-MC-1-SUB-9HC-xxx	PVC	MAT9712320	(3G1.5)C	0.35	9.0	7.5	18
	PUR	MAT9812320	(3G1.5)C	0.37	9.5	6.8	22
Festo Encoder cables							
Basic cable							
NEBM-M23G12-E-xxx-N-S1G9	PVC	MAT9742308	(3x(2x0.14)C+2x(0.5)C)C	0.37	9.5	10	08
	PUR	MAT9842308	(3x(2x0.14)C+2x(0.5)C)C	0.37	9.5	10	09
	PUR	MAT9842324	(3x(2x0.14)C+2x(0.5)C)C	0.39	10.0	7.5	10
	TPE	MAT9942308	(3x(2x0.14)C+2x(0.5)C)C	0.39	10.0	7.5	11
Festo Data cables							
Basic cable							
KDI-MC-M8-SUB-9-xxx	PVC	MAT9722311	(3x0.25)C	0.2	5.0	10	31
	PUR	MAT9822311	(3x0.25)C	0.22	5.5	10	13

Harnessed drive cables | Festo

PVC/PUR/TPE

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø	Bend radius	Cable page	
			[mm ²]	[in.] [mm]	[x d]	538-541	
Festo Data cables							
Basic cable							
KES-MC-1-SUB-9-xxx	PVC	MAT9722310	(14x0.14)C	0.28	7.0	10	31
	PUR	MAT9822310	(14x0.14)C	0.3	7.5	10	13
Basic cable							
NEBM-M12G8-E-xxx-N-S1G15	PVC	MAT9722305	(4x(2x0.25))C	0.3	7.5	7.5	14
	PUR	MAT9822305	(4x(2x0.25))C	0.3	7.5	7.5	26
	PUR	MAT9822321	(4x(2x0.25))C	0.3	7.5	7.5	26
	TPE	MAT9922305	(4x(2x0.25))C	0.33	8.5	6.8	16
Basic cable							
NEBM-M12G8-E-xxx-S1G9	PVC	MAT9722306	(4x(2x0.25))C	0.3	7.5	7.5	14
	PUR	MAT9822306	(4x(2x0.25))C	0.3	7.5	7.5	26
	PUR	MAT9822322	(4x(2x0.25))C	0.3	7.5	7.5	26
	TPE	MAT9922306	(4x(2x0.25))C	0.33	8.5	6.8	16
Basic cable							
NEBM-M12W8-E-xxx-N-S1G15	PVC	MAT9722307	(4x(2x0.25))C	0.3	7.5	7.5	14
	PUR	MAT9822307	(4x(2x0.25))C	0.3	7.5	7.5	26
	PUR	MAT9822323	(4x(2x0.25))C	0.3	7.5	7.5	26
	TPE	MAT9922307	(4x(2x0.25))C	0.33	8.5	6.8	16
Basic cable							
NEBM-S1G15-E-xxx-LE6	PVC	MAT9722309	(4x(2x0.5))C	0.37	9.5	7.5	14
	PUR	MAT9822325	(4x(2x0.5))C	0.43	11.0	10	15
	PUR	MAT9822309	(4x(2x0.5))C	0.37	9.5	7.5	26
	TPE	MAT9922309	(4x(2x0.5))C	0.37	9.5	6.8	16
Basic cable							
NEBM-S1G9-E-xxx-LE6	PVC	MAT9722313	(7x0.34)C	0.3	7.5	10	31
	PUR	MAT9822313	(7x0.34)C	0.26	6.5	10	13

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 specifications.

G = with green-yellow earth core x = without earth core

Harnessed drive cables | Festo

PVC/PUR/TPE

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø	Bend radius	Cable page	
			[mm ²]	[in.] [mm]	[x d]	538-541	
Festo Bus cables							
Basic cable							
FBA-CO-SUB-9-M12	PVC	MAT9732312	(4x0.5)C	0.33	8.5	12.5	29
	PUR	MAT9832312	(4x0.5)C	0.33	8.5	12.5	30
	TPE	MAT9932312	(4x0.5)C	0.31	8.0	10	12

Harnessed drive cables | Heidenhain

PVC/PUR/TPE

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø		Bend radius	Cable page 538-541
				[in.]	[mm]		
Heidenhain Servo cables							
Linking cable							
352 960-xx	PVC	MAT94907005	(4G1.5+(2x1.5)C)C	0.49	12.5	10	04
	PVC	MAT9761001	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	05
	PUR	MAT93907005	(4G1.5+(2x1.5)C)C	0.49	12.5	10	06
	PUR	MAT9861001	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	07
352 962-xx	PVC	MAT94907008	(4G1.5+(2x1.5)C)C	0.49	12.5	10	04
	PVC	MAT9761003	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	05
	PUR	MAT93907008	(4G1.5+(2x1.5)C)C	0.49	12.5	10	06
	PUR	MAT9861003	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	07
352 963-xx	PVC	MAT94907006	(4G4.0+(2x1.5)C)C	0.59	15.0	10	04
	PVC	MAT9761002	(4G4.0+(2x1.5)C)C	0.63	16.0	7.5	05
	PUR	MAT93907006	(4G4.0+(2x1.5)C)C	0.59	15.0	10	06
	PUR	MAT9861002	(4G4.0+(2x1.5)C)C	0.63	16.0	7.5	07
Heidenhain Adapter cables							
Basic cable							
298 401-xx	PVC	MAT9741006	(4x(2x0.14)+4x0.5)C	0.33	8.5	10	08
	PUR	MAT9841008	(4x(2x0.14)+4x0.5)C	0.33	8.5	10	09
	PUR	MAT9841007	(4x(2x0.14)+4x0.5)C	0.35	9.0	7.5	10
	TPE	MAT9941021	(4x(2x0.14)+4x0.5)C	0.35	9.0	7.5	11
Basic cable							
333 164-xx	PVC	MAT9741008	(4x(2x0.14)+4x0.5)C	0.33	8.5	10	08
	PUR	MAT9841009	(4x(2x0.14)+4x0.5)C	0.33	8.5	10	09
	PUR	MAT9841004	(4x(2x0.14)+4x0.5)C	0.35	9.0	7.5	10
	TPE	MAT9941019	(4x(2x0.14)+4x0.5)C	0.35	9.0	7.5	11
Basic cable							
368 330-xx	PVC	MAT9741010	((4x0.14)+2x(2x0.34))C	0.28	7.0	10	08
	PUR	MAT9841006	((4x0.14)+2x(2x0.34))C	0.28	7.0	10	09
Basic cable							
524 599-xx	PVC	MAT9741007	(4x(2x0.14)+4x0.5)C	0.33	8.5	10	08
	PUR	MAT9841003	(4x(2x0.14)+4x0.5)C	0.33	8.5	10	09
	PUR	MAT9841002	(4x(2x0.14)+4x0.5)C	0.35	9.0	7.5	10
	TPE	MAT9941018	(4x(2x0.14)+4x0.5)C	0.35	9.0	7.5	11

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 specifications.
G = with green-yellow earth core x = without earth core

Harnessed drive cables | Heidenhain

PVC/PUR/TPE

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø		Bend radius	Cable page 538-541
				[in.]	[mm]		
Heidenhain Adapter cables							
Basic cable							
534 855-xx	PVC	MAT9741009	(4x(2x0.14)+(4x0.14)C+4x1.0)C	0.39	10.0	10	08
	PUR	MAT9841005	(4x(2x0.14)+(4x0.14)C+4x1.0)C	0.39	10.0	7.5	10
	TPE	MAT9941020	(4x(2x0.14)+(4x0.14)C+4x1.0)C	0.39	10.0	7.5	11
Basic cable							
605 424-xx	PVC	MAT9741000	(3x(2x0.14)C+(4x0.14)+(4x0.25)+(2x0.5)C	0.39	10.0	10	08
	PUR	MAT9841001	(3x(2x0.14)C+(4x0.14)+(4x0.25)+(2x0.5)C	0.39	10.0	10	09
	PUR	MAT9841000	(3x(2x0.14)C+(4x0.14)+(4x0.25)+(2x0.5)C	0.43	11.0	7.5	10
Linking cable							
289 440-xx	PVC	MAT9741002	(4x(2x0.14)+(4x0.14)C+4x1.0)C	0.39	10.0	10	08
	PUR	MAT94901005	(4x(2x0.14)+(4x0.14)C+4x1.0)C	0.39	10.0	7.5	10
	TPE	MAT93901005	(4x(2x0.14)+(4x0.14)C+4x1.0)C	0.39	10.0	7.5	11
298 399-xx	PUR	MAT9941011	(4x(2x0.14)+4x0.5)C	0.33	8.5	10	09
	PUR	MAT94905001	(4x(2x0.14)+4x0.5)C	0.35	9.0	7.5	10
	TPE	MAT93905001	(4x(2x0.14)+4x0.5)C	0.35	9.0	7.5	11
298 400-xx	PUR	MAT9941012	(4x(2x0.14)+4x0.5)C	0.33	8.5	10	09
	PUR	MAT94906002	(4x(2x0.14)+4x0.5)C	0.35	9.0	7.5	10
	TPE	MAT93906002	(4x(2x0.14)+4x0.5)C	0.35	9.0	7.5	11
309 783-xx	PUR	MAT9941008	(4x(2x0.14)+4x0.5)C	0.33	8.5	10	09
	PUR	MAT94903003	(4x(2x0.14)+4x0.5)C	0.35	9.0	7.5	10
	TPE	MAT93903003	(4x(2x0.14)+4x0.5)C	0.35	9.0	7.5	11
336 376-xx	PVC	MAT9741001	(4x(2x0.14)+(4x0.14)C+4x1.0)C	0.39	10.0	10	08
	PUR	MAT94901004	(4x(2x0.14)+(4x0.14)C+4x1.0)C	0.39	10.0	7.5	10
	TPE	MAT93901004	(4x(2x0.14)+(4x0.14)C+4x1.0)C	0.39	10.0	7.5	11
604 419-xx	PUR	MAT9941003	(4x(2x0.14)+4x0.5)C	0.33	8.5	10	09
	PUR	MAT94901003	(4x(2x0.14)+4x0.5)C	0.35	9.0	7.5	10
	TPE	MAT93901003	(4x(2x0.14)+4x0.5)C	0.35	9.0	7.5	11
Linking cable							
298 402-xx	PUR	MAT9941016	(4x(2x0.14)+4x0.5)C	0.33	8.5	10	09
	PUR	MAT94909001	(4x(2x0.14)+4x0.5)C	0.35	9.0	7.5	10
	TPE	MAT93909001	(4x(2x0.14)+4x0.5)C	0.35	9.0	7.5	11

Harnessed drive cables | Heidenhain

PVC/PUR/TPE

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø	Bend radius	Cable page
			[mm ²]	[in.] [mm]	[x d]	538-541
Heidenhain Adapter cables						
Linking cable						
309 738-xx	PUR	MAT9941007	(4x(2x0.14)+4x0.5)C	0.33	8.5	10 09
	PUR	MAT94903001	(4x(2x0.14)+4x0.5)C	0.35	9.0	7.5 10
	TPE	MAT93903001	(4x(2x0.14)+4x0.5)C	0.35	9.0	7.5 11
Linking cable						
309 774-xx	PUR	MAT94906001	(4x(2x0.14)+4x0.5)C	0.35	9.0	7.5 10
	TPE	MAT93906001	(4x(2x0.14)+4x0.5)C	0.35	9.0	7.5 11
Linking cable						
368 172-xx	PVC	MAT9741003	(3x(2x0.14)C+2x(0.5)C)C	0.37	9.5	10 08
	PUR	MAT94903002	(3x(2x0.14)C+2x(0.5)C)C	0.39	10.0	7.5 10
	TPE	MAT93903002	(4x(2x0.14)+(4x0.14)C+4x1.0)C	0.39	10.0	7.5 11
Linking cable						
309 777-xx	PUR	MAT9941013	(4x(2x0.14)+4x0.5)C	0.33	8.5	10 09
	PUR	MAT94907001	(4x(2x0.14)+4x0.5)C	0.35	9.0	7.5 10
	TPE	MAT93907001	(4x(2x0.14)+4x0.5)C	0.35	9.0	7.5 11
309 778-xx	PUR	MAT9941014	(2x(2x(2x0.14)))+(4x0.14)C+(4x0.5)C	0.41	10.5	10 09
	PUR	MAT94907002	(2x(2x(2x0.14)))+(4x0.14)C+(4x0.5)C	0.43	11.0	7.5 10
	TPE	MAT93907002	(2x(2x(2x0.14)))+(4x0.14)C+(4x0.5)C	0.43	11.0	7.5 11
533 627-xx	PUR	MAT9941004	(4x(2x0.14)+4x0.5)C	0.33	8.5	10 09
	PUR	MAT94901006	(4x(2x0.14)+4x0.5)C	0.35	9.0	7.5 10
	TPE	MAT93901006	(4x(2x0.14)+4x0.5)C	0.35	9.0	7.5 11
Linking cable						
310 193-xx	PUR	MAT94907003	(3x(2x0.14)C)+(2x0.5)C)C	0.39	10.0	7.5 10
	TPE	MAT93907003	(3x(2x0.14)C)+(2x0.5)C)C	0.39	10.0	7.5 11
Linking cable						
310 197-xx	PUR	MAT94902001	(3x(2x0.14)C)+(2x0.5)C)C	0.39	10.0	7.5 10
	TPE	MAT93902001	(3x(2x0.14)C)+(2x0.5)C)C	0.39	10.0	7.5 11

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 specifications.

G = with green-yellow earth core x = without earth core

Harnessed drive cables | Heidenhain

PVC/PUR/TPE

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø	Bend radius	Cable page
			[mm ²]	[in.] [mm]	[x d]	538-541
Heidenhain Adapter cables						
Linking cable						
310 199-xx	PUR	MAT9941006	(4x(2x0.14)+4x0.5)C	0.33	8.5	10 09
	PUR	MAT94902003	(4x(2x0.14)+4x0.5)C	0.35	9.0	7.5 10
	TPE	MAT93902003	(4x(2x0.14)+4x0.5)C	0.35	9.0	7.5 11
Linking cable						
323 897-xx	PUR	MAT9941015	(2x(2x(2x0.14)))+(4x0.14)C+(4x0.5)C	0.41	10.5	10 09
	PUR	MAT94907004	(2x(2x(2x0.14)))+(4x0.14)C+(4x0.5)C	0.43	11.0	7.5 10
	TPE	MAT93907004	(2x(2x(2x0.14)))+(4x0.14)C+(4x0.5)C	0.43	11.0	7.5 11
Linking cable						
324 544-xx	PUR	MAT9941005	(2x(2x(2x0.14)))+(4x0.14)C+(4x0.5)C	0.41	10.5	10 09
	PUR	MAT94902002	(2x(2x(2x0.14)))+(4x0.14)C+(4x0.5)C	0.43	11.0	7.5 10
	TPE	MAT93902002	(2x(2x(2x0.14)))+(4x0.14)C+(4x0.5)C	0.43	11.0	7.5 11
Linking cable						
332 115-xx	PUR	MAT9941001	(2x(2x(2x0.14)))+(4x0.14)C+(4x0.5)C	0.41	10.5	10 09
	PUR	MAT94901001	(2x(2x(2x0.14)))+(4x0.14)C+(4x0.5)C	0.43	11.0	7.5 10
	TPE	MAT93901001	(2x(2x(2x0.14)))+(4x0.14)C+(4x0.5)C	0.43	11.0	7.5 11
Linking cable						
335 077-xx	PUR	MAT94908001	(4x(2x0.14)+4x0.5)C	0.35	9.0	7.5 10
	TPE	MAT93908001	(4x(2x0.14)+4x0.5)C	0.35	9.0	7.5 11
Linking cable						
354 411-xx	PUR	MAT9941009	(2x(2x(2x0.14)))+(4x0.14)C+(4x0.5)C	0.41	10.5	10 09
	PUR	MAT94904001	(2x(2x(2x0.14)))+(4x0.14)C+(4x0.5)C	0.43	11.0	7.5 10
	TPE	MAT93904001	(2x(2x(2x0.14)))+(4x0.14)C+(4x0.5)C	0.43	11.0	7.5 11
355 398-xx	PUR	MAT9941010	(2x(2x(2x0.14)))+(4x0.14)C+(4x0.5)C	0.41	10.5	10 09
	PUR	MAT94904002	(2x(2x(2x0.14)))+(4x0.14)C+(4x0.5)C	0.43	11.0	7.5 10
	TPE	MAT93904002	(2x(2x(2x0.14)))+(4x0.14)C+(4x0.5)C	0.43	11.0	7.5 11

Harnessed drive cables | Heidenhain

PVC/PUR/TPE

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø	Bend radius	Cable page	
			[mm ²]	[in.] [mm]	[x d]	538-541	
Heidenhain Adapter cables							
Linking cable							
360 472-xx	PUR	MAT9941002	(2x(2x(2x0.14)))+(4x0.14)C+(4x0.5)C	0.41	10.5	10	09
	PUR	MAT94901002	(2x(2x(2x0.14)))+(4x0.14)C+(4x0.5)C	0.43	11.0	7.5	10
	TPE	MAT93901002	(2x(2x(2x0.14)))+(4x0.14)C+(4x0.5)C	0.43	11.0	7.5	11
Linking cable							
309 779-xx	PUR	MAT99411017	(2x(2x(2x0.14)))+(4x0.14)C+(4x0.5)C	0.41	10.5	10	09
	PUR	MAT94907007	(2x(2x(2x0.14)))+(4x0.14)C+(4x0.5)C	0.43	11.0	7.5	10
	TPE	MAT93907007	(2x(2x(2x0.14)))+(4x0.14)C+(4x0.5)C	0.43	11.0	7.5	11
Linking cable							
309 780-xx	PVC	MAT9741004	(3x(2x0.14)C+2x(0.5)C)C	0.37	9.5	10	08
	PUR	MAT94909002	(3x(2x0.14)C+2x(0.5)C)C	0.39	10.0	7.5	10
	TPE	MAT93909002	(3x(2x0.14)C+2x(0.5)C)C	0.39	10.0	7.5	11
Linking cable							
354 770-xx	TPE	MAT94910001	((2xAWG28)+2xAWG20)C	0.22	5.5	12.5	12
	TPE	MAT94910002	((2xAWG24)+2xAWG20)C	0.26	6.5	12.5	12

Harnessed drive cables | Jetter

PVC/PUR/TPE

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø	Bend radius	Cable page	
			[mm ²]	[in.] [mm]	[x d]	538-541	
Jetter Motor cables							
Basic cable							
Kabel Nr. 201	PVC	MAT9761805	(4G4.0)C	0.51	13.0	7.5	01
	PUR	MAT9861806	(4G4.0)C	0.51	13.0	10	06
	PUR	MAT9851807	(4G4.0+(2x1.5)C)C	0.63	16.0	7.5	07
	TPE	MAT9961808	(4G4.0)C	0.51	13.0	7.5	02
Kabel Nr. 203	PVC	MAT9761809	(4G4.0)C	0.51	13.0	7.5	01
	PUR	MAT9861810	(4G4.0)C	0.51	13.0	10	06
	PUR	MAT9851811	(4G4.0+(2x1.5)C)C	0.63	16.0	7.5	07
	TPE	MAT9961812	(4G4.0)C	0.51	13.0	7.5	02
Kabel Nr. 26.1	PVC	MAT9761801	(4G1.5)C	0.39	10.0	7.5	01
	PUR	MAT9861802	(4G1.5)C	0.39	10.0	10	06
	PUR	MAT9861803	(4G1.5)C	0.43	11.0	7.5	07
	TPE	MAT9961804	(4G1.5)C	0.39	10.0	7.5	02
Jetter Servo cables							
Basic cable							
Kabel Nr. 202	PVC	MAT9751806	(4G4.0+(2x1.5)C)C	0.63	16.0	7.5	05
	PUR	MAT9861807	(4G4.0+(2x1.5)C)C	0.59	15.0	10	06
	PUR	MAT9851808	(4G4.0+(2x1.5)C)C	0.63	16.0	7.5	07
Kabel Nr. 204	PVC	MAT9751810	(4G6.0+(2x1.5)C)C	0.71	18.0	7.5	05
	PUR	MAT9861811	(4G6.0+(2x1.5)C)C	0.65	16.5	10	06
	PUR	MAT9851812	(4G6.0+(2x1.5)C)C	0.69	17.5	7.5	07
Basic cable							
Kabel Nr. 24.1	PVC	MAT9751802	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	05
	PUR	MAT9851803	(4G1.5+(2x1.5)C)C	0.49	12.5	10	06
	PUR	MAT9851804	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	07
Jetter Resolver cables							
Basic cable							
Kabel Nr. 23	PVC	MAT9741801	(3x(2x0.14)C+2x(0.5)C)C	0.37	9.5	10	08
	PUR	MAT9841802	(3x(2x0.14)C+(2x0.5)C)C	0.39	10.0	7.5	10
	TPE	MAT9941803	(3x(2x0.14)C+(2x0.5)C)C	0.39	10.0	7.5	11
Kabel Nr. 423	PVC	MAT9741804	(3x(2x0.14)C+2x(0.5)C)C	0.37	9.5	10	08
	PUR	MAT9841805	(3x(2x0.14)C+(2x0.5)C)C	0.39	10.0	7.5	10
	TPE	MAT9941806	(3x(2x0.14)C+(2x0.5)C)C	0.39	10.0	7.5	11

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 specifications.

G = with green-yellow earth core x = without earth core

Harnessed drive cables | Jetter

PVC/PUR/TPE

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø	Bend radius	Cable page
			[mm ²]	[in.] [mm]	[x d]	538-541

Jetter Resolver cables

Basic cable



Kabel Nr. 523	PVC	MAT9741807	(5x(2x0.25))C	0.33	8.5	7.5	14
	PUR	MAT9841808	(5x(2x0.25))C	0.37	9.5	10	15
	TPE	MAT9941809	(5x(2x0.25))C	0.35	9.0	6.8	16
Kabel Nr. 723	PVC	MAT9741810	(5x(2x0.25))C	0.33	8.5	7.5	14
	PUR	MAT9841811	(5x(2x0.25))C	0.37	9.5	10	15
	TPE	MAT9941812	(5x(2x0.25))C	0.35	9.0	6.8	16

Harnessed drive cables | Kollmorgen/Danaher Motion

PVC/PUR/TPE

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø	Bend radius	Cable page
			[mm ²]	[in.] [mm]	[x d]	538-541

Kollmorgen/Danaher Motion Motor cables

Basic cable



88959 (5 m)	TPE	MAT9960626	(4G2.5)C	0.45	11.5	7.5	03
88960 (10 m)	TPE	MAT9960627	(4G2.5)C	0.45	11.5	7.5	03
88962 (15 m)	TPE	MAT9960628	(4G2.5)C	0.45	11.5	7.5	03
88964 (20 m)	TPE	MAT9960629	(4G2.5)C	0.45	11.5	7.5	03
88966 (25 m)	TPE	MAT9960630	(4G2.5)C	0.45	11.5	7.5	03
	PVC	MAT9340068	(4G1.5)C	0.39	10.0	7.5	01
	TPE	MAT9440068	(4G1.5)C	0.39	10.0	7.5	02
89918 (5 m)	TPE	MAT9960621	(4G1.5)C	0.39	10.0	7.5	03
	PVC	MAT9340069	(4G1.5)C	0.39	10.0	7.5	01
	TPE	MAT9440069	(4G1.5)C	0.39	10.0	7.5	02
89952 (10 m)	TPE	MAT9960622	(4G1.5)C	0.39	10.0	7.5	03
	PVC	MAT9340070	(4G1.5)C	0.39	10.0	7.5	01
	TPE	MAT9440070	(4G1.5)C	0.39	10.0	7.5	02
89953 (15 m)	TPE	MAT9960623	(4G1.5)C	0.39	10.0	7.5	03
	PVC	MAT9340071	(4G1.5)C	0.39	10.0	7.5	01
	TPE	MAT9440071	(4G1.5)C	0.39	10.0	7.5	02
89954 (20 m)	TPE	MAT9960624	(4G1.5)C	0.39	10.0	7.5	03
	PVC	MAT9340072	(4G1.5)C	0.39	10.0	7.5	01
	TPE	MAT9440072	(4G1.5)C	0.39	10.0	7.5	02
89956 (25 m)	TPE	MAT9960625	(4G1.5)C	0.39	10.0	7.5	03
	PVC	MAT9340004	(4G2.5)C	0.45	11.5	7.5	01
	TPE	MAT9440004	(4G2.5)C	0.45	11.5	7.5	02
89959 (5 m)	PVC	MAT9340003	(4G2.5)C	0.45	11.5	7.5	01
	TPE	MAT9440003	(4G2.5)C	0.45	11.5	7.5	02
89960 (10 m)	PVC	MAT9340073	(4G2.5)C	0.45	11.5	7.5	01
	TPE	MAT9440073	(4G2.5)C	0.45	11.5	7.5	02
89962 (15 m)	PVC	MAT9340074	(4G2.5)C	0.45	11.5	7.5	01
	TPE	MAT9440074	(4G2.5)C	0.45	11.5	7.5	02
89964 (20 m)	PVC	MAT9340075	(4G2.5)C	0.45	11.5	7.5	01
	TPE	MAT9440075	(4G2.5)C	0.45	11.5	7.5	02
89966 (25 m)	PVC	MAT9340076	(4G2.5)C	0.45	11.5	7.5	01
	TPE	MAT9440076	(4G2.5)C	0.45	11.5	7.5	02
90083 (5 m)	PVC	MAT9340063	(4G1.5)C	0.39	10.0	7.5	01
	TPE	MAT9440063	(4G1.5)C	0.39	10.0	7.5	02
	TPE	MAT9960616	(4G1.5)C	0.39	10.0	7.5	03
90084 (10 m)	PVC	MAT9340064	(4G1.5)C	0.39	10.0	7.5	01
	TPE	MAT9440064	(4G1.5)C	0.39	10.0	7.5	02
	TPE	MAT9960617	(4G1.5)C	0.39	10.0	7.5	03
90085 (15 m)	PVC	MAT9340065	(4G1.5)C	0.39	10.0	7.5	01
	TPE	MAT9440065	(4G1.5)C	0.39	10.0	7.5	02
	TPE	MAT9960618	(4G1.5)C	0.39	10.0	7.5	03

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 specifications.
G = with green-yellow earth core x = without earth core

Harnessed drive cables | Kollmorgen/Danaher Motion

PVC/PUR/TPE

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø	Bend radius	Cable page
			[mm ²]	[in.] [mm]	[x d]	538-541

Kollmorgen/Danaher Motion Motor cables

Basic cable



90086 (20 m)	PVC	MAT9340066	(4G1.5)C	0.39	10.0	7.5	01
	TPE	MAT9440066	(4G1.5)C	0.39	10.0	7.5	02
	TPE	MAT9960619	(4G1.5)C	0.39	10.0	7.5	03
90087 (25 m)	PVC	MAT9340067	(4G1.5)C	0.39	10.0	7.5	01
	TPE	MAT9440067	(4G1.5)C	0.39	10.0	7.5	02
	TPE	MAT9960620	(4G1.5)C	0.39	10.0	7.5	03

Basic cable



102575 (5 m)	PVC	MAT9340058	(4G1.5)C	0.39	10.0	7.5	01
	TPE	MAT9440058	(4G1.5)C	0.39	10.0	7.5	02
	TPE	MAT9960611	(4G1.5)C	0.39	10.0	7.5	03
102576 (10 m)	PVC	MAT9340059	(4G1.5)C	0.39	10.0	7.5	01
	TPE	MAT9440059	(4G1.5)C	0.39	10.0	7.5	02
	TPE	MAT9960612	(4G1.5)C	0.39	10.0	7.5	03
102806 (15 m)	PVC	MAT9340060	(4G1.5)C	0.39	10.0	7.5	01
	TPE	MAT9440060	(4G1.5)C	0.39	10.0	7.5	02
	TPE	MAT9960613	(4G1.5)C	0.39	10.0	7.5	03
102807 (20 m)	PVC	MAT9340061	(4G1.5)C	0.39	10.0	7.5	01
	TPE	MAT9440061	(4G1.5)C	0.39	10.0	7.5	02
	TPE	MAT9960614	(4G1.5)C	0.39	10.0	7.5	03
102808 (25 m)	PVC	MAT9340062	(4G1.5)C	0.39	10.0	7.5	01
	TPE	MAT9440062	(4G1.5)C	0.39	10.0	7.5	02
	TPE	MAT9960615	(4G1.5)C	0.39	10.0	7.5	03

Basic cable



107473 (5 m)	PVC	MAT9340053	(4G1.5)C	0.39	10.0	7.5	01
	TPE	MAT9440053	(4G1.5)C	0.39	10.0	7.5	02
	TPE	MAT9960606	(4G1.5)C	0.39	10.0	7.5	03
107474 (10 m)	PVC	MAT9340054	(4G1.5)C	0.39	10.0	7.5	01
	TPE	MAT9440054	(4G1.5)C	0.39	10.0	7.5	02
	TPE	MAT9960607	(4G1.5)C	0.39	10.0	7.5	03
107475 (15 m)	PVC	MAT9340055	(4G1.5)C	0.39	10.0	7.5	01
	TPE	MAT9440055	(4G1.5)C	0.39	10.0	7.5	02
	TPE	MAT9960608	(4G1.5)C	0.39	10.0	7.5	03

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PVC/PUR/TPE

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Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø	Bend radius	Cable page
			[mm ²]	[in.] [mm]	[x d]	538-541

Kollmorgen/Danaher Motion Motor cables

Basic cable



107476 (20 m)	PVC	MAT9340056	(4G1.5)C	0.39	10.0	7.5	01
	TPE	MAT9440056	(4G1.5)C	0.39	10.0	7.5	02
	TPE	MAT9960609	(4G1.5)C	0.39	10.0	7.5	03
107477 (25 m)	PVC	MAT9340057	(4G1.5)C	0.39	10.0	7.5	01
	TPE	MAT9440057	(4G1.5)C	0.39	10.0	7.5	02
	TPE	MAT9960610	(4G1.5)C	0.39	10.0	7.5	03

Basic cable



107485 (5 m)	PVC	MAT9340002	(4G1.5)C	0.39	10.0	7.5	01
	TPE	MAT9440002	(4G1.5)C	0.39	10.0	7.5	02
	TPE	MAT9960601	(4G1.5)C	0.39	10.0	7.5	03
107486 (10 m)	PVC	MAT9340049	(4G1.5)C	0.39	10.0	7.5	01
	TPE	MAT9440049	(4G1.5)C	0.39	10.0	7.5	02
	TPE	MAT9960602	(4G1.5)C	0.39	10.0	7.5	03
107487 (15 m)	PVC	MAT9340050	(4G1.5)C	0.39	10.0	7.5	01
	TPE	MAT9440050	(4G1.5)C	0.39	10.0	7.5	02
	TPE	MAT9960603	(4G1.5)C	0.39	10.0	7.5	03
107488 (20 m)	PVC	MAT9340051	(4G1.5)C	0.39	10.0	7.5	01
	TPE	MAT9440051	(4G1.5)C	0.39	10.0	7.5	02
	TPE	MAT9960604	(4G1.5)C	0.39	10.0	7.5	03
107489 (25 m)	PVC	MAT9340052	(4G1.5)C	0.39	10.0	7.5	01
	TPE	MAT9440052	(4G1.5)C	0.39	10.0	7.5	02
	TPE	MAT9960605	(4G1.5)C	0.39	10.0	7.5	03

Basic cable



200456 (5 m)	PVC	MAT9340077	(4G1.5)C	0.39	10.0	7.5	01
	TPE	MAT9440077	(4G1.5)C	0.39	10.0	7.5	02
	TPE	MAT9960631	(4G1.5)C	0.39	10.0	7.5	03
200457 (10 m)	PVC	MAT9340078	(4G1.5)C	0.39	10.0	7.5	01
	TPE	MAT9440078	(4G1.5)C	0.39	10.0	7.5	02
	TPE	MAT9960632	(4G1.5)C	0.39	10.0	7.5	03
200458 (15 m)	PVC	MAT9340079	(4G1.5)C	0.39	10.0	7.5	01
	TPE	MAT9440079	(4G1.5)C	0.39	10.0	7.5	02
	TPE	MAT9960633	(4G1.5)C	0.39	10.0	7.5	03

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Harnessed drive cables | Kollmorgen/Danaher Motion

PVC/PUR/TPE

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø	Bend radius	Cable page
			[mm ²]	[in.] [mm]	[x d]	538-541
Kollmorgen/Danaher Motion Motor cables						
Basic cable						
200459 (20 m)	PVC	MAT9340080	(4G1.5)C	0.39	10.0 7.5	01
	TPE	MAT9440080	(4G1.5)C	0.39	10.0 7.5	02
	TPE	MAT9960634	(4G1.5)C	0.39	10.0 7.5	03
200460 (25 m)	PVC	MAT9340081	(4G1.5)C	0.39	10.0 7.5	01
	TPE	MAT9440081	(4G1.5)C	0.39	10.0 7.5	02
	TPE	MAT9960635	(4G1.5)C	0.39	10.0 7.5	03
200468 (5 m)	PVC	MAT9340082	(4G2.5)C	0.45	11.5 7.5	01
	TPE	MAT9440082	(4G2.5)C	0.45	11.5 7.5	02
	TPE	MAT9960636	(4G2.5)C	0.45	11.5 7.5	03
200469 (10 m)	PVC	MAT9340083	(4G2.5)C	0.45	11.5 7.5	01
	TPE	MAT9440083	(4G2.5)C	0.45	11.5 7.5	02
	TPE	MAT9960637	(4G2.5)C	0.45	11.5 7.5	03
200470 (15 m)	PVC	MAT9340084	(4G2.5)C	0.45	11.5 7.5	01
	TPE	MAT9440084	(4G2.5)C	0.45	11.5 7.5	02
	TPE	MAT9960638	(4G2.5)C	0.45	11.5 7.5	03
200471 (20 m)	PVC	MAT9340085	(4G2.5)C	0.45	11.5 7.5	01
	TPE	MAT9440085	(4G2.5)C	0.45	11.5 7.5	02
	TPE	MAT9960639	(4G2.5)C	0.45	11.5 7.5	03
200472 (25 m)	PVC	MAT9340086	(4G2.5)C	0.45	11.5 7.5	01
	TPE	MAT9440086	(4G2.5)C	0.45	11.5 7.5	02
	TPE	MAT9960640	(4G2.5)C	0.45	11.5 7.5	03
200618 (5 m)	PVC	MAT9340087	(4G4.0)C	0.51	13.0 7.5	01
	TPE	MAT9440087	(4G4.0)C	0.51	13.0 7.5	02
	TPE	MAT9960641	(4G4.0)C	0.51	13.0 7.5	03
200619 (10 m)	PVC	MAT9340088	(4G4.0)C	0.51	13.0 7.5	01
	TPE	MAT9440088	(4G4.0)C	0.51	13.0 7.5	02
	TPE	MAT9960642	(4G4.0)C	0.51	13.0 7.5	03
200620 (15 m)	PVC	MAT9340089	(4G4.0)C	0.51	13.0 7.5	01
	TPE	MAT9440089	(4G4.0)C	0.51	13.0 7.5	02
	TPE	MAT9960643	(4G4.0)C	0.51	13.0 7.5	03
200621 (20 m)	PVC	MAT9340090	(4G4.0)C	0.51	13.0 7.5	01
	TPE	MAT9440090	(4G4.0)C	0.51	13.0 7.5	02
	TPE	MAT9960644	(4G4.0)C	0.51	13.0 7.5	03
200622 (25 m)	PVC	MAT9340091	(4G4.0)C	0.51	13.0 7.5	01
	TPE	MAT9440091	(4G4.0)C	0.51	13.0 7.5	02
	TPE	MAT9960645	(4G4.0)C	0.51	13.0 7.5	03



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 specifications.
G = with green-yellow earth core x = without earth core

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Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø	Bend radius	Cable page
			[mm ²]	[in.] [mm]	[x d]	538-541
Kollmorgen/Danaher Motion Servo cables						
Basic cable						
89957 (5 m)	PVC	MAT9750621	(4G1.5+(2x1.5)C)C	0.49	12.5 10	04
	PVC	MAT9340024	(4G1.5+(2x1.5)C)C	0.51	13.0 7.5	05
	PUR	MAT9850621	(4G1.5+(2x1.5)C)C	0.49	12.5 10	06
	PUR	MAT9440024	(4G1.5+(2x1.5)C)C	0.51	13.0 7.5	07
89961 (10 m)	PVC	MAT9750622	(4G1.5+(2x1.5)C)C	0.49	12.5 10	04
	PVC	MAT9340025	(4G1.5+(2x1.5)C)C	0.51	13.0 7.5	05
	PUR	MAT9850622	(4G1.5+(2x1.5)C)C	0.49	12.5 10	06
	PUR	MAT9440025	(4G1.5+(2x1.5)C)C	0.51	13.0 7.5	07
89963 (15 m)	PVC	MAT9750623	(4G1.5+(2x1.5)C)C	0.49	12.5 10	04
	PVC	MAT9340026	(4G1.5+(2x1.5)C)C	0.51	13.0 7.5	05
	PUR	MAT9850623	(4G1.5+(2x1.5)C)C	0.49	12.5 10	06
	PUR	MAT9440026	(4G1.5+(2x1.5)C)C	0.51	13.0 7.5	07
89965 (20 m)	PVC	MAT9750624	(4G1.5+(2x1.5)C)C	0.49	12.5 10	04
	PVC	MAT9340027	(4G1.5+(2x1.5)C)C	0.51	13.0 7.5	05
	PUR	MAT9850624	(4G1.5+(2x1.5)C)C	0.49	12.5 10	06
	PUR	MAT9440027	(4G1.5+(2x1.5)C)C	0.51	13.0 7.5	07
89967 (25 m)	PVC	MAT9750625	(4G1.5+(2x1.5)C)C	0.49	12.5 10	04
	PVC	MAT9340028	(4G1.5+(2x1.5)C)C	0.51	13.0 7.5	05
	PUR	MAT9850625	(4G1.5+(2x1.5)C)C	0.49	12.5 10	06
	PUR	MAT9440028	(4G1.5+(2x1.5)C)C	0.51	13.0 7.5	07
89968 (5 m)	PVC	MAT9750626	(4G2.5+(2x1.5)C)C	0.55	14.0 10	04
	PVC	MAT9340029	(4G2.5+(2x1.5)C)C	0.57	14.5 7.5	05
	PUR	MAT9850626	(4G2.5+(2x1.5)C)C	0.55	14.0 10	06
	PUR	MAT9440029	(4G2.5+(2x1.5)C)C	0.57	14.5 7.5	07
89969 (25 m)	PVC	MAT9750630	(4G2.5+(2x1.5)C)C	0.55	14.0 10	04
	PVC	MAT9340033	(4G2.5+(2x1.5)C)C	0.57	14.5 7.5	05
	PUR	MAT9850630	(4G2.5+(2x1.5)C)C	0.55	14.0 10	06
	PUR	MAT9440033	(4G2.5+(2x1.5)C)C	0.57	14.5 7.5	07
89970 (10 m)	PVC	MAT9750627	(4G2.5+(2x1.5)C)C	0.55	14.0 10	04
	PVC	MAT9340030	(4G2.5+(2x1.5)C)C	0.57	14.5 7.5	05
	PUR	MAT9850627	(4G2.5+(2x1.5)C)C	0.55	14.0 10	06
	PUR	MAT9440030	(4G2.5+(2x1.5)C)C	0.57	14.5 7.5	07
89971 (15 m)	PVC	MAT9750628	(4G2.5+(2x1.5)C)C	0.55	14.0 10	04
	PVC	MAT9340031	(4G2.5+(2x1.5)C)C	0.57	14.5 7.5	05
	PUR	MAT9850628	(4G2.5+(2x1.5)C)C	0.55	14.0 10	06
	PUR	MAT9440031	(4G2.5+(2x1.5)C)C	0.57	14.5 7.5	07



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			[mm ²]	[in.] [mm]	[x d]	538-541

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Basic cable



89972 (20 m)	PVC	MAT9750629	(4G2.5+(2x1.5)C)C	0.55	14.0	10	04
	PVC	MAT9340032	(4G2.5+(2x1.5)C)C	0.57	14.5	7.5	05
	PUR	MAT9850629	(4G2.5+(2x1.5)C)C	0.55	14.0	10	06
	PUR	MAT9440032	(4G2.5+(2x1.5)C)C	0.57	14.5	7.5	07
90088 (5 m)	PVC	MAT9750616	(4G1.5+(2x1.5)C)C	0.49	12.5	10	04
	PVC	MAT9340019	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	05
	PUR	MAT9850616	(4G1.5+(2x1.5)C)C	0.49	12.5	10	06
	PUR	MAT9440019	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	07
90089 (10 m)	PVC	MAT9750617	(4G1.5+(2x1.5)C)C	0.49	12.5	10	04
	PVC	MAT9340020	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	05
	PUR	MAT9850617	(4G1.5+(2x1.5)C)C	0.49	12.5	10	06
	PUR	MAT9440020	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	07
90090 (15 m)	PVC	MAT9750618	(4G1.5+(2x1.5)C)C	0.49	12.5	10	04
	PVC	MAT9340021	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	05
	PUR	MAT9850618	(4G1.5+(2x1.5)C)C	0.49	12.5	10	06
	PUR	MAT9440021	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	07
90091 (20 m)	PVC	MAT9750619	(4G1.5+(2x1.5)C)C	0.49	12.5	10	04
	PVC	MAT9340022	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	05
	PUR	MAT9850619	(4G1.5+(2x1.5)C)C	0.49	12.5	10	06
	PUR	MAT9440022	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	07
	PUR	MAT9440022	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	07
90092 (25 m)	PVC	MAT9750620	(4G1.5+(2x1.5)C)C	0.49	12.5	10	04
	PVC	MAT9340023	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	05
	PUR	MAT9850620	(4G1.5+(2x1.5)C)C	0.49	12.5	10	06
	PUR	MAT9440023	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	07

Basic cable



102579 (5 m)	PVC	MAT9750611	(4G1.5+(2x1.5)C)C	0.49	12.5	10	04
	PVC	MAT9340014	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	05
	PUR	MAT9850611	(4G1.5+(2x1.5)C)C	0.49	12.5	10	06
	PUR	MAT9440014	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	07
102580 (10 m)	PVC	MAT9750612	(4G1.5+(2x1.5)C)C	0.49	12.5	10	04
	PVC	MAT9340015	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	05
	PUR	MAT9850612	(4G1.5+(2x1.5)C)C	0.49	12.5	10	06
	PUR	MAT9440015	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	07

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 specifications.
G = with green-yellow earth core x = without earth core

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Basic cable



102809 (15 m)	PVC	MAT9750613	(4G1.5+(2x1.5)C)C	0.49	12.5	10	04
	PVC	MAT9340016	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	05
	PUR	MAT9850613	(4G1.5+(2x1.5)C)C	0.49	12.5	10	06
	PUR	MAT9440016	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	07
102810 (20 m)	PVC	MAT9750614	(4G1.5+(2x1.5)C)C	0.49	12.5	10	04
	PVC	MAT9340017	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	05
	PUR	MAT9850614	(4G1.5+(2x1.5)C)C	0.49	12.5	10	06
	PUR	MAT9440017	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	07
102811 (25 m)	PVC	MAT9750615	(4G1.5+(2x1.5)C)C	0.49	12.5	10	04
	PVC	MAT9340018	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	05
	PUR	MAT9850615	(4G1.5+(2x1.5)C)C	0.49	12.5	10	06
	PUR	MAT9440018	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	07

Basic cable



107479 (5 m)	PVC	MAT9750606	(4G1.5+(2x1.5)C)C	0.49	12.5	10	04
	PVC	MAT9340009	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	05
	PUR	MAT9850606	(4G1.5+(2x1.5)C)C	0.49	12.5	10	06
	PUR	MAT9440009	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	07
107480 (10 m)	PVC	MAT9750607	(4G1.5+(2x1.5)C)C	0.49	12.5	10	04
	PVC	MAT9340010	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	05
	PUR	MAT9850607	(4G1.5+(2x1.5)C)C	0.49	12.5	10	06
	PUR	MAT9440010	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	07
107481 (15 m)	PVC	MAT9750608	(4G1.5+(2x1.5)C)C	0.49	12.5	10	04
	PVC	MAT9340011	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	05
	PUR	MAT9850608	(4G1.5+(2x1.5)C)C	0.49	12.5	10	06
	PUR	MAT9440011	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	07
107482 (20 m)	PVC	MAT9750609	(4G1.5+(2x1.5)C)C	0.49	12.5	10	04
	PVC	MAT9340012	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	05
	PUR	MAT9850609	(4G1.5+(2x1.5)C)C	0.49	12.5	10	06
	PUR	MAT9440012	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	07
107483 (25 m)	PVC	MAT9750610	(4G1.5+(2x1.5)C)C	0.49	12.5	10	04
	PVC	MAT9340013	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	05
	PUR	MAT9850610	(4G1.5+(2x1.5)C)C	0.49	12.5	10	06
	PUR	MAT9440013	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	07

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PVC/PUR/TPE

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Kollmorgen/Danaher Motion Servo cables

Basic cable



107491 (5 m)	PVC	MAT9750601	(4G1.5+(2x1.5)C)C	0.49	12.5	10	04
	PVC	MAT9340001	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	05
	PUR	MAT9850601	(4G1.5+(2x1.5)C)C	0.49	12.5	10	06
	PUR	MAT9440001	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	07
107492 (10 m)	PVC	MAT9750602	(4G1.5+(2x1.5)C)C	0.49	12.5	10	04
	PVC	MAT9340005	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	05
	PUR	MAT9850602	(4G1.5+(2x1.5)C)C	0.49	12.5	10	06
	PUR	MAT9440005	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	07
107493 (15 m)	PVC	MAT9750603	(4G1.5+(2x1.5)C)C	0.49	12.5	10	04
	PVC	MAT9340006	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	05
	PUR	MAT9850603	(4G1.5+(2x1.5)C)C	0.49	12.5	10	06
	PUR	MAT9440006	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	07
107494 (20 m)	PVC	MAT9750604	(4G1.5+(2x1.5)C)C	0.49	12.5	10	04
	PVC	MAT9340007	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	05
	PUR	MAT9850604	(4G1.5+(2x1.5)C)C	0.49	12.5	10	06
	PUR	MAT9440007	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	07
107495 (25 m)	PVC	MAT9750605	(4G1.5+(2x1.5)C)C	0.49	12.5	10	04
	PVC	MAT9340008	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	05
	PUR	MAT9850605	(4G1.5+(2x1.5)C)C	0.49	12.5	10	06
	PUR	MAT9440008	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	07

Basic cable



200462 (5 m)	PVC	MAT9750631	(4G1.5+(2x1.5)C)C	0.49	12.5	10	04
	PVC	MAT9340034	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	05
	PUR	MAT9850631	(4G1.5+(2x1.5)C)C	0.49	12.5	10	06
	PUR	MAT9440034	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	07
200463 (10 m)	PVC	MAT9750632	(4G1.5+(2x1.5)C)C	0.49	12.5	10	04
	PVC	MAT9340035	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	05
	PUR	MAT9850632	(4G1.5+(2x1.5)C)C	0.49	12.5	10	06
	PUR	MAT9440035	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	07
200464 (15 m)	PVC	MAT9750633	(4G1.5+(2x1.5)C)C	0.49	12.5	10	04
	PVC	MAT9340036	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	05
	PUR	MAT9850633	(4G1.5+(2x1.5)C)C	0.49	12.5	10	06
	PUR	MAT9440036	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	07

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 specifications.
G = with green-yellow earth core x = without earth core

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PVC/PUR/TPE

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			[mm ²]	[in.] [mm]	[x d]	538-541

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Basic cable



200465 (20 m)	PVC	MAT9750634	(4G1.5+(2x1.5)C)C	0.49	12.5	10	04
	PVC	MAT9340037	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	05
	PUR	MAT9850634	(4G1.5+(2x1.5)C)C	0.49	12.5	10	06
	PUR	MAT9440037	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	07
200466 (25 m)	PVC	MAT9750635	(4G1.5+(2x1.5)C)C	0.49	12.5	10	04
	PVC	MAT9340038	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	05
	PUR	MAT9850635	(4G1.5+(2x1.5)C)C	0.49	12.5	10	06
	PUR	MAT9440038	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	07
200474 (5 m)	PVC	MAT9750636	(4G2.5+(2x1.5)C)C	0.55	14.0	10	04
	PVC	MAT9340039	(4G2.5+(2x1.5)C)C	0.57	14.5	7.5	05
	PUR	MAT9850636	(4G2.5+(2x1.5)C)C	0.55	14.0	10	06
	PUR	MAT9440039	(4G2.5+(2x1.5)C)C	0.57	14.5	7.5	07
200475 (10 m)	PVC	MAT9750637	(4G2.5+(2x1.5)C)C	0.55	14.0	10	04
	PVC	MAT9340040	(4G2.5+(2x1.5)C)C	0.57	14.5	7.5	05
	PUR	MAT9850637	(4G2.5+(2x1.5)C)C	0.55	14.0	10	06
	PUR	MAT9440040	(4G2.5+(2x1.5)C)C	0.57	14.5	7.5	07
200476 (15 m)	PVC	MAT9750638	(4G2.5+(2x1.5)C)C	0.55	14.0	10	04
	PVC	MAT9340041	(4G2.5+(2x1.5)C)C	0.57	14.5	7.5	05
	PUR	MAT9850638	(4G2.5+(2x1.5)C)C	0.55	14.0	10	06
	PUR	MAT9440041	(4G2.5+(2x1.5)C)C	0.57	14.5	7.5	07
200477 (20 m)	PVC	MAT9750639	(4G2.5+(2x1.5)C)C	0.55	14.0	10	04
	PVC	MAT9340042	(4G2.5+(2x1.5)C)C	0.57	14.5	7.5	05
	PUR	MAT9850639	(4G2.5+(2x1.5)C)C	0.55	14.0	10	06
	PUR	MAT9440042	(4G2.5+(2x1.5)C)C	0.57	14.5	7.5	07
200478 (25 m)	PVC	MAT9750640	(4G2.5+(2x1.5)C)C	0.55	14.0	10	04
	PVC	MAT9340043	(4G2.5+(2x1.5)C)C	0.57	14.5	7.5	05
	PUR	MAT9850640	(4G2.5+(2x1.5)C)C	0.55	14.0	10	06
	PUR	MAT9440043	(4G2.5+(2x1.5)C)C	0.57	14.5	7.5	07
200623 (5 m)	PVC	MAT9750641	(4G4.0+(2x1.5)C)C	0.59	15.0	10	04
	PVC	MAT9340044	(4G4.0+(2x1.5)C)C	0.63	16.0	7.5	05
	PUR	MAT9850641	(4G4.0+(2x1.5)C)C	0.59	15.0	10	06
	PUR	MAT9440044	(4G4.0+(2x1.5)C)C	0.63	16.0	7.5	07
200624 (10 m)	PVC	MAT9750642	(4G4.0+(2x1.5)C)C	0.59	15.0	10	04
	PVC	MAT9340045	(4G4.0+(2x1.5)C)C	0.63	16.0	7.5	05
	PUR	MAT9850642	(4G4.0+(2x1.5)C)C	0.59	15.0	10	06
	PUR	MAT9440045	(4G4.0+(2x1.5)C)C	0.63	16.0	7.5	07

Harnessed drive cables | Kollmorgen/Danaher Motion

PVC/PUR/TPE

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø	Bend radius	Cable page
			[mm ²]	[in.] [mm]	[x d]	538-541

Kollmorgen/Danaher Motion Servo cables

Basic cable



200625 (15 m)	PVC	MAT9750643	(4G4.0+(2x1.5)C)C	0.59	15.0	10	04
	PVC	MAT9340046	(4G4.0+(2x1.5)C)C	0.63	16.0	7.5	05
	PUR	MAT9850643	(4G4.0+(2x1.5)C)C	0.59	15.0	10	06
	PUR	MAT9440046	(4G4.0+(2x1.5)C)C	0.63	16.0	7.5	07
200626 (20 m)	PVC	MAT9750644	(4G4.0+(2x1.5)C)C	0.59	15.0	10	04
	PVC	MAT9340047	(4G4.0+(2x1.5)C)C	0.63	16.0	7.5	05
	PUR	MAT9850644	(4G4.0+(2x1.5)C)C	0.59	15.0	10	06
	PUR	MAT9440047	(4G4.0+(2x1.5)C)C	0.63	16.0	7.5	07
200627 (25 m)	PVC	MAT9750645	(4G4.0+(2x1.5)C)C	0.59	15.0	10	04
	PVC	MAT9340048	(4G4.0+(2x1.5)C)C	0.63	16.0	7.5	05
	PUR	MAT9850645	(4G4.0+(2x1.5)C)C	0.59	15.0	10	06
	PUR	MAT9440048	(4G4.0+(2x1.5)C)C	0.63	16.0	7.5	07

Kollmorgen/Danaher Motion Signal cables

Basic cable



107915 (5 m)	PVC	MAT9320004	(8x(2x0.25))C	0.41	10.5	7.5	14
	TPE	MAT9330004	(8x(2x0.34))C	0.51	13.0	6.8	16
107916 (10 m)	PVC	MAT9320017	(8x(2x0.25))C	0.41	10.5	7.5	14
	TPE	MAT9330017	(8x(2x0.34))C	0.51	13.0	6.8	16
107917 (15 m)	PVC	MAT9320018	(8x(2x0.25))C	0.41	10.5	7.5	14
	TPE	MAT9330018	(8x(2x0.34))C	0.51	13.0	6.8	16
107918 (20 m)	PVC	MAT9320019	(8x(2x0.25))C	0.41	10.5	7.5	14
	TPE	MAT9330019	(8x(2x0.34))C	0.51	13.0	6.8	16
107919 (25 m)	PVC	MAT9320020	(8x(2x0.25))C	0.41	10.5	7.5	14
	TPE	MAT9330020	(8x(2x0.34))C	0.51	13.0	6.8	16
84972 (5 m)	PVC	MAT9320001	(4x(2x0.25))C	0.30	7.5	7.5	14
	PUR	MAT9840601	(4x(2x0.25))C	0.30	7.5	7.5	26
	TPE	MAT9330001	(4x(2x0.25))C	0.33	8.5	6.8	16
84973 (10 m)	PVC	MAT9320009	(4x(2x0.25))C	0.30	7.5	7.5	14
	PUR	MAT9840602	(4x(2x0.25))C	0.30	7.5	7.5	26
	TPE	MAT9330009	(4x(2x0.25))C	0.33	8.5	6.8	16
84974 (15 m)	PVC	MAT9320010	(4x(2x0.25))C	0.30	7.5	7.5	14
	PUR	MAT9840603	(4x(2x0.25))C	0.30	7.5	7.5	26
	TPE	MAT9330010	(4x(2x0.25))C	0.33	8.5	6.8	16
	TPE	MAT9330010	(4x(2x0.25))C	0.33	8.5	6.8	16
84975 (20 m)	PVC	MAT9320011	(4x(2x0.25))C	0.30	7.5	7.5	14
	PUR	MAT9840604	(4x(2x0.25))C	0.30	7.5	7.5	26
	TPE	MAT9330011	(4x(2x0.25))C	0.33	8.5	6.8	16

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 specifications.
G = with green-yellow earth core x = without earth core

Harnessed drive cables | Kollmorgen/Danaher Motion

PVC/PUR/TPE

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø	Bend radius	Cable page
			[mm ²]	[in.] [mm]	[x d]	538-541

Kollmorgen/Danaher Motion Signal cables

Basic cable



87655 (25 m)	PVC	MAT9320012	(4x(2x0.25))C	0.30	7.5	7.5	14
	PUR	MAT9840605	(4x(2x0.25))C	0.30	7.5	7.5	26
	TPE	MAT9330012	(4x(2x0.25))C	0.33	8.5	6.8	16
90287 (5 m)	PVC	MAT9320002	(8x(2x0.25))C	0.41	10.5	7.5	14
	TPE	MAT9330002	(8x(2x0.34))C	0.51	13.0	6.8	16
91019 (10 m)	PVC	MAT9320013	(8x(2x0.25))C	0.41	10.5	7.5	14
	TPE	MAT9330013	(8x(2x0.34))C	0.51	13.0	6.8	16
91807 (20 m)	PVC	MAT9320015	(8x(2x0.25))C	0.41	10.5	7.5	14
	TPE	MAT9330015	(8x(2x0.34))C	0.51	13.0	6.8	16
91811 (15 m)	PVC	MAT9320014	(8x(2x0.25))C	0.41	10.5	7.5	14
	TPE	MAT9330014	(8x(2x0.34))C	0.51	13.0	6.8	16
92205 (25 m)	PVC	MAT9320016	(8x(2x0.25))C	0.41	10.5	7.5	14
	TPE	MAT9330016	(8x(2x0.34))C	0.51	13.0	6.8	16

Basic cable



85034 (5 m)	PVC	MAT9320007	(6x(2x0.25))C	0.35	9.0	7.5	14
	PUR	MAT9840606	(6x(2x0.25))C	0.39	10.0	10	15
	TPE	MAT9330007	(6x(2x0.25))C	0.39	10.0	6.8	16
85035 (10 m)	PVC	MAT9320021	(6x(2x0.25))C	0.35	9.0	7.5	14
	PUR	MAT9840607	(6x(2x0.25))C	0.39	10.0	10	15
	TPE	MAT9330021	(6x(2x0.25))C	0.39	10.0	6.8	16
85036 (15 m)	PVC	MAT9320022	(6x(2x0.25))C	0.35	9.0	7.5	14
	PUR	MAT9840608	(6x(2x0.25))C	0.39	10.0	10	15
	TPE	MAT9330022	(6x(2x0.25))C	0.39	10.0	6.8	16
85037 (20 m)	PVC	MAT9320023	(6x(2x0.25))C	0.35	9.0	7.5	14
	PUR	MAT9840609	(6x(2x0.25))C	0.39	10.0	10	15
	TPE	MAT9330023	(6x(2x0.25))C	0.39	10.0	6.8	16

Basic cable



85039 (5 m)	PVC	MAT9320008	(6x(2x0.25))C	0.35	9.0	7.5	14
	PUR	MAT9840610	(6x(2x0.25))C	0.39	10.0	10	15
	TPE	MAT9330008	(6x(2x0.25))C	0.39	10.0	6.8	16
85040 (10 m)	PVC	MAT9320024	(6x(2x0.25))C	0.35	9.0	7.5	14
	PUR	MAT9840611	(6x(2x0.25))C	0.39	10.0	10	15
	TPE	MAT9330024	(6x(2x0.25))C	0.39	10.0	6.8	16

Harnessed drive cables | Kollmorgen/Danaher Motion

PVC/PUR/TPE

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø	Bend radius	Cable page
			[mm ²]	[in.] [mm]	[x d]	538-541
Kollmorgen/Danaher Motion Signal cables						
Basic cable						
85041 (15 m)	PVC	MAT9320025	(6x(2x0.25))C	0.35 9.0	7.5	14
	PUR	MAT9840612	(6x(2x0.25))C	0.39 10.0	10	15
	TPE	MAT9330025	(6x(2x0.25))C	0.39 10.0	6.8	16
85042 (20 m)	PVC	MAT9320026	(6x(2x0.25))C	0.35 9.0	7.5	14
	PUR	MAT9840613	(6x(2x0.25))C	0.39 10.0	10	15
	TPE	MAT9330026	(6x(2x0.25))C	0.39 10.0	6.8	16



Harnessed drive cables | Lenze

PVC/PUR/TPE

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø	Bend radius	Cable page
			[mm ²]	[in.] [mm]	[x d]	538-541
Lenze Servo cables						
Basic cable						
EWLMxxxGMS-015C	PVC	MAT9751101	(4G1.5+(2x1.5)C)C	0.49 12.5	10	04
	PVC	MAT9130001	(4G1.5+(2x1.5)C)C	0.51 13.0	7.5	05
	PUR	MAT9851101	(4G1.5+(2x1.5)C)C	0.49 12.5	10	06
EWLMxxxGMS-025	PUR	MAT9120001	(4G1.5+(2x1.5)C)C	0.51 13.0	7.5	07
	PVC	MAT9751102	(4G2.5+(2x1.5)C)C	0.55 14.0	10	04
	PVC	MAT9130002	(4G2.5+(2x1.5)C)C	0.57 14.5	7.5	05
EWLMxxxGMS-040I	PUR	MAT9851102	(4G2.5+(2x1.5)C)C	0.55 14.0	10	06
	PUR	MAT9120002	(4G2.5+(2x1.5)C)C	0.57 14.5	7.5	07
	PVC	MAT9751130	(4G4.0+(2x1.5)C)C	0.59 15.0	10	04
EYP0010AxxxxA00P01	PVC	MAT9751129	(4G4.0+(2x1.5)C)C	0.63 16.0	7.5	05
	PVC	MAT9751129	(4G4.0+(2x1.5)C)C	0.59 15.0	10	06
	PUR	MAT9851129	(4G4.0+(2x1.5)C)C	0.63 16.0	7.5	07
EYP0010AxxxxM01A00	PVC	MAT9751116	(4G1.5+(2x1.5)C)C	0.49 12.5	10	04
	PVC	MAT9130063	(4G1.5+(2x1.5)C)C	0.51 13.0	7.5	05
	PUR	MAT9851118	(4G1.5+(2x1.5)C)C	0.49 12.5	10	06
EYP0010AxxxxM01A00	PUR	MAT9120063	(4G1.5+(2x1.5)C)C	0.51 13.0	7.5	07
	PVC	MAT9751107	(4G1.5+(2x1.5)C)C	0.49 12.5	10	04
	PVC	MAT9130050	(4G1.5+(2x1.5)C)C	0.51 13.0	7.5	05
EYP0011AxxxxA00P01	PUR	MAT9851105	(4G1.5+(2x1.5)C)C	0.49 12.5	10	06
	PUR	MAT9120050	(4G1.5+(2x1.5)C)C	0.51 13.0	7.5	07
	PVC	MAT9751117	(4G1.5+(2x1.5)C)C	0.49 12.5	10	04
EYP0011AxxxxM01A00	PVC	MAT9130064	(4G1.5+(2x1.5)C)C	0.51 13.0	7.5	05
	PUR	MAT9851119	(4G1.5+(2x1.5)C)C	0.49 12.5	10	06
	PUR	MAT9120064	(4G1.5+(2x1.5)C)C	0.51 13.0	7.5	07
EYP0011AxxxxM01A00	PVC	MAT9751108	(4G1.5+(2x1.5)C)C	0.49 12.5	10	04
	PVC	MAT9130051	(4G1.5+(2x1.5)C)C	0.51 13.0	7.5	05
	PUR	MAT9851106	(4G1.5+(2x1.5)C)C	0.49 12.5	10	06
EYP0012AxxxxA00P01	PUR	MAT9120051	(4G1.5+(2x1.5)C)C	0.51 13.0	7.5	07
	PVC	MAT9751118	(4G2.5+(2x1.5)C)C	0.55 14.0	10	04
	PVC	MAT9130065	(4G2.5+(2x1.5)C)C	0.57 14.5	7.5	05
EYP0012AxxxxA00P02	PUR	MAT9851120	(4G2.5+(2x1.5)C)C	0.55 14.0	10	06
	PUR	MAT9120065	(4G2.5+(2x1.5)C)C	0.57 14.5	7.5	07
	PVC	MAT9751113	(4G2.5+(2x1.5)C)C	0.55 14.0	10	04
EYP0012AxxxxA00P02	PVC	MAT9130058	(4G2.5+(2x1.5)C)C	0.57 14.5	7.5	05
	PUR	MAT9851113	(4G2.5+(2x1.5)C)C	0.55 14.0	10	06
	PUR	MAT9120058	(4G2.5+(2x1.5)C)C	0.57 14.5	7.5	07



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 specifications.
G = with green-yellow earth core x = without earth core

Harnessed drive cables | Lenze

PVC/PUR/TPE

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø		Bend radius	Cable page 538-541
				[in.]	[mm]		

Lenze Servo cables

Basic cable



EYP0012AxxxxM01A00	PVC	MAT9751109	(4G2.5+(2x1.5)C)C	0.55	14.0	10	04
	PVC	MAT9130052	(4G2.5+(2x1.5)C)C	0.57	14.5	7.5	05
	PUR	MAT9851107	(4G2.5+(2x1.5)C)C	0.55	14.0	10	06
	PUR	MAT9120052	(4G2.5+(2x1.5)C)C	0.57	14.5	7.5	07
EYP0012AxxxxM02A00	PVC	MAT9751110	(4G2.5+(2x1.5)C)C	0.55	14.0	10	04
	PVC	MAT9130053	(4G2.5+(2x1.5)C)C	0.57	14.5	7.5	05
	PUR	MAT9851108	(4G2.5+(2x1.5)C)C	0.55	14.0	10	06
	PUR	MAT9120053	(4G2.5+(2x1.5)C)C	0.57	14.5	7.5	07
EYP0013AxxxxA00P02	PVC	MAT9751114	(4G4.0+(2x1.5)C)C	0.59	15.0	10	04
	PVC	MAT9130059	(4G4.0+(2x1.5)C)C	0.63	16.0	7.5	05
	PUR	MAT9851114	(4G4.0+(2x1.5)C)C	0.59	15.0	10	06
	PUR	MAT9120059	(4G4.0+(2x1.5)C)C	0.63	16.0	7.5	07
EYP0013AxxxxM02A00	PVC	MAT9751111	(4G4.0+(2x1.5)C)C	0.59	15.0	10	04
	PVC	MAT9130054	(4G4.0+(2x1.5)C)C	0.63	16.0	7.5	05
	PUR	MAT9851109	(4G4.0+(2x1.5)C)C	0.59	15.0	10	06
	PUR	MAT9120054	(4G4.0+(2x1.5)C)C	0.63	16.0	7.5	07
EYP0014AxxxxA00P03	PVC	MAT9751115	(4G6.0+(2x1.5)C)C	0.65	16.5	10	04
	PVC	MAT9130060	(4G6.0+(2x1.5)C)C	0.71	18.0	7.5	05
	PUR	MAT9851115	(4G6.0+(2x1.5)C)C	0.65	16.5	10	06
	PUR	MAT9120060	(4G6.0+(2x1.5)C)C	0.69	17.5	7.5	07
EYP0014AxxxxM03A00	PVC	MAT9751112	(4G6.0+(2x1.5)C)C	0.65	16.5	10	04
	PVC	MAT9130055	(4G6.0+(2x1.5)C)C	0.71	18.0	7.5	05
	PVC	MAT9851110	(4G6.0+(2x1.5)C)C	0.71	18.0	7.5	05
	PUR	MAT9120055	(4G6.0+(2x1.5)C)C	0.69	17.5	7.5	07
EYP0015AxxxxA00P03	PVC	MAT9130061	(4G10+(2x1.5)C)C	0.85	21.5	7.5	05
	PUR	MAT9851116	(4G10+(2x1.5)C)C	0.83	21.0	10	06
	PUR	MAT9120061	(4G10+(2x1.5)C)C	0.83	21.0	7.5	07
EYP0015AxxxxM03A00	PVC	MAT9130056	(4G10+(2x1.5)C)C	0.85	21.5	7.5	05
	PUR	MAT9851111	(4G10+(2x1.5)C)C	0.83	21.0	10	06
	PUR	MAT9120056	(4G10+(2x1.5)C)C	0.83	21.0	7.5	07
EYP0016AxxxxA00P03	PVC	MAT9130062	(4G16+(2x1.5)C)C	0.98	25.0	7.5	05
	PUR	MAT9851117	(4G16+(2x1.5)C)C	0.94	24.0	10	06
	PUR	MAT9120062	(4G16+(2x1.5)C)C	0.94	24.0	7.5	07
EYP0016AxxxxM03A00	PVC	MAT9130057	(4G16+(2x1.5)C)C	0.98	25.0	7.5	05
	PUR	MAT9851112	(4G16+(2x1.5)C)C	0.94	24.0	10	06
	PUR	MAT9120057	(4G16+(2x1.5)C)C	0.94	24.0	7.5	07

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 specifications.
G = with green-yellow earth core x = without earth core

Harnessed drive cables | Lenze

PVC/PUR/TPE

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø		Bend radius	Cable page 538-541
				[in.]	[mm]		

Lenze Servo cables

Linking cable



EWLMxxxZM-015C	PVC	MAT9751103	(4G1.5+(2x1.5)C)C	0.49	12.5	10	04
	PVC	MAT9130006	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	05
	PUR	MAT9851103	(4G1.5+(2x1.5)C)C	0.49	12.5	10	06
	PUR	MAT9120006	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	07
EWLMxxxZM-025	PVC	MAT9751104	(4G2.5+(2x1.5)C)C	0.55	14.0	10	04
	PVC	MAT9130007	(4G2.5+(2x1.5)C)C	0.57	14.5	7.5	05
	PUR	MAT9851104	(4G2.5+(2x1.5)C)C	0.55	14.0	10	06
	PUR	MAT9120007	(4G2.5+(2x1.5)C)C	0.57	14.5	7.5	07
EYP0010VxxxxM01P01	PVC	MAT9751122	(4G1.5+(2x1.5)C)C	0.49	12.5	10	04
	PVC	MAT9130071	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	05
	PUR	MAT9851126	(4G1.5+(2x1.5)C)C	0.49	12.5	10	06
	PUR	MAT9120071	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	07
EYP0011VxxxxM01P01	PVC	MAT9751123	(4G1.5+(2x1.5)C)C	0.49	12.5	10	04
	PVC	MAT9130072	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	05
	PUR	MAT9851127	(4G1.5+(2x1.5)C)C	0.49	12.5	10	06
	PUR	MAT9120072	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	07
EYP0012VxxxxM01P01	PVC	MAT9751124	(4G2.5+(2x1.5)C)C	0.55	14.0	10	04
	PVC	MAT9130073	(4G4.0+(2x1.5)C)C	0.63	16.0	7.5	05
	PUR	MAT9851128	(4G2.5+(2x1.5)C)C	0.55	14.0	10	06
	PUR	MAT9120073	(4G2.5+(2x1.5)C)C	0.57	14.5	7.5	07
EYP0012VxxxxM02P02	PVC	MAT9751119	(4G2.5+(2x1.5)C)C	0.55	14.0	10	04
	PVC	MAT9130066	(4G2.5+(2x1.5)C)C	0.57	14.5	7.5	05
	PUR	MAT9851121	(4G2.5+(2x1.5)C)C	0.55	14.0	10	06
	PUR	MAT9120066	(4G2.5+(2x1.5)C)C	0.57	14.5	7.5	07
EYP0013VxxxxM02P02	PVC	MAT9751120	(4G4.0+(2x1.5)C)C	0.59	15.0	10	04
	PVC	MAT9130067	(4G4.0+(2x1.5)C)C	0.63	16.0	7.5	05
	PUR	MAT9851122	(4G4.0+(2x1.5)C)C	0.59	15.0	10	06
	PUR	MAT9120067	(4G4.0+(2x1.5)C)C	0.63	16.0	7.5	07
EYP0014VxxxxM03P03	PVC	MAT9751121	(4G6.0+(2x1.5)C)C	0.65	16.5	10	04
	PVC	MAT9130068	(4G6.0+(2x1.5)C)C	0.71	18.0	7.5	05
	PUR	MAT9851123	(4G6.0+(2x1.5)C)C	0.65	16.5	10	06
	PUR	MAT9120068	(4G6.0+(2x1.5)C)C	0.69	17.5	7.5	07
EYP0015VxxxxM03P03	PVC	MAT9130069	(4G10+(2x1.5)C)C	0.85	21.5	7.5	05
	PUR	MAT9851124	(4G10+(2x1.5)C)C	0.83	21.0	10	06
	PUR	MAT9120069	(4G10+(2x1.5)C)C	0.83	21.0	7.5	07
EYP0016VxxxxM03P03	PVC	MAT9130070	(4G16+(2x1.5)C)C	0.98	25.0	7.5	05
	PUR	MAT9851125	(4G16+(2x1.5)C)C	0.94	24.0	10	06
	PUR	MAT9120070	(4G16+(2x1.5)C)C	0.94	24.0	7.5	07

Harnessed drive cables | Lenze

PVC/PUR/TPE

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø	Bend radius	Cable page
			[mm ²]	[in.] [mm]	[x d]	538-541

Lenze Fan cables

Basic cable



EWLLxxxGMS	PVC	MAT9761101	3G1.0	0.26	6.5	7.5	17
	PVC	MAT9130031	3G1.0	0.26	6.5	6.8	19
	TPE	MAT9120031	3G1.0	0.24	6.0	5	23
	TPE	MAT9961101	3G1.0	0.30	7.5	5	25
EYL002AxxxxL01A00	PVC	MAT9130040	5G1.0	0.31	8.0	6.8	19
	TPE	MAT9120040	5G1.0	0.30	7.5	5	23
EYL002AxxxxL02A00	PVC	MAT9130041	5G1.0	0.31	8.0	6.8	19
	TPE	MAT9120041	5G1.0	0.30	7.5	5	23

Linking cable



EWLLxxxZM	PVC	MAT9761102	3G1.0	0.26	6.5	7.5	17
	PVC	MAT9130032	3G1.0	0.26	6.5	6.8	19
	TPE	MAT9120032	3G1.0	0.24	6.0	5	23
	TPE	MAT9961102	3G1.0	0.30	7.5	5	25
EYL002VxxxxL01J01	PVC	MAT9130044	5G1.0	0.31	8.0	6.8	19
	TPE	MAT9120044	5G1.0	0.30	7.5	5	23
EYL002VxxxxL02J02	PVC	MAT9130045	5G1.0	0.31	8.0	6.8	19
	TPE	MAT9120045	5G1.0	0.30	7.5	5	23

Extension cable



EYL002VxxxxA00J01	PVC	MAT9130042	5G1.0	0.31	8.0	6.8	19
	TPE	MAT9120042	5G1.0	0.30	7.5	5	23
EYL002VxxxxA00J02	PVC	MAT9130043	5G1.0	0.31	8.0	6.8	19
	PUR	MAT9861110	5G1.0	0.31	8.0	6.8	21
	TPE	MAT9120043	5G1.0	0.30	7.5	5	23
	TPE	MAT9961106	5G1.0	0.35	9.0	5	25

Lenze Decoder cables

Linking cable



EYD0017AxxxxW01S01	PVC	MAT9130100	3x(2x0.14)C+(3x0.14)C	0.31	8.0	10	08
	PUR	MAT9841107	3x(2x0.14)C+(3x0.14)C	0.33	8.5	7.5	10
	TPE	MAT9120100	3x(2x0.14)C+(3x0.14)C	0.31	8.0	7.5	11

Harnessed drive cables | Lenze

PVC/PUR/TPE

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø	Bend radius	Cable page
			[mm ²]	[in.] [mm]	[x d]	538-541

Lenze Decoder cables

Linking cable



EYD0017AxxxxW01S02	PVC	MAT9130101	3x(2x0.14)C+(3x0.14)C	0.31	8.0	10	08
	PUR	MAT9841108	3x(2x0.14)C+(3x0.14)C	0.33	8.5	7.5	10
	TPE	MAT9120101	3x(2x0.14)C+(3x0.14)C	0.31	8.0	7.5	11

Linking cable



EYD0017AxxxxW03S01	PVC	MAT9130102	3x(2x0.14)C+(3x0.14)C	0.31	8.0	10	08
	PUR	MAT9841109	3x(2x0.14)C+(3x0.14)C	0.33	8.5	7.5	10
	TPE	MAT9120102	3x(2x0.14)C+(3x0.14)C	0.31	8.0	7.5	11

Linking cable



EYD0017AxxxxW03S02	PVC	MAT9130103	3x(2x0.14)C+(3x0.14)C	0.31	8.0	10	08
	PUR	MAT9841110	3x(2x0.14)C+(3x0.14)C	0.33	8.5	7.5	10
	TPE	MAT9120103	3x(2x0.14)C+(3x0.14)C	0.31	8.0	7.5	11

Lenze Encoder cables

Basic cable



EWLExxxGM-T	PVC	MAT9130026	(4x(2x0.25)+2x1.0)C	0.33	8.5	10	08
	PUR	MAT9841104	(4x(2x0.25)+2x1.0)C	0.35	9.0	7.5	10
	TPE	MAT9120026	(4x(2x0.25)+2x1.0)C	0.35	9.0	7.5	11

Linking cable



EWLExxxZMST	PVC	MAT9130027	(4x(2x0.25)+2x1.0)C	0.33	8.5	10	08
	PUR	MAT9841105	(4x(2x0.25)+2x1.0)C	0.35	9.0	7.5	10
	TPE	MAT9120027	(4x(2x0.25)+2x1.0)C	0.35	9.0	7.5	11

Terminal box connection cable



EWLExxxGX-T	PVC	MAT9130028	(4x(2x0.25)+2x1.0)C	0.33	8.5	10	08
	PUR	MAT9841106	(4x(2x0.25)+2x1.0)C	0.35	9.0	7.5	10
	TPE	MAT9120028	(4x(2x0.25)+2x1.0)C	0.35	9.0	7.5	11

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 specifications.
G = with green-yellow earth core x = without earth core

Harnessed drive cables | Lenze

PVC/PUR/TPE

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø		Bend radius	Cable page 538-541
				[in.]	[mm]		
Lenze Feedback cables							
Basic cable							
EYF0017AxxxxA00W02	PUR	MAT9121091	4x(2x0.14)C+2x(1.0)C	0.37	9.5	7.5	10
Basic cable							
EYF0018AxxxxA00S03	PVC	MAT9130095	4x(2x0.14)C+2x(1.0)C	0.37	9.5	10	08
	PUR	MAT9121095	4x(2x0.14)C+2x(1.0)C	0.37	9.5	7.5	10
	TPE	MAT9120095	4x(2x0.14)C+2x(1.0)C	0.37	9.5	7.5	11
Basic cable							
EYF0018AxxxxA00W02	PVC	MAT9130091	4x(2x0.14)C+2x(1.0)C	0.37	9.5	10	08
	TPE	MAT9120091	4x(2x0.14)C+2x(1.0)C	0.37	9.5	7.5	11
Basic cable							
EYF0018AxxxxF02S03	PVC	MAT9130088	4x(2x0.14)C+2x(1.0)C	0.37	9.5	10	08
	TPE	MAT9120088	4x(2x0.14)C+2x(1.0)C	0.37	9.5	7.5	11
Basic cable							
EYF0018AxxxxF02W02	PVC	MAT9130087	4x(2x0.14)C+2x(1.0)C	0.37	9.5	10	08
	PUR	MAT9121087	4x(2x0.14)C+2x(1.0)C	0.37	9.5	7.5	10
	TPE	MAT9120087	4x(2x0.14)C+2x(1.0)C	0.37	9.5	7.5	11
Basic cable							
EYF0019AxxxxF02S03	PUR	MAT9121088	4x(2x0.14)C+2x(1.0)C	0.37	9.5	7.5	10
Basic cable							
EYF0020AxxxxA00S04	PVC	MAT9130092	3x(2x0.14)C+(3x0.14)C	0.31	8.0	10	08
	PUR	MAT9121092	3x(2x0.14)C+(3x0.14)C	0.33	8.5	7.5	10
	TPE	MAT9120092	3x(2x0.14)C+(3x0.14)C	0.31	8.0	7.5	11

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 specifications.
G = with green-yellow earth core x = without earth core

Harnessed drive cables | Lenze

PVC/PUR/TPE

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø		Bend radius	Cable page 538-541
				[in.]	[mm]		
Lenze Feedback cables							
Basic cable							
EYF0020AxxxxA00S05	PVC	MAT9130093	3x(2x0.14)C+(3x0.14)C	0.31	8.0	10	08
	PUR	MAT9121093	3x(2x0.14)C+(3x0.14)C	0.33	8.5	7.5	10
	TPE	MAT9120093	3x(2x0.14)C+(3x0.14)C	0.31	8.0	7.5	11
Basic cable							
EYF0020AxxxxF01S04	PVC	MAT9130089	3x(2x0.14)C+(3x0.14)C	0.31	8.0	10	08
	PUR	MAT9121089	3x(2x0.14)C+(3x0.14)C	0.33	8.5	7.5	10
	TPE	MAT9120089	3x(2x0.14)C+(3x0.14)C	0.31	8.0	7.5	11
Basic cable							
EYF0020AxxxxF01S05	PVC	MAT9130090	3x(2x0.14)C+(3x0.14)C	0.31	8.0	10	08
	PUR	MAT9121090	3x(2x0.14)C+(3x0.14)C	0.33	8.5	7.5	10
	TPE	MAT9120090	3x(2x0.14)C+(3x0.14)C	0.31	8.0	7.5	11
Basic cable							
EYF0021AxxxxA00S03	PUR	MAT9121094	3x(2x0.14)C+(4x0.14)C+2x(2x0.5)C	0.45	11.5	7.5	10
	TPE	MAT9120094	3x(2x0.14)C+(4x0.14)C+2x(2x0.5)C	0.43	11.0	7.5	11
Basic cable							
EYF0021AxxxxF03S03	PUR	MAT9121086	3x(2x0.14)C+(4x0.14)C+2x(2x0.5)C	0.45	11.5	7.5	10
	TPE	MAT9120086	3x(2x0.14)C+(4x0.14)C+2x(2x0.5)C	0.43	11.0	7.5	11
EYF0021AxxxxF07S03	PUR	MAT9841111	3x(2x0.14)C+(4x0.14)C+2x(2x0.5)C	0.45	11.5	7.5	10
	TPE	MAT9941111	3x(2x0.14)C+(4x0.14)C+2x(2x0.5)C	0.43	11.0	7.5	11
Linking cable							
EYF0019VxxxxF02G02	PVC	MAT9130084	4x(2x0.14)C+2x(1.0)C	0.37	9.5	10	08
	PUR	MAT9121084	4x(2x0.14)C+2x(1.0)C	0.37	9.5	7.5	10
	TPE	MAT9120084	4x(2x0.14)C+2x(1.0)C	0.37	9.5	7.5	11
EYF0019VxxxxF06G07	PUR	MAT9121096	4x(2x0.14)C+2x(1.0)C	0.37	9.5	7.5	10
	TPE	MAT9120096	4x(2x0.14)C+2x(1.0)C	0.37	9.5	7.5	11
EYF0020VxxxxF01G01	PVC	MAT9130083	3x(2x0.14)C+(3x0.14)C	0.31	8.0	10	08
	PUR	MAT9121083	3x(2x0.14)C+(3x0.14)C	0.33	8.5	7.5	10
	TPE	MAT9120083	3x(2x0.14)C+(3x0.14)C	0.31	8.0	7.5	11

Harnessed drive cables | Lenze

PVC/PUR/TPE

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø	Bend radius	Cable page
			[mm ²]	[in.] [mm]	[x d]	538-541

Lenze Feedback cables

Linking cable



EYF0022VxxxxF03G03	PUR	MAT9121085	3x(2x0.14)C+(4x0.14)C+2x(2x0.5)C	0.45	11.5	7.5	10
	TPE	MAT9120085	3x(2x0.14)C+(4x0.14)C+2x(2x0.5)C	0.43	11.0	7.5	11

Extension cable



EYF0019VxxxxA00G02	PVC	MAT9130081	4x(2x0.14)C+2x(1.0)C	0.37	9.5	10	08
	PUR	MAT9121081	4x(2x0.14)C+2x(1.0)C	0.37	9.5	7.5	10
	TPE	MAT9120081	4x(2x0.14)C+2x(1.0)C	0.37	9.5	7.5	11
EYF0020VxxxxA00G01	PVC	MAT9130080	3x(2x0.14)C+(3x0.14)C	0.31	8.0	10	08
	PUR	MAT9121080	3x(2x0.14)C+(3x0.14)C	0.33	8.5	7.5	10
	TPE	MAT9120080	3x(2x0.14)C+(3x0.14)C	0.31	8.0	7.5	11
EYF0022VxxxxA00G03	PUR	MAT9121082	3x(2x0.14)C+(4x0.14)C+2x(2x0.5)C	0.45	11.5	7.5	10
	TPE	MAT9120082	3x(2x0.14)C+(4x0.14)C+2x(2x0.5)C	0.43	11.0	7.5	11

Lenze Resolver cables

Basic cable



EWLRxxxGM-T	PVC	MAT9130021	(3x(2x0.14)C+2x(0.5)C)C	0.37	9.5	10	08
	PUR	MAT9841101	(3x(2x0.14)C+(2x0.5)C)C	0.39	10.0	7.5	10
	TPE	MAT9120021	(3x(2x0.14)C+(2x0.5)C)C	0.39	10.0	7.5	11

Linking cable



EWLRxxxZMST	PVC	MAT9130022	(3x(2x0.14)C+2x(0.5)C)C	0.37	9.5	10	08
	PUR	MAT9841102	(3x(2x0.14)C+(2x0.5)C)C	0.39	10.0	7.5	10
	TPE	MAT9120022	(3x(2x0.14)C+(2x0.5)C)C	0.39	10.0	7.5	11

Terminal box connection cable



EWLRxxxGX-T	PVC	MAT9130023	(3x(2x0.14)C+2x(0.5)C)C	0.37	9.5	10	08
	PUR	MAT9841103	(3x(2x0.14)C+(2x0.5)C)C	0.39	10.0	7.5	10
	TPE	MAT9120023	(3x(2x0.14)C+(2x0.5)C)C	0.39	10.0	7.5	11

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 specifications.
G = with green-yellow earth core x = without earth core

Harnessed drive cables | LinMot

PVC/PUR

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø	Bend radius	Cable page
			[mm ²]	[in.] [mm]	[x d]	538-541

LinMot Motor cables

Basic cable



P10-70x...-D01/D02-MS	PVC	MAT9762401	(4G1.5)C	0.39	10.0	7.5	01
	PUR	MAT9862401	(4G1.5)C	0.39	10.0	10	06
	PUR	MAT9862402	(4G1.5)C	0.43	11.0	7.5	07

LinMot Servo cables

Basic cable



P10-70x...-D03-MS	PVC	MAT9752401	(4G1.5+(2x1.5)C)C	0.49	12.5	10	04
	PVC	MAT9752402	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	05
	PUR	MAT9852402	(4G1.5+(2x1.5)C)C	0.49	12.5	10	06
	PUR	MAT9852401	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	07

LinMot Encoder cables

Basic cable



P10-70x...D0x-SMC20		MAT9842401					
P10-70x...D0x-SME20		MAT9842402					

Harnessed drive cables | LTi DRIVES

PVC/PUR/TPE

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø	Bend radius	Cable page
			[mm ²]	[in.] [mm]	[x d]	538-541

LTi DRIVES Servo cables

Basic cable



KM3-KSxxx	PVC	MAT9020004	(4G1.5+2x(2x0.75)C)C	0.53	13.5	10	04
	PVC	MAT9020003	(4G1.5+2x(2x0.75)C)C	0.57	14.5	7.5	05
	PUR	MAT9020002	(4G1.5+2x(2x0.75)C)C	0.53	13.5	10	06
	PUR	MAT9020001	(4G1.5+2x(2x0.75)C)C	0.57	14.5	7.5	07
KM3-KSxxx-24A	PVC	MAT9020014	(4G2.5+2x(2x1.5)C)C	0.63	16.0	10	04
	PVC	MAT9020013	(4G2.5+2x(2x1.5)C)C	0.67	17.0	7.5	05
	PUR	MAT9020012	(4G2.5+2x(2x1.5)C)C	0.63	16.0	10	06
	PUR	MAT9020011	(4G2.5+2x(2x1.5)C)C	0.63	16.0	7.5	07

Basic cable



KM3-KSxxx-63A	PVC	MAT9020023	(4G10+2x(2x1.5)C)C	0.91	23.0	7.5	05
	PUR	MAT9020022	(4G10+2x(2x1.5)C)C	0.89	22.5	10	06
	PUR	MAT9020021	(4G10+2x(2x1.5)C)C	0.89	22.5	7.5	07

Extension cable



KM3-KSxxx (ext.)	PVC	MAT9022004	(4G1.5+2x(2x0.75)C)C	0.53	13.5	10	04
	PUR	MAT9022002	(4G1.5+2x(2x0.75)C)C	0.53	13.5	10	06
	PUR	MAT9022001	(4G1.5+2x(2x0.75)C)C	0.57	14.5	7.5	07
	PVC	MAT9022003	(4G1.5+2x(2x0.75)C)C	0.57	14.5	7.5	05
KM3-KSxxx-24A (ext.)	PVC	MAT9022014	(4G2.5+2x(2x1.5)C)C	0.63	16.0	10	04
	PVC	MAT9022013	(4G2.5+2x(2x1.5)C)C	0.67	17.0	7.5	05
	PUR	MAT9022012	(4G2.5+2x(2x1.5)C)C	0.63	16.0	10	06
	PUR	MAT9022011	(4G2.5+2x(2x1.5)C)C	0.63	16.0	7.5	07

Extension cable



KM3-KSxxx-63A (ext.)	PVC	MAT9022023	(4G10+2x(2x1.5)C)C	0.91	23.0	7.5	05
	PUR	MAT9022021	(4G10+2x(2x1.5)C)C	0.89	22.5	7.5	07
	PUR	MAT9022022	(4G10+2x(2x1.5)C)C	0.89	22.5	10	06

LTi DRIVES Encoder cables

Basic cable



KGH2-KSxxx	PVC	MAT9021004	(4x(2x0.25)+2x1.0)C	0.33	8.5	10	08
	TPE	MAT9021001	(4x(2x0.25)+2x1.0)C	0.35	9.0	7.5	11

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 specifications.
G = with green-yellow earth core x = without earth core

Harnessed drive cables | LTi DRIVES

PVC/PUR/TPE

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø	Bend radius	Cable page
			[mm ²]	[in.] [mm]	[x d]	538-541

LTi DRIVES Encoder cables

Basic cable



KGH3-KSxxx	PVC	MAT9021014	(4x(2x0.25)+2x1.0)C	0.33	8.5	10	08
	TPE	MAT9021011	(4x(2x0.25)+2x1.0)C	0.35	9.0	7.5	11
KGS2-KSxxx	PUR	MAT9021023	(2x(2x(2x0.14))+(4x0.14)C+(4x0.5))C	0.41	10.5	10	09
	PUR	MAT9021022	(2x(2x(2x0.14))+(4x0.14)C+(4x0.5))C	0.43	11.0	7.5	10
	TPE	MAT9021021	(2x(2x(2x0.14))+(4x0.14)C+(4x0.5))C	0.43	11.0	7.5	11
KRY2-CDF-KSxxx	PVC	MAT9021034	(4x(2x0.25)+2x0.5)C	0.31	8.0	10	08
	PUR	MAT9021032	(4x(2x0.25)+2x0.5)C	0.33	8.5	7.5	10
	TPE	MAT9021031	(4x(2x0.25)+2x0.5)C	0.33	8.5	7.5	11
KRY2-KSxxx	PVC	MAT9021044	(4x(2x0.25)+2x0.5)C	0.31	8.0	10	08
	PUR	MAT9021042	(4x(2x0.25)+2x0.5)C	0.33	8.5	7.5	10
	TPE	MAT9021041	(4x(2x0.25)+2x0.5)C	0.33	8.5	7.5	11

Extension cable



KGH2-KSxxx (ext.)	PVC	MAT9023004	(4x(2x0.25)+2x1.0)C	0.33	8.5	10	08
	TPE	MAT9023001	(4x(2x0.25)+2x1.0)C	0.35	9.0	7.5	11
KGH3-KSxxx (ext.)	PVC	MAT9023014	(4x(2x0.25)+2x1.0)C	0.33	8.5	10	08
	TPE	MAT9023011	(4x(2x0.25)+2x1.0)C	0.35	9.0	7.5	11
KGS2-KSxxx (ext.)	PUR	MAT9023023	(2x(2x(2x0.14))+(4x0.14)C+(4x0.5))C	0.41	10.5	10	09
	PUR	MAT9023022	(2x(2x(2x0.14))+(4x0.14)C+(4x0.5))C	0.43	11.0	7.5	10
	TPE	MAT9023021	(2x(2x(2x0.14))+(4x0.14)C+(4x0.5))C	0.43	11.0	7.5	11
KRY2-CDF-KSxxx (ext.)	PVC	MAT9023034	(4x(2x0.25)+2x0.5)C	0.31	8.0	10	08
	PUR	MAT9023032	(4x(2x0.25)+2x0.5)C	0.33	8.5	7.5	10
	TPE	MAT9023031	(4x(2x0.25)+2x0.5)C	0.33	8.5	7.5	11
KRY2-KSxxx (ext.)	PVC	MAT9023044	(4x(2x0.25)+2x0.5)C	0.31	8.0	10	08
	PUR	MAT9023042	(4x(2x0.25)+2x0.5)C	0.33	8.5	7.5	10
	TPE	MAT9023041	(4x(2x0.25)+2x0.5)C	0.33	8.5	7.5	11

Harnessed drive cables | Mitsubishi Electric

PVC/PUR/TPE

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø		Bend radius	Cable page 538-541
				[in.]	[mm]		
Mitsubishi Electric Motor cables							
Basic cable							
MR-BKS1CBL-xxx-A1-H	PVC	MAT9712002	3G0.75	0.26	6.5	6.8	19
	PUR	MAT9812002	3G0.75	0.26	6.5	6.8	21
MR-BKS1CBL-xxx-A2-H	PVC	MAT9712004	3G0.75	0.26	6.5	6.8	19
	PUR	MAT9812004	3G0.75	0.26	6.5	6.8	21
Basic cable							
MR-PWS1CBL-xxx-A1-H	PVC	MAT9712001	4G0.75	0.28	7.0	6.8	19
	PUR	MAT9812001	4G0.75	0.28	7.0	6.8	21
MR-PWS1CBL-xxx-A2-H	PVC	MAT9712003	4G0.75	0.28	7.0	6.8	19
	PUR	MAT9812003	4G0.75	0.28	7.0	6.8	21
Basic cable							
PCS015N-xxx-0-0C4	PVC	MAT9752002	(4G1.5)C	0.39	10.0	7.5	01
	PUR	MAT9852002	(4G1.5)C	0.39	10.0	10	06
	PUR	MAT9952002	(4G1.5)C	0.43	11.0	7.5	07
PCS025N-xxx-0-0C5	PVC	MAT9752003	(4G2.5)C	0.45	11.5	7.5	01
	PUR	MAT9852003	(4G2.5)C	0.45	11.5	10	06
	PUR	MAT9952003	(4G2.5)C	0.49	12.5	7.5	07
PCS025N-xxx-C4	PVC	MAT9752001	(4G2.5+(2x1.5)C)C	0.55	14.0	10	04
	PUR	MAT9852001	(4G2.5)C	0.45	11.5	10	06
	PUR	MAT9952001	(4G2.5)C	0.49	12.5	7.5	07
PCS040N-xxx-0-0C4	PVC	MAT9752004	(4G4.0)C	0.51	13.0	7.5	01
	PUR	MAT9852004	(4G4.0)C	0.51	13.0	10	06
	TPE	MAT9952004	(4G4.0)C	0.51	13.0	7.5	02
PCS040N-xxx-0-0C5	PVC	MAT9752005	(4G4.0)C	0.51	13.0	7.5	01
	PUR	MAT9852005	(4G4.0)C	0.51	13.0	10	06
	TPE	MAT9952005	(4G4.0)C	0.51	13.0	7.5	02
PCS060N-xxx-0-0C5	PVC	MAT9752006	(4G6.0)C	0.63	16.0	7.5	01
	PUR	MAT9852006	(4G6.0)C	0.59	15.0	10	06
	TPE	MAT9952006	(4G6.0)C	0.63	16.0	7.5	02

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 specifications.
G = with green-yellow earth core x = without earth core

Harnessed drive cables | Mitsubishi Electric

PVC/PUR/TPE

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø		Bend radius	Cable page 538-541
				[in.]	[mm]		
Mitsubishi Electric Encoder cables							
Basic cable							
MR-J3ENCBL-xxx-A1-H	PVC	MAT9722002	(3x(2x0.25))C	0.28	7.0	7.5	14
	PUR	MAT9822002	(3x(2x0.25))C	0.28	7.0	7.5	26
MR-J3ENCBL-xxx-A2-H	PVC	MAT9722003	(3x(2x0.25))C	0.28	7.0	7.5	14
	PUR	MAT9822003	(3x(2x0.25))C	0.28	7.0	7.5	26
Basic cable							
MR-J3ENSCBL-xxx-H	PVC	MAT9722001	(3x(2x0.25))C	0.28	7.0	7.5	14
	PUR	MAT9822001	(3x(2x0.25))C	0.28	7.0	7.5	26

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø	Bend radius	Cable page
			[mm²]	[in.] [mm]	[x d]	538-541

Nidec/Control Techniques Motor cables

Basic cable



PS B A A A XXX	PVC	MAT9560002	(4G2.5)C	0.45	11.5	7.5	01
	TPE	MAT9540002	(4G2.5)C	0.45	11.5	7.5	02
	TPE	MAT9960502	(4G2.5)C	0.45	11.5	7.5	03
PS B A F A XXX	PVC	MAT9560005	(4G2.5)C	0.45	11.5	7.5	01
	TPE	MAT9540005	(4G2.5)C	0.45	11.5	7.5	02
	TPE	MAT9960505	(4G2.5)C	0.45	11.5	7.5	03
PS B B A A XXX	PVC	MAT9560003	(4G4.0)C	0.51	13.0	7.5	01
	TPE	MAT9540003	(4G4.0)C	0.51	13.0	7.5	02
	TPE	MAT9960503	(4G4.0)C	0.51	13.0	7.5	03
PS B B F A XXX	PVC	MAT9560006	(4G4.0)C	0.51	13.0	7.5	01
	TPE	MAT9540006	(4G4.0)C	0.51	13.0	7.5	02
	TPE	MAT9960506	(4G4.0)C	0.51	13.0	7.5	03
PS B G A A XXX	PVC	MAT9560001	(4G1.5)C	0.39	10.0	7.5	01
	TPE	MAT9540001	(4G1.5)C	0.39	10.0	7.5	02
	TPE	MAT9960501	(4G1.5)C	0.39	10.0	7.5	03
PS B G F A XXX	PVC	MAT9560004	(4G1.5)C	0.39	10.0	7.5	01
	TPE	MAT9540004	(4G1.5)C	0.39	10.0	7.5	02
	TPE	MAT9960504	(4G1.5)C	0.39	10.0	7.5	03

Basic cable



PS B A A B XXX	PVC	MAT9560008	(4G2.5)C	0.45	11.5	7.5	01
	TPE	MAT9540008	(4G2.5)C	0.45	11.5	7.5	02
	TPE	MAT9960508	(4G2.5)C	0.45	11.5	7.5	03
PS B A B B XXX	PVC	MAT9560020	(4G2.5)C	0.45	11.5	7.5	01
	TPE	MAT9540020	(4G2.5)C	0.45	11.5	7.5	02
	TPE	MAT9960520	(4G2.5)C	0.45	11.5	7.5	03
PS B A F B XXX	PVC	MAT9560014	(4G2.5)C	0.45	11.5	7.5	01
	TPE	MAT9540014	(4G2.5)C	0.45	11.5	7.5	02
	TPE	MAT9960514	(4G2.5)C	0.45	11.5	7.5	03
PS B B A B XXX	PVC	MAT9560009	(4G4.0)C	0.51	13.0	7.5	01
	TPE	MAT9540009	(4G4.0)C	0.51	13.0	7.5	02
	TPE	MAT9960509	(4G4.0)C	0.51	13.0	7.5	03
PS B B B B XXX	PVC	MAT9560021	(4G4.0)C	0.51	13.0	7.5	01
	TPE	MAT9540021	(4G4.0)C	0.51	13.0	7.5	02
	TPE	MAT9960521	(4G4.0)C	0.51	13.0	7.5	03
PS B B F B XXX	PVC	MAT9560015	(4G4.0)C	0.51	13.0	7.5	01
	TPE	MAT9540015	(4G4.0)C	0.51	13.0	7.5	02
	TPE	MAT9960515	(4G4.0)C	0.51	13.0	7.5	03

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 specifications.
G = with green-yellow earth core x = without earth core

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø	Bend radius	Cable page
			[mm²]	[in.] [mm]	[x d]	538-541

Nidec/Control Techniques Motor cables

Basic cable



PS B C A B XXX	PVC	MAT9560010	(4G6.0)C	0.63	16.0	7.5	01
	TPE	MAT9540010	(4G6.0)C	0.63	16.0	7.5	02
	TPE	MAT9960510	(4G6.0)C	0.63	16.0	7.5	03
PS B C B B XXX	PVC	MAT9560022	(4G6.0)C	0.63	16.0	7.5	01
	TPE	MAT9540022	(4G6.0)C	0.63	16.0	7.5	02
	TPE	MAT9960522	(4G6.0)C	0.63	16.0	7.5	03
PS B C F B XXX	PVC	MAT9560016	(4G6.0)C	0.63	16.0	7.5	01
	TPE	MAT9540016	(4G6.0)C	0.63	16.0	7.5	02
	TPE	MAT9960516	(4G6.0)C	0.63	16.0	7.5	03
PS B D A B XXX	PVC	MAT9560011	(4G10)C	0.73	18.5	7.5	01
	TPE	MAT9540011	(4G10)C	0.73	18.5	7.5	02
	TPE	MAT9960511	(4G10)C	0.73	18.5	7.5	03
PS B D B B XXX	PVC	MAT9560023	(4G10)C	0.73	18.5	7.5	01
	TPE	MAT9540023	(4G10)C	0.73	18.5	7.5	02
	TPE	MAT9960523	(4G10)C	0.73	18.5	7.5	03
PS B D F B XXX	PVC	MAT9560017	(4G10)C	0.73	18.5	7.5	01
	TPE	MAT9540017	(4G10)C	0.73	18.5	7.5	02
	TPE	MAT9960517	(4G10)C	0.73	18.5	7.5	03
PS B E A B XXX	PVC	MAT9560012	(4G16)C	0.91	23.0	7.5	01
	TPE	MAT9540012	(4G16)C	0.91	23.0	7.5	02
	TPE	MAT9960512	(4G16)C	0.91	23.0	7.5	03
PS B E B B XXX	PVC	MAT9560024	(4G16)C	0.91	23.0	7.5	01
	TPE	MAT9540024	(4G16)C	0.91	23.0	7.5	02
	TPE	MAT9960524	(4G16)C	0.91	23.0	7.5	03
PS B E F B XXX	PVC	MAT9560018	(4G16)C	0.91	23.0	7.5	01
	TPE	MAT9540018	(4G16)C	0.91	23.0	7.5	02
	TPE	MAT9960518	(4G16)C	0.91	23.0	7.5	03
PS B G A B XXX	PVC	MAT9560007	(4G1.5)C	0.39	10.0	7.5	01
	TPE	MAT9540007	(4G1.5)C	0.39	10.0	7.5	02
	TPE	MAT9960507	(4G1.5)C	0.39	10.0	7.5	03
PS B G B B XXX	PVC	MAT9560019	(4G1.5)C	0.39	10.0	7.5	01
	TPE	MAT9540019	(4G1.5)C	0.39	10.0	7.5	02
	TPE	MAT9960519	(4G1.5)C	0.39	10.0	7.5	03
PS B G F B XXX	PVC	MAT9560013	(4G1.5)C	0.39	10.0	7.5	01
	TPE	MAT9540013	(4G1.5)C	0.39	10.0	7.5	02
	TPE	MAT9960513	(4G1.5)C	0.39	10.0	7.5	03

Harnessed drive cables | Nidec/Control Techniques

PVC/PUR/TPE

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø	Bend radius	Cable page
			[mm ²]	[in.] [mm]	[x d]	538-541

Nidec/Control Techniques Servo cables

Basic cable



PB B A A A XXX	PVC	MAT9750502	(4G2.5+(2x1.5)C)C	0.55	14.0	10	04
	PVC	MAT9560041	(4G2.5+(2x1.5)C)C	0.57	14.5	7.5	05
	PUR	MAT9540041	(4G2.5+(2x1.5)C)C	0.57	14.5	7.5	07
PB B A F A XXX	PVC	MAT9750505	(4G2.5+(2x1.5)C)C	0.55	14.0	10	04
	PVC	MAT9560044	(4G2.5+(2x1.5)C)C	0.57	14.5	7.5	05
	PUR	MAT9540044	(4G2.5+(2x1.5)C)C	0.57	14.5	7.5	07
PB B B A A XXX	PVC	MAT9750503	(4G4.0+(2x1.5)C)C	0.59	15.0	10	04
	PVC	MAT9560042	(4G4.0+(2x1.5)C)C	0.63	16.0	7.5	05
	PUR	MAT9540042	(4G4.0+(2x1.5)C)C	0.63	16.0	7.5	07
PB B B F A XXX	PVC	MAT9750506	(4G4.0+(2x1.5)C)C	0.59	15.0	10	04
	PVC	MAT9560045	(4G4.0+(2x1.5)C)C	0.63	16.0	7.5	05
	PUR	MAT9540045	(4G4.0+(2x1.5)C)C	0.63	16.0	7.5	07
PB B G A A XXX	PVC	MAT9750501	(4G1.5+(2x1.5)C)C	0.49	12.5	10	04
	PVC	MAT9560040	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	05
	PUR	MAT9540040	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	07
PB B G F A XXX	PVC	MAT9750504	(4G1.5+(2x1.5)C)C	0.49	12.5	10	04
	PVC	MAT9560043	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	05
	PUR	MAT9540043	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	07

Basic cable



PB B A A B XXX	PVC	MAT9750508	(4G2.5+(2x1.5)C)C	0.55	14.0	10	04
	PVC	MAT9560047	(4G2.5+(2x1.5)C)C	0.57	14.5	7.5	05
	PUR	MAT9540047	(4G2.5+(2x1.5)C)C	0.57	14.5	7.5	07
PB B A B B XXX	PVC	MAT9750516	(4G2.5+(2x1.5)C)C	0.55	14.0	10	04
	PVC	MAT9560059	(4G2.5+(2x1.5)C)C	0.57	14.5	7.5	05
	PUR	MAT9540059	(4G2.5+(2x1.5)C)C	0.57	14.5	7.5	07
PB B A F B XXX	PVC	MAT9750512	(4G2.5+(2x1.5)C)C	0.55	14.0	10	04
	PVC	MAT9560053	(4G2.5+(2x1.5)C)C	0.57	14.5	7.5	05
	PUR	MAT9540053	(4G2.5+(2x1.5)C)C	0.57	14.5	7.5	07
PB B A G B XXX	PVC	MAT9750520	(4G2.5+(2x1.5)C)C	0.55	14.0	10	04
	PVC	MAT9560065	(4G2.5+(2x1.5)C)C	0.57	14.5	7.5	05
	PUR	MAT9540065	(4G2.5+(2x1.5)C)C	0.57	14.5	7.5	07
PB B B A B XXX	PVC	MAT9750509	(4G4.0+(2x1.5)C)C	0.59	15.0	10	04
	PVC	MAT9560048	(4G4.0+(2x1.5)C)C	0.63	16.0	7.5	05
	PUR	MAT9540048	(4G4.0+(2x1.5)C)C	0.63	16.0	7.5	07

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G = with green-yellow earth core x = without earth core

Harnessed drive cables | Nidec/Control Techniques

PVC/PUR/TPE

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø	Bend radius	Cable page
			[mm ²]	[in.] [mm]	[x d]	538-541

Nidec/Control Techniques Servo cables

Basic cable



PB B B B B XXX	PVC	MAT9750517	(4G4.0+(2x1.5)C)C	0.59	15.0	10	04
	PVC	MAT9560060	(4G4.0+(2x1.5)C)C	0.63	16.0	7.5	05
	PUR	MAT9540060	(4G4.0+(2x1.5)C)C	0.63	16.0	7.5	07
PB B B F B XXX	PVC	MAT9750513	(4G4.0+(2x1.5)C)C	0.59	15.0	10	04
	PVC	MAT9560054	(4G4.0+(2x1.5)C)C	0.63	16.0	7.5	05
	PUR	MAT9540054	(4G4.0+(2x1.5)C)C	0.63	16.0	7.5	07
PB B B G B XXX	PVC	MAT9750521	(4G4.0+(2x1.5)C)C	0.59	15.0	10	04
	PVC	MAT9560066	(4G4.0+(2x1.5)C)C	0.63	16.0	7.5	05
	PUR	MAT9540066	(4G4.0+(2x1.5)C)C	0.63	16.0	7.5	07
PB B C A B XXX	PVC	MAT9750510	(4G6.0+(2x1.5)C)C	0.65	16.5	10	04
	PVC	MAT9560049	(4G6.0+(2x1.5)C)C	0.71	18.0	7.5	05
	PUR	MAT9540049	(4G6.0+(2x1.5)C)C	0.69	17.5	7.5	07
PB B C B B XXX	PVC	MAT9750518	(4G6.0+(2x1.5)C)C	0.65	16.5	10	04
	PVC	MAT9560061	(4G6.0+(2x1.5)C)C	0.71	18.0	7.5	05
	PUR	MAT9540061	(4G6.0+(2x1.5)C)C	0.69	17.5	7.5	07
PB B C F B XXX	PVC	MAT9750514	(4G6.0+(2x1.5)C)C	0.65	16.5	10	04
	PVC	MAT9560055	(4G6.0+(2x1.5)C)C	0.71	18.0	7.5	05
	PUR	MAT9540055	(4G6.0+(2x1.5)C)C	0.69	17.5	7.5	07
PB B C G B XXX	PVC	MAT9750522	(4G6.0+(2x1.5)C)C	0.65	16.5	10	04
	PVC	MAT9560067	(4G6.0+(2x1.5)C)C	0.71	18.0	7.5	05
	PUR	MAT9540067	(4G6.0+(2x1.5)C)C	0.69	17.5	7.5	07
PB B D A B XXX	PVC	MAT9560050	(4G10+(2x1.5)C)C	0.85	21.5	7.5	05
	PUR	MAT9540050	(4G10+(2x1.5)C)C	0.83	21.0	7.5	07
PB B D B B XXX	PVC	MAT9560062	(4G10+(2x1.5)C)C	0.85	21.5	7.5	05
	PUR	MAT9540062	(4G10+(2x1.5)C)C	0.83	21.0	7.5	07
PB B D F B XXX	PVC	MAT9560056	(4G10+(2x1.5)C)C	0.85	21.5	7.5	05
	PUR	MAT9540056	(4G10+(2x1.5)C)C	0.83	21.0	7.5	07
PB B D G B XXX	PVC	MAT9560068	(4G10+(2x1.5)C)C	0.85	21.5	7.5	05
	PUR	MAT9540068	(4G10+(2x1.5)C)C	0.83	21.0	7.5	07
PB B E A B XXX	PVC	MAT9560051	(4G16+(2x1.5)C)C	0.98	25.0	7.5	05
	PUR	MAT9540051	(4G16+(2x1.5)C)C	0.94	24.0	7.5	07
PB B E B B XXX	PVC	MAT9560063	(4G16+(2x1.5)C)C	0.98	25.0	7.5	05
	PUR	MAT9540063	(4G16+(2x1.5)C)C	0.94	24.0	7.5	07
PB B E F B XXX	PVC	MAT9560057	(4G16+(2x1.5)C)C	0.98	25.0	7.5	05
	PUR	MAT9540057	(4G16+(2x1.5)C)C	0.94	24.0	7.5	07
PB B E G B XXX	PVC	MAT9560069	(4G16+(2x1.5)C)C	0.98	25.0	7.5	05
	PUR	MAT9540069	(4G16+(2x1.5)C)C	0.94	24.0	7.5	07

Harnessed drive cables | Nidec/Control Techniques

PVC/PUR/TPE

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø	Bend radius	Cable page
			[mm ²]	[in.] [mm]	[x d]	538-541

Nidec/Control Techniques Servo cables

Basic cable



PB B G A B XXX	PVC	MAT9750507	(4G1.5+(2x1.5)C)C	0.49	12.5	10	04
	PVC	MAT9560046	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	05
	PUR	MAT9540046	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	07
PB B G B B XXX	PVC	MAT9750515	(4G1.5+(2x1.5)C)C	0.49	12.5	10	04
	PVC	MAT9560058	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	05
	PUR	MAT9540058	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	07
PB B G F B XXX	PVC	MAT9750511	(4G1.5+(2x1.5)C)C	0.49	12.5	10	04
	PVC	MAT9560052	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	05
	PUR	MAT9540052	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	07
PB B G G B XXX	PVC	MAT9750519	(4G1.5+(2x1.5)C)C	0.49	12.5	10	04
	PVC	MAT9560064	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	05
	PUR	MAT9540064	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	07

Nidec/Control Techniques Encoder cables

Basic cable



SS B A H C XXX	PVC	MAT9560100	(4x(2x0.34)+4x0.5)C	0.37	9.5	10	08
	PUR	MAT9840501	(4x(2x0.34)+4x0.5)C	0.39	10.0	7.5	10
	TPE	MAT9540100	(4x(2x0.34)+4x0.5)C	0.39	10.0	7.5	11
SS B A H H XXX	PVC	MAT9560101	(4x(2x0.34)+4x0.5)C	0.37	9.5	10	08
	PUR	MAT9840502	(4x(2x0.34)+4x0.5)C	0.39	10.0	7.5	10
	TPE	MAT9540101	(4x(2x0.34)+4x0.5)C	0.39	10.0	7.5	11
SS B A H N XXX	PVC	MAT9560104	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	0.35	9.0	10	08
	PUR	MAT9840505	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	0.39	10.0	7.5	10
	TPE	MAT9540104	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	0.39	10.0	7.5	11

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 specifications.
G = with green-yellow earth core x = without earth core

Harnessed drive cables | NUM

PVC/PUR/TPE

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø	Bend radius	Cable page
			[mm ²]	[in.] [mm]	[x d]	538-541

NUM Power cables

Basic cable



AGOFRU018LMxxx	PVC	MAT9280051	(4G1.5)C	0.39	10.0	7.5	01
	TPE	MAT9282051	(4G1.5)C	0.39	10.0	7.5	02
	TPE	MAT9961201	(4G1.5)C	0.39	10.0	7.5	03
AGOFRU019LMxxx	PVC	MAT9280052	(4G4.0)C	0.51	13.0	7.5	01
	TPE	MAT9282052	(4G4.0)C	0.51	13.0	7.5	02
	TPE	MAT9961202	(4G4.0)C	0.51	13.0	7.5	03

Extension cable



AGOFRU018LMxxx (ext.)	PVC	MAT9280061	(4G1.5)C	0.39	10.0	7.5	01
	TPE	MAT9961203	(4G1.5)C	0.39	10.0	7.5	03
	TPE	MAT9282061	(4G1.5)C	0.39	10.0	7.5	02
AGOFRU019LMxxx (ext.)	PVC	MAT9280062	(4G4.0)C	0.51	13.0	7.5	01
	TPE	MAT9282062	(4G4.0)C	0.51	13.0	7.5	02
	TPE	MAT9961204	(4G4.0)C	0.51	13.0	7.5	03

NUM Servo cables

Basic cable



AGOFRU018Mxxx	PVC	MAT9280001	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	05
	PUR	MAT9282001	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	07
AGOFRU019Mxxx	PVC	MAT9280002	(4G4.0+(2x1.5)C)C	0.63	16.0	7.5	05
	PUR	MAT9282002	(4G4.0+(2x1.5)C)C	0.63	16.0	7.5	07

Basic cable



AGOFRU020Mxxx	PVC	MAT9280003	(4G10+(2x1.5)C)C	0.85	21.5	7.5	05
	PUR	MAT9282003	(4G10+(2x1.5)C)C	0.83	21.0	7.5	07

Extension cable



AGOFRU018Mxxx (ext.)	PVC	MAT9280011	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	05
	PUR	MAT9282011	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	07
AGOFRU019Mxxx (ext.)	PVC	MAT9280012	(4G4.0+(2x1.5)C)C	0.63	16.0	7.5	05
	PUR	MAT9282012	(4G4.0+(2x1.5)C)C	0.63	16.0	7.5	07

Harnessed drive cables | NUM PVC/PUR/TPE

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø	Bend radius	Cable page	
			[mm ²]	[in.] [mm]	[x d]	538-541	
NUM Servo cables							
Extension cable							
AGOFRU020Mxxx (ext.)	PVC	MAT9280013	(4G10+(2x1.5)C)C	0.85	21.5	7.5	05
	PUR	MAT9282013	(4G10+(2x1.5)C)C	0.83	21.0	7.5	07
NUM Fan cables							
Basic cable							
AGOFRU012Mxxx	PVC	MAT9289005	4G1.0	0.28	7.0	7.5	17
	TPE	MAT9289007	4G1.0	0.26	6.5	5	23
Extension cable							
AGOFRU012Mxxx (ext.)	PVC	MAT9289015	4G1.0	0.28	7.0	7.5	17
	TPE	MAT9289017	4G1.0	0.26	6.5	5	23
NUM Encoder cables							
Basic cable							
AGOFRU029Mxxx	PVC	MAT9284001	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	0.35	9.0	10	08
	TPE	MAT9286001	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	0.39	10.0	7.5	11
Basic cable							
AGOFRU030Mxxx	PVC	MAT9289001	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	0.35	9.0	10	08
	TPE	MAT9289004	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	0.39	10.0	7.5	11
Extension cable							
AGOFRU029Mxxx (ext.)	PVC	MAT9284011	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	0.35	9.0	10	08
	TPE	MAT9286011	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	0.39	10.0	7.5	11
Extension cable							
AGOFRU030Mxxx (ext.)	PVC	MAT9289011	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	0.35	9.0	10	08
	TPE	MAT9289014	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	0.39	10.0	7.5	11

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 specifications.
G = with green-yellow earth core x = without earth core

Harnessed drive cables | Omron PVC/PUR/TPE

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø	Bend radius	Cable page	
			[mm ²]	[in.] [mm]	[x d]	538-541	
Omron Motor cables							
Basic cable							
R88A-CAWA-xxxS-DE	TPE	MAT9810004	(4G0.5)C	0.30	7.5	7.5	02
	TPE	MAT9962104	(4G0.5)C	0.31	8.0	7.5	03
R88A-CAWCxxx	PVC	MAT9710005	(4G1.5)C	0.39	10.0	7.5	01
	TPE	MAT9810005	(4G1.5)C	0.39	10.0	7.5	02
	TPE	MAT9962105	(4G1.5)C	0.39	10.0	7.5	03
R88A-CAWCxxxS-E	PVC	MAT9710003	(4G1.5)C	0.39	10.0	7.5	01
	TPE	MAT9810003	(4G1.5)C	0.39	10.0	7.5	02
	TPE	MAT9962103	(4G1.5)C	0.39	10.0	7.5	03
R88A-CAWDxxxS	PVC	MAT9710006	(4G2.5)C	0.45	11.5	7.5	01
	TPE	MAT9810006	(4G2.5)C	0.45	11.5	7.5	02
	TPE	MAT9962106	(4G2.5)C	0.45	11.5	7.5	03
R88A-CAWDxxxS-E	PVC	MAT9710001	(4G2.5)C	0.45	11.5	7.5	01
	TPE	MAT9810001	(4G2.5)C	0.45	11.5	7.5	02
	TPE	MAT9962101	(4G2.5)C	0.45	11.5	7.5	03
R88A-CAWFxxxS-E	PVC	MAT9710002	(4G4.0)C	0.51	13.0	7.5	01
	TPE	MAT9810002	(4G4.0)C	0.51	13.0	7.5	02
	TPE	MAT9962102	(4G4.0)C	0.51	13.0	7.5	03
Omron Control cables							
Basic cable							
JZSP-CHM000-xx-E	PVC	MAT9712103	(5G0.5)C	0.31	8.0	7.5	18
	PVC	MAT9710015	(5G0.5)C	0.33	8.5	6.8	20
	PUR	MAT9810015	(5G0.5)C	0.31	8.0	6.8	22
	TPE	MAT9912103	(5x0.5)C	0.30	7.5	5	24
Basic cable							
JZSP-CHM000-xx-ME	PVC	MAT9712104	(5G0.5)C	0.31	8.0	7.5	18
	PVC	MAT9710016	(5G0.5)C	0.33	8.5	6.8	20
	PUR	MAT9810016	(5G0.5)C	0.31	8.0	6.8	22
	TPE	MAT9912104	(5x0.5)C	0.30	7.5	5	24
Basic cable							
JZSP-CHM030-xx-E	PVC	MAT9712105	(7G0.75)C	0.39	10.0	7.5	18
	PVC	MAT9710017	(7G0.5)C	0.39	10.0	6.8	20
	PUR	MAT9810017	(7G0.5)C	0.37	9.5	6.8	22
	TPE	MAT9912105	(7x0.5)C	0.33	8.5	5	24

Harnessed drive cables | Omron

PVC/PUR/TPE

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø	Bend radius	Cable page
			[mm ²]	[in.] [mm]	[x d]	538-541

Omron Control cables

Basic cable



JZSP-CHM030-xx-ME	PVC	MAT9712106	(7G0.75)C	0.39	10.0	7.5	18
	PVC	MAT9710018	(7G0.5)C	0.39	10.0	6.8	20
	PUR	MAT9810018	(7G0.5)C	0.37	9.5	6.8	22
	TPE	MAT9912106	(7x0.5)C	0.33	8.5	5	24

Basic cable



JZSP-CSM22-xx-E-G1	PVC	MAT9712102	(4G0.75)C	0.33	8.5	7.5	18
	PVC	MAT9710014	(4G0.75)C	0.33	8.5	6.8	20
	PUR	MAT9810014	(4G0.75)C	0.33	8.5	6.8	22
	TPE	MAT9912102	(4G0.75)C	0.30	7.5	5	24

Basic cable



R88A-CAWCxxxB-E	PVC	MAT9712101	2x0.5	0.22	5.5	7.5	17
	PVC	MAT9710013	2x0.5	0.24	6.0	6.8	19
	PUR	MAT9810013	3G0.75	0.26	6.5	6.8	21
	TPE	MAT9912101	2x0.5	0.20	5.0	5	23

Basic cable



R88A-CAWExxxB	PVC	MAT9712107	(3G0.5)C	0.28	7.0	7.5	18
	PVC	MAT9710019	(2x0.5)C	0.28	7.0	6.8	20
	PUR	MAT9810019	(4G0.5)C	0.31	8.0	6.8	22
	TPE	MAT9912107	(4x0.5)C	0.28	7.0	5	24

Omron Encoder cables

Basic cable



JZSP-CHP800-xx-E	PVC	MAT9710009	(4x(2x0.25)+2x0.5)C	0.31	8.0	10	08
	PUR	MAT9842103	(4x(2x0.25)+2x0.5)C	0.33	8.5	7.5	10
	TPE	MAT9810009	(4x(2x0.25)+2x0.5)C	0.33	8.5	7.5	11

Basic cable



JZSP-CHP800-xx-ME	PVC	MAT9710008	(4x(2x0.25)+2x0.5)C	0.31	8.0	10	08
	PUR	MAT9842102	(4x(2x0.25)+2x0.5)C	0.33	8.5	7.5	10
	TPE	MAT9810008	(4x(2x0.25)+2x0.5)C	0.33	8.5	7.5	11

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 specifications.
G = with green-yellow earth core x = without earth core

Harnessed drive cables | Omron

PVC/PUR/TPE

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø	Bend radius	Cable page
			[mm ²]	[in.] [mm]	[x d]	538-541

Omron Encoder cables

Basic cable



JZSP-CSP21-xx-E-G1	PVC	MAT9710011	(3x(2x0.25))C	0.28	7.0	7.5	14
	PUR	MAT9842105	(3x(2x0.25))C	0.30	7.5	7.5	10
	TPE	MAT9810011	(3x(2x0.25))C	0.30	7.5	7.5	11

Basic cable



R88A-CRWA-xxxC-DE	PVC	MAT9710012	(2x(2x0.25)+2x0.5)C	0.26	6.5	10	08
	PUR	MAT9842106	(2x(2x0.25)+2x0.5)C	0.26	6.5	7.5	10
	TPE	MAT9810012	(2x(2x0.25)+2x0.5)C	0.26	6.5	7.5	11

Basic cable



R88A-CRWBxxxN	PVC	MAT9710010	(4x(2x0.25)+2x1.0)C	0.33	8.5	10	08
	PUR	MAT9842104	(4x(2x0.25)+2x1.0)C	0.35	9.0	7.5	10
	TPE	MAT9810010	(4x(2x0.25)+2x1.0)C	0.35	9.0	7.5	11
R88A-CRWBxxxN-E	PVC	MAT9710007	(4x(2x0.25)+2x1.0)C	0.33	8.5	10	08
	PUR	MAT9842101	(4x(2x0.25)+2x1.0)C	0.35	9.0	7.5	10
	TPE	MAT9810007	(4x(2x0.25)+2x1.0)C	0.35	9.0	7.5	11

Harnessed drive cables | Parker

PVC/PUR/TPE

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø	Bend radius	Cable page
			[mm ²]	[in.] [mm]	[x d]	538-541

Parker Motor cables

Basic cable



iMOK42	PVC	MAT9752255	(4G1.5+(2x1.5)C)C	0.49	12.5	10	04
	PVC	MAT9752205	(4G2.5+(2x1.5)C)C	0.57	14.5	7.5	05
	PUR	MAT9852255	(4G1.5+(2x1.5)C)C	0.49	12.5	10	06
iMOK43	PUR	MAT9852205	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	07
	PVC	MAT9752257	(4G2.5+(2x1.5)C)C	0.55	14.0	10	04
	PUR	MAT9852257	(4G2.5+(2x1.5)C)C	0.55	14.0	10	06
iMOK44	PUR	MAT9752207	(4G2.5+(2x1.5)C)C	0.57	14.5	7.5	07
	PVC	MAT9752256	(4G1.5+(2x1.5)C)C	0.49	12.5	10	04
	PUR	MAT9852256	(4G1.5+(2x1.5)C)C	0.49	12.5	10	06
iMOK45	PUR	MAT9752206	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	07
	PVC	MAT9752258	(4G2.5+(2x1.5)C)C	0.55	14.0	10	04
	PUR	MAT9852258	(4G2.5+(2x1.5)C)C	0.55	14.0	10	06
iMOK54	PUR	MAT9752208	(4G2.5+(2x1.5)C)C	0.57	14.5	7.5	07
	PVC	MAT9752252	(4G1.5+(2x1.5)C)C	0.49	12.5	10	04
	PVC	MAT9752202	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	05
	PUR	MAT9852252	(4G1.5+(2x1.5)C)C	0.49	12.5	10	06
iMOK55	PUR	MAT9852202	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	07
	PVC	MAT9752251	(4G1.5+(2x1.5)C)C	0.49	12.5	10	04
	PVC	MAT9752201	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	05
	PUR	MAT9852251	(4G1.5+(2x1.5)C)C	0.49	12.5	10	06
iMOK56	PUR	MAT9852201	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	07
	PVC	MAT9752253	(4G2.5+(2x1.5)C)C	0.55	14.0	10	04
	PVC	MAT9752203	(4G2.5+(2x1.5)C)C	0.57	14.5	7.5	05
	PUR	MAT9852253	(4G2.5+(2x1.5)C)C	0.55	14.0	10	06
iMOK57	PUR	MAT9852203	(4G2.5+(2x1.5)C)C	0.57	14.5	7.5	07
	PVC	MAT9752254	(4G2.5+(2x1.5)C)C	0.55	14.0	10	04
	PUR	MAT9852254	(4G2.5+(2x1.5)C)C	0.55	14.0	10	06
	PUR	MAT9752204	(4G2.5+(2x1.5)C)C	0.57	14.5	7.5	07
	PUR	MAT9852204	(4G2.5+(2x1.5)C)C	0.57	14.5	7.5	07

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 specifications.
G = with green-yellow earth core x = without earth core

Harnessed drive cables | Parker

PVC/PUR/TPE

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø	Bend radius	Cable page
			[mm ²]	[in.] [mm]	[x d]	538-541

Parker Resolver cables

Basic cable



iREK32	PVC	MAT9722211	(4x(2x0.25))C	0.30	7.5	7.5	14
	PUR	MAT9822211	(4x(2x0.25))C	0.30	7.5	7.5	26
	TPE	MAT9922211	(4x(2x0.25))C	0.33	8.5	6.8	16
iREK33	PVC	MAT9722212	(4x(2x0.25))C	0.30	7.5	7.5	14
	PUR	MAT9822212	(4x(2x0.25))C	0.30	7.5	7.5	26
	TPE	MAT9922212	(4x(2x0.25))C	0.33	8.5	6.8	16
iREK41	PVC	MAT9722210	(4x(2x0.25))C	0.30	7.5	7.5	14
	PUR	MAT9822210	(4x(2x0.25))C	0.30	7.5	7.5	26
	TPE	MAT9922210	(4x(2x0.25))C	0.33	8.5	6.8	16
iREK42	PVC	MAT9722209	(4x(2x0.25))C	0.30	7.5	7.5	14
	PUR	MAT9822209	(4x(2x0.25))C	0.30	7.5	7.5	26
	TPE	MAT9922209	(4x(2x0.25))C	0.33	8.5	6.8	16

Harnessed drive cables | SEW

PVC/PUR/TPE

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø		Bend radius	Cable page 538-541
				[in.]	[mm]		
SEW Motor cables							
Connection cable (Amphenol)							
0199 1809	PVC	MAT9410006	(4G1.5)C	0.39	10.0	7.5	01
	PUR	MAT9861401	(4G1.5)C	0.39	10.0	10	06
	TPE	MAT9400006	(4G1.5)C	0.39	10.0	7.5	02
0199 1825	PVC	MAT9410007	(4G2.5)C	0.45	11.5	7.5	01
	PUR	MAT9861402	(4G2.5)C	0.45	11.5	10	06
	TPE	MAT9400007	(4G2.5)C	0.45	11.5	7.5	02
0199 1841	PVC	MAT9410008	(4G4.0)C	0.51	13.0	7.5	01
	PUR	MAT9861403	(4G4.0)C	0.51	13.0	10	06
	TPE	MAT9400008	(4G4.0)C	0.51	13.0	7.5	02
0199 1868	PVC	MAT9410009	(4G6.0)C	0.63	16.0	7.5	01
	PUR	MAT9861404	(4G6.0)C	0.59	15.0	10	06
	TPE	MAT9400009	(4G6.0)C	0.63	16.0	7.5	02
0199 1884	PVC	MAT9410010	(4G10)C	0.73	18.5	7.5	01
	PUR	MAT9861405	(4G10)C	0.71	18.0	10	06
	TPE	MAT9400010	(4G10)C	0.73	18.5	7.5	02
Connection cable							
0590 4773	PVC	MAT9410012	(4G1.5)C	0.39	10.0	7.5	01
	PUR	MAT9861406	(4G1.5)C	0.39	10.0	10	06
	TPE	MAT9400012	(4G1.5)C	0.39	10.0	7.5	02
0590 4803	PVC	MAT9761415	(4G4.0)C	0.51	13.0	7.5	01
	PUR	MAT9861415	(4G4.0)C	0.51	13.0	10	06
	TPE	MAT9961415	(4G4.0)C	0.51	13.0	7.5	02
0590 6245	PVC	MAT9761413	(4G1.5)C	0.39	10.0	7.5	01
	PUR	MAT9861413	(4G1.5)C	0.39	10.0	10	06
	TPE	MAT9961413	(4G1.5)C	0.39	10.0	7.5	02
0590 6253	PVC	MAT9761414	(4G2.5)C	0.45	11.5	7.5	01
	PUR	MAT9861414	(4G2.5)C	0.45	11.5	10	06
	TPE	MAT9961414	(4G2.5)C	0.45	11.5	7.5	02
Connection cable							
1335 0293	PVC	MAT9761416	(4G6.0)C	0.63	16.0	7.5	01
	PUR	MAT9861416	(4G6.0)C	0.59	15.0	10	06
	TPE	MAT9961416	(4G6.0)C	0.63	16.0	7.5	02
1335 0307	PVC	MAT9761417	(4G10)C	0.73	18.5	7.5	01
	PUR	MAT9861417	(4G10)C	0.71	18.0	10	06
	TPE	MAT9961417	(4G10)C	0.73	18.5	7.5	02

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 specifications.
G = with green-yellow earth core x = without earth core

Harnessed drive cables | SEW

PVC/PUR/TPE

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø		Bend radius	Cable page 538-541
				[in.]	[mm]		
SEW Motor cables							
Connection cable							
1335 0315	PVC	MAT9761418	(4G16)C	0.91	23.0	7.5	01
	PUR	MAT9861418	(4G16)C	0.87	22.0	10	06
	TPE	MAT9961418	(4G16)C	0.91	23.0	7.5	02
Extension cable (Amphenol)							
0199 5502	PVC	MAT9411006	(4G1.5)C	0.39	10.0	7.5	01
	PUR	MAT9861407	(4G1.5)C	0.39	10.0	10	06
	TPE	MAT9401006	(4G1.5)C	0.39	10.0	7.5	02
0199 5529	PVC	MAT9411007	(4G2.5)C	0.45	11.5	7.5	01
	PUR	MAT9861408	(4G2.5)C	0.45	11.5	10	06
	TPE	MAT9401007	(4G2.5)C	0.45	11.5	7.5	02
0199 5545	PVC	MAT9411008	(4G4.0)C	0.51	13.0	7.5	01
	PUR	MAT9861409	(4G4.0)C	0.51	13.0	10	06
	TPE	MAT9401008	(4G4.0)C	0.51	13.0	7.5	02
0199 5561	PVC	MAT9411009	(4G6.0)C	0.63	16.0	7.5	01
	PUR	MAT9861410	(4G6.0)C	0.59	15.0	10	06
	TPE	MAT9401009	(4G6.0)C	0.63	16.0	7.5	02
0199 5588	PVC	MAT9411010	(4G10)C	0.73	18.5	7.5	01
	PUR	MAT9861411	(4G10)C	0.71	18.0	10	06
	TPE	MAT9401010	(4G10)C	0.73	18.5	7.5	02
Extension cable							
0590 3610	PVC	MAT9411012	(4G1.5)C	0.39	10.0	7.5	01
	PUR	MAT9861412	(4G1.5)C	0.39	10.0	10	06
	TPE	MAT9401012	(4G1.5)C	0.39	10.0	7.5	02
Extension cable							
1333 2457	PVC	MAT9761419	(4G1.5)C	0.39	10.0	7.5	01
	PUR	MAT9861419	(4G1.5)C	0.39	10.0	10	06
	TPE	MAT9961419	(4G1.5)C	0.39	10.0	7.5	02
1333 2465	PVC	MAT9761420	(4G2.5)C	0.45	11.5	7.5	01
	PUR	MAT9861420	(4G2.5)C	0.45	11.5	10	06
	TPE	MAT9961420	(4G2.5)C	0.45	11.5	7.5	02

Harnessed drive cables | SEW

PVC/PUR/TPE

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø	Bend radius	Cable page
			[mm ²]	[in.] [mm]	[x d]	538-541

SEW Motor cables

Extension cable



1333 2473	PVC	MAT9761421	(4G4.0)C	0.51	13.0	7.5	01
	PUR	MAT9861421	(4G4.0)C	0.51	13.0	10	06
	TPE	MAT9961421	(4G4.0)C	0.51	13.0	7.5	02
1335 0021	PVC	MAT9761422	(4G6.0)C	0.63	16.0	7.5	01
	PUR	MAT9861422	(4G6.0)C	0.59	15.0	10	06
	TPE	MAT9961422	(4G6.0)C	0.63	16.0	7.5	02
1335 0048	PVC	MAT9761423	(4G10)C	0.73	18.5	7.5	01
	PUR	MAT9861423	(4G10)C	0.71	18.0	10	06
	TPE	MAT9961423	(4G10)C	0.73	18.5	7.5	02
1335 0056	PVC	MAT9761424	(4G16)C	0.91	23.0	7.5	01
	PUR	MAT9861424	(4G16)C	0.87	22.0	10	06
	TPE	MAT9961424	(4G16)C	0.91	23.0	7.5	02

SEW Servo cables

Connection cable (Amphenol)



0199 1906	PVC	MAT9751401	(4G1.5+2x(2x0.75)C)C	0.53	13.5	10	04
	PVC	MAT9410001	(4G1.5+2x(2x0.75)C)C	0.57	14.5	7.5	05
	PUR	MAT9851401	(4G1.5+2x(2x0.75)C)C	0.53	13.5	10	06
	PUR	MAT9400001	(4G1.5+2x(2x0.75)C)C	0.57	14.5	7.5	07
0199 1922	PVC	MAT9751402	(4G2.5+2x(2x1.5)C)C	0.63	16.0	10	04
	PVC	MAT9410002	(4G2.5+2x(2x1.5)C)C	0.67	17.0	7.5	05
	PUR	MAT9851402	(4G2.5+2x(2x1.5)C)C	0.63	16.0	10	06
	PUR	MAT9400002	(4G2.5+2x(2x1.5)C)C	0.63	16.0	7.5	07
0199 1949	PVC	MAT9751403	(4G4.0+2x(2x1.5)C)C	0.67	17.0	10	04
	PVC	MAT9410003	(4G4.0+2x(2x1.5)C)C	0.71	18.0	7.5	05
	PUR	MAT9851403	(4G4.0+2x(2x1.5)C)C	0.67	17.0	10	06
	PUR	MAT9400003	(4G4.0+2x(2x1.5)C)C	0.69	17.5	7.5	07
0199 1965	PVC	MAT9751404	(4G6.0+2x(2x1.5)C)C	0.75	19.0	10	04
	PVC	MAT9410004	(4G6.0+2x(2x1.5)C)C	0.83	21.0	7.5	05
	PUR	MAT9851404	(4G6.0+2x(2x1.5)C)C	0.75	19.0	10	06
	PUR	MAT9400004	(4G6.0+2x(2x1.5)C)C	0.77	19.5	7.5	07
0199 1981	PVC	MAT9410005	(4G10+2x(2x1.5)C)C	0.91	23.0	7.5	05
	PUR	MAT9851405	(4G10+2x(2x1.5)C)C	0.89	22.5	10	06
	PUR	MAT9400005	(4G10+2x(2x1.5)C)C	0.89	22.5	7.5	07

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 specifications.

G = with green-yellow earth core x = without earth core

Harnessed drive cables | SEW

PVC/PUR/TPE

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø	Bend radius	Cable page
			[mm ²]	[in.] [mm]	[x d]	538-541

SEW Servo cables

Connection cable



1332 4861	PVC	MAT9751405	(4G1.5+(2x1.5)C)C	0.49	12.5	10	04
	PVC	MAT9410011	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	05
	PUR	MAT9851406	(4G1.5+(2x1.5)C)C	0.49	12.5	10	06
	PUR	MAT9400011	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	07

Connection cable



1333 1221	PVC	MAT9751473	(4G1.5+(2x1.5)C)C	0.49	12.5	10	04
	PVC	MAT9751474	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	05
	PUR	MAT9851473	(4G1.5+(2x1.5)C)C	0.49	12.5	10	06
	PUR	MAT9851474	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	07
1333 2155	PVC	MAT9751471	(4G2.5+(2x1.5)C)C	0.55	14.0	10	04
	PVC	MAT9751472	(4G2.5+(2x1.5)C)C	0.57	14.5	7.5	05
	PUR	MAT9851471	(4G2.5+(2x1.5)C)C	0.55	14.0	10	06
	PUR	MAT9851472	(4G2.5+(2x1.5)C)C	0.57	14.5	7.5	07
1333 2155	TPE	MAT9951471	(4G2.5+(2x1.5)C)C	0.55	14.0	6.8	32

Connection cable



1335 0153	PVC	MAT9751422	(4G6.0+2x(2x1.5)C)C	0.75	19.0	10	04	
	PVC	MAT9751440	(4G6.0+2x(2x1.5)C)C	0.83	21.0	7.5	05	
	PUR	MAT9851422	(4G6.0+2x(2x1.5)C)C	0.75	19.0	10	06	
	PUR	MAT9851440	(4G6.0+2x(2x1.5)C)C	0.77	19.5	7.5	07	
1335 0161	PVC	MAT9751441	(4G10+2x(2x1.5)C)C	0.91	23.0	7.5	05	
	PUR	MAT9851423	(4G10+2x(2x1.5)C)C	0.89	22.5	10	06	
	PUR	MAT9851441	(4G10+2x(2x1.5)C)C	0.89	22.5	7.5	07	
1335 0188	PVC	MAT9751442	(4G16+2x(2x1.5)C)C	1.04	26.5	7.5	05	
	PUR	MAT9851424	(4G16+2x(2x1.5)C)C	1.02	26.0	10	06	
	PUR	MAT9851442	(4G16+2x(2x1.5)C)C	1.02	26.0	7.5	07	
1335 0234	PVC	MAT9751416	(4G6.0+(2x1.5)C)C	0.65	16.5	10	04	
	PVC	MAT9751434	(4G6.0+(2x1.5)C)C	0.71	18.0	7.5	05	
	PUR	MAT9851416	(4G6.0+(2x1.5)C)C	0.65	16.5	10	06	
1335 0234	PUR	MAT9851434	(4G6.0+(2x1.5)C)C	0.69	17.5	7.5	07	
	1335 0242	PVC	MAT9751435	(4G10+(2x1.5)C)C	0.85	21.5	7.5	05
		PUR	MAT9851417	(4G10+(2x1.5)C)C	0.83	21.0	10	06
PUR		MAT9851435	(4G10+(2x1.5)C)C	0.83	21.0	7.5	07	

Harnessed drive cables | SEW

PVC/PUR/TPE

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø		Bend radius	Cable page 538-541
				[in.]	[mm]		
SEW Servo cables							
Connection cable							
1335 0250	PVC	MAT9751436	(4G16+2x(2x1.5)C)C	1.04	26.5	7.5	05
	PUR	MAT9851418	(4G16+2x(2x1.5)C)C	1.02	26.0	10	06
	PUR	MAT9851436	(4G16+(2x1.5)C)C	0.94	24.0	7.5	07
1335 4302	PUR	MAT9851419	(4G1.5+(3x1.0)C)C	0.47	12.0	10	28
1335 4310	PVC	MAT9751420	(4G2.5+2x(2x1.5)C)C	0.63	16.0	10	04
	PVC	MAT9751438	(4G2.5+2x(2x1.5)C)C	0.67	17.0	7.5	05
	PUR	MAT9851420	(4G2.5+2x(2x1.5)C)C	0.63	16.0	10	06
1335 4329	PUR	MAT9851438	(4G2.5+2x(2x1.5)C)C	0.63	16.0	7.5	07
	PVC	MAT9751421	(4G4.0+2x(2x1.5)C)C	0.67	17.0	10	04
	PVC	MAT9751439	(4G4.0+2x(2x1.5)C)C	0.71	18.0	7.5	05
1335 4329	PUR	MAT9851421	(4G4.0+2x(2x1.5)C)C	0.67	17.0	10	06
	PUR	MAT9851439	(4G4.0+2x(2x1.5)C)C	0.69	17.5	7.5	07
1335 4388	PUR	MAT9851413	(4G1.5+(3x1.0)C)C	0.47	12.0	10	28
1335 4396	PUR	MAT9851479	(4G2.5+(3x1.0)C)C	0.53	13.5	10	28

Extension cable (Amphenol)

0199 2007	PVC	MAT9751406	(4G1.5+2x(2x0.75)C)C	0.53	13.5	10	04
	PVC	MAT9411001	(4G1.5+2x(2x0.75)C)C	0.57	14.5	7.5	05
	PUR	MAT9851407	(4G1.5+2x(2x0.75)C)C	0.53	13.5	10	06
	PUR	MAT9401001	(4G1.5+2x(2x0.75)C)C	0.57	14.5	7.5	07
0199 2023	PVC	MAT9751407	(4G2.5+2x(2x1.5)C)C	0.63	16.0	10	04
	PVC	MAT9411002	(4G2.5+2x(2x1.5)C)C	0.67	17.0	7.5	05
	PUR	MAT9851408	(4G4.0+2x(2x1.5)C)C	0.67	17.0	10	06
0199 204X	PUR	MAT9401002	(4G2.5+2x(2x1.5)C)C	0.63	16.0	7.5	07
	PVC	MAT9751408	(4G4.0+2x(2x1.5)C)C	0.67	17.0	10	04
	PVC	MAT9411003	(4G4.0+2x(2x1.5)C)C	0.71	18.0	7.5	05
0199 2066	PUR	MAT9851409	(4G4.0+2x(2x1.5)C)C	0.67	17.0	10	06
	PUR	MAT9401003	(4G4.0+2x(2x1.5)C)C	0.69	17.5	7.5	07
	PVC	MAT9751409	(4G6.0+2x(2x1.5)C)C	0.75	19.0	10	04
	PVC	MAT9411004	(4G6.0+2x(2x1.5)C)C	0.83	21.0	7.5	05
0199 2082	PUR	MAT9851410	(4G6.0+2x(2x1.5)C)C	0.75	19.0	10	06
	PUR	MAT9401004	(4G6.0+2x(2x1.5)C)C	0.77	19.5	7.5	07
	PVC	MAT9411005	(4G10+2x(2x1.5)C)C	0.91	23.0	7.5	05
0199 2082	PUR	MAT9851411	(4G10+2x(2x1.5)C)C	0.89	22.5	10	06
	PUR	MAT9401005	(4G10+2x(2x1.5)C)C	0.89	22.5	7.5	07

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 specifications.

G = with green-yellow earth core x = without earth core

Harnessed drive cables | SEW

PVC/PUR/TPE

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø		Bend radius	Cable page 538-541
				[in.]	[mm]		
SEW Servo cables							
Extension cable							
0593 6500	PVC	MAT9751410	(4G1.5+(2x1.5)C)C	0.49	12.5	10	04
	PVC	MAT9411011	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	05
	PUR	MAT9851412	(4G1.5+(2x1.5)C)C	0.49	12.5	10	06
	PUR	MAT9401011	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	07
Extension cable							
1333 1205	PUR	MAT9851480	(4G1.5+(3x1.0)C)C	0.47	12.0	10	28
Extension cable							
1333 2481	PVC	MAT9751475	(4G1.5+(2x1.5)C)C	0.49	12.5	10	04
	PVC	MAT9751476	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	05
	PUR	MAT9851475	(4G1.5+(2x1.5)C)C	0.49	12.5	10	06
	PUR	MAT9851476	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	07
	TPE	MAT9951475	(4G1.5+(2x1.5)C)C	0.51	13.0	6.8	32
1333 2503	PVC	MAT9751477	(4G2.5+(2x1.5)C)C	0.55	14.0	10	04
	PVC	MAT9751478	(4G2.5+(2x1.5)C)C	0.57	14.5	7.5	05
	PUR	MAT9851477	(4G2.5+(2x1.5)C)C	0.55	14.0	10	06
	PUR	MAT9851478	(4G2.5+(2x1.5)C)C	0.57	14.5	7.5	07
	TPE	MAT9951477	(4G2.5+(2x1.5)C)C	0.55	14.0	6.8	32
1335 0099	PVC	MAT9751446	(4G6.0+2x(2x1.5)C)C	0.83	21.0	7.5	05
	PUR	MAT9851428	(4G6.0+2x(2x1.5)C)C	0.75	19.0	10	06
	PUR	MAT9851446	(4G6.0+2x(2x1.5)C)C	0.77	19.5	7.5	07
1335 0102	PVC	MAT9751447	(4G10+2x(2x1.5)C)C	0.91	23.0	7.5	05
	PUR	MAT9851429	(4G10+2x(2x1.5)C)C	0.89	22.5	10	06
	PUR	MAT9851447	(4G10+2x(2x1.5)C)C	0.89	22.5	7.5	07
1335 0110	PVC	MAT9751448	(4G16+2x(2x1.5)C)C	1.04	26.5	7.5	05
	PUR	MAT9851430	(4G16+2x(2x1.5)C)C	1.02	26.0	10	06
	PUR	MAT9851448	(4G16+2x(2x1.5)C)C	1.02	26.0	7.5	07
1335 4221	PUR	MAT9851425	(4G1.5+(3x1.0)C)C	0.47	12.0	10	28
1335 4248	PVC	MAT9751444	(4G2.5+2x(2x1.5)C)C	0.67	17.0	7.5	05
	PUR	MAT9851426	(4G2.5+2x(2x1.5)C)C	0.63	16.0	10	06
	PUR	MAT9851444	(4G2.5+2x(2x1.5)C)C	0.63	16.0	7.5	07
1335 4337	PVC	MAT9751445	(4G4.0+2x(2x1.5)C)C	0.71	18.0	7.5	05
	PUR	MAT9851427	(4G4.0+2x(2x1.5)C)C	0.67	17.0	10	06
	PUR	MAT9851445	(4G4.0+2x(2x1.5)C)C	0.69	17.5	7.5	07

Harnessed drive cables | SEW

PVC/PUR/TPE

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø	Bend radius	Cable page
			[mm ²]	[in.] [mm]	[x d]	538-541

SEW Hybrid servo cables

Basic cable



0186 725 3	PUR	MAT9851443	4G1.5+(2x0.75)C+(3x0.75)C	0.55	14.0	10	28
0187 889 5	PUR	MAT9851456	(7x2.5+(2x0.75)C)C	0.79	20.0	10	28
0593 278 5	PUR	MAT9851449	(7x2.5+(2x0.75)C)C	0.79	20.0	10	28
0593 755 8	PUR	MAT9851451	(7x2.5+(2x0.75)C)C	0.79	20.0	10	28
0816 208 5	PUR	MAT9851454	(7x2.5+(2x0.75)C)C	0.79	20.0	10	28
0816 325 1	PUR	MAT9851450	(7x2.5+(2x0.75)C)C	0.79	20.0	10	28
0816 326 X	PUR	MAT9851452	(7x2.5+(2x0.75)C)C	0.79	20.0	10	28
0817 886 0	PUR	MAT9851457	(7x2.5+(2x0.75)C)C	0.79	20.0	10	28
0817 887 9	PUR	MAT9851455	(7x2.5+(2x0.75)C)C	0.79	20.0	10	28
0817 888 7	PUR	MAT9851458	(7x2.5+(2x0.75)C)C	0.79	20.0	10	28
0817 948 4	PUR	MAT9851453	(7x2.5+(2x0.75)C)C	0.79	20.0	10	28

Connection cable



1811 8119	PUR	MAT9851464	(7x1.5+(2x0.75)C)C	0.63	16.0	10	28
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SEW Control cables

Connection cable



0199 560x	PVC	MAT9711401	3G1.0	0.26	6.5	6.8	19
	PUR	MAT9811401	3G1.0	0.26	6.5	6.8	21
	TPE	MAT9911401	3G1.0	0.30	7.5	5	25

SEW Encoder cables

Connection cable



0198 9308	PUR	MAT9841404	(3x(2x0.25))C	0.30	7.5	7.5	10
0199 3194	PUR	MAT9841401	(5x(2x0.25))C	0.33	8.5	7.5	10
0199 4875	PVC	MAT9741401	(5x(2x0.25))C	0.31	8.0	10	08
0595 1518	PVC	MAT9741408	(6x(2x0.25))C	0.33	8.5	10	08
	PUR	MAT9841408	(6x(2x0.25))C	0.35	9.0	7.5	10
	TPE	MAT9941408	(6x(2x0.25))C	0.39	10.0	6.8	16
1332 4551	PVC	MAT9741403	(6x(2x0.25))C	0.33	8.5	10	08
	PUR	MAT9841403	(6x(2x0.25))C	0.35	9.0	7.5	10
1332 7437	PVC	MAT9741402	(5x(2x0.25))C	0.31	8.0	10	08
	PUR	MAT9841402	(5x(2x0.25))C	0.33	8.5	7.5	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 specifications.
G = with green-yellow earth core x = without earth core

Harnessed drive cables | SEW

PVC/PUR/TPE

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø	Bend radius	Cable page
			[mm ²]	[in.] [mm]	[x d]	538-541

SEW Encoder cables

Extension cable



0199 5405	PVC	MAT9741406	(6x(2x0.25))C	0.33	8.5	10	08
	PUR	MAT9841406	(6x(2x0.25))C	0.35	9.0	7.5	10
0199 5413	PUR	MAT9841405	(5x(2x0.25))C	0.33	8.5	7.5	10
0199 5421	PVC	MAT9741405	(5x(2x0.25))C	0.31	8.0	10	08
0593 9682	PVC	MAT9741407	(5x(2x0.25))C	0.31	8.0	10	08
	PUR	MAT9841407	(5x(2x0.25))C	0.33	8.5	7.5	10

Harnessed drive cables | Siemens

PVC/PUR/TPE

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø	Bend radius	Cable page
			[mm ²]	[in.] [mm]	[x d]	538-541
Siemens Power cables						
Basic cable						
6FX8002-5CN06	PVC	MAT9761554	(4G1.5)C	0.39	10.0	7.5 01
	PUR	MAT98615122	(4G1.5)C	0.39	10.0	10 06
	PUR	MAT98615123	(4G1.5)C	0.43	11.0	7.5 07
	TPE	MAT9961560	(4G1.5)C	0.39	10.0	7.5 02
6FX8002-5CN16	PVC	MAT9761559	(4G2.5)C	0.45	11.5	7.5 01
	PUR	MAT98615108	(4G2.5)C	0.45	11.5	10 06
	PUR	MAT98615107	(4G2.5)C	0.49	12.5	7.5 07
	TPE	MAT9961554	(4G2.5)C	0.45	11.5	7.5 02
Basic cable						
6FX8002-5CN26	PVC	MAT97515111	(4G1.5)C	0.39	10.0	7.5 01
	PUR	MAT98515130	(4G1.5)C	0.39	10.0	10 06
	TPE	MAT98515131	(4G1.5)C	0.39	10.0	7.5 02
6FX8002-5CN36	PVC	MAT9761556	(4G2.5)C	0.45	11.5	7.5 01
	PUR	MAT98615102	(4G2.5)C	0.45	11.5	10 06
	PUR	MAT98615103	(4G2.5)C	0.49	12.5	7.5 07
	TPE	MAT9961552	(4G2.5)C	0.45	11.5	7.5 02
6FX8002-5CN46	PVC	MAT9761557	(4G4.0)C	0.51	13.0	7.5 01
	PUR	MAT98615105	(4G4.0)C	0.51	13.0	10 06
	TPE	MAT9961553	(4G4.0)C	0.51	13.0	7.5 02
6FX8002-5CN56	PVC	MAT9761561	(4G6.0)C	0.63	16.0	7.5 01
	PUR	MAT98615110	(4G6.0)C	0.59	15.0	10 06
	TPE	MAT9961555	(4G6.0)C	0.63	16.0	7.5 02
Basic cable						
6FX8002-5CS06	PVC	MAT9761568	(4G1.5)C	0.39	10.0	7.5 01
	PUR	MAT98615120	(4G1.5)C	0.39	10.0	10 06
	PUR	MAT98615121	(4G1.5)C	0.43	11.0	7.5 07
	TPE	MAT9961559	(4G1.5)C	0.39	10.0	7.5 02
Basic cable						
6FX_002-5CA01	PVC	MAT9150001	(4G1.5)C	0.39	10.0	7.5 01
	PUR	MAT9861504	(4G1.5)C	0.39	10.0	10 06
	TPE	MAT9050001	(4G1.5)C	0.39	10.0	7.5 02

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 specifications.
G = with green-yellow earth core x = without earth core

Harnessed drive cables | Siemens

PVC/PUR/TPE

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø	Bend radius	Cable page
			[mm ²]	[in.] [mm]	[x d]	538-541
Siemens Power cables						
Basic cable						
6FX_002-5CA11	PVC	MAT9150002	(4G2.5)C	0.45	11.5	7.5 01
	PUR	MAT9861505	(4G2.5)C	0.45	11.5	10 06
	TPE	MAT9050002	(4G2.5)C	0.45	11.5	7.5 02
Basic cable						
6FX_002-5CA13	PVC	MAT9150009	(4G10)C	0.73	18.5	7.5 01
	PUR	MAT9861524	(4G10)C	0.71	18.0	10 06
	TPE	MAT9050009	(4G10)C	0.73	18.5	7.5 02
Basic cable						
6FX_002-5CA21	PVC	MAT9150003	(4G1.5)C	0.39	10.0	7.5 01
	PUR	MAT9861506	(4G1.5)C	0.39	10.0	10 06
	TPE	MAT9050003	(4G1.5)C	0.39	10.0	7.5 02
Basic cable						
6FX_002-5CA23	PVC	MAT9150008	(4G16)C	0.91	23.0	7.5 01
	PUR	MAT9861511	(4G16)C	0.87	22.0	10 06
	TPE	MAT9050008	(4G16)C	0.91	23.0	7.5 02
Basic cable						
6FX_002-5CA31	PVC	MAT9150004	(4G2.5)C	0.45	11.5	7.5 01
	PUR	MAT9861507	(4G2.5)C	0.45	11.5	10 06
	TPE	MAT9050004	(4G2.5)C	0.45	11.5	7.5 02
6FX_002-5CA41	PVC	MAT9150005	(4G4.0)C	0.51	13.0	7.5 01
	PUR	MAT9861508	(4G4.0)C	0.51	13.0	10 06
	TPE	MAT9050005	(4G4.0)C	0.51	13.0	7.5 02
6FX_002-5CA51	PVC	MAT9150006	(4G6.0)C	0.63	16.0	7.5 01
	PUR	MAT9861509	(4G6.0)C	0.59	15.0	10 06
	TPE	MAT9050006	(4G6.0)C	0.63	16.0	7.5 02
6FX_002-5CA61	PVC	MAT9150007	(4G10)C	0.73	18.5	7.5 01
	PUR	MAT9861510	(4G10)C	0.71	18.0	10 06
	TPE	MAT9050007	(4G10)C	0.73	18.5	7.5 02

Harnessed drive cables | Siemens

PVC/PUR/TPE

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø		Bend radius	Cable page 538-541
				[in.]	[mm]		
Siemens Power cables							
Basic cable							
6FX_002-5CG01	PVC	MAT9761512	(4G1.5)C	0.39	10.0	7.5	01
	PUR	MAT9861542	(4G1.5)C	0.39	10.0	10	06
	PUR	MAT9861541	(4G1.5)C	0.43	11.0	7.5	07
	TPE	MAT9961512	(4G1.5)C	0.39	10.0	7.5	02
Basic cable SpeedTec							
6FX_002-5CG10	PVC	MAT9761540	(4G1.5)C	0.39	10.0	7.5	01
	PUR	MAT9861584	(4G1.5)C	0.39	10.0	10	06
	PUR	MAT9861583	(4G1.5)C	0.43	11.0	7.5	07
	TPE	MAT9961540	(4G1.5)C	0.39	10.0	7.5	02
Basic cable							
6FX_002-5CG11	PVC	MAT9761514	(4G2.5)C	0.45	11.5	7.5	01
	PUR	MAT9861546	(4G2.5)C	0.45	11.5	10	06
	PUR	MAT9861545	(4G2.5)C	0.49	12.5	7.5	07
	TPE	MAT9961514	(4G2.5)C	0.45	11.5	7.5	02
Basic cable SpeedTec							
6FX_002-5CG12	PVC	MAT9761541	(4G2.5)C	0.45	11.5	7.5	01
	PUR	MAT9861586	(4G2.5)C	0.45	11.5	10	06
	PUR	MAT9861585	(4G2.5)C	0.49	12.5	7.5	07
	TPE	MAT9961541	(4G2.5)C	0.45	11.5	7.5	02
Basic cable							
6FX_002-5CG13	PVC	MAT9761520	(4G10)C	0.73	18.5	7.5	01
	PUR	MAT9861553	(4G10)C	0.71	18.0	10	06
	TPE	MAT9961520	(4G10)C	0.73	18.5	7.5	02
6FX_002-5CG21	PVC	MAT9761513	(4G1.5)C	0.39	10.0	7.5	01
	PUR	MAT9861544	(4G1.5)C	0.39	10.0	10	06
	PUR	MAT9861543	(4G1.5)C	0.43	11.0	7.5	07
	TPE	MAT9961513	(4G1.5)C	0.39	10.0	7.5	02

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 specifications.

G = with green-yellow earth core x = without earth core

Harnessed drive cables | Siemens

PVC/PUR/TPE

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø		Bend radius	Cable page 538-541
				[in.]	[mm]		
Siemens Power cables							
Basic cable SpeedTec							
6FX_002-5CG22	PVC	MAT9761542	(4G1.5)C	0.39	10.0	7.5	01
	PUR	MAT9861588	(4G1.5)C	0.39	10.0	10	06
	PUR	MAT9861587	(4G1.5)C	0.43	11.0	7.5	07
	TPE	MAT9961542	(4G1.5)C	0.39	10.0	7.5	02
Basic cable							
6FX_002-5CG23	PVC	MAT9761521	(4G16)C	0.91	23.0	7.5	01
	PUR	MAT9861554	(4G16)C	0.87	22.0	10	06
	TPE	MAT9961521	(4G16)C	0.91	23.0	7.5	02
	6FX_002-5CG31	PVC	MAT9761516	(4G2.5)C	0.45	11.5	7.5
PUR		MAT9861549	(4G2.5)C	0.45	11.5	10	06
PUR		MAT9861548	(4G2.5)C	0.49	12.5	7.5	07
TPE		MAT9961516	(4G2.5)C	0.45	11.5	7.5	02
Basic cable SpeedTec							
6FX_002-5CG32	PVC	MAT9761543	(4G2.5)C	0.45	11.5	7.5	01
	PUR	MAT9861590	(4G2.5)C	0.45	11.5	10	06
	PUR	MAT9861589	(4G2.5)C	0.49	12.5	7.5	07
	TPE	MAT9961543	(4G2.5)C	0.45	11.5	7.5	02
Basic cable							
6FX_002-5CG41	PVC	MAT9761517	(4G4.0)C	0.51	13.0	7.5	01
	PUR	MAT9861550	(4G4.0)C	0.51	13.0	10	06
	TPE	MAT9961517	(4G4.0)C	0.51	13.0	7.5	02
Basic cable SpeedTec							
6FX_002-5CG42	PVC	MAT9761544	(4G4.0)C	0.51	13.0	7.5	01
	PUR	MAT9861591	(4G4.0)C	0.51	13.0	10	06
	TPE	MAT9961544	(4G4.0)C	0.51	13.0	7.5	02

Harnessed drive cables | Siemens

PVC/PUR/TPE

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø	Bend radius	Cable page
			[mm ²]	[in.] [mm]	[x d]	538-541
Siemens Power cables						
Basic cable						
6FX_002-5CG51	PVC	MAT9761518	(4G6.0)C	0.63	16.0	7.5 01
	PUR	MAT9861551	(4G6.0)C	0.59	15.0	10 06
	TPE	MAT9961518	(4G6.0)C	0.63	16.0	7.5 02
Basic cable SpeedTec						
6FX_002-5CG52	PVC	MAT9761545	(4G6.0)C	0.63	16.0	7.5 01
	PUR	MAT9861592	(4G6.0)C	0.59	15.0	10 06
	TPE	MAT9961545	(4G6.0)C	0.63	16.0	7.5 02
Basic cable						
6FX_002-5CG61	PVC	MAT9761519	(4G10)C	0.73	18.5	7.5 01
	PUR	MAT9861552	(4G10)C	0.71	18.0	10 06
	TPE	MAT9961519	(4G10)C	0.73	18.5	7.5 02
Basic cable SpeedTec						
6FX_002-5CG62	PVC	MAT9761546	(4G10)C	0.73	18.5	7.5 01
	PUR	MAT9861593	(4G10)C	0.71	18.0	10 06
	TPE	MAT9961546	(4G10)C	0.73	18.5	7.5 02
Basic cable						
6FX_002-5CK01	PUR	MAT98615112	(4G0.75)C	0.37	9.5	7.5 07
	TPE	MAT9961556	(4G0.75)C	0.31	8.0	7.5 02
Basic cable						
6FX_002-5CL01	PVC	MAT9761563	(4G1.5)C	0.39	10.0	7.5 01
	PUR	MAT98615114	(4G1.5)C	0.39	10.0	10 06
	PUR	MAT98615115	(4G1.5)C	0.43	11.0	7.5 07
	TPE	MAT9961557	(4G1.5)C	0.39	10.0	7.5 02

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 specifications.

G = with green-yellow earth core x = without earth core

Harnessed drive cables | Siemens

PVC/PUR/TPE

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø	Bend radius	Cable page
			[mm ²]	[in.] [mm]	[x d]	538-541
Siemens Power cables						
Basic cable						
6FX_002-5CL02	PVC	MAT9761572	(4G1.5)C	0.39	10.0	7.5 01
	PUR	MAT98615126	(4G1.5)C	0.39	10.0	10 06
	PUR	MAT98615127	(4G1.5)C	0.43	11.0	7.5 07
	TPE	MAT9961563	(4G1.5)C	0.39	10.0	7.5 02
Basic cable						
6FX_002-5CL12	PVC	MAT9761573	(4G2.5)C	0.45	11.5	7.5 01
	PUR	MAT98615128	(4G2.5)C	0.45	11.5	10 06
	PUR	MAT98615129	(4G2.5)C	0.49	12.5	7.5 07
	TPE	MAT9961564	(4G2.5)C	0.45	11.5	7.5 02
Basic cable SpeedTec						
6FX_002-5CN01	PVC	MAT9761531	(4G1.5)C	0.39	10.0	7.5 01
	PUR	MAT9861571	(4G1.5)C	0.39	10.0	10 06
	PUR	MAT9861570	(4G1.5)C	0.43	11.0	7.5 07
	TPE	MAT9961531	(4G1.5)C	0.39	10.0	7.5 02
6FX_002-5CN11	PVC	MAT9761532	(4G2.5)C	0.45	11.5	7.5 01
	PUR	MAT9861573	(4G2.5)C	0.45	11.5	10 06
	PUR	MAT9861572	(4G2.5)C	0.49	12.5	7.5 07
	TPE	MAT9961532	(4G2.5)C	0.45	11.5	7.5 02
	TPE	MAT9961532	(4G2.5)C	0.45	11.5	7.5 02
6FX_002-5CN21	PVC	MAT9761533	(4G1.5)C	0.39	10.0	7.5 01
	PUR	MAT9861575	(4G1.5)C	0.39	10.0	10 06
	PUR	MAT9861574	(4G1.5)C	0.43	11.0	7.5 07
	TPE	MAT9961533	(4G1.5)C	0.39	10.0	7.5 02
6FX_002-5CN31	PVC	MAT9761534	(4G2.5)C	0.45	11.5	7.5 01
	PUR	MAT9861577	(4G2.5)C	0.45	11.5	10 06
	PUR	MAT9861576	(4G2.5)C	0.49	12.5	7.5 07
	TPE	MAT9961534	(4G2.5)C	0.45	11.5	7.5 02
6FX_002-5CN41	PVC	MAT9761535	(4G4.0)C	0.51	13.0	7.5 01
	PUR	MAT9861578	(4G4.0)C	0.51	13.0	10 06
	TPE	MAT9961535	(4G4.0)C	0.51	13.0	7.5 02
6FX_002-5CN51	PVC	MAT9761536	(4G6.0)C	0.63	16.0	7.5 01
	PUR	MAT9861579	(4G6.0)C	0.59	15.0	10 06
	TPE	MAT9961536	(4G6.0)C	0.63	16.0	7.5 02

Harnessed drive cables | Siemens

PVC/PUR/TPE

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø		Bend radius	Cable page 538-541
				[in.]	[mm]		
Siemens Power cables							
Basic cable SpeedTec							
6FX_002-5CN54	PVC	MAT9761537	(4G6.0)C	0.63	16.0	7.5	01
	PUR	MAT9861580	(4G6.0)C	0.59	15.0	10	06
	TPE	MAT9961537	(4G6.0)C	0.63	16.0	7.5	02
Basic cable SpeedTec							
6FX_002-5CN61	PVC	MAT9761538	(4G10)C	0.73	18.5	7.5	01
	PUR	MAT9861581	(4G10)C	0.71	18.0	10	06
	TPE	MAT9961538	(4G10)C	0.73	18.5	7.5	02
Basic cable SpeedTec							
6FX_002-5CN64	PVC	MAT9761539	(4G10)C	0.73	18.5	7.5	01
	PUR	MAT9861582	(4G10)C	0.71	18.0	10	06
	TPE	MAT9961539	(4G10)C	0.73	18.5	7.5	02
Basic cable SpeedTec							
6FX_002-5CQ01	PVC	MAT9761524	(4G1.5)C	0.39	10.0	7.5	01
	PUR	MAT9861560	(4G1.5)C	0.39	10.0	10	06
	PUR	MAT9861559	(4G1.5)C	0.43	11.0	7.5	07
	TPE	MAT9961524	(4G1.5)C	0.39	10.0	7.5	02
6FX_002-5CQ11	PVC	MAT9761525	(4G2.5)C	0.45	11.5	7.5	01
	PUR	MAT9861562	(4G2.5)C	0.45	11.5	10	06
	TPE	MAT9961525	(4G2.5)C	0.45	11.5	7.5	02
6FX_002-5CQ21	PVC	MAT9761526	(4G1.5)C	0.39	10.0	7.5	01
	PUR	MAT9861564	(4G1.5)C	0.39	10.0	10	06
	PUR	MAT9861563	(4G1.5)C	0.43	11.0	7.5	07
	TPE	MAT9961526	(4G1.5)C	0.39	10.0	7.5	02
6FX_002-5CQ31	PVC	MAT9761527	(4G2.5)C	0.45	11.5	7.5	01
	PUR	MAT9861566	(4G2.5)C	0.45	11.5	10	06
	PUR	MAT9861565	(4G2.5)C	0.49	12.5	7.5	07
	TPE	MAT9961527	(4G2.5)C	0.45	11.5	7.5	02
6FX_002-5CQ41	PVC	MAT9761528	(4G4.0)C	0.51	13.0	7.5	01
	PUR	MAT9861567	(4G4.0)C	0.51	13.0	10	06
	TPE	MAT9961528	(4G4.0)C	0.51	13.0	7.5	02

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 specifications.

G = with green-yellow earth core x = without earth core

Harnessed drive cables | Siemens

PVC/PUR/TPE

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø		Bend radius	Cable page 538-541
				[in.]	[mm]		
Siemens Power cables							
Basic cable SpeedTec							
6FX_002-5CQ51	PVC	MAT9761529	(4G6.0)C	0.63	16.0	7.5	01
	PUR	MAT9861568	(4G6.0)C	0.59	15.0	10	06
	TPE	MAT9961529	(4G6.0)C	0.63	16.0	7.5	02
6FX_002-5CQ61	PVC	MAT9761530	(4G10)C	0.73	18.5	7.5	01
	PUR	MAT9861569	(4G10)C	0.71	18.0	10	06
	TPE	MAT9961530	(4G10)C	0.73	18.5	7.5	02
Basic cable							
6FX_002-5CS01	PVC	MAT9150020	(4G1.5)C	0.39	10.0	7.5	01
	PUR	MAT9861512	(4G1.5)C	0.39	10.0	10	06
	PUR	MAT9861501	(4G1.5)C	0.43	11.0	7.5	07
	TPE	MAT9050020	(4G1.5)C	0.39	10.0	7.5	02
Basic cable							
6FX_002-5CS02	PVC	MAT9761501	(4G1.5)C	0.39	10.0	7.5	01
	PUR	MAT9861526	(4G1.5)C	0.39	10.0	10	06
	PUR	MAT9861525	(4G1.5)C	0.43	11.0	7.5	07
	TPE	MAT9961501	(4G1.5)C	0.39	10.0	7.5	02
Basic cable							
6FX_002-5CS11	PVC	MAT9761502	(4G2.5)C	0.45	11.5	7.5	01
	PUR	MAT9861528	(4G2.5)C	0.45	11.5	10	06
	PUR	MAT9861527	(4G2.5)C	0.49	12.5	7.5	07
	TPE	MAT9961502	(4G2.5)C	0.45	11.5	7.5	02
Basic cable							
6FX_002-5CS12	PVC	MAT9761503	(4G2.5)C	0.45	11.5	7.5	01
	PUR	MAT9861530	(4G2.5)C	0.45	11.5	10	06
	PUR	MAT9861529	(4G2.5)C	0.49	12.5	7.5	07
	TPE	MAT9961503	(4G2.5)C	0.45	11.5	7.5	02

Harnessed drive cables | Siemens

PVC/PUR/TPE

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø	Bend radius	Cable page
			[mm ²]	[in.] [mm]	[x d]	538-541

Siemens Power cables

Basic cable



6FX_002-5CS13	PVC	MAT9761504	(4G10)C	0.73	18.5	7.5	01
	PUR	MAT9861531	(4G10)C	0.71	18.0	10	06
	TPE	MAT9961504	(4G10)C	0.73	18.5	7.5	02
6FX_002-5CS21	PVC	MAT9150021	(4G1.5)C	0.39	10.0	7.5	01
	PUR	MAT9861513	(4G1.5)C	0.39	10.0	10	06
	PUR	MAT9861502	(4G1.5)C	0.43	11.0	7.5	07
	TPE	MAT9050021	(4G1.5)C	0.39	10.0	7.5	02

Basic cable



6FX_002-5CS23	PVC	MAT9761515	(4G16)C	0.91	23.0	7.5	01
	PUR	MAT9861547	(4G16)C	0.87	22.0	10	06
	TPE	MAT9961515	(4G16)C	0.91	23.0	7.5	02
6FX_002-5CS24	PVC	MAT9761570	(4G16)C	0.91	23.0	7.5	01
	PUR	MAT98615125	(4G16)C	0.87	22.0	10	06
	TPE	MAT9961561	(4G16)C	0.91	23.0	7.5	02
	TPE	MAT9961562	(4G16)C	0.91	23.0	7.5	03

Basic cable



6FX_002-5CS31	PVC	MAT9150022	(4G2.5)C	0.45	11.5	7.5	01
	PUR	MAT9861514	(4G2.5)C	0.45	11.5	10	06
	PUR	MAT9861503	(4G2.5)C	0.49	12.5	7.5	07
	TPE	MAT9050022	(4G2.5)C	0.45	11.5	7.5	02
6FX_002-5CS41	PVC	MAT9150023	(4G4.0)C	0.51	13.0	7.5	01
	PUR	MAT9861533	(4G4.0)C	0.51	13.0	10	06
	TPE	MAT9050023	(4G4.0)C	0.51	13.0	7.5	02

Basic cable



6FX_002-5CS42	PVC	MAT9761506	(4G4.0)C	0.51	13.0	7.5	01
	PUR	MAT9861534	(4G4.0)C	0.51	13.0	10	06
	TPE	MAT9961506	(4G4.0)C	0.51	13.0	7.5	02

Harnessed drive cables | Siemens

PVC/PUR/TPE

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø	Bend radius	Cable page
			[mm ²]	[in.] [mm]	[x d]	538-541

Siemens Power cables

Basic cable



6FX_002-5CS51	PVC	MAT9150024	(4G6.0)C	0.63	16.0	7.5	01
	PUR	MAT9861535	(4G6.0)C	0.59	15.0	10	06
	TPE	MAT9050024	(4G6.0)C	0.63	16.0	7.5	02

Basic cable



6FX_002-5CS52	PVC	MAT9761507	(4G6.0)C	0.63	16.0	7.5	01
	PUR	MAT9861536	(4G6.0)C	0.59	15.0	10	06
	TPE	MAT9961507	(4G6.0)C	0.63	16.0	7.5	02

Basic cable



6FX_002-5CS54	PVC	MAT9761508	(4G6.0)C	0.63	16.0	7.5	01
	PUR	MAT9861537	(4G6.0)C	0.59	15.0	10	06
	TPE	MAT9961508	(4G6.0)C	0.63	16.0	7.5	02

Basic cable



6FX_002-5CS61	PVC	MAT9761509	(4G10)C	0.73	18.5	7.5	01
	PUR	MAT9861538	(4G10)C	0.71	18.0	10	06
	TPE	MAT9961509	(4G10)C	0.73	18.5	7.5	02

Basic cable



6FX_002-5CS62	PVC	MAT9761510	(4G10)C	0.73	18.5	7.5	01
	PUR	MAT9861539	(4G10)C	0.71	18.0	10	06
	TPE	MAT9961510	(4G10)C	0.73	18.5	7.5	02

Basic cable



6FX_002-5CS64	PVC	MAT9761511	(4G10)C	0.73	18.5	7.5	01
	PUR	MAT9861540	(4G10)C	0.71	18.0	10	06
	TPE	MAT9961511	(4G10)C	0.73	18.5	7.5	02

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 specifications.
G = with green-yellow earth core x = without earth core

Harnessed drive cables | Siemens

PVC/PUR/TPE

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø	Bend radius	Cable page
			[mm ²]	[in.] [mm]	[x d]	538-541

Siemens Power cables

Extension cable



6FX_002-5CA05	PVC	MAT9151001	(4G1.5)C	0.39	10.0	7.5	01
	PUR	MAT9861515	(4G1.5)C	0.39	10.0	10	06
	TPE	MAT9051001	(4G1.5)C	0.39	10.0	7.5	02
6FX_002-5CA15	PVC	MAT9151002	(4G2.5)C	0.45	11.5	7.5	01
	PUR	MAT9861516	(4G2.5)C	0.45	11.5	10	06
	TPE	MAT9051002	(4G2.5)C	0.45	11.5	7.5	02

Extension cable



6FX_002-5CA28	PVC	MAT9151003	(4G1.5)C	0.39	10.0	7.5	01
	PUR	MAT9861517	(4G1.5)C	0.39	10.0	10	06
	TPE	MAT9051003	(4G1.5)C	0.39	10.0	7.5	02
6FX_002-5CA38	PVC	MAT9151004	(4G2.5)C	0.45	11.5	7.5	01
	PUR	MAT9861518	(4G2.5)C	0.45	11.5	10	06
	TPE	MAT9051004	(4G2.5)C	0.45	11.5	7.5	02
6FX_002-5CA48	PVC	MAT9151005	(4G4.0)C	0.51	13.0	7.5	01
	PUR	MAT9861519	(4G4.0)C	0.51	13.0	10	06
	TPE	MAT9051005	(4G4.0)C	0.51	13.0	7.5	02
6FX_002-5CA58	PVC	MAT9151006	(4G6.0)C	0.63	16.0	7.5	01
	PUR	MAT9861520	(4G6.0)C	0.59	15.0	10	06
	TPE	MAT9051006	(4G6.0)C	0.63	16.0	7.5	02
6FX_002-5CA68	PVC	MAT9151007	(4G10)C	0.73	18.5	7.5	01
	PUR	MAT9861521	(4G10)C	0.71	18.0	10	06
	TPE	MAT9051007	(4G10)C	0.73	18.5	7.5	02

Extension cable SpeedTec



6FX_002-5CN05	PVC	MAT9761522	(4G1.5)C	0.39	10.0	7.5	01
	PUR	MAT9861556	(4G1.5)C	0.39	10.0	10	06
	PUR	MAT9861555	(4G1.5)C	0.43	11.0	7.5	07
	TPE	MAT9961522	(4G1.5)C	0.39	10.0	7.5	02
6FX_002-5CQ15	PVC	MAT9761523	(4G2.5)C	0.45	11.5	7.5	01
	PUR	MAT9861558	(4G2.5)C	0.45	11.5	10	06
	PUR	MAT9861557	(4G2.5)C	0.49	12.5	7.5	07
	TPE	MAT9961523	(4G2.5)C	0.45	11.5	7.5	02

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 specifications.

G = with green-yellow earth core x = without earth core

Harnessed drive cables | Siemens

PVC/PUR/TPE

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø	Bend radius	Cable page
			[mm ²]	[in.] [mm]	[x d]	538-541

Siemens Power cables

Extension cable SpeedTec



6FX_002-5CQ28	PVC	MAT9761547	(4G1.5)C	0.39	10.0	7.5	01
	PUR	MAT9861595	(4G1.5)C	0.39	10.0	10	06
	PUR	MAT9861594	(4G1.5)C	0.43	11.0	7.5	07
6FX_002-5CQ38	TPE	MAT9961547	(4G1.5)C	0.39	10.0	7.5	02
	PVC	MAT9761548	(4G2.5)C	0.45	11.5	7.5	01
	PUR	MAT9861597	(4G2.5)C	0.45	11.5	10	06
6FX_002-5CQ48	PUR	MAT9861596	(4G2.5)C	0.49	12.5	7.5	07
	TPE	MAT9961548	(4G2.5)C	0.45	11.5	7.5	02
	PVC	MAT9761549	(4G4.0)C	0.51	13.0	7.5	01
6FX_002-5CQ58	PUR	MAT9861598	(4G4.0)C	0.51	13.0	10	06
	TPE	MAT9961549	(4G4.0)C	0.51	13.0	7.5	02
	PVC	MAT9761550	(4G6.0)C	0.63	16.0	7.5	01
6FX_002-5CQ68	PUR	MAT9861599	(4G6.0)C	0.59	15.0	10	06
	TPE	MAT9961550	(4G6.0)C	0.63	16.0	7.5	02
	PVC	MAT9761551	(4G10)C	0.73	18.5	7.5	01
6FX_002-5CQ68	PUR	MAT98615100	(4G10)C	0.71	18.0	10	06
	TPE	MAT9961551	(4G10)C	0.73	18.5	7.5	02

Extension cable



6FX_002-5CX18	PVC	MAT9151009	(4G10)C	0.73	18.5	7.5	01
	PUR	MAT9861522	(4G10)C	0.71	18.0	10	06
	TPE	MAT9051009	(4G10)C	0.73	18.5	7.5	02
6FX_002-5CX28	PVC	MAT9151008	(4G16)C	0.91	23.0	7.5	01
	PUR	MAT9861523	(4G16)C	0.87	22.0	10	06
	TPE	MAT9051008	(4G16)C	0.91	23.0	7.5	02

Siemens Servo cables

Basic cable



6FX_002-5DA01	PVC	MAT9751501	(4G1.5+(2x1.5)C)C	0.49	12.5	10	04
	PVC	MAT9160001	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	05
	PUR	MAT9851501	(4G1.5+(2x1.5)C)C	0.49	12.5	10	06
	PUR	MAT9060001	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	07
6FX_002-5DA11	PUR	MAT9060002	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	07
	PVC	MAT9751502	(4G2.5+(2x1.5)C)C	0.55	14.0	10	04
	PVC	MAT9160002	(4G2.5+(2x1.5)C)C	0.57	14.5	7.5	05
	PUR	MAT9851502	(4G2.5+(2x1.5)C)C	0.55	14.0	10	06
6FX_002-5DA11	PUR	MAT9060002	(4G2.5+(2x1.5)C)C	0.57	14.5	7.5	07

Harnessed drive cables | Siemens

PVC/PUR/TPE

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø		Bend radius	Cable page 538-541
				[in.]	[mm]		
Siemens Servo cables							
Basic cable							
6FX_002-5DA21	PVC	MAT9751503	(4G1.5+(2x1.5)C)C	0.49	12.5	10	04
	PVC	MAT9160003	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	05
	PUR	MAT9851503	(4G1.5+(2x1.5)C)C	0.49	12.5	10	06
	PUR	MAT9060003	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	07
Basic cable							
6FX_002-5DA23	PVC	MAT9160008	(4G16+(2x1.5)C)C	0.98	25.0	7.5	05
	PUR	MAT9851508	(4G16+(2x1.5)C)C	0.94	24.0	10	06
	PUR	MAT9060008	(4G16+(2x1.5)C)C	0.94	24.0	7.5	07
Basic cable							
6FX_002-5DA30	PVC	MAT97515127	(4G1.5+(2x1.5)C)C	0.49	12.5	10	04
	PUR	MAT98515151	(4G1.5+(2x1.5)C)C	0.49	12.5	10	06
Basic cable							
6FX_002-5DA31	PVC	MAT9751504	(4G2.5+(2x1.5)C)C	0.55	14.0	10	04
	PVC	MAT9160004	(4G2.5+(2x1.5)C)C	0.57	14.5	7.5	05
	PUR	MAT9851504	(4G2.5+(2x1.5)C)C	0.55	14.0	10	06
	PUR	MAT9060004	(4G2.5+(2x1.5)C)C	0.57	14.5	7.5	07
Basic cable							
6FX_002-5DA33	PVC	MAT9160009	(4G25+(2x1.5)C)C	1.18	30.0	7.5	05
	PUR	MAT9060009	(4G25+(2x1.5)C)C	1.10	28.0	7.5	07
Basic cable							
6FX_002-5DA41	PVC	MAT9751505	(4G4.0+(2x1.5)C)C	0.59	15.0	10	04
	PVC	MAT9160005	(4G4.0+(2x1.5)C)C	0.63	16.0	7.5	05
	PUR	MAT9851505	(4G4.0+(2x1.5)C)C	0.59	15.0	10	06
	PUR	MAT9060005	(4G4.0+(2x1.5)C)C	0.63	16.0	7.5	07

Harnessed drive cables | Siemens

PVC/PUR/TPE

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø		Bend radius	Cable page 538-541
				[in.]	[mm]		
Siemens Servo cables							
Basic cable							
6FX_002-5DA43	PVC	MAT9160010	(4G35+(2x1.5)C)C	1.32	33.5	7.5	05
	PUR	MAT9060010	(4G35+(2x1.5)C)C	1.26	32.0	7.5	07
Basic cable							
6FX_002-5DA51	PVC	MAT9751506	(4G6.0+(2x1.5)C)C	0.65	16.5	10	04
	PVC	MAT9160006	(4G6.0+(2x1.5)C)C	0.71	18.0	7.5	05
	PUR	MAT9851506	(4G6.0+(2x1.5)C)C	0.65	16.5	10	06
	PUR	MAT9060006	(4G6.0+(2x1.5)C)C	0.69	17.5	7.5	07
6FX_002-5DA61	PVC	MAT9160007	(4G10+(2x1.5)C)C	0.85	21.5	7.5	05
	PUR	MAT9851507	(4G10+(2x1.5)C)C	0.83	21.0	10	06
	PUR	MAT9060007	(4G10+(2x1.5)C)C	0.83	21.0	7.5	07
Basic cable							
6FX_002-5DG01	PVC	MAT9751529	(4G1.5+(2x1.5)C)C	0.49	12.5	10	04
	PVC	MAT9751528	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	05
	PUR	MAT9851541	(4G1.5+(2x1.5)C)C	0.49	12.5	10	06
	PUR	MAT9851540	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	07
Basic cable SpeedTec							
6FX_002-5DG10	PVC	MAT9751589	(4G1.5+(2x1.5)C)C	0.49	12.5	10	04
	PVC	MAT9751588	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	05
	PUR	MAT98515107	(4G1.5+(2x1.5)C)C	0.49	12.5	10	06
	PUR	MAT98515106	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	07
Basic cable							
6FX_002-5DG11	PVC	MAT9751533	(4G2.5+(2x1.5)C)C	0.55	14.0	10	04
	PVC	MAT9751532	(4G2.5+(2x1.5)C)C	0.57	14.5	7.5	05
	PUR	MAT9851545	(4G2.5+(2x1.5)C)C	0.55	14.0	10	06
	PUR	MAT9851544	(4G2.5+(2x1.5)C)C	0.57	14.5	7.5	07

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 specifications.
G = with green-yellow earth core x = without earth core

Harnessed drive cables | Siemens

PVC/PUR/TPE

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø	Bend radius	Cable page
			[mm ²]	[in.] [mm]	[x d]	538-541

Siemens Servo cables

Basic cable SpeedTec



6FX_002-5DG12	PVC	MAT9751593	(4G2.5+(2x1.5)C)C	0.55	14.0	10	04
	PVC	MAT9751592	(4G2.5+(2x1.5)C)C	0.57	14.5	7.5	05
	PUR	MAT98515111	(4G2.5+(2x1.5)C)C	0.55	14.0	10	06
	PUR	MAT98515110	(4G2.5+(2x1.5)C)C	0.57	14.5	7.5	07

Basic cable



6FX_002-5DG13	PVC	MAT9751541	(4G10+(2x1.5)C)C	0.85	21.5	7.5	05
	PUR	MAT9851555	(4G10+(2x1.5)C)C	0.83	21.0	10	06
	PUR	MAT9851554	(4G10+(2x1.5)C)C	0.83	21.0	7.5	07
6FX_002-5DG21	PVC	MAT9751531	(4G1.5+(2x1.5)C)C	0.49	12.5	10	04
	PVC	MAT9751530	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	05
	PUR	MAT9851543	(4G1.5+(2x1.5)C)C	0.49	12.5	10	06
	PUR	MAT9851542	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	07

Basic cable SpeedTec



6FX_002-5DG22	PVC	MAT9751591	(4G1.5+(2x1.5)C)C	0.49	12.5	10	04
	PVC	MAT9751590	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	05
	PUR	MAT98515109	(4G1.5+(2x1.5)C)C	0.49	12.5	10	06
	PUR	MAT98515108	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	07

Basic cable



6FX_002-5DG23	PUR	MAT9851557	(4G16+(2x1.5)C)C	0.94	24.0	10	06
	PUR	MAT9851556	(4G16+(2x1.5)C)C	0.94	24.0	7.5	07
6FX_002-5DG31	PVC	MAT9751535	(4G2.5+(2x1.5)C)C	0.55	14.0	10	04
	PVC	MAT9751534	(4G2.5+(2x1.5)C)C	0.57	14.5	7.5	05
	PUR	MAT9851547	(4G2.5+(2x1.5)C)C	0.55	14.0	10	06
	PUR	MAT9851546	(4G2.5+(2x1.5)C)C	0.57	14.5	7.5	07

Basic cable SpeedTec



6FX_002-5DG32	PVC	MAT9751595	(4G2.5+(2x1.5)C)C	0.55	14.0	10	04
	PVC	MAT9751594	(4G2.5+(2x1.5)C)C	0.57	14.5	7.5	05
	PUR	MAT98515113	(4G2.5+(2x1.5)C)C	0.55	14.0	10	06
	PUR	MAT98515112	(4G2.5+(2x1.5)C)C	0.57	14.5	7.5	07

Harnessed drive cables | Siemens

PVC/PUR/TPE

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø	Bend radius	Cable page
			[mm ²]	[in.] [mm]	[x d]	538-541

Siemens Servo cables

Basic cable



6FX_002-5DG33	PUR	MAT9851558	(4G25+(2x1.5)C)C	1.10	28.0	7.5	07
6FX_002-5DG41	PVC	MAT9751537	(4G4.0+(2x1.5)C)C	0.59	15.0	10	04
	PVC	MAT9751536	(4G4.0+(2x1.5)C)C	0.63	16.0	7.5	05
	PUR	MAT9851549	(4G4.0+(2x1.5)C)C	0.59	15.0	10	06
	PUR	MAT9851548	(4G4.0+(2x1.5)C)C	0.63	16.0	7.5	07

Basic cable SpeedTec



6FX_002-5DG42	PVC	MAT9751597	(4G4.0+(2x1.5)C)C	0.59	15.0	10	04
	PVC	MAT9751596	(4G4.0+(2x1.5)C)C	0.63	16.0	7.5	05
	PUR	MAT98515115	(4G4.0+(2x1.5)C)C	0.59	15.0	10	06
	PUR	MAT98515114	(4G4.0+(2x1.5)C)C	0.63	16.0	7.5	07

Basic cable



6FX_002-5DG43	PUR	MAT9851559	(4G35+(2x1.5)C)C	1.26	32.0	7.5	07
6FX_002-5DG51	PVC	MAT9751539	(4G6.0+(2x1.5)C)C	0.65	16.5	10	04
	PVC	MAT9751538	(4G6.0+(2x1.5)C)C	0.71	18.0	7.5	05
	PUR	MAT9851551	(4G6.0+(2x1.5)C)C	0.65	16.5	10	06
	PUR	MAT9851550	(4G6.0+(2x1.5)C)C	0.69	17.5	7.5	07

Basic cable SpeedTec



6FX_002-5DG52	PVC	MAT9751599	(4G6.0+(2x1.5)C)C	0.65	16.5	10	04
	PVC	MAT9751598	(4G6.0+(2x1.5)C)C	0.71	18.0	7.5	05
	PUR	MAT98515117	(4G6.0+(2x1.5)C)C	0.65	16.5	10	06
	PUR	MAT98515116	(4G6.0+(2x1.5)C)C	0.69	17.5	7.5	07

Basic cable



6FX_002-5DG61	PVC	MAT9751540	(4G10+(2x1.5)C)C	0.85	21.5	7.5	05
	PUR	MAT9851553	(4G10+(2x1.5)C)C	0.83	21.0	10	06
	PUR	MAT9851552	(4G10+(2x1.5)C)C	0.83	21.0	7.5	07

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 specifications.
G = with green-yellow earth core x = without earth core

Harnessed drive cables | Siemens

PVC/PUR/TPE

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø	Bend radius	Cable page	
			[mm ²]	[in.] [mm]	[x d]	538-541	
Siemens Servo cables							
Basic cable SpeedTec							
6FX_002-5DG62	PVC	MAT97515100	(4G10+(2x1.5)C)C	0.85	21.5	7.5	05
	PUR	MAT98515119	(4G10+(2x1.5)C)C	0.83	21.0	10	06
	PUR	MAT98515118	(4G10+(2x1.5)C)C	0.83	21.0	7.5	07
Basic cable SpeedTec							
6FX_002-5DN01	PVC	MAT9751571	(4G1.5+(2x1.5)C)C	0.49	12.5	10	04
	PVC	MAT9751570	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	05
	PUR	MAT9851589	(4G1.5+(2x1.5)C)C	0.49	12.5	10	06
	PUR	MAT9851588	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	07
Basic cable							
6FX_002-5DN06	PVC	MAT97515103	(4G1.5+(2x1.5)C)C	0.49	12.5	10	04
	PVC	MAT97515102	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	05
	PUR	MAT98515122	(4G1.5+(2x1.5)C)C	0.49	12.5	10	06
	PUR	MAT98515123	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	07
Basic cable SpeedTec							
6FX_002-5DN11	PVC	MAT9751573	(4G2.5+(2x1.5)C)C	0.55	14.0	10	04
	PVC	MAT9751572	(4G2.5+(2x1.5)C)C	0.57	14.5	7.5	05
	PUR	MAT9851591	(4G2.5+(2x1.5)C)C	0.55	14.0	10	06
	PUR	MAT9851590	(4G2.5+(2x1.5)C)C	0.57	14.5	7.5	07
	PUR	MAT9851590	(4G2.5+(2x1.5)C)C	0.57	14.5	7.5	07
Basic cable							
6FX_002-5DN16	PVC	MAT97515108	(4G2.5+(2x1.5)C)C	0.55	14.0	10	04
	PVC	MAT97515109	(4G2.5+(2x1.5)C)C	0.57	14.5	7.5	05
	PUR	MAT98515129	(4G2.5+(2x1.5)C)C	0.55	14.0	10	06
	PUR	MAT98515128	(4G2.5+(2x1.5)C)C	0.57	14.5	7.5	07
Basic cable SpeedTec							
6FX_002-5DN21	PVC	MAT9751575	(4G1.5+(2x1.5)C)C	0.49	12.5	10	04
	PVC	MAT9751574	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	05
	PUR	MAT9851593	(4G1.5+(2x1.5)C)C	0.49	12.5	10	06
	PUR	MAT9851592	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	07

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 specifications.

G = with green-yellow earth core x = without earth core

Harnessed drive cables | Siemens

PVC/PUR/TPE

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø	Bend radius	Cable page	
			[mm ²]	[in.] [mm]	[x d]	538-541	
Siemens Servo cables							
Basic cable							
6FX_002-5DN26	PVC	MAT97515125	(4G1.5+(2x1.5)C)C	0.49	12.5	10	04
	PVC	MAT97515126	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	05
	PUR	MAT98515145	(4G1.5+(2x1.5)C)C	0.49	12.5	10	06
	PUR	MAT98515146	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	07
Basic cable SpeedTec							
6FX_002-5DN27	PVC	MAT97515128	(4G1.5+(2x1.5)C)C	0.49	12.5	10	04
	PUR	MAT98515152	(4G1.5+(2x1.5)C)C	0.49	12.5	10	06
Basic cable							
6FX_002-5DN30	PVC	MAT9761566	(4G1.5+(2x1.5)C)C	0.49	12.5	10	04
	PVC	MAT98615117	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	05
	PUR	MAT9761565	(4G1.5+(2x1.5)C)C	0.49	12.5	10	06
	PUR	MAT98615116	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	07
Basic cable SpeedTec							
6FX_002-5DN31	PVC	MAT9751577	(4G2.5+(2x1.5)C)C	0.55	14.0	10	04
	PVC	MAT9751576	(4G2.5+(2x1.5)C)C	0.57	14.5	7.5	05
	PUR	MAT9851595	(4G2.5+(2x1.5)C)C	0.55	14.0	10	06
	PUR	MAT9851594	(4G2.5+(2x1.5)C)C	0.57	14.5	7.5	07
	PUR	MAT9851594	(4G2.5+(2x1.5)C)C	0.57	14.5	7.5	07
6FX_002-5DN41	PVC	MAT9751579	(4G4.0+(2x1.5)C)C	0.59	15.0	10	04
	PVC	MAT9751578	(4G4.0+(2x1.5)C)C	0.63	16.0	7.5	05
	PUR	MAT9851597	(4G4.0+(2x1.5)C)C	0.59	15.0	10	06
	PUR	MAT9851596	(4G4.0+(2x1.5)C)C	0.63	16.0	7.5	07
Basic cable							
6FX_002-5DN46	PVC	MAT97515113	(4G4.0+(2x1.5)C)C	0.59	15.0	10	04
	PVC	MAT97515114	(4G4.0+(2x1.5)C)C	0.63	16.0	7.5	05
	PUR	MAT98515133	(4G4.0+(2x1.5)C)C	0.59	15.0	10	06
	PUR	MAT98515134	(4G4.0+(2x1.5)C)C	0.63	16.0	7.5	07

Harnessed drive cables | Siemens

PVC/PUR/TPE

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø	Bend radius	Cable page
			[mm ²]	[in.] [mm]	[x d]	538-541

Siemens Servo cables

Basic cable SpeedTec



6FX_002-5DN51	PVC	MAT9751581	(4G6.0+(2x1.5)C)C	0.65	16.5	10	04
	PVC	MAT9751580	(4G6.0+(2x1.5)C)C	0.71	18.0	7.5	05
	PUR	MAT9851599	(4G6.0+(2x1.5)C)C	0.65	16.5	10	06
	PUR	MAT9851598	(4G6.0+(2x1.5)C)C	0.69	17.5	7.5	07

Basic cable SpeedTec



6FX_002-5DN54	PVC	MAT9751583	(4G6.0+(2x1.5)C)C	0.65	16.5	10	04
	PVC	MAT9751582	(4G6.0+(2x1.5)C)C	0.71	18.0	7.5	05
	PUR	MAT98515101	(4G6.0+(2x1.5)C)C	0.65	16.5	10	06
	PUR	MAT98515100	(4G6.0+(2x1.5)C)C	0.69	17.5	7.5	07

Basic cable



6FX_002-5DN56	PVC	MAT97515119	(4G6.0+(2x1.5)C)C	0.65	16.5	10	04
	PVC	MAT97515120	(4G6.0+(2x1.5)C)C	0.71	18.0	7.5	05
	PUR	MAT98515139	(4G6.0+(2x1.5)C)C	0.65	16.5	10	06
	PUR	MAT98515140	(4G6.0+(2x1.5)C)C	0.69	17.5	7.5	07

Basic cable SpeedTec



6FX_002-5DN61	PVC	MAT9751584	(4G10+(2x1.5)C)C	0.85	21.5	7.5	05
	PUR	MAT98515103	(4G10+(2x1.5)C)C	0.83	21.0	10	06
	PUR	MAT98515102	(4G10+(2x1.5)C)C	0.83	21.0	7.5	07

Basic cable SpeedTec



6FX_002-5DN64	PVC	MAT9751586	(4G10+(2x1.5)C)C	0.85	21.5	7.5	05
	PUR	MAT98515105	(4G10+(2x1.5)C)C	0.83	21.0	10	06
	PUR	MAT98515104	(4G10+(2x1.5)C)C	0.83	21.0	7.5	07

Basic cable SpeedTec



6FX_002-5DQ01	PVC	MAT9751557	(4G1.5+(2x1.5)C)C	0.49	12.5	10	04
	PVC	MAT9751556	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	05
	PUR	MAT9851575	(4G1.5+(2x1.5)C)C	0.49	12.5	10	06
	PUR	MAT9851574	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	07

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 specifications.

G = with green-yellow earth core x = without earth core

Harnessed drive cables | Siemens

PVC/PUR/TPE

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø	Bend radius	Cable page
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Siemens Servo cables

Basic cable SpeedTec



6FX_002-5DQ11	PVC	MAT9751559	(4G2.5+(2x1.5)C)C	0.55	14.0	10	04
	PVC	MAT9751558	(4G2.5+(2x1.5)C)C	0.57	14.5	7.5	05
	PUR	MAT9851577	(4G2.5+(2x1.5)C)C	0.55	14.0	10	06
	PUR	MAT9851576	(4G2.5+(2x1.5)C)C	0.57	14.5	7.5	07

6FX_002-5DQ21	PVC	MAT9751561	(4G1.5+(2x1.5)C)C	0.49	12.5	10	04
	PVC	MAT9751560	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	05
	PUR	MAT9851579	(4G1.5+(2x1.5)C)C	0.49	12.5	10	06
	PUR	MAT9851578	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	07

6FX_002-5DQ31	PVC	MAT9751563	(4G2.5+(2x1.5)C)C	0.55	14.0	10	04
	PVC	MAT9751562	(4G2.5+(2x1.5)C)C	0.57	14.5	7.5	05
	PUR	MAT9851581	(4G2.5+(2x1.5)C)C	0.55	14.0	10	06
	PUR	MAT9851580	(4G2.5+(2x1.5)C)C	0.57	14.5	7.5	07

6FX_002-5DQ41	PVC	MAT9751565	(4G4.0+(2x1.5)C)C	0.59	15.0	10	04
	PVC	MAT9751564	(4G4.0+(2x1.5)C)C	0.63	16.0	7.5	05
	PUR	MAT9851583	(4G4.0+(2x1.5)C)C	0.59	15.0	10	06
	PUR	MAT9851582	(4G4.0+(2x1.5)C)C	0.63	16.0	7.5	07

6FX_002-5DQ51	PVC	MAT9751567	(4G6.0+(2x1.5)C)C	0.65	16.5	10	04
	PVC	MAT9751566	(4G6.0+(2x1.5)C)C	0.71	18.0	7.5	05
	PUR	MAT9851585	(4G6.0+(2x1.5)C)C	0.65	16.5	10	06
	PUR	MAT9851584	(4G6.0+(2x1.5)C)C	0.69	17.5	7.5	07

6FX_002-5DQ61	PVC	MAT9751568	(4G10+(2x1.5)C)C	0.85	21.5	7.5	05
	PUR	MAT9851587	(4G10+(2x1.5)C)C	0.83	21.0	10	06
	PUR	MAT9851586	(4G10+(2x1.5)C)C	0.83	21.0	7.5	07

Basic cable



6FX_002-5DS01	PVC	MAT9751507	(4G1.5+(2x1.5)C)C	0.49	12.5	10	04
	PVC	MAT9160020	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	05
	PUR	MAT9851509	(4G1.5+(2x1.5)C)C	0.49	12.5	10	06
	PUR	MAT9060020	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	07

Basic cable



6FX_002-5DS06	PVC	MAT97515105	(4G1.5+(2x1.5)C)C	0.49	12.5	10	04
	PVC	MAT97515104	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	05
	PUR	MAT98515124	(4G1.5+(2x1.5)C)C	0.49	12.5	10	06
	PUR	MAT98515125	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	07

Harnessed drive cables | Siemens

PVC/PUR/TPE

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Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø	Bend radius	Cable page
			[mm ²]	[in.] [mm]	[x d]	538-541
Siemens Servo cables						
Basic cable						
6FX_002-5DS11	PVC	MAT9751516	(4G2.5+(2x1.5)C)C	0.55	14.0	10 04
	PVC	MAT9751515	(4G2.5+(2x1.5)C)C	0.57	14.5	7.5 05
	PUR	MAT9851523	(4G2.5+(2x1.5)C)C	0.55	14.0	10 06
	PUR	MAT9851522	(4G2.5+(2x1.5)C)C	0.57	14.5	7.5 07
6FX_002-5DS13	PVC	MAT9751517	(4G10+(2x1.5)C)C	0.85	21.5	7.5 05
	PUR	MAT9851525	(4G10+(2x1.5)C)C	0.83	21.0	10 06
	PUR	MAT9851524	(4G10+(2x1.5)C)C	0.83	21.0	7.5 07
6FX_002-5DS21	PVC	MAT9751508	(4G1.5+(2x1.5)C)C	0.49	12.5	10 04
	PVC	MAT9160021	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5 05
	PUR	MAT9851510	(4G1.5+(2x1.5)C)C	0.49	12.5	10 06
	PUR	MAT9060021	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5 07
Basic cable						
6FX_002-5DS23	PUR	MAT9851527	(4G16+(2x1.5)C)C	0.94	24.0	10 06
	PUR	MAT9851526	(4G16+(2x1.5)C)C	0.94	24.0	7.5 07
6FX_002-5DS33	PUR	MAT9851532	(4G25+(2x1.5)C)C	1.10	28.0	7.5 07
Basic cable						
6FX_002-5DS36	PVC	MAT97515107	(4G2.5+(2x1.5)C)C	0.55	14.0	10 04
	PVC	MAT97515106	(4G2.5+(2x1.5)C)C	0.57	14.5	7.5 05
	PUR	MAT98515127	(4G2.5+(2x1.5)C)C	0.55	14.0	10 06
	PUR	MAT98515126	(4G2.5+(2x1.5)C)C	0.57	14.5	7.5 07
Basic cable						
6FX_002-5DS41	PVC	MAT9751522	(4G4.0+(2x1.5)C)C	0.59	15.0	10 04
	PVC	MAT9751521	(4G4.0+(2x1.5)C)C	0.63	16.0	7.5 05
	PUR	MAT9851531	(4G4.0+(2x1.5)C)C	0.59	15.0	10 06
	PUR	MAT9851530	(4G4.0+(2x1.5)C)C	0.63	16.0	7.5 07
Basic cable						
6FX_002-5DS43	PUR	MAT9851533	(4G35+(2x1.5)C)C	1.26	32.0	7.5 07

Harnessed drive cables | Siemens

PVC/PUR/TPE

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø	Bend radius	Cable page
			[mm ²]	[in.] [mm]	[x d]	538-541
Siemens Servo cables						
Basic cable						
6FX_002-5DS51	PVC	MAT9751524	(4G6.0+(2x1.5)C)C	0.65	16.5	10 04
	PVC	MAT9751523	(4G6.0+(2x1.5)C)C	0.71	18.0	7.5 05
	PUR	MAT9851535	(4G6.0+(2x1.5)C)C	0.65	16.5	10 06
	PUR	MAT9851534	(4G6.0+(2x1.5)C)C	0.69	17.5	7.5 07
	Basic cable					
6FX_002-5DS54	PVC	MAT9751526	(4G6.0+(2x1.5)C)C	0.65	16.5	10 04
	PVC	MAT9751525	(4G6.0+(2x1.5)C)C	0.71	18.0	7.5 05
	PUR	MAT9851536	(4G6.0+(2x1.5)C)C	0.69	17.5	7.5 07
Basic cable						
6FX_002-5DS61	PVC	MAT9160022	(4G10+(2x1.5)C)C	0.85	21.5	7.5 05
	PUR	MAT9851511	(4G10+(2x1.5)C)C	0.83	21.0	10 06
	PUR	MAT9060022	(4G10+(2x1.5)C)C	0.83	21.0	7.5 07
Basic cable						
6FX_002-5DS64	PVC	MAT9751527	(4G10+(2x1.5)C)C	0.85	21.5	7.5 05
	PUR	MAT9851539	(4G10+(2x1.5)C)C	0.83	21.0	10 06
	PUR	MAT9851538	(4G10+(2x1.5)C)C	0.83	21.0	7.5 07
Basic cable						
6FX_002-8QN04	PUR	MAT98515147	(4G0.34+(2x0.34)C)+(4xAWG26)C)C	0.39	10.0	10 28
Basic cable						
6FX_002-8QN08	PUR	MAT98515148	(4G0.75+(2x0.5)C)+(4xAWG26)C)C	0.43	11.0	10 28
Extension cable						
6FX_002-5DA05	PVC	MAT9751509	(4G1.5+(2x1.5)C)C	0.49	12.5	10 04
	PVC	MAT9161001	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5 05
	PUR	MAT9851512	(4G1.5+(2x1.5)C)C	0.49	12.5	10 06
	PUR	MAT9061001	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5 07

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 specifications.

G = with green-yellow earth core x = without earth core

Harnessed drive cables | Siemens

PVC/PUR/TPE

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø		Bend radius	Cable page 538-541
				[in.]	[mm]		

Siemens Servo cables

Extension cable



6FX_002-5DA15	PVC	MAT9751510	(4G2.5+(2x1.5)C)C	0.55	14.0	10	04
	PVC	MAT9161002	(4G2.5+(2x1.5)C)C	0.57	14.5	7.5	05
	PUR	MAT9851513	(4G2.5+(2x1.5)C)C	0.55	14.0	10	06
	PUR	MAT9061002	(4G2.5+(2x1.5)C)C	0.57	14.5	7.5	07

Extension cable



6FX_002-5DA28	PVC	MAT9751511	(4G1.5+(2x1.5)C)C	0.49	12.5	10	04
	PVC	MAT9161003	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	05
	PUR	MAT9851514	(4G1.5+(2x1.5)C)C	0.49	12.5	10	06
	PUR	MAT9061003	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	07
6FX_002-5DA38	PVC	MAT9751512	(4G2.5+(2x1.5)C)C	0.55	14.0	10	04
	PVC	MAT9161004	(4G2.5+(2x1.5)C)C	0.57	14.5	7.5	05
	PUR	MAT9851515	(4G2.5+(2x1.5)C)C	0.55	14.0	10	06
	PUR	MAT9061004	(4G2.5+(2x1.5)C)C	0.57	14.5	7.5	07
6FX_002-5DA48	PVC	MAT9751513	(4G4.0+(2x1.5)C)C	0.59	15.0	10	04
	PVC	MAT9161005	(4G4.0+(2x1.5)C)C	0.63	16.0	7.5	05
	PUR	MAT9851516	(4G4.0+(2x1.5)C)C	0.59	15.0	10	06
	PUR	MAT9061005	(4G4.0+(2x1.5)C)C	0.63	16.0	7.5	07
6FX_002-5DA58	PVC	MAT9751514	(4G6.0+(2x1.5)C)C	0.65	16.5	10	04
	PVC	MAT9161006	(4G6.0+(2x1.5)C)C	0.71	18.0	7.5	05
	PUR	MAT9851517	(4G6.0+(2x1.5)C)C	0.65	16.5	10	06
	PUR	MAT9061006	(4G6.0+(2x1.5)C)C	0.69	17.5	7.5	07
6FX_002-5DA68	PVC	MAT9161007	(4G10+(2x1.5)C)C	0.85	21.5	7.5	05
	PUR	MAT9851518	(4G10+(2x1.5)C)C	0.83	21.0	10	06
	PUR	MAT9061007	(4G10+(2x1.5)C)C	0.83	21.0	7.5	07

Extension cable SpeedTec



6FX_002-5DN05	PVC	MAT9751544	(4G1.5+(2x1.5)C)C	0.49	12.5	10	04
	PVC	MAT9751543	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	05
	PUR	MAT9851561	(4G1.5+(2x1.5)C)C	0.49	12.5	10	06
	PUR	MAT9851560	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	07
6FX_002-5DN15	PVC	MAT9751546	(4G2.5+(2x1.5)C)C	0.55	14.0	10	04
	PVC	MAT9751545	(4G2.5+(2x1.5)C)C	0.57	14.5	7.5	05
	PUR	MAT9851563	(4G2.5+(2x1.5)C)C	0.55	14.0	10	06
	PUR	MAT9851562	(4G2.5+(2x1.5)C)C	0.57	14.5	7.5	07

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Harnessed drive cables | Siemens

PVC/PUR/TPE

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø		Bend radius	Cable page 538-541
				[in.]	[mm]		

Siemens Servo cables

Extension cable SpeedTec



6FX_002-5DQ15	PVC	MAT97515122	(4G2.5+(2x1.5)C)C	0.55	14.0	10	04
	PVC	MAT97515123	(4G2.5+(2x1.5)C)C	0.57	14.5	7.5	05
	PUR	MAT98515142	(4G2.5+(2x1.5)C)C	0.55	14.0	10	06
	PUR	MAT98515143	(4G2.5+(2x1.5)C)C	0.57	14.5	7.5	07
6FX_002-5DQ28	PVC	MAT9751548	(4G1.5+(2x1.5)C)C	0.49	12.5	10	04
	PVC	MAT9751547	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	05
	PUR	MAT9851565	(4G1.5+(2x1.5)C)C	0.49	12.5	10	06
6FX_002-5DQ38	PUR	MAT9851564	(4G1.5+(2x1.5)C)C	0.51	13.0	7.5	07
	PVC	MAT9751550	(4G2.5+(2x1.5)C)C	0.55	14.0	10	04
	PVC	MAT9751549	(4G2.5+(2x1.5)C)C	0.57	14.5	7.5	05
	PUR	MAT9851567	(4G2.5+(2x1.5)C)C	0.55	14.0	10	06
6FX_002-5DQ48	PUR	MAT9851566	(4G2.5+(2x1.5)C)C	0.57	14.5	7.5	07
	PVC	MAT9751552	(4G4.0+(2x1.5)C)C	0.59	15.0	10	04
	PVC	MAT9751551	(4G4.0+(2x1.5)C)C	0.63	16.0	7.5	05
	PUR	MAT9851569	(4G4.0+(2x1.5)C)C	0.59	15.0	10	06
6FX_002-5DQ58	PUR	MAT9851568	(4G4.0+(2x1.5)C)C	0.63	16.0	7.5	07
	PVC	MAT9751554	(4G6.0+(2x1.5)C)C	0.65	16.5	10	04
	PVC	MAT9751553	(4G6.0+(2x1.5)C)C	0.71	18.0	7.5	05
	PUR	MAT9851571	(4G6.0+(2x1.5)C)C	0.65	16.5	10	06
6FX_002-5DQ68	PUR	MAT9851570	(4G6.0+(2x1.5)C)C	0.69	17.5	7.5	07
	PVC	MAT9751555	(4G10+(2x1.5)C)C	0.85	21.5	7.5	05
	PUR	MAT9851573	(4G10+(2x1.5)C)C	0.83	21.0	10	06
	PUR	MAT9851572	(4G10+(2x1.5)C)C	0.83	21.0	7.5	07

Extension cable



6FX_002-5DX18	PVC	MAT9161011	(4G10+(2x1.5)C)C	0.85	21.5	7.5	05
	PUR	MAT9851520	(4G10+(2x1.5)C)C	0.83	21.0	10	06
	PUR	MAT9061011	(4G10+(2x1.5)C)C	0.83	21.0	7.5	07
6FX_002-5DX28	PVC	MAT9161008	(4G16+(2x1.5)C)C	0.98	25.0	7.5	05
	PUR	MAT9851519	(4G16+(2x1.5)C)C	0.94	24.0	10	06
	PUR	MAT9061008	(4G16+(2x1.5)C)C	0.94	24.0	7.5	07
	PVC	MAT9161009	(4G25+(2x1.5)C)C	1.18	30.0	7.5	05
6FX_002-5DX38	PUR	MAT9061009	(4G25+(2x1.5)C)C	1.10	28.0	7.5	07
	PVC	MAT9161010	(4G35+(2x1.5)C)C	1.32	33.5	7.5	05
6FX_002-5DX48	PUR	MAT9061010	(4G35+(2x1.5)C)C	1.26	32.0	7.5	07

Harnessed drive cables | Siemens

PVC/PUR/TPE

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø	Bend radius	Cable page
			[mm ²]	[in.] [mm]	[x d]	538-541
Siemens Servo cables						
Extension cable						
6FX_002-8QE04	PUR	MAT98515149	(4G0.34+(2x0.34)C+(4xAWG26)C)C	0.39 10.0	10	28
Extension cable						
6FX_002-8QE08	PUR	MAT98515150	(4G0.75+(2x0.5)C+(4xAWG26)C)C	0.43 11.0	10	28
Siemens Signal cables						
Basic cable						
6FX8002-2CF20	PVC	MAT9741518	(3x(2x0.14)C+(4x0.14)+(2x0.5)C)	0.35 9.0	10	08
	PUR	MAT9841563	(3x(2x0.14)C+(4x0.14)+(2x0.5)C)	0.37 9.5	10	09
	PUR	MAT9841564	(3x(2x0.14)C+(4x0.14)+(2x0.5)C)	0.39 10.0	7.5	10
	TPE	MAT9941505	(3x(2x0.14)C+(4x0.14)+(2x0.5)C)	0.39 10.0	7.5	11
Basic cable						
6FX8002-2CQ31	PVC	MAT9741514	(3x(2x0.14)C+(4x0.14)+(4x0.25)+(2x0.5)C)	0.39 10.0	10	08
	PUR	MAT9841557	(3x(2x0.14)C+(4x0.14)+(4x0.25)+(2x0.5)C)	0.39 10.0	10	09
	PUR	MAT9841558	(3x(2x0.14)C+(4x0.14)+(4x0.25)+(2x0.5)C)	0.43 11.0	7.5	10
	TPE	MAT9941503	(3x(2x0.14)C+(4x0.14)+(4x0.25)+(2x0.5)C)	0.41 10.5	7.5	11
Basic cable						
6FX8002-2DC40	PVC	MAT9741520	(2x(2x0.15)+(2x0.38)C)	0.30 7.5	10	08
	PUR	MAT9841566	(2x(2x0.15)+(2x0.38)C)	0.30 7.5	10	09
	PUR	MAT9841567	(2x(2x0.20)+(2x0.38)C)	0.30 7.5	7.5	10
Basic cable						
6FX8002-2DC42	PVC	MAT9741522	(2x(2x0.15)+(2x0.38)C)	0.30 7.5	10	08
	PUR	MAT9841569	(2x(2x0.15)+(2x0.38)C)	0.30 7.5	10	09
	PUR	MAT9841570	(2x(2x0.20)+(2x0.38)C)	0.30 7.5	7.5	10
Basic cable						
6FX_002-1DC00	PVC	MAT9741506	(2x(2x0.15)+(2x0.38)C)	0.30 7.5	10	08
	PUR	MAT9841532	(2x(2x0.15)+(2x0.38)C)	0.30 7.5	10	09
	PUR	MAT9070032	(2x(2x0.20)+(2x0.38)C)	0.30 7.5	7.5	10

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Harnessed drive cables | Siemens

PVC/PUR/TPE

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø	Bend radius	Cable page
			[mm ²]	[in.] [mm]	[x d]	538-541
Siemens Signal cables						
Basic cable						
6FX_002-2AD00	PVC	MAT9170001	(3x(2x0.14)C+(4x0.14)+(2x0.5)C)	0.35 9.0	10	08
	PUR	MAT9841501	(3x(2x0.14)C+(4x0.14)+(2x0.5)C)	0.39 10.0	7.5	10
	TPE	MAT9070001	(3x(2x0.14)C+(4x0.14)+(2x0.5)C)	0.39 10.0	7.5	11
Basic cable						
6FX_002-2AH00	PVC	MAT9170018	(4x(2x0.34)+4x0.5)C	0.37 9.5	10	08
	PUR	MAT9841518	(4x(2x0.34)+4x0.5)C	0.39 10.0	7.5	10
	TPE	MAT9070018	(4x(2x0.34)+4x0.5)C	0.39 10.0	7.5	11
Basic cable						
6FX_002-2AH11	PVC	MAT9741526	(4x(2x0.34)+4x0.5)C	0.37 9.5	10	08
	PUR	MAT98415104	(4x(2x0.34)+4x0.5)C	0.37 9.5	10	09
	PUR	MAT98415105	(4x(2x0.34)+4x0.5)C	0.39 10.0	7.5	10
	TPE	MAT9941507	(4x(2x0.34)+4x0.5)C	0.39 10.0	7.5	11
Basic cable						
6FX_002-2CA11	PVC	MAT9170002	(4x(2x0.34)+4x0.5)C	0.37 9.5	10	08
	PUR	MAT9841502	(4x(2x0.34)+4x0.5)C	0.39 10.0	7.5	10
	TPE	MAT9070002	(4x(2x0.34)+4x0.5)C	0.39 10.0	7.5	11
6FX_002-2CA15	PVC	MAT9170003	(3x(2x0.14)C+(4x0.14)+(2x0.5)C)	0.35 9.0	10	08
	PUR	MAT9841503	(3x(2x0.14)C+(4x0.14)+(2x0.5)C)	0.39 10.0	7.5	10
	TPE	MAT9070003	(3x(2x0.14)C+(4x0.14)+(2x0.5)C)	0.39 10.0	7.5	11
Basic cable						
6FX_002-2CA31	PVC	MAT9170004	(3x(2x0.14)C+(4x0.14)+(4x0.25)+(2x0.5)C)	0.39 10.0	10	08
	PUR	MAT9841504	(3x(2x0.14)C+(4x0.14)+(4x0.25)+(2x0.5)C)	0.43 11.0	7.5	10
	TPE	MAT9070004	(3x(2x0.14)C+(4x0.14)+(4x0.25)+(2x0.5)C)	0.41 10.5	7.5	11
Basic cable						
6FX_002-2CA51	PVC	MAT9170005	(3x(2x0.14)C+(4x0.14)+(2x0.5)C)	0.35 9.0	10	08
	PUR	MAT9841505	(3x(2x0.14)C+(4x0.14)+(2x0.5)C)	0.39 10.0	7.5	10
	TPE	MAT9070005	(3x(2x0.14)C+(4x0.14)+(2x0.5)C)	0.39 10.0	7.5	11

Harnessed drive cables | Siemens

PVC/PUR/TPE

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø		Bend radius	Cable page 538-541
				[in.]	[mm]		
Siemens Signal cables							
Basic cable							
6FX_002-2CA71	PVC	MAT9170006	(4x(2x0.34)+4x0.5)C	0.37	9.5	10	08
	PUR	MAT9841506	(4x(2x0.34)+4x0.5)C	0.39	10.0	7.5	10
	TPE	MAT9070006	(4x(2x0.34)+4x0.5)C	0.39	10.0	7.5	11
Basic cable							
6FX_002-2CB31	PUR	MAT9841507	(14x0.25)C	0.31	8.0	10	13
	TPE	MAT9070007	(12x0.25)C	0.37	9.5	5	24
6FX_002-2CB51	PVC	MAT9170008	(4x(2x0.34)+4x0.5)C	0.37	9.5	10	08
	PUR	MAT9841508	(4x(2x0.34)+4x0.5)C	0.39	10.0	7.5	10
	TPE	MAT9070008	(4x(2x0.34)+4x0.5)C	0.39	10.0	7.5	11
6FX_002-2CC11	PVC	MAT9170009	(4x(2x0.34)+4x0.5)C	0.37	9.5	10	08
	PUR	MAT9841509	(4x(2x0.34)+4x0.5)C	0.39	10.0	7.5	10
	TPE	MAT9070009	(4x(2x0.34)+4x0.5)C	0.39	10.0	7.5	11
6FX_002-2CD01	PVC	MAT9170010	(4x(2x0.34)+4x0.5)C	0.37	9.5	10	08
	PUR	MAT9841510	(4x(2x0.34)+4x0.5)C	0.39	10.0	7.5	10
	TPE	MAT9070010	(4x(2x0.34)+4x0.5)C	0.39	10.0	7.5	11
Basic cable							
6FX_002-2CF01	PVC	MAT9170021	(3x(2x0.14)C+(4x0.14)+(2x0.5)C)	0.35	9.0	10	08
	PUR	MAT9841519	(3x(2x0.14)C+(4x0.14)+(2x0.5)C)	0.39	10.0	7.5	10
	TPE	MAT9070021	(3x(2x0.14)C+(4x0.14)+(2x0.5)C)	0.39	10.0	7.5	11
6FX_002-2CF02	PVC	MAT9170011	(3x(2x0.14)C+(4x0.14)+(2x0.5)C)	0.35	9.0	10	08
	PUR	MAT9841511	(3x(2x0.14)C+(4x0.14)+(2x0.5)C)	0.39	10.0	7.5	10
	TPE	MAT9070011	(3x(2x0.14)C+(4x0.14)+(2x0.5)C)	0.39	10.0	7.5	11
6FX_002-2CG00	PVC	MAT9170012	(4x(2x0.34)+4x0.5)C	0.37	9.5	10	08
	PUR	MAT9841512	(4x(2x0.34)+4x0.5)C	0.39	10.0	7.5	10
	TPE	MAT9070012	(4x(2x0.34)+4x0.5)C	0.39	10.0	7.5	11
Basic cable							
6FX_002-2CH00	PVC	MAT9170013	(3x(2x0.14)C+(4x0.14)+(2x0.5)C)	0.35	9.0	10	08
	PUR	MAT9841513	(3x(2x0.14)C+(4x0.14)+(2x0.5)C)	0.39	10.0	7.5	10
	TPE	MAT9070013	(3x(2x0.14)C+(4x0.14)+(2x0.5)C)	0.39	10.0	7.5	11

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Harnessed drive cables | Siemens

PVC/PUR/TPE

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø		Bend radius	Cable page 538-541	
				[in.]	[mm]			[x d]
Siemens Signal cables								
Basic cable								
6FX_002-2CK00	PVC	MAT9170014	(3x(2x0.14)C+2x(0.5)C)C	0.37	9.5	10	08	
	PUR	MAT9841514	(3x(2x0.14)C+2x(0.5)C)C	0.39	10.0	7.5	10	
	TPE	MAT9070014	(3x(2x0.14)C+2x(0.5)C)C	0.39	10.0	7.5	11	
6FX_002-2CL00	PVC	MAT9170015	(3x(2x0.14)C+2x(0.5)C)C	0.37	9.5	10	08	
	PUR	MAT9841515	(3x(2x0.14)C+2x(0.5)C)C	0.39	10.0	7.5	10	
	TPE	MAT9070015	(3x(2x0.14)C+2x(0.5)C)C	0.39	10.0	7.5	11	
Basic cable								
6FX_002-2CR00	PVC	MAT9741524	(4x(2x0.34)+4x0.5)C	0.37	9.5	10	08	
	PUR	MAT98415101	(4x(2x0.34)+4x0.5)C	0.37	9.5	10	09	
	PUR	MAT98415102	(4x(2x0.34)+4x0.5)C	0.39	10.0	7.5	10	
6FX_002-2CR00	TPE	MAT9941506	(4x(2x0.34)+4x0.5)C	0.39	10.0	7.5	11	
	Basic cable							
	6FX_002-2CT12	PVC	MAT9741531	(4x(2x0.34)+4x0.5)C	0.37	9.5	10	08
PUR		MAT98415111	(4x(2x0.34)+4x0.5)C	0.37	9.5	10	09	
PUR		MAT98415112	(4x(2x0.34)+4x0.5)C	0.39	10.0	7.5	10	
TPE		MAT9941509	(4x(2x0.34)+4x0.5)C	0.39	10.0	7.5	11	
Basic cable								
6FX_002-2DB10	PUR	MAT9821501	(4x(2x0.25)C)C	0.43	11.0	10		
Basic cable								
6FX_002-2DC10	PVC	MAT9741504	(2x(2x0.15)+(2x0.38)C)	0.30	7.5	10	08	
	PUR	MAT9841530	(2x(2x0.15)+(2x0.38)C)	0.30	7.5	10	09	
	PUR	MAT9070030	(2x(2x0.20)+(2x0.38)C)	0.30	7.5	7.5	10	
Basic cable								
6FX_002-2DC36	PVC	MAT9741528	(2x(2x0.15)+(2x0.38)C)	0.30	7.5	10	08	
	PUR	MAT98415107	(2x(2x0.15)+(2x0.38)C)	0.30	7.5	10	09	
	PUR	MAT98415108	(2x(2x0.20)+(2x0.38)C)	0.30	7.5	7.5	10	

Harnessed drive cables | Siemens

PVC/PUR/TPE

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø		Bend radius	Cable page 538-541
				[in.]	[mm]		
Siemens Signal cables							
Basic cable							
6FX_002-2EQ00	PVC	MAT9170016	(3x(2x0.14)C+(4x0.14)+(4x0.25)+(2x0.5))C	0.39	10.0	10	08
	PUR	MAT9841516	(3x(2x0.14)C+(4x0.14)+(4x0.25)+(2x0.5))C	0.43	11.0	7.5	10
	TPE	MAT9070016	(3x(2x0.14)C+(4x0.14)+(4x0.25)+(2x0.5))C	0.41	10.5	7.5	11
6FX_002-2EQ10	PVC	MAT9170017	(3x(2x0.14)C+(4x0.14)+(4x0.25)+(2x0.5))C	0.39	10.0	10	08
	PUR	MAT9841517	(3x(2x0.14)C+(4x0.14)+(4x0.25)+(2x0.5))C	0.43	11.0	7.5	10
	TPE	MAT9070017	(3x(2x0.14)C+(4x0.14)+(4x0.25)+(2x0.5))C	0.41	10.5	7.5	11
6FX_002-2EQ20	PVC	MAT9741530	(3x(2x0.14)C+(4x0.14)+(4x0.25)+(2x0.5))C	0.39	10.0	10	08
	PUR	MAT98415109	(3x(2x0.14)C+(4x0.14)+(4x0.25)+(2x0.5))C	0.39	10.0	10	09
	PUR	MAT98415110	(3x(2x0.14)C+(4x0.14)+(4x0.25)+(2x0.5))C	0.43	11.0	7.5	10
	TPE	MAT9941508	(3x(2x0.14)C+(4x0.14)+(4x0.25)+(2x0.5))C	0.41	10.5	7.5	11
6FX_002-2EQ31	PVC	MAT9741512	(3x(2x0.14)C+(4x0.14)+(4x0.25)+(2x0.5))C	0.39	10.0	10	08
	PUR	MAT9841554	(3x(2x0.14)C+(4x0.14)+(4x0.25)+(2x0.5))C	0.39	10.0	10	09
	PUR	MAT9841555	(3x(2x0.14)C+(4x0.14)+(4x0.25)+(2x0.5))C	0.43	11.0	7.5	10
	TPE	MAT9941502	(3x(2x0.14)C+(4x0.14)+(4x0.25)+(2x0.5))C	0.41	10.5	7.5	11
Basic cable							
6FX_002-5BL03	PVC	MAT9711502	(3G0.75)C	0.31	8.0	7.5	18
	PUR	MAT9811501	(3G0.75)C	0.31	8.0	6.8	22
Basic cable							
6fx3002-2CT10	PVC	MAT9741507	(4x(2x0.34)+4x0.5)C	0.37	9.5	10	08
	PUR	MAT9841548	(4x(2x0.34)+4x0.5)C	0.37	9.5	10	09
	PUR	MAT9841549	(4x(2x0.34)+4x0.5)C	0.39	10.0	7.5	10
	TPE	MAT9941501	(4x(2x0.34)+4x0.5)C	0.39	10.0	7.5	11
Extension cable							
6FX8002-2CQ34	PVC	MAT9741516	(3x(2x0.14)C+(4x0.14)+(4x0.25)+(2x0.5))C	0.39	10.0	10	08
	PUR	MAT9841560	(3x(2x0.14)C+(4x0.14)+(4x0.25)+(2x0.5))C	0.39	10.0	10	09
	PUR	MAT9841561	(3x(2x0.14)C+(4x0.14)+(4x0.25)+(2x0.5))C	0.43	11.0	7.5	10
	TPE	MAT9941504	(3x(2x0.14)C+(4x0.14)+(4x0.25)+(2x0.5))C	0.41	10.5	7.5	11

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 specifications.

G = with green-yellow earth core x = without earth core

Harnessed drive cables | Siemens

PVC/PUR/TPE

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø		Bend radius	Cable page 538-541
				[in.]	[mm]		
Siemens Signal cables							
Extension cable							
6FX_002-2AD04	PVC	MAT9171001	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	0.35	9.0	10	08
	PUR	MAT9841520	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	0.39	10.0	7.5	10
	TPE	MAT9071001	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	0.39	10.0	7.5	11
6FX_002-2AH04	PVC	MAT9171018	(4x(2x0.34)+4x0.5)C	0.37	9.5	10	08
	PUR	MAT9841529	(4x(2x0.34)+4x0.5)C	0.39	10.0	7.5	10
	TPE	MAT9071018	(4x(2x0.34)+4x0.5)C	0.39	10.0	7.5	11
6FX_002-2CA34	PVC	MAT9171004	(3x(2x0.14)C+(4x0.14)+(4x0.25)+(2x0.5))C	0.39	10.0	10	08
	PUR	MAT9841523	(3x(2x0.14)C+(4x0.14)+(4x0.25)+(2x0.5))C	0.43	11.0	7.5	10
	TPE	MAT9071004	(3x(2x0.14)C+(4x0.14)+(4x0.25)+(2x0.5))C	0.41	10.5	7.5	11
6FX_002-2CA54	PVC	MAT9171003	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	0.35	9.0	10	08
	PUR	MAT9841522	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	0.39	10.0	7.5	10
	TPE	MAT9071003	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	0.39	10.0	7.5	11
6FX_002-2CB34	PUR	MAT9841525	(14x0.25)C	0.31	8.0	10	13
	TPE	MAT9071007	(12x0.25)C	0.37	9.5	5	24
6FX_002-2CB54	PVC	MAT9171002	(4x(2x0.34)+4x0.5)C	0.37	9.5	10	08
	PUR	MAT9841521	(4x(2x0.34)+4x0.5)C	0.39	10.0	7.5	10
	TPE	MAT9071002	(4x(2x0.34)+4x0.5)C	0.39	10.0	7.5	11
6FX_002-2CC14	PVC	MAT9171009	(4x(2x0.34)+4x0.5)C	0.37	9.5	10	08
	PUR	MAT9841526	(4x(2x0.34)+4x0.5)C	0.39	10.0	7.5	10
	TPE	MAT9071009	(4x(2x0.34)+4x0.5)C	0.39	10.0	7.5	11
6FX_002-2CF04	PVC	MAT9171011	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	0.35	9.0	10	08
	PUR	MAT9841527	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	0.39	10.0	7.5	10
	TPE	MAT9071011	(3x(2x0.14)C+(4x0.14)+(2x0.5))C	0.39	10.0	7.5	11
Extension cable							
6FX_002-2DC20	PVC	MAT9741505	(2x(2x0.15)+(2x0.38))C	0.30	7.5	10	08
	PUR	MAT9841531	(2x(2x0.15)+(2x0.38))C	0.30	7.5	10	09
	PUR	MAT9070031	(2x(2x0.20)+(2x0.38))C	0.30	7.5	7.5	10
Extension cable							
6FX_002-2DC34	PVC	MAT9741509	(2x(2x0.15)+(2x0.38))C	0.30	7.5	10	08
	PUR	MAT9841551	(2x(2x0.15)+(2x0.38))C	0.30	7.5	10	09
	PUR	MAT9841571	(2x(2x0.20)+(2x0.38))C	0.30	7.5	7.5	10

Harnessed drive cables | Siemens

PVC/PUR/TPE

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø	Bend radius	Cable page
			[mm ²]	[in.] [mm]	[x d]	538-541

Siemens Signal cables

Extension cable



6FX_002-2EQ14	PVC	MAT9171017	(3x(2x0.14)C+(4x0.14)+(4x0.25)+(2x0.5)C)	0.39	10.0	10	08
	PUR	MAT9841528	(3x(2x0.14)C+(4x0.14)+(4x0.25)+(2x0.5)C)	0.43	11.0	7.5	10
	TPE	MAT9071017	(3x(2x0.14)C+(4x0.14)+(4x0.25)+(2x0.5)C)	0.41	10.5	7.5	11

Siemens Signal cables DriveCliq

Basic cable



6FX8002-2DC30-1AD0(3m)	PUR	MAT9841534	¹⁾ (2x(2x0.20)+(2x0.38)C)	0.30	7.5	7.5	10
6FX8002-2DC30-1AF0(5m)	PUR	MAT9841535	¹⁾ (2x(2x0.20)+(2x0.38)C)	0.30	7.5	7.5	10
6FX8002-2DC30-1BA0(10m)	PUR	MAT9841536	¹⁾ (2x(2x0.20)+(2x0.38)C)	0.30	7.5	7.5	10
6FX8002-2DC30-1BF0(15m)	PUR	MAT9841537	¹⁾ (2x(2x0.20)+(2x0.38)C)	0.30	7.5	7.5	10
6FX8002-2DC30-1CA0(20m)	PUR	MAT9841538	¹⁾ (2x(2x0.20)+(2x0.38)C)	0.30	7.5	7.5	10
6FX8002-2DC30-1CF0(25m)	PUR	MAT9841539	¹⁾ (2x(2x0.20)+(2x0.38)C)	0.30	7.5	7.5	10
6FX8002-2DC30-1DA0(30m)	PUR	MAT9841540	¹⁾ (2x(2x0.20)+(2x0.38)C)	0.30	7.5	7.5	10

Extension cable



6FX8002-2DC34-1AD0(3m)	PUR	MAT9841541	¹⁾ (2x(2x0.20)+(2x0.38)C)	0.30	7.5	7.5	10
6FX8002-2DC34-1AF0(5m)	PUR	MAT9841542	¹⁾ (2x(2x0.20)+(2x0.38)C)	0.30	7.5	7.5	10
6FX8002-2DC34-1BA0(10m)	PUR	MAT9841543	¹⁾ (2x(2x0.20)+(2x0.38)C)	0.30	7.5	7.5	10
6FX8002-2DC34-1BF0(15m)	PUR	MAT9841544	¹⁾ (2x(2x0.20)+(2x0.38)C)	0.30	7.5	7.5	10
6FX8002-2DC34-1CA0(20m)	PUR	MAT9841545	¹⁾ (2x(2x0.20)+(2x0.38)C)	0.30	7.5	7.5	10
6FX8002-2DC34-1CF0(25m)	PUR	MAT9841546	¹⁾ (2x(2x0.20)+(2x0.38)C)	0.30	7.5	7.5	10
6FX8002-2DC34-1DA0(30m)	PUR	MAT9841547	¹⁾ (2x(2x0.20)+(2x0.38)C)	0.30	7.5	7.5	10

¹⁾Prices per piece for the mentioned fixed lengths. Special lengths available upon request!

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 specifications.
G = with green-yellow earth core x = without earth core

Harnessed drive cables | Stöber

PVC/PUR/TPE

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø	Bend radius	Cable page
			[mm ²]	[in.] [mm]	[x d]	538-541

Stöber Servo cables

Basic cable



Gr.1-Motor-1,0mm ²	PVC	MAT9751601	(4G1.5+2x(2x0.75)C)C	0.53	13.5	10	04
	PVC	MAT9430001	(4G1.0+2x(2x0.75)C)C	0.53	13.5	7.5	05
	PUR	MAT9851601	(4G1.0+2x(2x0.75)C)C	0.51	13.0	10	06
Gr.1-Motor-1,5mm ²	PUR	MAT9420001	(4G1.0+2x(2x0.75)C)C	0.53	13.5	7.5	07
	PVC	MAT9751602	(4G1.5+2x(2x0.75)C)C	0.53	13.5	10	04
	PVC	MAT9430002	(4G1.5+2x(2x0.75)C)C	0.57	14.5	7.5	05
Gr.1-Motor-2,5mm ²	PUR	MAT9851602	(4G1.5+2x(2x0.75)C)C	0.53	13.5	10	06
	PUR	MAT9420002	(4G1.5+2x(2x0.75)C)C	0.57	14.5	7.5	07
	PVC	MAT9751603	(4G2.5+2x(2x1.5)C)C	0.63	16.0	10	04
Gr.1-Motor-4,0mm ²	PVC	MAT9430003	(4G2.5+2x(2x1.5)C)C	0.67	17.0	7.5	05
	PUR	MAT9851603	(4G2.5+2x(2x1.5)C)C	0.63	16.0	10	06
	PUR	MAT9420003	(4G2.5+2x(2x1.5)C)C	0.63	16.0	7.5	07
Gr.1-Motor-4,0mm ²	PVC	MAT9751604	(4G4.0+2x(2x1.5)C)C	0.67	17.0	10	04
	PVC	MAT9430004	(4G4.0+2x(2x1.5)C)C	0.71	18.0	7.5	05
	PUR	MAT9851604	(4G4.0+2x(2x1.5)C)C	0.67	17.0	10	06
PUR	MAT9420004	(4G4.0+2x(2x1.5)C)C	0.69	17.5	7.5	07	

Basic cable



Gr.1,5-Motor-4,0mm ²	PVC	MAT9751605	(4G4.0+2x(2x1.5)C)C	0.67	17.0	10	04
	PVC	MAT9430005	(4G4.0+2x(2x1.5)C)C	0.71	18.0	7.5	05
	PUR	MAT9851605	(4G4.0+2x(2x1.5)C)C	0.67	17.0	10	06
Gr.1,5-Motor-6,0mm ²	PUR	MAT9420005	(4G4.0+2x(2x1.5)C)C	0.69	17.5	7.5	07
	PVC	MAT9751606	(4G6.0+2x(2x1.5)C)C	0.75	19.0	10	04
	PVC	MAT9430006	(4G6.0+2x(2x1.5)C)C	0.83	21.0	7.5	05
Gr.1,5-Motor-10,0mm ²	PUR	MAT9851606	(4G6.0+2x(2x1.5)C)C	0.75	19.0	10	06
	PUR	MAT9420006	(4G6.0+2x(2x1.5)C)C	0.77	19.5	7.5	07
	PVC	MAT9751607	(4G10+2x(2x1.5)C)C	0.91	23.0	7.5	05
PUR	MAT9851607	(4G10+2x(2x1.5)C)C	0.89	22.5	10	06	
PUR	MAT9420007	(4G10+2x(2x1.5)C)C	0.89	22.5	7.5	07	

Stöber Encoder cables

iSDS4000 Basic cable



Encoder ED/EK iSDS4000	PVC	MAT9431001	(4x(2x0.34)+4x0.5)C	0.37	9.5	10	08
	PUR	MAT9941601	(4x(2x0.34)+4x0.5)C	0.37	9.5	10	09
	PUR	MAT9841601	(4x(2x0.34)+4x0.5)C	0.39	10.0	7.5	10
	TPE	MAT9421001	(4x(2x0.34)+4x0.5)C	0.39	10.0	7.5	11

Harnessed drive cables | Stöber

PVC/PUR/TPE

* Technical information on the cable quality: ► page 538-541

Manufacturer Part No.	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø	Bend radius	Cable page
			[mm ²]	[in.] [mm]	[x d]	538-541

Stöber Encoder cables

iSDS4000 Basic cable



Encoder ES iSDS4000	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø	Bend radius	Cable page
	PUR	MAT9941602	((4x0.25)+3x(2x0.25+2x0.5))C	0.37 9.5	10	09
	PUR	MAT9841602	((4x0.25)+3x(2x0.25+2x0.5))C	0.43 11.0	7.5	10
	TPE	MAT9421002	((4x0.25)+3x(2x0.25+2x0.5))C	0.39 10.0	7.5	11

iHTL Basic cable



Encoder HTL	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø	Bend radius	Cable page
	PVC	MAT9431006	(4x(2x0.25)+2x0.5)C	0.31 8.0	10	08
	PUR	MAT9841606	(4x(2x0.25)+2x0.5)C	0.33 8.5	7.5	10
	TPE	MAT9421006	(4x(2x0.25)+2x0.5)C	0.33 8.5	7.5	11

iMDS5000 Basic cable

Encoder iMDS5000	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø	Bend radius	Cable page
	PVC	MAT9431004	(4x(2x0.25)+2x0.5)C	0.31 8.0	10	08
	PUR	MAT9841604	(4x(2x0.25)+2x0.5)C	0.33 8.5	7.5	10
	TPE	MAT9421004	(4x(2x0.25)+2x0.5)C	0.33 8.5	7.5	11

iMDS5000 Basic cable



Resolver iMDS5000	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø	Bend radius	Cable page
	PVC	MAT9431005	(3x(2x0.25))C	0.35 9.0	10	08
	PUR	MAT9841605	(3x(2x0.25))C	0.30 7.5	7.5	10
	TPE	MAT9421005	(3x(2x0.25))C	0.30 7.5	7.5	11

iSDS4000 Basic cable



Resolver iSDS4000	Cable quality	Part No.	Number of cores and conductor nominal cross section	Ø	Bend radius	Cable page
	PVC	MAT9431003	(4x(2x0.25)+2x0.5)C	0.31 8.0	10	08
	PUR	MAT9841603	(4x(2x0.25)+2x0.5)C	0.33 8.5	7.5	10
	TPE	MAT9421003	(4x(2x0.25)+2x0.5)C	0.33 8.5	7.5	11

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 specifications.

G = with green-yellow earth core x = without earth core



igus® connectors		Type	Page
Connectors			
	SERIE A 623	Signal connector M23 standard [6 to 19-pole] Standard/Speedtec	712
	SERIE B 923	Power connector Size 1 [6, 8 and 9-pole] Standard/Speedtec	717
	SERIE C 940	Power connector Size 1,5 [6, 8 and 9-pole] Standard/Speedtec	722
	SERIE D 958	Power connector Size 3 [6 and 8-pole] Standard	725
	SERIE 615/915	Signal and power connector Signal- [12-pole] and power connector [9-pole] Plastic- / Metal clamping ring	727
	SERIE M17 617/917	Signal and power connector M17 signal- [17-pole] and power connector [4 to 9-pole] Standard/Speedtec	735
	SERIE S 623	Power connector [1-pole] Standard	740
		Connector sets Individual connector sets from quantity 1	742
	igus® ibow	Angle adapter for power connector 923 size 1	743
		Tools and accessories	744
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Signal connector M23 standard [6 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 insulation body

- 6, 7, [8+1], 9, 10, 12, 16, 17, [16+3]

Technical data of the series A

Temperature range	-4 °F to +266 °F (-20 °C to +130 °C)
Protection class	IP 66/67 [plugged]

Electrical data signal 6 to 12-pole

Max. continuous nominal current	10 A
Nominal voltage	160 V (AC/DC)
Test voltage (L-L)	2500 V
Contact resistance	< 5 mΩ
Insertion cycles	> 50

Electrical data signal 16 to 19-pole

Max. continuous nominal current	9 A
Nominal voltage	125 V (AC/DC)
Test voltage (L-L)	2500 V
Contact resistance	< 5 mΩ
Insertion cycles	> 50

Data according to VDE 0110/EN 61984, Clause 6.19.2.2

Degree of soiling	3
Over-voltage category	III
Max. installation height	6 562 ft (2 000 m)

Used materials

Housing	Zinc die-casting/brass, nickel-plated
Coupling nut	Brass, nickel-plated
Insulation body	PA 6.6/PBT, UL 94/V0
Contacts	Brass, gold-plated
Seals	FPM/HNBR
Clamping ring	Brass, nickel-plated



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Signal connector [9 to 19-pole] (Metal work, EMC shielding)

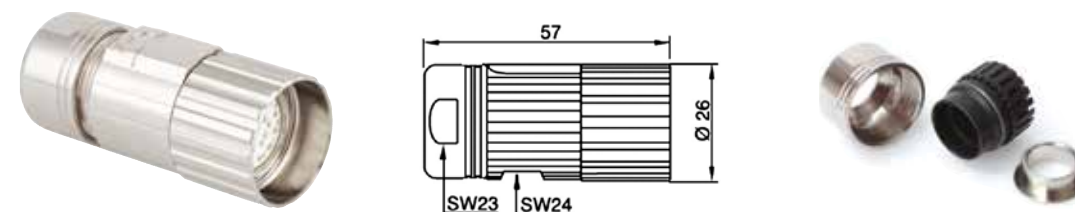


Image exemplary.

Part no.	Insulation body	Female crimping, slitted [mm]	Crimping area [mm ²]	Female crimping, slitted [mm]	Crimping area [mm ²]	Clamping area [mm]	Crimping tool + insert
MAT0179600	P type [8+1]-pole 3 coding slots	8x1.0	0.14-1.0	1x2.0	0.35-2.5	9.0-13,2	C14
MAT0179601	E type 12-pole 3 coding slots	12x1.0	0.14-1.0			9.0-13,2	A
MAT0179602	P type 16-pole 1 coding slot	16x1.0	0.14-1.0			9.0-13,2	A
MAT0179603	P type 17-pole 3 coding slots	17x1.0	0.14-1.0			9.0-13,2	A
MAT0179604	P type [16+3]-pole 1 coding slot	16x1.0	0.14-1.0	3x1.5	0.14-1.0	9.0-13,2	C15

Lead-through with union nut (Metal construction, axial seal)

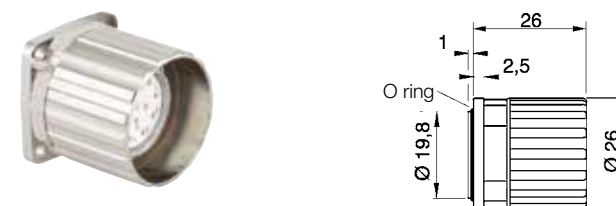


Image exemplary.

Part no.	Number of poles	Crimping tool + insert
MAT0179605	[8+1]	C14
MAT0179606	12	A
MAT0179607	16	A
MAT0179608	17	A
MAT0179609	[16+3]	C15

The lead-through is harnessed with above-mentioned contacts and insulation bodies. The technical specifications apply accordingly. A cable clamp is not required by virtue of the design.

Crimping tools and inserts ► page 744



igus

Signal connector [9 to 19-pole] (Metal work, EMC shielding)

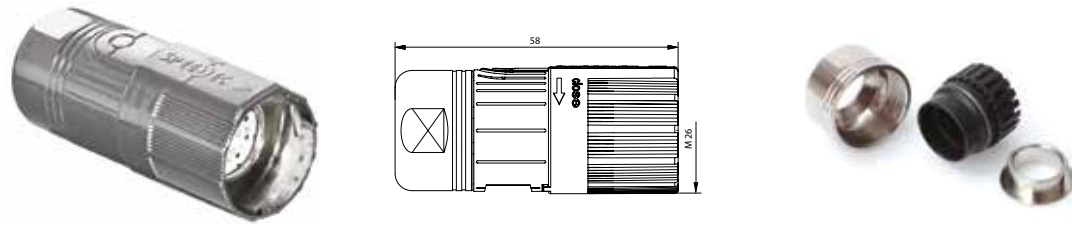


Image exemplary.

Part no.	Insulation body	Female crimping, slitted [mm]	Crimping area [mm ²]	Female crimping, slitted [mm]	Crimping area [mm ²]	Clamping area [mm]	Crimping tool + insert
MAT01723461	P type [8+1]-pole 3 coding slots	8x1.0	0.14-1.0	1x2.0	0.35-2.5	9.0-13,2	C 1 4
MAT01723462	E type 12-pole 3 coding slots	12x1.0	0.14-1.0			9.0-13,2	A
MAT01723463	P type 16-pole 1 coding slot	16x1.0	0.14-1.0			9.0-13,2	A
MAT01723464	P type 17-pole 3 coding slots	17x1.0	0.14-1.0			9.0-13,2	A
MAT01723465	P type [16+3]-pole 1 coding slot	16x1.0	0.14-1.0	3x1.5	0.14-1.0	9.0-13,2	C 1 5

Lead-through with union nut (Metal construction, axial seal)

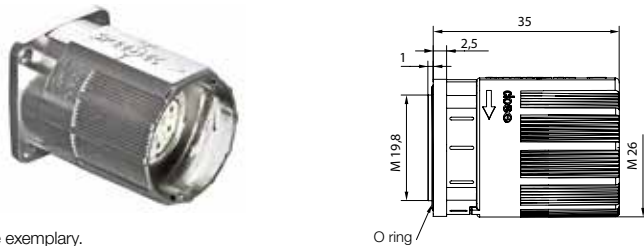


Image exemplary.

The lead-through is harnessed with above-mentioned contacts and insulation bodies. The technical specifications apply accordingly. A cable clamp is not required by virtue of the design.

Part no.	Number of poles	Crimping tool + insert
MAT01723466	[8+1]	C 1 4
MAT01723467	12	A
MAT01723468	16	A
MAT01723469	17	A
MAT01723470	[16+3]	C 1 5

Crimping tools and inserts ► page 744



Signal coupling [9 to 19-pole] (Metal work, EMC shielding)

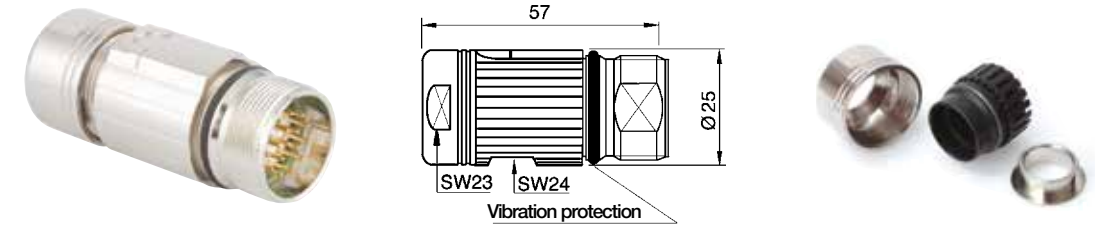


Image exemplary.

Part no.	Insulation body	Male crimping [mm]	Crimping area [mm ²]	Male crimping [mm]	Crimping area [mm ²]	Clamping area [mm]	Crimping tool + insert
MAT0179610	E type [8+1]-pole 3 coding slots	8x1.0	0.14-1.0	1x2.0	0.35-2.5	9.0-13,2	C 1 4
MAT0179611	P type 12-pole 3 coding slots	12x1.0	0.14-1.0			9.0-13,2	A
MAT0179612	E type 16-pole 1 coding slot	16x1.0	0.14-1.0			9.0-13,2	A
MAT0179613	E type 17-pole 3 coding slots	17x1.0	0.14-1.0			9.0-13,2	A
MAT0179614	E type [16+3]-pole 1 coding slot	16x1.0	0.14-1.0	3x1.5	0.14-1.0	9.0-13,2	C 1 5

Coupling with central attachment (Metal construction, EMC shielding)



Image exemplary.

The coupling with central attachment is harnessed with the above-mentioned contacts, insulation bodies and cable clamp. The technical specifications apply accordingly.

Part no.	Number of poles	Crimping tool + insert
MAT0179615	[8+1]	C 1 4
MAT0179616	12	A
MAT0179617	16	A
MAT0179618	17	A
MAT0179619	[16+3]	C 1 5

Crimping tools and inserts ► page 744



Signal coupling [9 to 19-pole] (Metal work, EMC shielding)

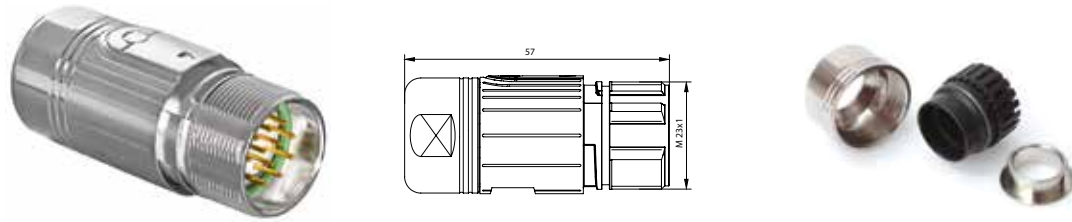


Image exemplary.

Part no.	Insulation body	Male crimping [mm]	Crimping area [mm ²]	Male crimping [mm]	Crimping area [mm ²]	Clamping area [mm]	Crimping tool + insert
MAT01723471	E type [8+1]-pole 3 coding slots	8x1.0	0.14-1.0	1x2.0	0.35-2.5	9.0-13,2	C 1 4
MAT01723472	P type 12-pole 3 coding slots	12x1.0	0.14-1.0			9.0-13,2	A
MAT01723473	E type 16-pole 1 coding slot	16x1.0	0.14-1.0			9.0-13,2	A
MAT01723474	E type 17-pole 3 coding slots	17x1.0	0.14-1.0			9.0-13,2	A
MAT01723475	E type [16+3]-pole 1 coding slot	16x1.0	0.14-1.0	3x1.5	0.14-1.0	9.0-13,2	C 1 5

Coupling with central attachment (Metal construction, EMC shielding)

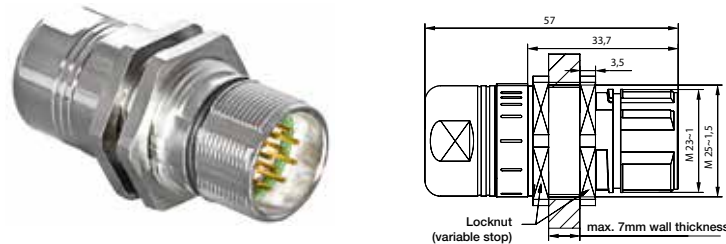


Image exemplary.

The coupling with central attachment is harnessed with the above-mentioned contacts, insulation bodies and cable clamp. The technical specifications apply accordingly.

Part no.	Number of poles	Crimping tool + insert
MAT01723476	[8+1]	C 1 4
MAT01723477	12	A
MAT01723478	16	A
MAT01723479	17	A
MAT01723480	[16+3]	C 1 5

Crimping tools and inserts ► page 744

Power connector
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 insulation body

- 6, 8, 9

Technical data of the series B

Temperature range	-4 °F to +266 °F (-20 °C to +130 °C)
Protection class	IP 66/67 [plugged]

Electrical data power 6-pole

Max. continuous nominal current	max. 28 A (6-pole) max. 30 A (8/9-pole)
Nominal voltage	630 V (AC/DC)
Testing voltage (L-L)	6000 V
Contact resistance	< 3 mΩ
Insertion cycles	> 50

Electrical data Signal 8 and 9-pole

Max. continuous nominal current	10 A
Nominal voltage	250 V (AC/DC)
Testing voltage (L-L)	2500 V
Contact resistance	< 5 mΩ
Insertion cycles	> 50

Data according to VDE 0110/EN 61984, Clause 6.19.2.2

Degree of soiling	3
Over-voltage category	III
Max. installation height	6 562 ft (2 000 m)

Used materials

Housing	Zinc die-casting,/brass, nickel-plated (*)
Coupling nut	Brass, nickel-plated
Insulation body	PA 6.6/PBT, UL 94/V0
Contacts	Brass, gold-plated
Seals	FPM/HNBR
Clamping ring	Brass, nickel-plated *optional: Stainless steel



Power connector [6 to 9-pole], nickel-plated (Metal work, EMC shielding)

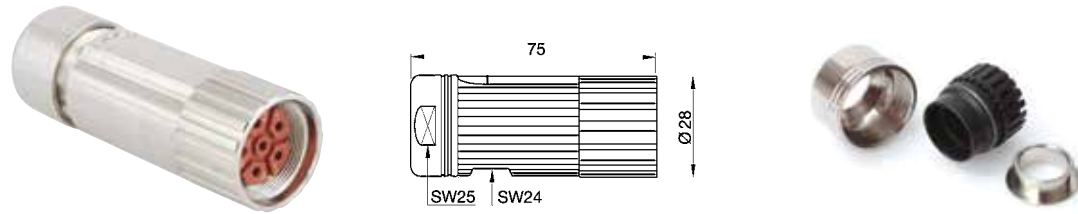


Image exemplary.

Part no.	Insulation body	HC-female crimping [mm]	Crimping area [mm ²]	HC-female crimping [mm]	Crimping area [mm ²]	Clamping area [mm]	Crimping tool + insert
MAT0179620	P type 6-pole		0.35-2.5			9.5-14.5	C2
MAT0179621	P type 8-pole		0.35-2.5		0.14-1.0	9.5-14.5	C21
MAT0179622	P type 9-pole		0.35-2.5		0.14-1.0	9.5-14.5	C21

Lead-through with union nut (Metal construction, axial seal)

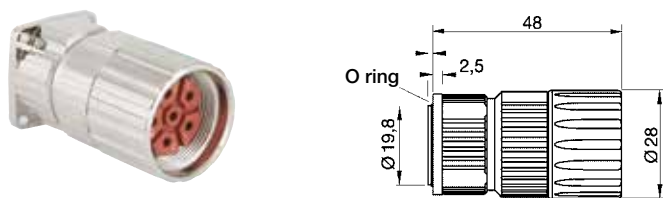


Image exemplary.

The lead-through is harnessed with above-mentioned contacts and insulation bodies. The technical specifications apply accordingly. A cable clamp is not required by virtue of the design.

Part no.	Number of poles	Crimping tool + insert
MAT0178406	6	C2
MAT0175661	8	C21
MAT0179033	9	C21

Crimping tools and inserts ► page 744



Power connector [6 to 9-pole], nickel-plated (Metal work, EMC shielding)

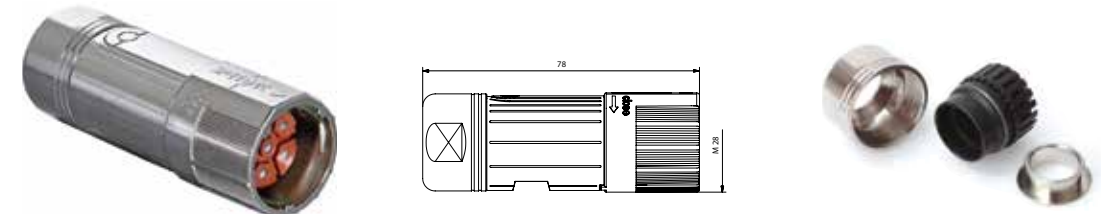


Image exemplary.

Part no.	Insulation body	HC-female crimping [mm]	Crimping area [mm ²]	HC-female crimping [mm]	Crimping area [mm ²]	Clamping area [mm]	Crimping tool + insert
MAT01723481	P type 6-pole		0.35-2.5			9.5-14.5	C2
MAT01723482	P type 8-pole		0.35-2.5		0.14-1.0	9.5-14.5	C21
MAT01723483	P type 9-pole		0.35-2.5		0.14-1.0	9.5-14.5	C21

Lead-through with union nut (Metal construction, axial seal)

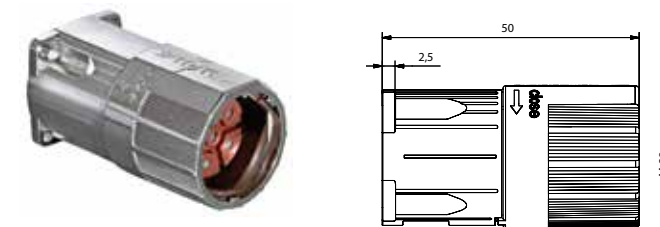


Image exemplary.

The lead-through is harnessed with above-mentioned contacts and insulation bodies. The technical specifications apply accordingly. A cable clamp is not required by virtue of the design.

Part no.	Number of poles	Crimping tool + insert
MAT01723484	6	C2
MAT01723485	8	C21
MAT01723486	9	C21

Crimping tools and inserts ► page 744



Power coupling [6 to 9-pole] nickel-plated (Metal work, EMC shielding)

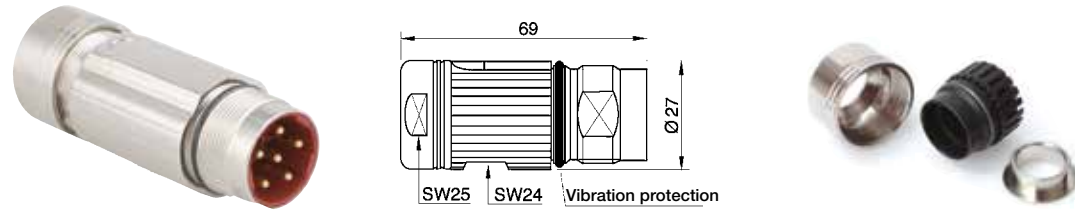


Image exemplary.

Part no.	Insulation body	Male crimping [mm]	Crimping area [mm ²]	Male crimping [mm]	Crimping area [mm ²]	Clamping area [mm]	Crimping tool + insert
MAT0179623	E type 6-pole	6x2.0	0.35-2.5			9.5-14.5	C3
MAT0179624	E type 8-pole	4x2.0	0.35-2.5	4x1.0	0.14-1.0	9.5-14.5	C3
MAT0179625	E type 9-pole	4x2.0	0.35-2.5	5x1.0	0.14-1.0	9.5-14.5	C3

Coupling with central attachment (Metal construction, EMC shielding)

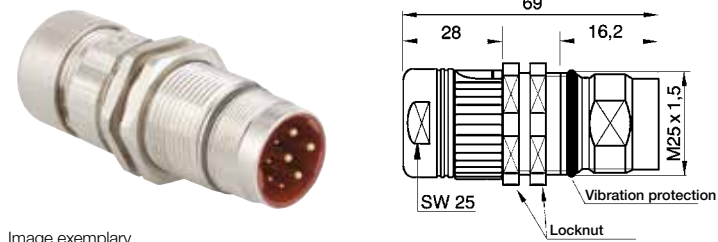


Image exemplary.

The coupling with central attachment is harnessed with the above-mentioned contacts, insulation bodies and cable clamp. The technical specifications apply accordingly.

Part no.	Number of poles	Crimping tool + insert
MAT0179626	6	C3
MAT0179627	8	C3
MAT0179628	9	C3

Crimping tools and inserts ► page 744



Power coupling [6 to 9-pole] nickel-plated (Metal work, EMC shielding)

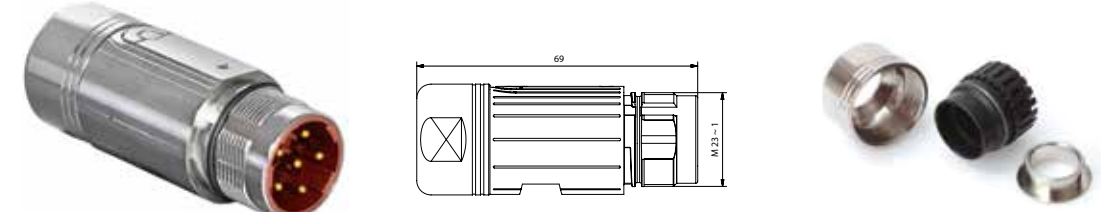


Image exemplary.

Part no.	Insulation body	Male crimping [mm]	Crimping area [mm ²]	Male crimping [mm]	Crimping area [mm ²]	Clamping area [mm]	Crimping tool + insert
MAT01723487	E type 6-pole	6x2.0	0.35-2.5			9.5-14.5	C3
MAT01723488	E type 8-pole	4x2.0	0.35-2.5	4x1.0	0.14-1.0	9.5-14.5	C3
MAT01723489	E type 9-pole	4x2.0	0.35-2.5	5x1.0	0.14-1.0	9.5-14.5	C3

Coupling with central attachment (Metal construction, EMC shielding)

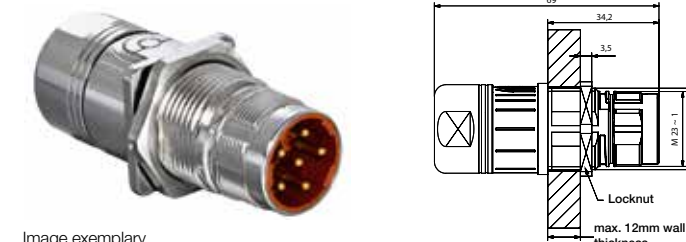
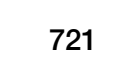


Image exemplary.

The coupling with central attachment is harnessed with the above-mentioned contacts, insulation bodies and cable clamp. The technical specifications apply accordingly.

Part no.	Number of poles	Crimping tool + insert
MAT01723490	6	C3
MAT01723491	8	C3
MAT01723492	9	C3

Crimping tools and inserts ► page 744



Power connector 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 insulation body

- 6, 8, 9

Technical data of the series C

Temperature range	-4 °F to +266 °F (-20 °C to +130 °C)
Protection class	IP 66/67 [plugged]

Electrical data power 6 to 19-pole

Max. continuous nominal current	75 A
Nominal voltage	630 V (AC/DC)
Testing voltage (L-L)	6000 V
Contact resistance	< 1 mΩ
Insertion cycles	> 50

Data according to VDE 0110/EN 61984, Clause 6.19.2.2

Degree of soiling	3
Over-voltage category	III
Max. installation height	6 562 ft (2 000 m)

Used materials

Housing	Magnesium die-casting/Aluminium
Coupling nut	Brass, nickel-plated
Insulation body	PA 6.6/PBT, UL 94/V0
Contacts	Brass, gold-plated
Seals	FPM/HNBR
Clamping ring	Brass, nickel-plated



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Power connector [6 to 9-pole], nickel-plated (Metal work, EMC shielding)

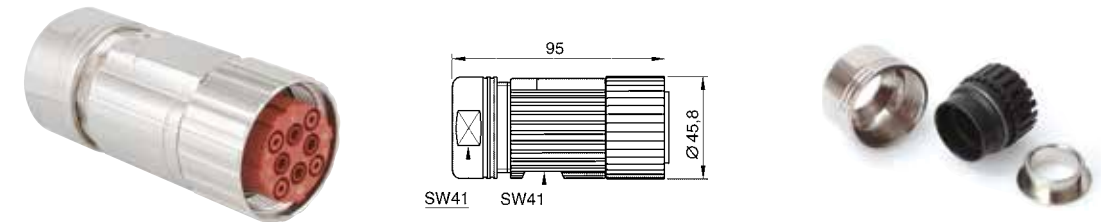


Image exemplary.

Part no.	Insulation body	HC-female crimping [mm]	Crimping area [mm ²]	HC-female crimping [mm]	Crimping area [mm ²]	Clamping area [mm]	Crimping tool + insert
MAT0179629	P type 6-pole	4x3.6	1.5-10.0	2x2.0	0.5-2.5	9.0-16.5	
MAT0179630	P type 8-pole	4x3.6	1.5-10.0	4x2.0	0.5-2.5	9.0-16.5	
MAT0179631	P type 9-pole	4x3.6	1.5-10.0	5x2.0	0.5-2.5	9.0-16.5	

Power coupling [6 to 9-pole] nickel-plated (Metal work, EMC shielding)

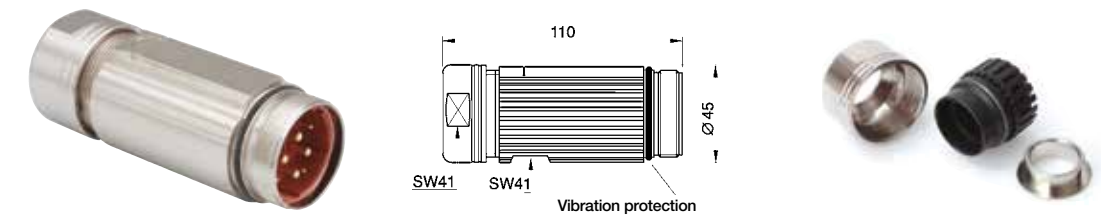


Image exemplary.

Part no.	Insulation body	Male crimping [mm]	Crimping area [mm ²]	Male crimping [mm]	Crimping area [mm ²]	Clamping area [mm]	Crimping tool + insert
MAT0179632	E type 6-pole	4x3.6	1.5-10.0	2x2.0	0.5-2.5	9.0-16.5	
MAT0179633	E type 8-pole	4x3.6	1.5-10.0	4x2.0	0.5-2.5	9.0-16.5	
MAT0179634	E type 9-pole	4x3.6	1.5-10.0	5x2.0	0.5-2.5	9.0-16.5	

Crimping tools and inserts ► page 744



Power connector [6 to 9-pole], nickel-plated (Metal work, EMC shielding)

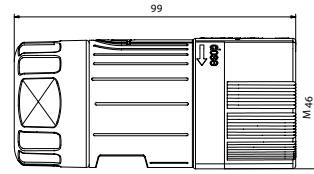


Image exemplary.

Part no.	Insulation body	HC-female crimping [mm]	Crimping area [mm ²]	HC-female crimping [mm]	Crimping area [mm ²]	Clamping area [mm]	Crimping tool + insert	
MAT01723501	P type 6-pole		4x3.6	1.5-10.0	2x2.0	0.5-2.5	9.0-16.5	
MAT01723502	P type 8-pole		4x3.6	1.5-10.0	4x2.0	0.5-2.5	9.0-16.5	
MAT01723503	P type 9-pole		4x3.6	1.5-10.0	5x2.0	0.5-2.5	9.0-16.5	

Power coupling [6 to 9-pole], nickel-plated (Metal work, EMC shielding)

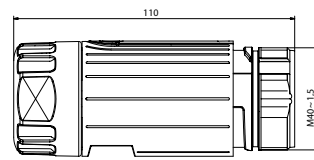


Image exemplary.

Part no.	Insulation body	Male crimping [mm]	Crimping area [mm ²]	Male crimping [mm]	Crimping area [mm ²]	Clamping area [mm]	Crimping tool + insert	
MAT01723504	E type 6-pole		4x3.6	1.5-10.0	2x2.0	0.5-2.5	9.0-16.5	
MAT01723505	E type 8-pole		4x3.6	1.5-10.0	4x2.0	0.5-2.5	9.0-16.5	
MAT01723506	E type 9-pole		4x3.6	1.5-10.0	5x2.0	0.5-2.5	9.0-16.5	

Crimping tools and inserts ► page 744

Power connector
Size 3 [6 and 9-pole]

Types

- Connector
- Coupling
- Straight installation box with flange
- Angled installation box with flange

Number of poles insulation body

- 6, 8

Technical data of the series D

Temperature range	-4 °F to +266 °F (-20 °C to +130 °C)
Protection class	IP 66/67 [plugged]

Electrical data power 6 and 8-pole

Max. continuous nominal current	max. 150 A
Nominal voltage	630 V (AC/DC)
Testing voltage (L-L)	6000 V
Contact resistance	< 90 mΩ
Insertion cycles	> 50

Electrical data Signal contacts

Max. continuous nominal current	12 A
Nominal voltage	250 V (AC/DC)
Testing voltage (L-L)	4000 V
Contact resistance	< 5 mΩ
Insertion cycles	> 50

Data according to VDE 0110/EN 61984, Clause 6.19.2.2

Degree of soiling	3
Over-voltage category	III
Max. installation height	6 562 ft (2 000 m)

Used materials

Housing	Zinc die-casting, nickel-plated
Coupling nut	Brass, nickel-plated
Insulation body	PA 6.6/PBT, UL 94/V0
Contacts	Brass, silver-/gold-plated
Seals	FPM
Clamping ring	Aluminium, nickel-plated



Power connector [6 and 8-pole] nickel-plated (Metal work, EMC shielding)

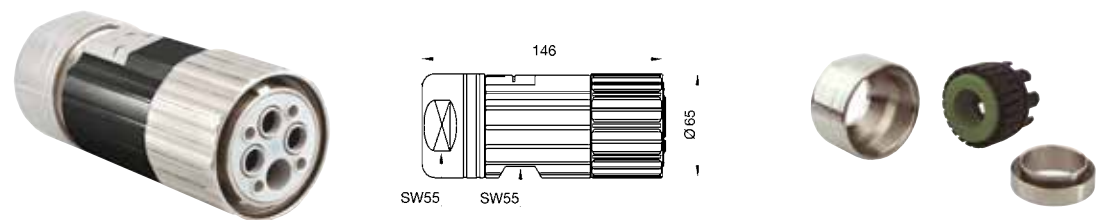


Image exemplary.

Part no.	Insulation body	Female crimping (power) [mm]	Crimping area [mm ²]	Female crimping (signal) [mm]	Crimping area [mm ²]	Clamping area* [mm]	Crimping tool + insert		
MAT0179635	P type 6-pole		4x10.0	10.0	2x1.6	1.5	17.0-36.0		E10C7
MAT0179636	P type 8-pole		4x10.0	10.0	4x1.6	1.5	17.0-36.0		E10C7

Power coupling [6 and 8-pole] nickel-plated (Metal work, EMC shielding)

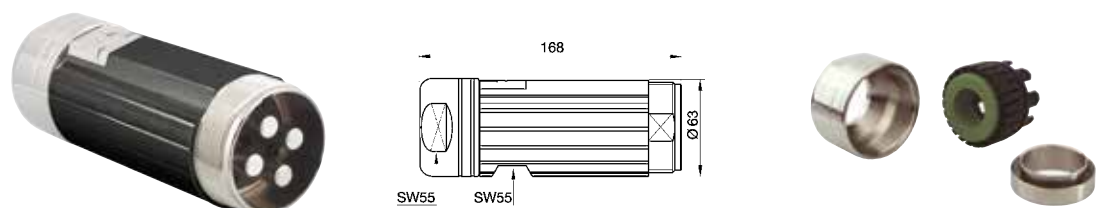


Image exemplary.

Part no.	Insulation body	Female crimping (power) [mm]	Crimping area [mm ²]	Female crimping (signal) [mm]	Crimping area [mm ²]	Clamping area* [mm]	Crimping tool + insert		
MAT0179637	E type 6-pole		4x10.0	10.0	2x1.6	1.5	17.0-36.0		E10C8
MAT0179638	E type 8-pole		4x10.0	10.0	4x1.6	1.5	17.0-36.0		E10C8

* Crown clamp

Crimping tools and inserts ► page 744



Series 615 Signal- [12-pole] and Series 915 power connection [9-pole] – Plastic- / metal clamping ring

Types

- Connector, plastic or metal clamping ring
- Coupling, plastic or metal clamping ring

Number of poles insulation body

- Signal: 12
- Power: 9

Technical data of the Series 615/915

Temperature range	-4 °F to +266 °F (-20 °C to +130 °C)
Protection class	IP 66/67 [plugged]

Electrical data signal 12-pole

Max. continuous nominal current	3.6 A
Nominal voltage	63 V (AC /DC)
Testing voltage (L-L)	1500 V
Contact resistance	< 15 mΩ
Insertion cycles	> 50

Electrical data Power 9-pole

Max. continuous nominal current	2.5 mm ² : 20 A
Nominal voltage	630 V (AC /DC)
Testing voltage (L-L)	6000 V
Contact resistance	< 5 mΩ
Insertion cycles	> 50

Data according to VDE 0110/EN 61984, Clause 6.19.2.2

Degree of soiling	3
Over-voltage category	III
Max. installation height	6 562 ft (2 000 m)

Used materials

Housing	Zinc die-casting, /brass, nickel-plated and plastic coated
Union nut	PA modif., 30% Gf.
Insulation body	PA/PBT, UL 94/V0
Contacts	Brass, gold-plated
Seals	FPM / EPDM
Clamping ring	Brass, nickel-plated / PA modif., 30% Gf.



Signal connector [12-pole], (Plastic clamping ring, EMC-shielding)

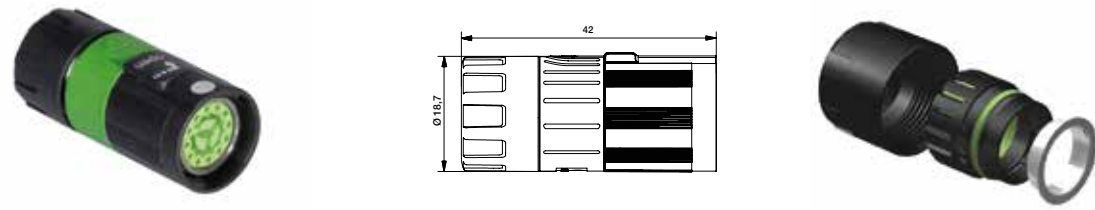


Image exemplary.

Part no.	Insulation body	Female crimping slitted [mm]	Crimping area [mm ²]	Clamping area [mm]	Crimping tool + insert
MAT01730633	P type 12-pole		12 x 1 	0.1-0.75	4.5-6.5 
MAT01730634	P type 12-pole		12 x 1 	0.1-0.75	6.5-8.5 
MAT01730635	P type 12-pole		12 x 1 	0.1-0.75	8.5-10.5 

Signal connector [12-pole], nickel-plated (Metal clamping ring, EMC-shielding)

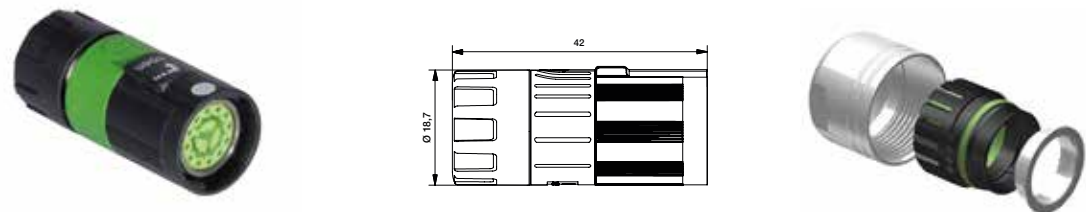


Image exemplary.

Part no.	Insulation body	Female crimping slitted [mm]	Crimping area [mm ²]	Clamping area [mm]	Crimping tool + insert
MAT01730636	P type 12-pole		12 x 1 	0.1-0.75	4.5-6.5 
MAT01730637	P type 12-pole		12 x 1 	0.1-0.75	6.5-8.5 
MAT01730638	P type 12-pole		12 x 1 	0.1-0.75	8.5-10.5 

Crimping tools and inserts ► page 744



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Signal connector [12-pole], nickel-plated (Metal clamping ring, EMC-shielding)

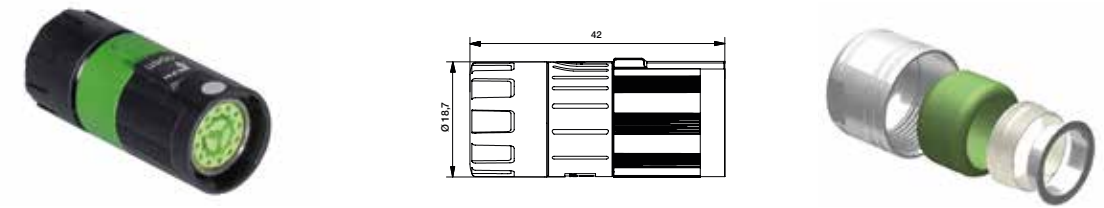





Image exemplary.

Part no.	Insulation body	Female crimping slitted [mm]	Crimping area [mm ²]	Clamping area [mm]	Crimping tool + insert
MAT01730639	P type 12-pole		12 x 1 	0.1-0.75	10.5-12.5 

Signal coupling [12-pole], (Plastic clamping ring, EMC-shielding)

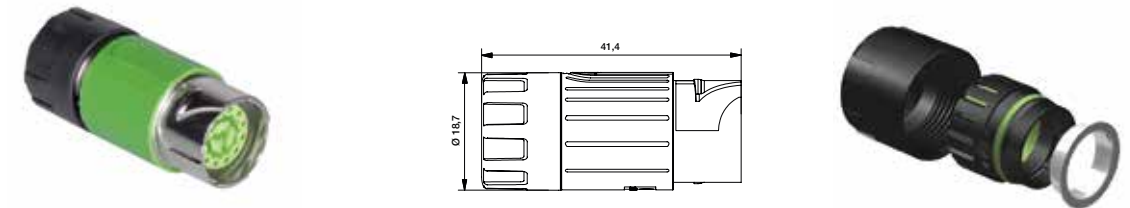


Image exemplary.

Part no.	Insulation body	Male crimping slitted [mm]	Crimping area [mm ²]	Clamping area [mm]	Crimping tool + insert
MAT01730640	E type 12-pole		12 x 1 	0.1-0.75	4.5-6.5 
MAT01730641	E type 12-pole		12 x 1 	0.1-0.75	6.5-8.5 
MAT01730642	E type 12-pole		12 x 1 	0.1-0.75	8.5-10.5 

Crimping tools and inserts ► page 744



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Signal coupling [12-pole], nickel-plated (Metal clamping ring, EMC-shielding)

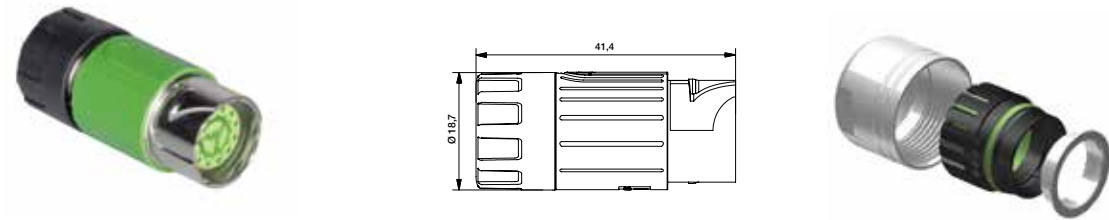


Image exemplary.

Part no.	Insulation body	Male crimping slitted [mm]	Crimping area [mm ²]	Clamping area [mm]	Crimping tool + insert
MAT01730643	E type 12-pole	12 x 1	0.1-0.75	4.5-6.5	C14
MAT01730644	E type 12-pole	12 x 1	0.1-0.75	6.5-8.5	C14
MAT01730645	E type 12-pole	12 x 1	0.1-0.75	8.5-10.5	C14

Signal coupling [12-pole], nickel-plated (Metal clamping ring, EMC-shielding)

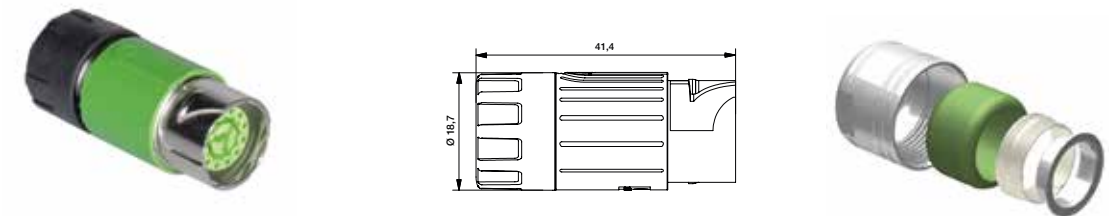


Image exemplary.

Part no.	Insulation body	Male crimping slitted [mm]	Crimping area [mm ²]	Clamping area [mm]	Crimping tool + insert
MAT01730646	E type 12-pole	12 x 1	0.1-0.75	10.5-12.5	C14

Crimping tools and inserts ► page 744



Power connector [9-pole], (Plastic clamping ring, EMC-shielding)

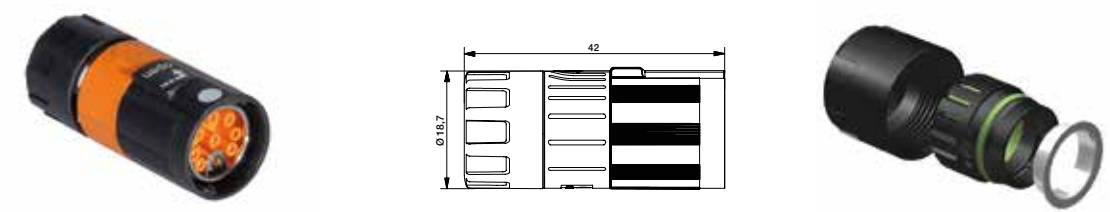


Image exemplary.

Part no.	Insulation body	Female crimping slitted [mm]	Crimping area [mm ²]	Female crimping slitted [mm]	Crimping area [mm ²]	Clamping area [mm]	Crimping tool + insert
MAT01730647	P type 9-pole	4 x 1	0.5-0.15	5 x 1	0.1-0.75	4.5-6.5	C14
MAT01730648	P type 9-pole	4 x 1	0.5-0.15	5 x 1	0.1-0.75	6.5-8.5	C14
MAT01730649	P type 9-pole	4 x 1	0.5-0.15	5 x 1	0.1-0.75	8.5-10.5	C14

Power connector [9-pole], nickel-plated (Metal clamping ring, EMC-shielding)

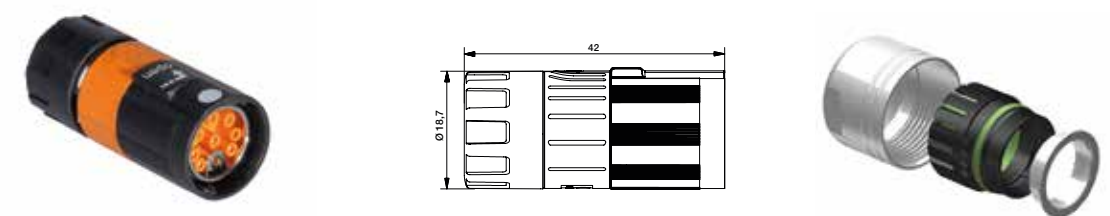


Image exemplary.

Part no.	Insulation body	Female crimping slitted [mm]	Crimping area [mm ²]	Female crimping slitted [mm]	Crimping area [mm ²]	Clamping area [mm]	Crimping tool + insert
MAT01730650	P type 9-pole	4 x 1	0.5-0.15	5 x 1	0.1-0.75	4.5-6.5	C14
MAT01730651	P type 9-pole	4 x 1	0.5-0.15	5 x 1	0.1-0.75	6.5-8.5	C14
MAT01730652	P type 9-pole	4 x 1	0.5-0.15	5 x 1	0.1-0.75	8.5-10.5	C14

Crimping tools and inserts ► page 744



Power connector [9-pole], nickel-plated (Metal clamping ring, EMC-shielding)

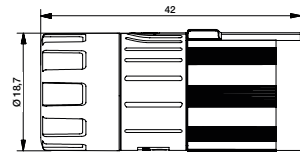



Image exemplary.

Part no.	Insulation body	Female crimping slitted [mm]	Crimping area [mm ²]	Female crimping slitted [mm]	Crimping area [mm ²]	Clamping area [mm]	Crimping tool + insert
MAT01730653	P type 9-pole	4 x 1	0.5-0.15	5 x 1	0.1-0.75	10.5-12.5	 C 14

Power coupling [9-pole], (Plastic clamping ring, EMC-shielding)

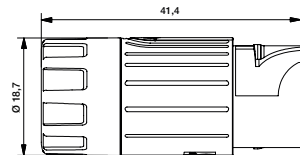


Image exemplary.

Part no.	Insulation body	Male crimping slitted [mm]	Crimping area [mm ²]	Female crimping slitted [mm]	Crimping area [mm ²]	Clamping area [mm]	Crimping tool + insert
MAT01730654	E type 9-pole	4 x 1	0.5-0.15	5 x 1	0.1-0.75	4.5-6.5	 C 14
MAT01730655	E type 9-pole	4 x 1	0.5-0.15	5 x 1	0.1-0.75	6.5-8.5	 C 14
MAT01730656	E type 9-pole	4 x 1	0.5-0.15	5 x 1	0.1-0.75	8.5-10.5	 C 14

Crimping tools and inserts ► page 744



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Power coupling [9-pole], nickel-plated (Metal clamping ring, EMC-shielding)

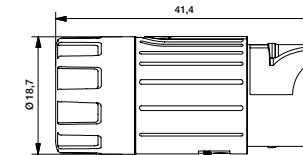





Image exemplary.

Part no.	Insulation body	Male crimping slitted [mm]	Crimping area [mm ²]	Female crimping slitted [mm]	Crimping area [mm ²]	Clamping area [mm]	Crimping tool + insert
MAT01730657	E type 9-pole	4 x 1	0.5-0.15	5 x 1	0.1-0.75	4.5-6.5	 C 14

MAT01730658	E type 9-pole	4 x 1	0.5-0.15	5 x 1	0.1-0.75	6.5-8.5	 C 14
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MAT01730659	E type 9-pole	4 x 1	0.5-0.15	5 x 1	0.1-0.75	8.5-10.5	 C 14
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Power coupling [9-pole], nickel-plated (Metal clamping ring, EMC-shielding)

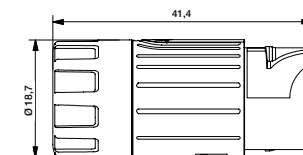



Image exemplary.

Part no.	Insulation body	Male crimping slitted [mm]	Crimping area [mm ²]	Female crimping slitted [mm]	Crimping area [mm ²]	Clamping area [mm]	Crimping tool + insert
MAT01730660	E type 9-pole	4 x 1	0.5-0.15	5 x 1	0.1-0.75	10.5-12.5	 C 14

Crimping tools and inserts ► page 744



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Signal and power connector
M17 signal- [17-pole] and power connector [4 to 9-pole]

Types

- Connector, standard and push-pull version
- Coupling, standard or with central attachment
- Straight installation box with flange
- Installation 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 insulation body

- Signal: 17
- Power: 4, 7, 9

Technical data of the series M17

Temperature range -4 °F to +266 °F (-20 °C to +130 °C)
Protection class IP 66/67 [plugged]

Electrical data signal 17-pole

Max. continuous nominal current 3.6 A
Nominal voltage 63 V (AC /DC)
Testing voltage (L-L) 1500 V
Contact resistance < 15 mΩ
Insertion cycles > 50

Electrical data Power 4 and 7-pole

	4-pole	7-pole
Max. continuous nominal current	2.5 mm ² : 20 A	1 mm ² : 10 A 1,5 mm ² : 14 A
Nominal voltage	630 V (AC /DC)	630 V (AC /DC)
Testing voltage (L-L)	6000 V	6000 V
Contact resistance	< 5 mΩ	< 5 mΩ
Insertion cycles	> 50	> 50

Electrical data Power 9-pole

Max. continuous nominal current	Signal: 3.6 A	Power: 14 A
Nominal voltage	Signal: 63 V [AC/DC]	Power: 630 V [AC/DC]
Testing voltage (L-L)	Signal: 1500 V	Power: 6000 V
Contact resistance	Signal: < 15 mΩ	Power: < 5 mΩ
Insertion cycles	> 50	

Data according to VDE 0110/EN 61984, Clause 6.19.2.2

Degree of soiling 3
Over-voltage category III
Max. installation height 6 562 ft (2 000 m)

Used materials

Housing Zinc die-casting/brass, nickel-plated
Union nut Brass, nickel-plated
Insulation body PBT, UL 94/V0
Contacts Brass, gold-plated
Seals FPM
Clamping ring Brass, nickel-plated



Signal connector [17-pole], nickel-plated (Metal work, EMC-shielding)

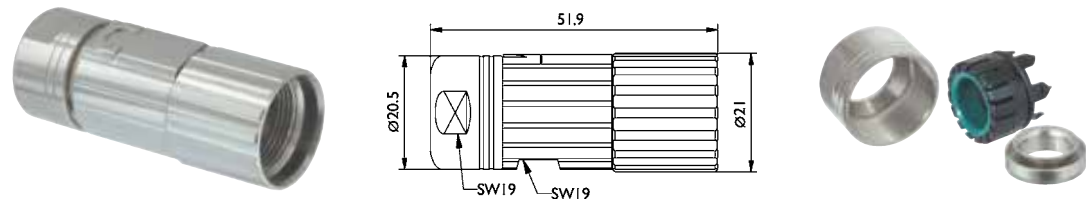



Image exemplary.

Part no.	Insulation body	Female crimping slitted [mm]	Crimping area [mm ²]	Female crimping slitted [mm]	Crimping area [mm ²]	Clamping area** [mm]	Crimping tool + insert
MAT0179639	P type 17-pole	17x0.6	0.14-0.5			9.5-12.0	 B

Power connector [4 to 9-pole], nickel-plated (Metal work, EMC shielding)

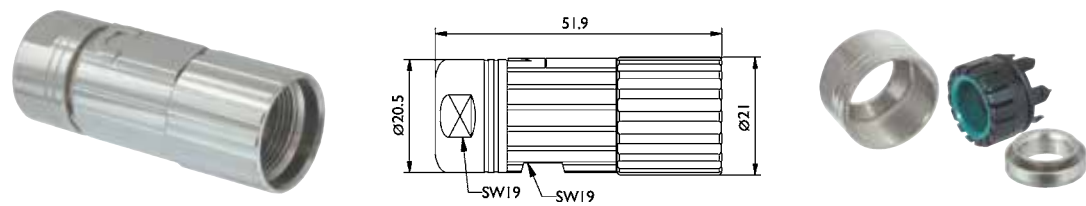


Image exemplary.

Part no.	Insulation body	Female crimping slitted [mm]	Crimping area [mm ²]	Female crimping slitted [mm]	Crimping area [mm ²]	Clamping area** [mm]	Crimping tool + insert
MAT0179641	P type 4-pole	4x1.5	0.35-2.5	1x2.0	0.35-2.5	9.5-12.0	 C1
MAT0179643	P type 7-pole	7x1.0*	0.5-1.5			9.5-12.0	 A
MAT0179645	P type 9-pole	4x1.0*	0.5-1.5	5x0.6	0.14-0.5	9.5-12.0	 AB

* HC female crimping
** Crown clamp

Crimping tools and inserts ► page 744



Signal connector [17-pole], nickel-plated (Metal work, EMC-shielding)

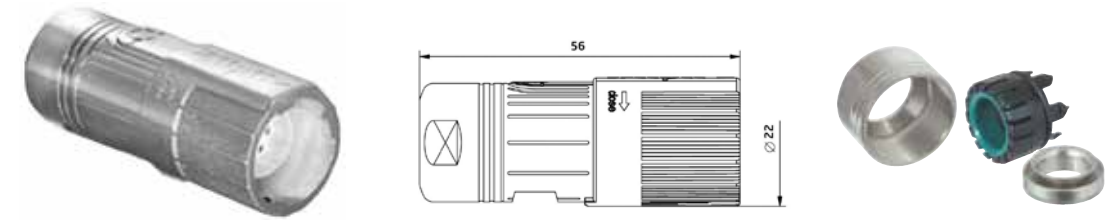
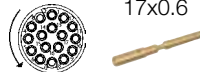


Image exemplary.

Part no.	Insulation body	Male crimping [mm]	Crimping area [mm ²]	Male crimping [mm]	Crimping area [mm ²]	Clamping area** [mm]	Crimping tool + insert
MAT01723493	P type 17-pole	17x0.6	0.14-0.5			9.5-12.0	 B

Power connector [4 to 9-pole], nickel-plated (Metal work, EMC shielding)

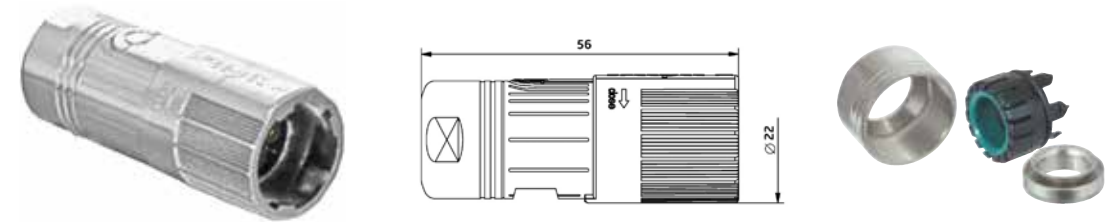
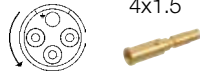
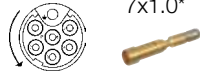
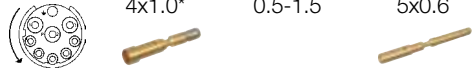


Image exemplary.

Part no.	Insulation body	Female crimping slitted [mm]	Crimping area [mm ²]	Female crimping slitted [mm]	Crimping area [mm ²]	Clamping area** [mm]	Crimping tool + insert
MAT01723495	P type 4-pole	4x1.5	0.35-2.5	1x2.0	0.35-2.5	9.5-12.0	 C1
MAT01723497	P type 7-pole	7x1.0*	0.5-1.5			9.5-12.0	 A
MAT01723499	P type 9-pole	4x1.0*	0.5-1.5	5x0.6	0.14-0.5	9.5-12.0	 AB

* HC female crimping
** Crown clamp

Crimping tools and inserts ► page 744



Signal coupling [17-pole], nickel-plated (Metal work, EMC shielding)

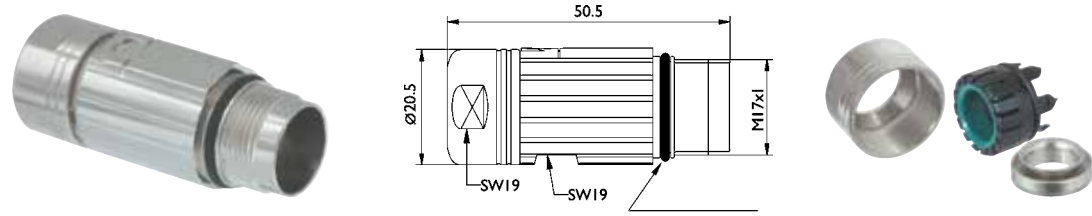


Image exemplary.

Part no.	Insulation body	Male crimping [mm]	Crimping area [mm ²]	Male crimping [mm]	Crimping area [mm ²]	Clamping area* [mm]	Crimping tool + insert
MAT0179640	E type 17-pole	17x0.6	0.14-0.5			9.5-12.0	B

Power coupling [4 to 9-pole], nickel-plated (Metal work, EMC shielding)

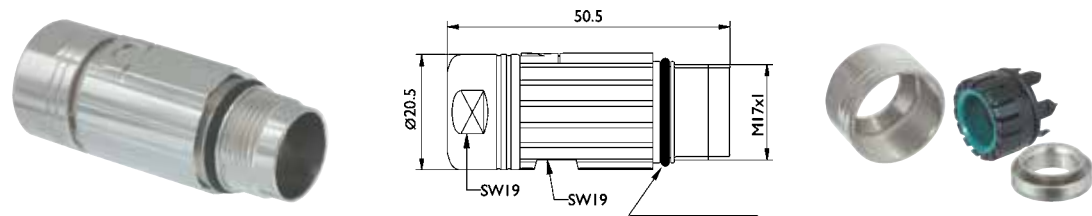


Image exemplary.

Part no.	Insulation body	Male crimping [mm]	Crimping area [mm ²]	Male crimping [mm]	Crimping area [mm ²]	Clamping area* [mm]	Crimping tool + insert
MAT0179642	E type 4-pole	4x1.5	0.35-2.5	1x2.0	0.35-2.5	9.5-12.0	C 6
MAT0179644	E type 7-pole	7x1.0	0.5-1.5			9.5-12.0	A
MAT0179646	E type 9-pole	4x1.0	0.5-1.5	5x0.6	0.14-0.5	9.5-12.0	A B

* Crown clamp

Crimping tools and inserts ► page 744



Signal coupling [17-pole], nickel-plated (Metal work, EMC shielding)

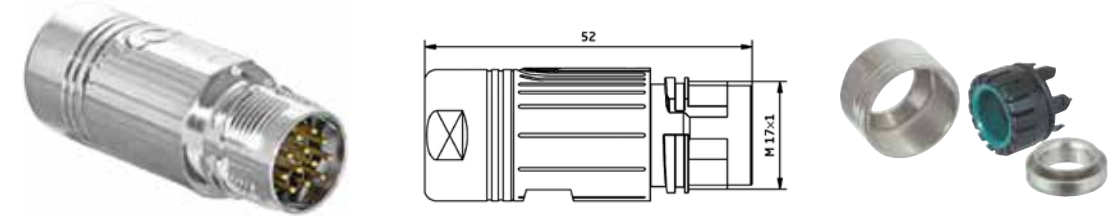


Image exemplary.

Part no.	Insulation body	Male crimping [mm]	Crimping area [mm ²]	Male crimping [mm]	Crimping area [mm ²]	Clamping area* [mm]	Crimping tool + insert
MAT01723494	E type 17-pole	17x0.6	0.14-0.5			9.5-12.0	B

Power coupling [4 to 9-pole], nickel-plated (Metal work, EMC shielding)

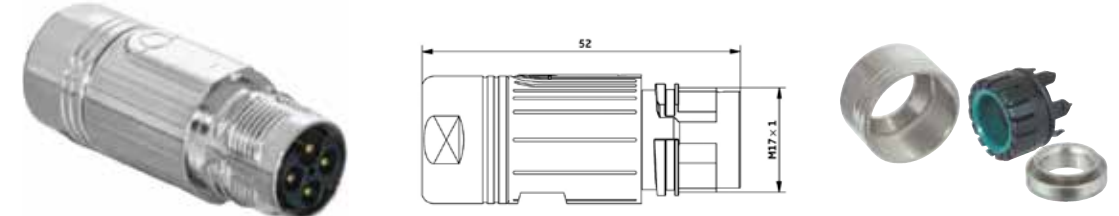
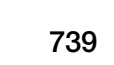


Image exemplary.

Part no.	Insulation body	Male crimping [mm]	Crimping area [mm ²]	Male crimping [mm]	Crimping area [mm ²]	Clamping area* [mm]	Crimping tool + insert
MAT01723496	E type 4-pole	4x1.5	0.35-2.5	1x2.0	0.35-2.5	9.5-12.0	C 6
MAT01723498	E type 7-pole	7x1.0	0.5-1.5			9.5-12.0	A
MAT01723500	E type 9-pole	4x1.0	0.5-1.5	5x0.6	0.14-0.5	9.5-12.0	A B

* Crown clamp

Crimping tools and inserts ► page 744



Power connector 1-pole

Types

- Connector
- Coupling
- Straight installation box with flange

Number of poles insulation body

- 1

Technical data of the series S

Temperature range	-4 °F to +266 °F (-20 °C to +130 °C)
Protection class	IP 66/67 [plugged]

Electrical data Power

Nominal voltage	630 V (AC/DC)
Testing voltage (L-L)	8000 V
Contact resistance	< 110 mΩ
Insertion cycles	> 50
Max. continuous nominal current	
At terminal cross-section 10 mm ² :	80 A
At terminal cross-section 16 mm ² :	100 A
At terminal cross-section 25 mm ² :	130 A
At terminal cross-section 35 mm ² :	160 A
At terminal cross-section 50 mm ² :	200 A

Data according to VDE 0110/EN 61984, Clause 6.19.2.2

Degree of soiling	3 [2]
Over-voltage category	IV
Max. installation height	6 562 ft (2 000 m)

Used materials

Housing	Zinc die-casting/brass, nickel-plated
Coupling nut	Brass, nickel-plated
Insulation body	PA 6.6mod., UL 94/V0
Contacts	Brass, silver-plated
Seals	FPM
Clamping ring	Brass, nickel-plated

Power connector [1-pole], nickel-plated (Metal construction, EMC shielding)

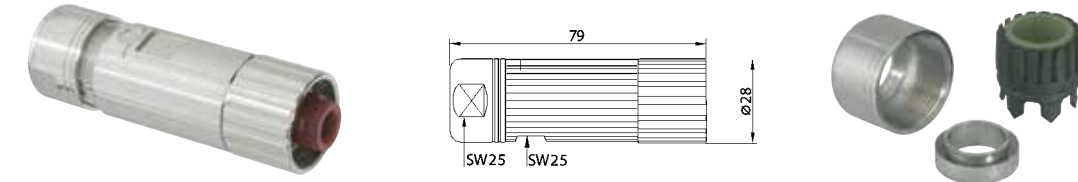



Image exemplary.

Part no.	Insulation body	Female crimping [mm]	Crimping area [mm ²]	Female crimping [mm]	Crimping area [mm ²]	Clamping area* [mm]	Crimping tool + insert
MAT0179669	P type 1-pole	1x8.0	10.0			9.5-14.5	 E10

Power coupling [1-pole], nickel-plated (Metal construction, EMC shielding)

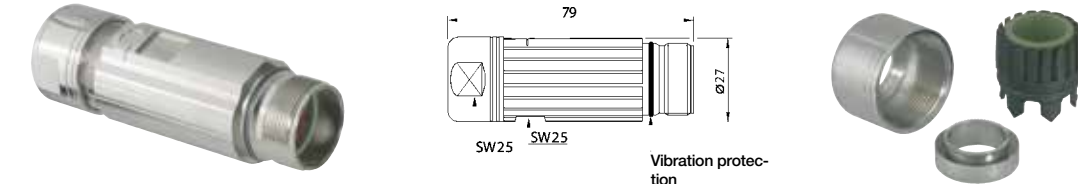



Image exemplary.

Part no.	Insulation body	Female crimping [mm]	Crimping area [mm ²]	Female crimping [mm]	Crimping area [mm ²]	Clamping area* [mm]	Crimping tool + insert
MAT0179670	E type 1-pole	1x8.0	10.0	2x1.6		9.5-14.5	 E10

* Crown clamp

Crimping tools and inserts ► page 744

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We help you! Whether for your own assembly line, the mating connector for readycable® or as a replacement part for your customers.



Circular connectors e.g. in size M23



Sub-D signal connectors



Rectangular connectors, C148, Y-Tec® or plug 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.

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- QA: only one incoming inspection
- Internal logistics: only one storage location, fast identification

Talk to us! We advise you!

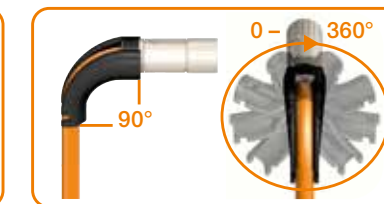


- ▶ **Safe ...**
Easy retrofit assembly without opening the connector
- ▶ **Flexible ...**
Freely selectable angle of rotation
- ▶ **Cost-effective ...**
1 connector type for straight and angled versions
- ▶ **Customized ...**
Colour coded and, upon request, with labelling

Push connector on ...



bend the cable ...



fix the cable ...



and ready!



Assembly video and information:
www.igus.com/ibow

Suitable for 923 power connectors, size 1.
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



Crimping tool for SERIES A and B



A

Hand crimping tool
for Ø 1 mm contacts
up to core cross section 1 mm²
complete with positioning insert

MAT01710294



Positioning insert
for Ø 0.6 mm
contacts

MAT0179467

Crimping tool for SERIES M17



B

Hand crimping tool
for Ø 0.6 mm contacts
up to core cross section 0.5 mm²
complete with positioning insert

MAT0178919

Crimping tool for SERIES A, B, C and M17



Hand crimping tool
for Ø 1 mm and Ø 2 mm contacts
up to core cross section 4 mm²
inclusive of positioning carrier

MAT0175736



Positioning insert
for Ø 1 mm contacts

MAT0178195



Positioning insert
for Ø 2 mm contacts

MAT0178196



Positioning insert
for Ø 1 mm and Ø 2 mm
contacts

MAT0177855



Positioning insert
for Ø 2 mm contacts

MAT01714573



Positioning insert
for Ø 1.5 mm contacts

MAT01714574



Positioning insert
for Ø 0.5 - 2.5 mm
contacts

MAT0178920



Positioning insert
for Ø 1.6 mm contacts

MAT0177853



Positioning insert
for Ø 1.6 mm contacts

MAT01714575



Positioning insert
for Ø 1.0 mm contacts
Y-Tec

MAT01724301

Crimping tool for SERIES C



D

Hand crimping tool
for Ø 3.6 mm contacts
up to core cross section 16 mm²
inclusive of positioning carrier

MAT0179194



Positioning insert
for Ø 3.6 mm contacts

MAT0179195

Crimping tool for SERIES C



Pneumatic crimping tool
for Ø 3.6 mm and
Ø 2.0 mm contacts
Core cross section 1.5 - 16 mm²

Crimping insert for pneumatic crimping tool



Contact	Pin Ø 2.0 mm Socket Ø 3.6 mm	Pin Ø 3.6 mm Socket Ø 3.6 mm	Pin Ø 3.6 mm Socket Ø 3.6 mm	Pin Ø 3.6 mm Socket Ø 3.6 mm
Crimp area	1.5/2.5 mm ² 1.5/2.5 mm ²	4.0/6.0 mm ²	10.0 mm ²	16.0 mm ²

Locator for pneumatic crimping tool



Contact	Pin Ø 2.0 mm Socket Ø 2.0 mm	Pin Ø 3.6 mm Socket Ø 3.6 mm	Pin Ø 3.6 mm Socket Ø 3.6 mm
Crimp area	1.5/2.5 mm ² 1.5/2.5 mm ²	1.5 - 10.0 mm ²	1.5 - 16.0 mm ²

Crimping insert for SERIES S and D



Battery-powered crimping tool, B131-C

MAT0177854



Crimping jaws
up to 10 mm², 16 mm²

MAT01713679



Crimping jaws
up to 25 mm²

MAT01713678



Crimping jaws
up to 35 mm²

MAT01713677



Crimping jaws
up to 50 mm²

MAT01713676

FCT | Connectors SUB-D

Signal connector
SUB-D standard [9 to 44-pole]

Types

- Connector, standard and angular connector

Number of poles insulation body

- Standard 9, 15, 25
- High Density 15, 26, 44

Technical data of the series S

Temperature range -4 °F to 212 °F (-35 °C to +100 °C)

Electrical data

Max. continuous nominal current 5 A
 Testing voltage (L-L) 1200 V
 Contact resistance $10^{16} \Omega/\text{cm}$
 Insertion cycles 50

Used materials

Housing Zinc die-casting, nickel-plated
 Insulation body Glass fibre reinforced polyester
 Contacts Copper alloy, flash gold-plated

FCT | Connectors SUB-D



Size 1 9-pole - HD15-pole
Order no.

MAT01716504



Solder contact pin
9-pole standard

Metal hood, straight

Size 1 9-pole - HD15-pole
Order no.

MAT01716505



Solder contact socket
9-pole standard

Metal hood, straight

Size 1 9-pole - HD15-pole
Order no.

MAT01716506



Solder contact pin
HighDensity 15-pole

Metal hood, straight

Size 1 9-pole - HD15-pole
Order no.

MAT01716507



Solder contact socket
HighDensity 15-pole

Metal hood, straight



Size 1 9-pole - HD15-pole
Order no.

MAT01716508



Solder contact pin
9-pole standard

Metal hood, angled

Size 1 9-pole - HD15-pole
Order no.

MAT01716509



Solder contact socket
9-pole standard

Metal hood, angled

Size 1 9-pole - HD15-pole
Order no.

MAT01716510



Solder contact pin
HighDensity 15-pole

Metal hood, angled

Size 1 9-pole - HD15-pole
Order no.

MAT01716511



Solder contact socket
HighDensity 15-pole

Metal hood, angled



FCT | Connectors SUB-D

		
Size 2 15-pole - HD26-pole Order no.	Solder contact pin 15-pole standard	Metal hood, straight
MAT01716512		
		
Size 2 15-pole - HD26-pole Order no.	Solder contact socket 15-pole standard	Metal hood, straight
MAT01716513		
		
Size 2 15-pole - HD26-pole Order no.	Solder contact pin HighDensity 26-pole	Metal hood, straight
MAT01716514		
		
Size 2 15-pole - HD26-pole Order no.	Solder contact socket HighDensity 26-pole	Metal hood, straight
MAT01716515		
		
Size 2 15-pole - HD26-pole Order no.	Solder contact pin 15-pole standard	Metal hood, angled
MAT01716516		
		
Size 2 15-pole - HD26-pole Order no.	Solder contact socket 15-pole standard	Metal hood, angled
MAT01716517		
		
Size 2 15-pole - HD26-pole Order no.	Solder contact pin HighDensity 26-pole	Metal hood, angled
MAT01716518		
		
Size 2 15-pole - HD26-pole Order no.	Solder contact socket HighDensity 26-pole	Metal hood, angled
MAT01716519		

FCT | Connectors SUB-D

		
Size 3 25-pole - HD44-pole Order no.	Solder contact pin 25-pole standard	Metal hood, straight
MAT01716520		
		
Size 3 25-pole - HD44-pole Order no.	Solder contact socket 25-pole standard	Metal hood, straight
MAT01716521		
		
Size 3 25-pole - HD44-pole Order no.	Solder contact pin HighDensity 44-pole	Metal hood, straight
MAT01716522		
		
Size 3 25-pole - HD44-pole Order no.	Solder contact socket HighDensity 44-pole	Metal hood, straight
MAT01716523		
		
Size 3 25-pole - HD44-pole Order no.	Solder contact pin 25-pole standard	Metal hood, angled
MAT01716524		
		
Size 3 25-pole - HD44-pole Order no.	Solder contact socket 25-pole standard	Metal hood, angled
MAT01716525		
		
Size 3 25-pole - HD44-pole Order no.	Solder contact pin HighDensity 44-pole	Metal hood, angled
MAT01716526		
		
Size 3 25-pole - HD44-pole Order no.	Solder contact socket HighDensity 44-pole	Metal hood, angled
MAT01716527		

Technical data

Temperature range -4 °F to 248 °F (-20 °C to +120 °C)



Electrical data

Max. continuous nominal current 2.1 A (158 °F), power contacts
 Insertion cycles 1,000

Delivery program Yamaichi Y-CONKIT

Delivery program	igus® Part No.	Number of poles	Protection class
Housing PA66			
Y-CONKIT 10	MAT01719769	4 (Ethernet)	IP20
Y-CONKIT 11	MAT0176641	4 (Ethernet) + 2 (Power)	IP20
Housing Zinc die-casting			
Y-CONKIT 17	MAT01719770	4 (Ethernet)	IP20
Y-CONKIT 15	MAT01719236	4 (Ethernet) + 2 (Power)	IP20
Housing Plastic PBT, UL94V-0			
Y-CONKIT 20	MAT01719771	4 (Ethernet)	IP67/68/69K
Y-CONKIT 21	MAT0176759	4 (Ethernet) + 2 (Power)	IP67/68/69K
Housing Zinc die-casting			
Y-CONKIT 40	MAT01719772	4 (Ethernet)	IP67/68/69K
Y-CONKIT 40-E	MAT01719773	4 (Ethernet)	IP67/68/69K
Y-CONKIT 41	MAT01717218	4 (Ethernet) + 2 (Power)	IP67/68/69K
Y-CONKIT 41-E	MAT01718801	4 (Ethernet) + 2 (Power)	IP67/68/69K

Delivery program Yamaichi Y-CONKIT accessoires

Delivery program	igus® Part No.	
Crimping tool		
Y-ConTool-11	MAT0176447	
Cable dismantle tool		
	MAT01719767	
Assembling aid		
Y-ConTool-30	MAT01717349	



HARTING | Connector sets with pin-inserts

HARTING Connectors sets, pin				
Part No.	Cable inlet	Insert	Pin insert HARTING Part No.	Housing HARTING Part No.
Han 6B connector housing, straight cable inlet				
MAT90489802.U	M20	6+PE	09330062601	19300061440
Han 6B connector housing, angled cable inlet				
MAT90489804.U	M20	6+PE	09330062601	19300061540
Han 10B connector housing, straight cable inlet				
MAT90489806.U	M25	10+PE	09330102601	19300101441
Han 10B connector housing, angled cable inlet				
MAT90489808.U	M25	10+PE	09330102601	19300101541
Han 16B connector housing, straight cable inlet				
MAT90489810.U	M25	16+PE	09330162601	19300161441
Han 16B connector housing, angled cable inlet				
MAT90489812.U	M25	16+PE	09330162601	19300161541
Han 24B connector housing, straight cable inlet				
MAT90489814.U	M32	24+PE	09330242601	19300241442
Han 24B connector housing, angled cable inlet				
MAT90489816.U	M32	24+PE	09330242601	19300241542

HARTING | Connector sets with socket-inserts

HARTING Connector sets, socket				
Part No.	Cable inlet	Insert	Socket-inserts HARTING Part No.	Housing HARTING Part No.
Han 6B connector housing, straight cable inlet				
MAT90489803.U	M20	6+PE	09330062701	19300061440
Han 6B connector housing, angled cable inlet				
MAT90489805.U	M20	6+PE	09330062701	19300061540
Han 10B connector housing, straight cable inlet				
MAT90489807.U	M25	10+PE	09330102701	19300101441
Han 10B connector housing, angled cable inlet				
MAT90489809.U	M25	10+PE	09330102701	19300101541
Han 16B connector housing, straight cable inlet				
MAT90489811.U	M25	16+PE	09330162701	19300161441
Han 16B connector housing, angled cable inlet				
MAT90489813.U	M25	16+PE	09330162701	19300161541
Han 24B connector housing, straight cable inlet				
MAT90489815.U	M32	24+PE	09330242701	19300241442
Han 24B connector housing, angled cable inlet				
MAT90489817.U	M32	24+PE	09330242701	19300241542

HARTING | Connector sets Premium (pin + socket)

HARTING Connector sets Premium, pin + socket						
Part No.	Cable inlet	Insert	Pin-insert HARTING Part No.	Socket-insert HARTING Part No.	Connector housing HARTING Part No.	Connector base HARTING Part No.
Han 6B connector housing and base, straight cable inlet						
MAT90489818.U	M20	6+PE	09330062601	09330062701	19300061440	19300061250
Han 6B connector housing and base, angled cable inlet						
MAT90489819.U	M20	6+PE	09330062601	09330062701	19300061540	19300061250
Han 10B connector housing and base, straight cable inlet						
MAT90489820.U	M25	10+PE	09330102601	09330102701	19300101441	19300101250
Han 10B connector housing and base, angled cable inlet						
MAT90489821.U	M25	10+PE	09330102601	09330102701	19300101541	19300101250
Han 16B connector housing and base, straight cable inlet						
MAT90489822.U	M25	16+PE	09330162601	09330162701	19300161441	19300161251
Han 16B connector housing and base, angled cable inlet						
MAT90489823.U	M25	16+PE	09330162601	09330162701	19300161541	19300161251
Han 24B connector housing and base, straight cable inlet						
MAT90489824.U	M32	24+PE	09330242601	09330242701	19300241442	19300241251
Han 24B connector housing and base, angled cable inlet						
MAT90489825.U	M32	24+PE	09330242601	09330242701	19300241542	19300241251

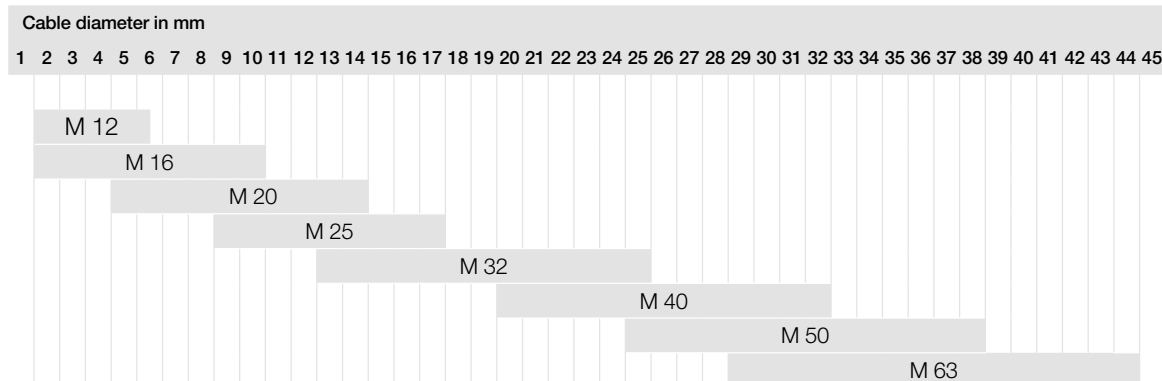
HUMMEL | Cable glands HSK-K

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
Continuous operating temperature	-40 °F to 212 °F (-40 °C to 100 °C)
Colour	gray (RAL 7035)



AG	mm	GL mm	H mm	mm	Pack size	Part No. gray	igus® Part No.
M 12 x 1.5	3 - 6.5	8	21	15	5	1.209.1200.50	MAT0179492
M 12 x 1.5	2 - 5	8	21	15	5	1.209.1200.51	MAT01712319
M 16 x 1.5	4 - 8	8	22	19	5	1.209.1600.50	MAT0179493
M 16 x 1.5	2 - 6	8	22	19	5	1.209.1600.51	MAT01712320
M 16 x 1.5	5 - 10	8	25	22	5	1.219.1600.50	MAT01712321
M 20 x 1.5	6 - 12	9	27	24	5	1.209.2000.50	MAT0179494
M 20 x 1.5	5 - 9	9	27	24	5	1.209.2000.51	MAT01712322
M 20 x 1.5	10 - 14	9	28	27	5	1.219.2000.50	MAT0179563
M 25 x 1.5	13 - 18	11	31	33	5	1.209.2500.50	MAT0179495
M 25 x 1.5	9 - 16	11	31	33	5	1.209.2500.51	MAT01712323
M 32 x 1.5	18 - 25	11	39	42	5	1.209.3200.50	MAT0179496
M 32 x 1.5	13 - 20	11	39	42	5	1.209.3200.51	MAT01712324
M 40 x 1.5	22 - 32	13	48	53	5	1.209.4000.50	MAT0179497
M 40 x 1.5	20 - 26	13	48	53	5	1.209.4000.51	MAT01712325
M 50 x 1.5	32 - 38	13	49	60	5	1.209.5000.50	MAT0179498
M 50 x 1.5	25 - 31	13	49	60	5	1.209.5000.51	MAT01712326
M 63 x 1.5	37 - 44	14	49	65 / 68	5	1.209.6300.50	MAT0179499
M 63 x 1.5	29 - 35	14	49	65 / 68	5	1.209.6300.51	MAT01712327

Customized offers
Offer service Fax 1-401-438-7270



HUMMEL | K-Counter nuts

Material	SB / PA
Continuous operating temperature	-4 °F to -40 °F (-20 °C to 40 °C) (SB) -40 °F to 212 °F (-40 °C to 100 °C) (PA)
Colour	gray (RAL 7035)



IG	H mm	mm	Pack size	Part No. gray	igus® Part No.
M 12 x 1.5	5	17	5	1.262.1200.50	MAT0179500
M 16 x 1.5	5	22	5	1.262.1600.50	MAT0179501
M 20 x 1.5	6	27	5	1.262.2000.50	MAT0179502
M 25 x 1.5	7	36	5	1.262.2500.50	MAT0179503
M 32 x 1.5	7	41	5	1.262.3200.50	MAT0179504
M 40 x 1.5	7	50	5	1.262.4000.50	MAT0179505
M 50 x 1.5	8	60	5	1.262.5000.50	MAT0179506
M 63 x 1.5	8	75	5	1.262.6300.50	MAT0179507

Customized offers
Offer service Fax 1-401-438-7270

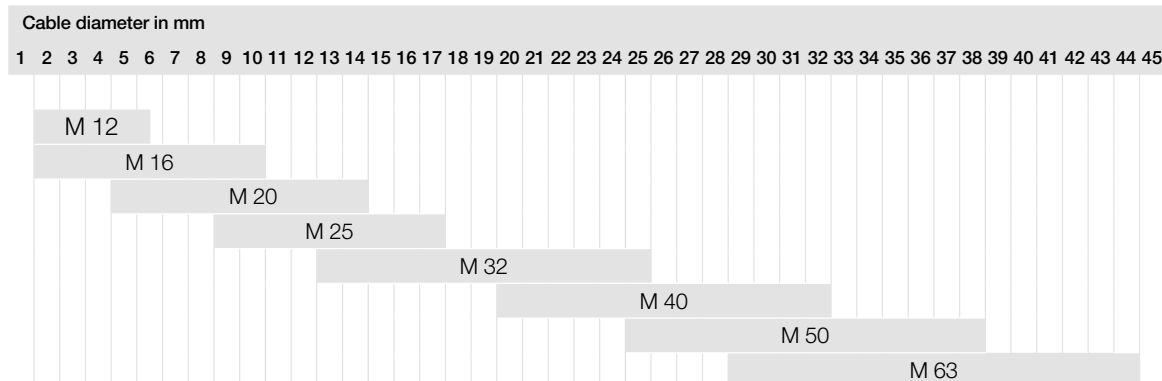
HUMMEL | Cable glands HSK-M

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 area only
Continuous operating temperature -40 °F to 212 °F (-40 °C to 100 °C)



AG	\varnothing mm	GL mm	H mm	 mm	Pack size	Part No. gray	igus® Part No.
M 12 x 1.5	3 - 6.5	6.5	19	14	5	1.609.1200.50	MAT0179476
M 12 x 1.5	2 - 5	6.5	19	14	5	1.609.1200.51	MAT01712328
M 16 x 1.5	4 - 8	6	21	17 / 19	5	1.609.1600.50	MAT0179477
M 16 x 1.5	2 - 6	6	21	17 / 19	5	1.609.1600.51	MAT01712329
M 16 x 1.5	5 - 10	6	22	20	5	1.609.1611.50	MAT01712330
M 20 x 1.5	6 - 12	6	23	22	5	1.609.2000.50	MAT0179478
M 20 x 1.5	5 - 9	6	23	22	5	1.609.2000.51	MAT01712331
M 20 x 1.5	10 - 14	6	24	24	5	1.609.2016.50	MAT0179562
M 25 x 1.5	13 - 18	7	26	30	5	1.609.2500.50	MAT0179479
M 25 x 1.5	9 - 16	7	26	30	5	1.609.2500.51	MAT01711769
M 32 x 1.5	18 - 25	8	31	40	5	1.609.3200.50	MAT0179480
M 32 x 1.5	13 - 20	8	31	40	5	1.609.3200.51	MAT01712332
M 40 x 1.5	22 - 32	8	37	50	5	1.609.4000.50	MAT0179481
M 40 x 1.5	20 - 26	8	37	50	5	1.609.4000.51	MAT01712333
M 50 x 1.5	32 - 38	9	37	57	5	1.609.5000.50	MAT0179482
M 50 x 1.5	25 - 31	9	37	57	5	1.609.5000.51	MAT01712334
M 63 x 1.5	37 - 44	10	38	64 / 68	5	1.609.6300.50	MAT0179483
M 63 x 1.5	29 - 35	10	38	64 / 68	5	1.609.6300.51	MAT01712335

Customized offers
Offer service Fax 1-401-438-7270



HUMMEL | M Counter nuts

Material Brass, nickel-plated

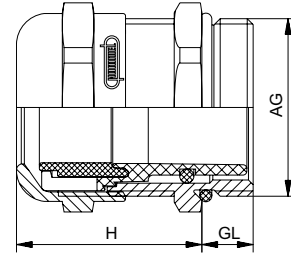


IG	H mm	 mm	Pack size	Part No. gray	igus® Part No.
M 12 x 1.5	2.8	15	5	1.161.1200.50	MAT0179484
M 16 x 1.5	2.8	19	5	1.161.1600.50	MAT0179485
M 20 x 1.5	3.0	23	5	1.161.2000.50	MAT0179486
M 25 x 1.5	3.5	29	5	1.161.2500.50	MAT017948
M 32 x 1.5	4.0	36	5	1.161.3200.50	MAT0179488
M 40 x 1.5	4.5	45	5	1.161.4000.50	MAT0179489
M 50 x 1.5	5.5	55	5	1.161.5000.50	MAT0179490
M 63 x 1.5	6.0	70	5	1.161.6300.50	MAT0179491

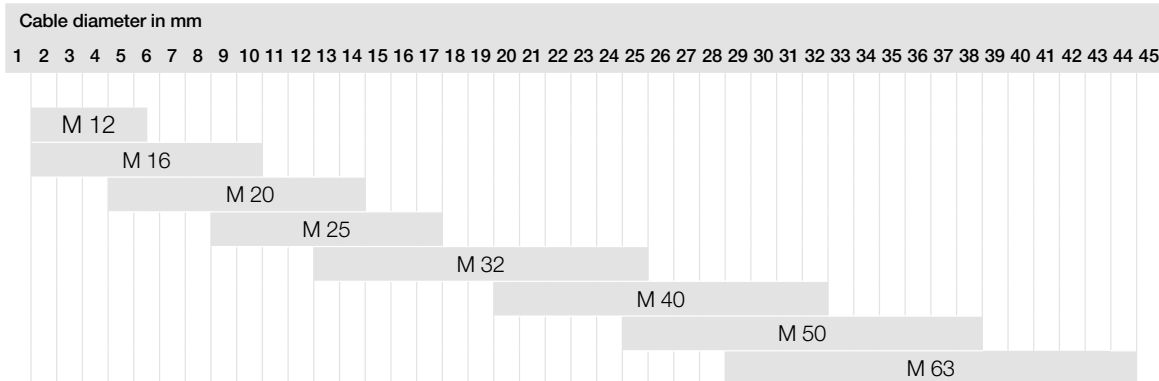
Customized offers
Offer service Fax 1-401-438-7270

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 area only
Continuous operating temperature	-40 °F to 212 °F (-40 °C to 100 °C)



AG	\varnothing mm	GL mm	H mm	 mm	Pack size	Part No. gray	igus® Part No.
M 12 x 1.5	3 - 6.5	6.5	19	14	5	1.691.1200.50	MAT0179508
M 12 x 1.5	2 - 5	6.5	19	14	5	1.691.1200.51	MAT01712336
M 16 x 1.5	5 - 10	6	22	20	5	1.691.1600.50	MAT0179509
M 16 x 1.5	3 - 7	6	22	20	5	1.691.1600.51	MAT01712337
M 20 x 1.5	10 - 14	6	23	24	5	1.691.2000.50	MAT0179510
M 20 x 1.5	7 - 12	6	23	24	5	1.691.2000.51	MAT01712338
M 25 x 1.5	13 - 18	7	24	30	5	1.691.2500.50	MAT0179511
M 25 x 1.5	9 - 16	7	24	30	5	1.691.2500.51	MAT01712339
M 32 x 1.5	18 - 25	8	31	40	5	1.691.3200.50	MAT0179512
M 32 x 1.5	13 - 20	8	31	40	5	1.691.3200.51	MAT01712340
M 40 x 1.5	22 - 32	8	37	50	5	1.691.4000.50	MAT0179513
M 40 x 1.5	20 - 26	8	37	50	5	1.691.4000.51	MAT01712341
M 50 x 1.5	32 - 38	9	37	57	5	1.691.5000.50	MAT0179514
M 50 x 1.5	25 - 31	9	37	57	5	1.691.5000.51	MAT01712342
M 63 x 1.5	37 - 44	10	38	64 / 68	5	1.691.6300.50	MAT0179515
M 63 x 1.5	29 - 35	10	38	64 / 68	5	1.691.6300.51	MAT01712343



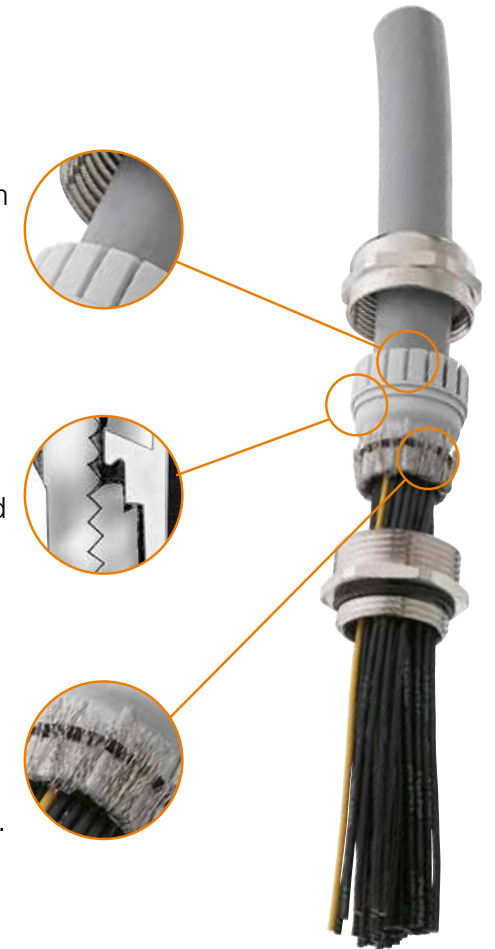
HUMMEL | HSK-EMV Industry standard

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.

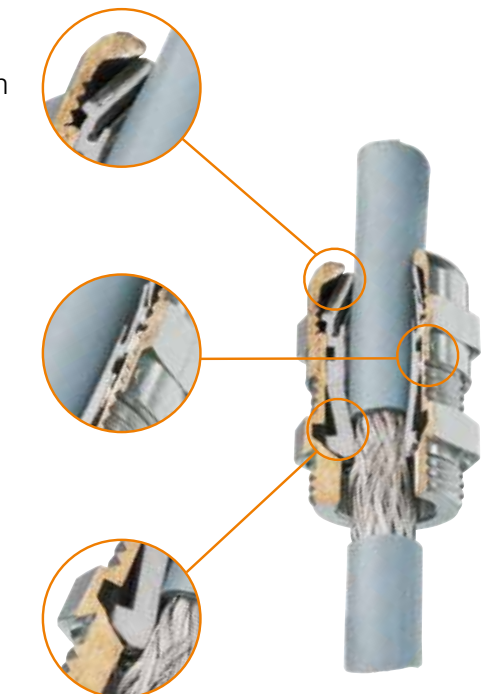


HSK-M-EMV-D

Flexible overlapping clamping splines prevent the form seal from being pulled out of the fitting.

Metalised 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 area only
Continuous operating temperature	-40 °F to 212 °F (-40 °C to 100 °C)




AG	\varnothing mm	GL mm	H mm	 mm	Pack size	Part No. gray	igus® Part No.
M 12 x 1.5	3 - 6.5	6.5	25	14	5	1.631.1200.50	MAT0179524
M 16 x 1.5	5 - 10	6	32	20	5	1.631.1600.50	MAT0179525
M 20 x 1.5	10 - 14	6	33	24	5	1.631.2000.50	MAT0179526
M 25 x 1.5	13 - 18	7	39	30	5	1.631.2500.50	MAT0179527
M 32 x 1.5	18 - 25	8	45	40	5	1.631.3200.50	MAT0179528
M 40 x 1.5	24 - 32	8	51	50	5	1.631.4000.50	MAT0179529
M 50 x 1.5	32 - 38	9	57.5	57	5	1.631.5000.50	MAT0179530
M 63 x 1.5	37 - 44	10	52	64 / 68	5	1.631.6300.50	MAT0179531

Customized offers
Offer service Fax 1-401-438-7270

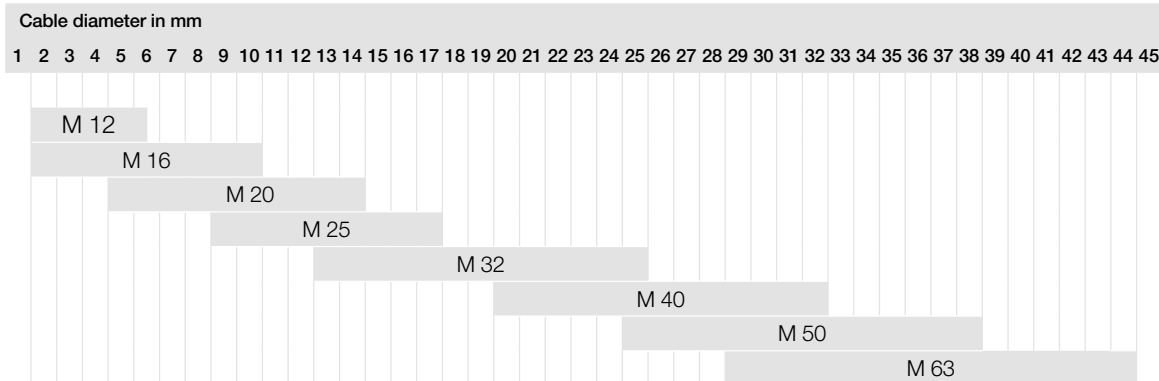
HUMMEL | EMV-Counter nuts

Material	Brass, nickel-plated
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IG	H mm	 mm	S mm	Pack size	Part No. gray	igus® Part No.
M 12 x 1.5	2.8	15	0.7	5	1.167.1200.50	MAT0179516
M 16 x 1.5	2.8	19	0.7	5	1.167.1600.50	MAT0179517
M 20 x 1.5	3.0	24	0.7	5	1.167.2000.50	MAT0179518
M 25 x 1.5	3.5	30	0.7	5	1.167.2500.50	MAT0179519
M 32 x 1.5	4.5	36	0.7	5	1.167.3200.50	MAT0179520
M 40 x 1.5	5.0	46	0.7	5	1.167.4000.50	MAT0179521
M 50 x 1.5	5.0	60	0.7	5	1.167.5000.50	MAT0179522
M 63 x 1.5	6.0	70	0.7	5	1.167.6300.50	MAT0179523

Customized offers
Offer service Fax 1-401-438-7270



igus[®] Chainfix

Strain reliefs



igus® Chainfix- strain relief. Flexible and fast assembled.

Strain relief from igus® is specifically developed for use in E-Chains® and dynamic applications. The combination of chainflex® cable materials and the plastic strain relief components of igus® Chainfix are designed to achieve long life of the cables and maximum holding power. For a wide variety of applications igus® Chainfix is the best solution in terms of costs and benefits. igus® Chainfix strain relief components are installed in applications around the world.



Chainfix strain-relief systems | Overview

Clamps, steel or stainless steel - For maximum tensile strength ▶ Page 772



Clamps, mating and double troughs, multi-clamps	Ø [in.]
CFX* Single, double, triple standard clamps	.24-1.65
CFXL* Single, double, triple clamps with wide base for maximum pull forces	.24-1.65
Saddle elements - Bottom and stacker saddles	.24-1.65
Chainfix Multi-Clamps*	.24-1.65

C-profiles ▶ Page 778



Standard profile rails and profile rails for heavy-duty applications
Standard profile rails part no. CF-92-42KMA. (to be integrated into KMA bracket)
profile rails part no. CF-92-52G. With increased retention force (assembly before E-Chain®)

Universal tiewrap clamps, screw or clip mounted ▶ Page 780



Chainfix tiewrap plates	Ø [in.]
Option 1A: Tiewrap plates as single part "Series 2000" + cable tiewraps	
Option 1B: Tiewrap plates as single part "Series 3000" + cable tiewraps	
Cable tiewraps as single part	max. 1.42

Tiewrap plates, with clip-on connection for the profile rail ▶ Page 782



Chainfix tiewrap plates
Option 2: Tiewrap plates with clip-on connection for the profile rail
Option 3: Integrated strain relief for E2 e-tubes - Series R
Option 4: Tiewrap plates for fixed crossbars
Option 5: Tiewrap plates for opening crossbars

Clips - High tensile strength, modular clip-on strain relief ▶ Page 784



Chainfix clips	Ø [in.]
Option 1: for all E-Chains® with profile rails and also suitable for assembly in the KMA mounting brackets	0.16-0.95
Option 2: Clip-on strain relief for opening crossbars	0.16-0.95

Strain relief separators - with integrated teeth ▶ Page 786



Chainfix strain relief separator
Separator with integrated strain relief - for easy strain relief with cable ties

Nuggets - for profile rails ▶ Page 788



Chainfix nuggets	Ø [in.]
Simple and universal cable attachment, for diameter with Ø .79 (20 mm) and Ø 1.18 (30 mm)	≤ 1.81
Clips onto standard profile rail	≤ 0.79

Strain relief blocks - special strain reliefs for hoses ▶ Page 789


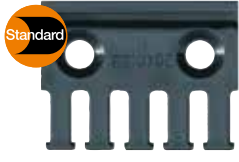









Blocks	Ø [in.]
CFB polymer strain relief connector system, many cables in a very confined space	.17-.55

*Standard material: galvanised steel. Also available as stainless steel-version (material stainless steel: 1.4301/AISI 304)

 Available from stock. Delivery time* from 24h or same day!
*Delivery time refers the time until the product is shipped (after verifying technical feasibility)

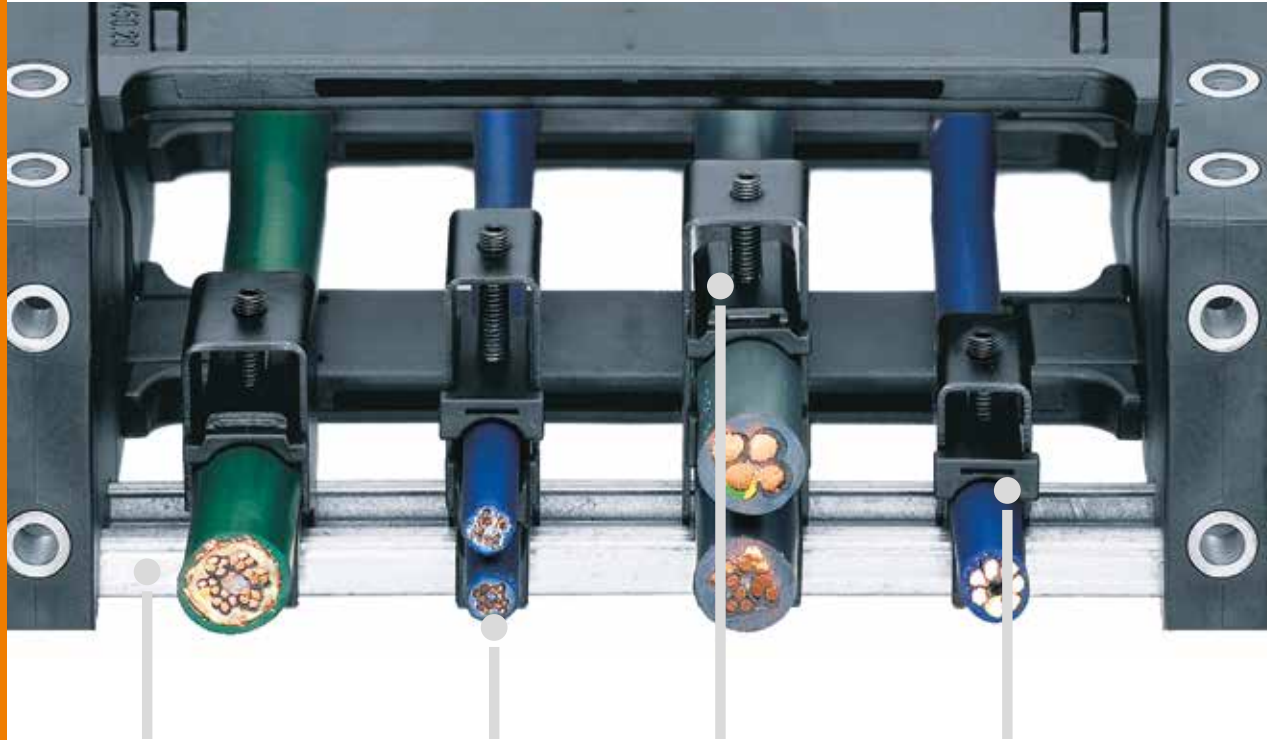
 3D-CAD, configurators, PDF, applications ▶ www.igus.com/chainfix

igus® Chainfix- strain relief system										
Parameters		CFX Clamps	Tiewrap plates screwed, clip-on			Clips for profile rails or clip-on	Nuggets Strain relief nuggets	Strain relief seperators	CFB strain relief connector system	
	Recommended standard for the following E-Chains®:	E4, E6, for all KMA* with profile rail <small>Polymer metal mounting bracket</small>	E-Z Chain®, E2/000, E2 e-tubes, E4, E6			E4, E6, for all KMA* with profile rail <small>Polymer metal mounting bracket</small>	For all KMAs* with profile rail, top-hat rails <small>Polymer metal mounting bracket</small>	E2/000, E2 e-tubes, E6, T3	E4, E6, for all KMA* with profile rail <small>Polymer metal mounting bracket</small>	
	When to take this igus® strain relief system:	Standard for high accelerations, loads and demanding applications. For many cables, large cable Ø, stacked cables. For long travels, cranes, offshore, machine tools, high speed, hydraulic cables. If modularity is required.	Standard for many applications with medium acceleration. For unsupported, gliding, hanging and standing applications in general machinery and machine tools. In cables next to each other. Also available as single parts, for example for cabinets, etc.			Cost-effective, space-saving strain relief for many applications with medium accelerations. For stacked cables, or cables with the same diameters.	Cost-effective, fast strain relief for simple applications with low space requirements at medium accelerations. Also available as single parts for rigid linings, such as in cabinets, etc.	Combination of separator and strain relief, ideal for low space requirements. For applications with medium accelerations. For smaller cable diameter. Ideal for e-tubes. For machine tools and automation.	Space-saving, modular strain relief with many cables in confined spaces. For applications with high accelerations and loads, e.g. machine tools.	
	When not to take it:	No limitation	For large cable diameters			At high loads	At high loads	At high loads	No limitation	
Features										
Assembly time index		+	+			+-	+-	+	+-	
Adjustable tensile strength		++	-			+-	-	-	+	
Price Index		●●●	●●●			●●●	●●●	●●●	●●●	
Modularity		yes	yes			yes	yes	yes	yes (special fabrication)	
Dynamics		high to very high	high			medium	high	high	high to very high	
Tensile strength determination ¹⁾ in lbs (N) with chainflex® cables under various conditions			Cable tie wrap					Cable tie wrap		
			single	double				single	double	
dry, PUR		230 (1023)	21 (94)	37 (165)		15 (66)	81 (356)	25 (109)	29 (128)	129 (573)
dry, PVC		200 (891)	102 (455)	135 (601)		16 (72)	90 (395)	76 (339)	65 (289)	74 (330)
dry, TPE		355 (1580)	22 (97)	50 (224)		23 (103)	65 (286)	14 (64)	18 (82)	64 (285)
Water ²⁾ , PUR		213 (947)	15 (65)	34 (150)		11 (51)	58 (255)	15 (65)	31 (139)	55 (245)
Water ²⁾ , PVC		206 (917)	101 (447)	119 (528)		12 (55)	71 (312)	31 (136)	34 (151)	52 (233)
Water ²⁾ , TPE		288 (1283)	21 (94)	28 (123)		19 (86)	39 (170)	11 (48)	22 (98)	40 (177)
Oil ³⁾ , PUR		112 (500)	22 (96)	31 (137)		10 (45)	22 (95)	4 (19)	20 (89)	46 (203)
Oil ³⁾ , PVC		197 (874)	88 (393)	141 (627)		13 (59)	91 (402)	33 (146)	71 (315)	50 (223)
Oil ³⁾ , TPE		235 (1044)	14 (64)	20 (87)		14 (63)	20 (87)	17 (77)	7 (33)	37 (165)

1) tested with igus® chainflex® cables with the jacket materials PVC (CF7-15-12), PUR (CF5-05-25), TPE (CF9-10-25) and Ø 15 mm
 2) Water, 60°C, 24 hrs. climatic chamber at 90% r.H.
 3) Cables submerged in oil. Oil type: synthetic lubricating oil with Teflon

Price Index
 ●●● Low price category
 ●●● Medium price category
 ●●● Highest price category
 ++ = best suitability
 += good suitability
 +- = suitable
 -= conditionally suitable

All clamps were tightened with 1Nm.
 Cable tie wraps tightened by hand.



To be integrated into KMA mounting brackets

For up to three cables one over another

Reduced installation height, space saving

Excellent durability for dynamic applications

Chainfix clamps - mounted safely and even faster

- Integration with KMA mounting brackets and profile rail host-option
- Easy to read part no. and lateral marking of the correct installation direction
- Reduced installation height due to optimal housing height (compared to conventional clamps up to 15 mm)
- Space- and time-saving assembly
- Delivery options for complete systems with cables and preassembled strain relief
- Improved base for easy fit on the profile rail
- Setscrews, tightened with Allen wrench, for easy installation
- Durability for dynamic applications through improved stacker elements: optimized stacker saddles, captive by retaining lugs
- The long contact surface of the stacker elements improves the clamp's stability
- The high rigidity of the stacker elements significantly increases the reliability
- Built-in ribs to the stacker elements - no disconnection of cables from the strain relief
- Optional: CFXL clamps with increased holding power for heavy-duty applications (CFXL clamps are always assembled **IN FRONT** of the E-Chain® - **CANNOT** be integrated into KMA mounting brackets with profile rail host-option!)



Available from stock. **Delivery time* from 24 hrs or same day!**

*Delivery time refers the time until the product is shipped (after verifying technical feasibility)

Product range and materials

- Steel clamp: clamp and screw black painted steel
- Stainless steel clamp: clamp and screw: blank (material 1.4301/AISI 304)
- Stacker elements: bottom saddle and stacker saddle (material igumid G)
- Profile rails: steel (material galvanised steel) or stainless steel (material 1.4301/AISI 304) available

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 .39 (10 mm) from the top of the E-Chain®. As a consequence of this, 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 be safely used.



Please note!

- The cables should ideally be fixed at both ends of the E-Chain®. They definitely need to be attached at the moving end of the E-Chain®. **The minimum should be to be fixed to the moving end of the E-Chain®.**
- When using Chainfix clamps on profile rails in the mounting bracket for the Series: E4-32/H4-32/R4-32, 280/290 R770, 2828/2928/R7728 a shortened bottom saddle must be used. For shortened bottom saddles supplement part no. with index "K" = Example: Part No. CFX12-1K



CFX - Chainfix housing with reduced height



KMA mounting bracket with integrated profile rail and Chainfix clamps



Saves both time and space during installation of igus® Chainfix clamps



For the following igus® series

E2/000

● 2400/2500/2450/2480

● 2600/2700/2650/2680

● 3400/3500/3450/3480

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/light

● 14040/14140/18840

● 14240/14340

● 14550/14650/19050

● 15050/15150/19850

● 15250/15350

E4/00

● 280/290/R770

● 380/390/R780

● 400/410/R880

E4/4

● 2828/2928/R7728

● 3838/3938/R7838

● 4040/4140/R8840

● 5050/5150/R9850

E6

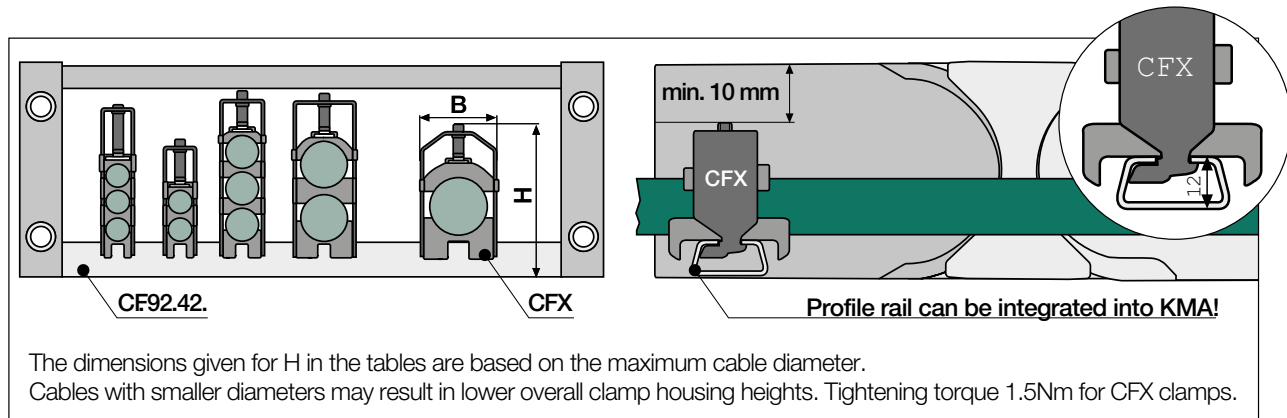
● E6-40

● E6-52 / R6-52

● E6-62

● E6-80L

● E6-80



The dimensions given for H in the tables are based on the maximum cable diameter. Cables with smaller diameters may result in lower overall clamp housing heights. Tightening torque 1.5Nm for CFX clamps.



CFX | Standard clamps with standard base
Suitable for profile rails CF-92-42KMA - Can be integrated into KMA with profile rail host-option!



CFX - Single clamp housing, incl. bottom saddles

Part No. steel	Part No. stainless steel*	Ø [in.]	Ø [mm]	B ⁺² [in.]	B ⁺² [mm]	H [in.]	H [mm]	Part No. steel	Part No. stainless steel*	Ø [in.]	Ø [mm]	B ⁺² [in.]	B ⁺² [mm]	H [in.]	H [mm]
CFX12-1	CFX12-1-E	.24-.47	06-12	.63	16	1.57	54	CFX26-1	CFX26-1-E	.87-1.02	22-26	1.18	30	2.64	67
CFX14-1	CFX14-1-E	.47-.55	12-14	.71	18	1.97	50	CFX30-1	CFX30-1-E	1.02-1.18	26-30	1.34	34	2.80	71
CFX16-1	CFX16-1-E	.55-.63	14-16	.79	20	2.05	52	CFX34-1	CFX34-1-E	1.18-1.34	30-34	1.50	38	2.95	75
CFX18-1	CFX18-1-E	.63-.71	16-18	.87	22	2.13	54	CFX38-1	CFX38-1-E	1.34-1.50	34-38	1.65	42	3.11	79
CFX20-1	CFX20-1-E	.71-.79	18-20	.94	24	2.20	56	CFX42-1	CFX42-1-E	1.50-1.65	38-42	1.81	46	3.27	83
CFX22-1	CFX22-1-E	.79-.87	20-22	1.02	26	2.28	58								

*Material stainless steel: 1.4301/AISI 304



CFX - Double clamp housing, incl. bottom and stacker saddles

Part No. steel	Part No. stainless steel*	Ø [in.]	Ø [mm]	B ⁺² [in.]	B ⁺² [mm]	H [in.]	H [mm]	Part No. steel	Part No. stainless steel*	Ø [in.]	Ø [mm]	B ⁺² [in.]	B ⁺² [mm]	H [in.]	H [mm]
CFX12-2	CFX12-2-E	.24-.47	06-12	.63	16	2.83	72	CFX22-2	CFX22-2-E	.79-.87	20-22	1.02	26	3.54	90
CFX14-2	CFX14-2-E	.47-.55	12-14	.71	18	2.91	74	CFX26-2	CFX26-2-E	.87-1.02	22-26	1.18	30	4.29	109
CFX16-2	CFX16-2-E	.55-.63	14-16	.79	20	3.07	78	CFX30-2	CFX30-2-E	1.02-1.18	26-30	1.34	34	4.61	117
CFX18-2	CFX18-2-E	.63-.71	16-18	.87	22	3.23	82	CFX34-2	CFX34-2-E	1.18-1.34	30-34	1.50	38	4.92	125
CFX20-2	CFX20-2-E	.71-.79	18-20	.94	24	3.38	86								

*Material stainless steel: 1.4301/AISI 304

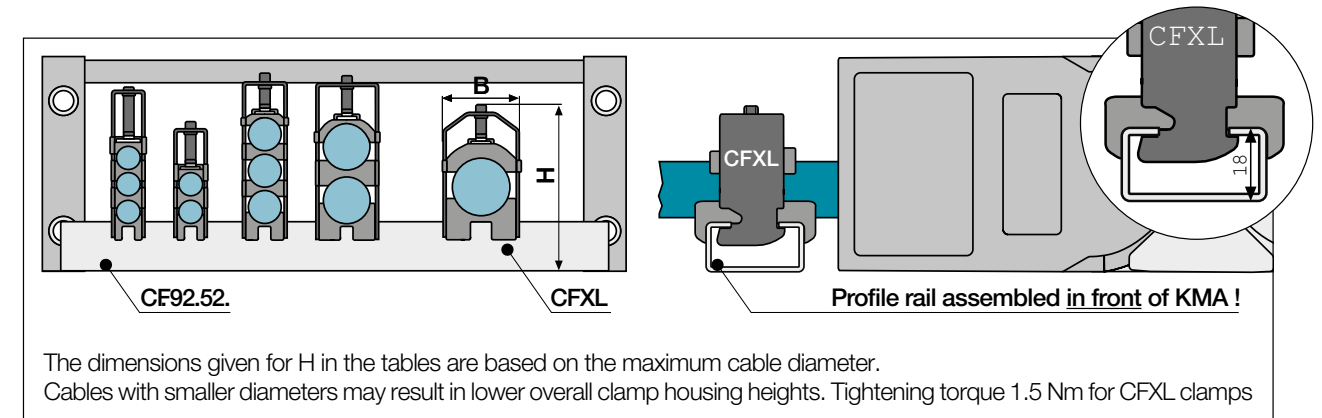


CFX - Triple clamp housing, incl. bottom and stacker saddles

Part No. steel	Part No. stainless steel*	Ø [in.]	Ø [mm]	B ⁺² [in.]	B ⁺² [mm]	H [in.]	H [mm]	Part No. steel	Part No. stainless steel*	Ø [in.]	Ø [mm]	B ⁺² [in.]	B ⁺² [mm]	H [in.]	H [mm]
CFX12-3	-	.24-.47	06-12	.63	16	3.94	100	CFX18-3	-	.63-.71	16-18	.87	22	4.25	108
CFX14-3	-	.47-.55	12-14	.71	18	3.78	96	CFX20-3	-	.71-.79	18-20	.94	24	4.49	114
CFX16-3	-	.55-.63	14-16	.79	20	4.02	102	CFX22-3	-	.79-.87	20-22	1.02	26	4.72	120

*Material stainless steel: 1.4301/AISI 304

Suitable profile rails for CFX clamps part no. CF-92-42KMA ► Page 778



The dimensions given for H in the tables are based on the maximum cable diameter. Cables with smaller diameters may result in lower overall clamp housing heights. Tightening torque 1.5 Nm for CFXL clamps.

CFXL | Clamps with wide base for increased holding power
Suitable for profile rails CF-92-52G - profile rail assembled in front of KMA !- NO integration!



CFXL - Single clamp housing, incl. bottom saddles

Part No. steel	Part No. stainless steel*	Ø [in.]	Ø [mm]	B ⁺² [in.]	B ⁺² [mm]	H [in.]	H [mm]	Part No. steel	Part No. stainless steel*	Ø [in.]	Ø [mm]	B ⁺² [in.]	B ⁺² [mm]	H [in.]	H [mm]
CFXL12-1	CFXL12-1-E	.24-.47	06-12	.63	16	2.36	60	CFXL26-1	CFXL26-1-E	.87-1.02	22-26	1.18	30	2.87	73
CFXL14-1	CFXL14-1-E	.47-.55	12-14	.71	18	2.20	56	CFXL30-1	CFXL30-1-E	1.02-1.18	26-30	1.34	34	3.03	77
CFXL16-1	CFXL16-1-E	.55-.63	14-16	.79	20	2.28	58	CFXL34-1	CFXL34-1-E	1.18-1.34	30-34	1.50	38	3.19	81
CFXL18-1	CFXL18-1-E	.63-.71	16-18	.87	22	2.36	60	CFXL38-1	CFXL38-1-E	1.34-1.50	34-38	1.65	42	3.35	85
CFXL20-1	CFXL20-1-E	.71-.79	18-20	.94	24	2.44	62	CFXL42-1	CFXL42-1-E	1.50-1.65	38-42	1.81	46	3.50	89
CFXL22-1	CFXL22-1-E	.79-.87	20-22	1.02	26	2.52	64								

*Material stainless steel: 1.4301/AISI 304



CFXL - Double clamp housing, incl. bottom and stacker saddles

Part No. steel	Part No. stainless steel*	Ø [in.]	Ø [mm]	B ⁺² [in.]	B ⁺² [mm]	H [in.]	H [mm]	Part No. steel	Part No. stainless steel*	Ø [in.]	Ø [mm]	B ⁺² [in.]	B ⁺² [mm]	H [in.]	H [mm]
CFXL12-2	CFXL12-2-E	.24-.47	06-12	.63	16	3.07	78	CFXL22-2	CFXL22-2-E	.79-.87	20-22	1.02	26	3.39	86
CFXL14-2	CFXL14-2-E	.47-.55	12-14	.71	18	3.15	80	CFXL26-2	CFXL26-2-E	.87-1.02	22-26	1.18	30	4.53	115
CFXL16-2	CFXL16-2-E	.55-.63	14-16	.79	20	3.31	84	CFXL30-2	CFXL30-2-E	1.02-1.18	26-30	1.34	34	4.84	123
CFXL18-2	CFXL18-2-E	.63-.71	16-18	.87	22	3.39	86	CFXL34-2	CFXL34-2-E	1.18-1.34	30-34	1.50	38	5.16	131
CFXL20-2	CFXL20-2-E	.71-.79	18-20	.94	24	3.62	92								

*Material stainless steel: 1.4301/AISI 304



CFXL - Triple clamp housing, incl. bottom and stacker saddles

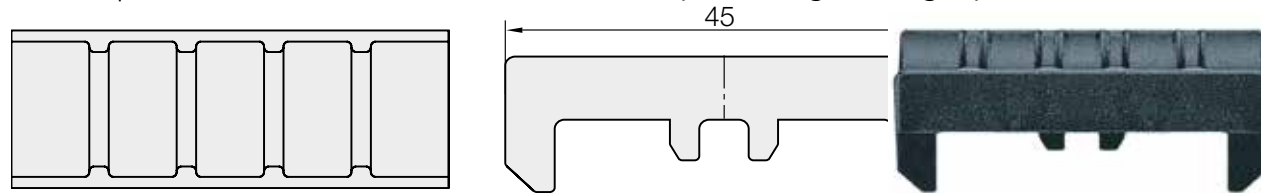
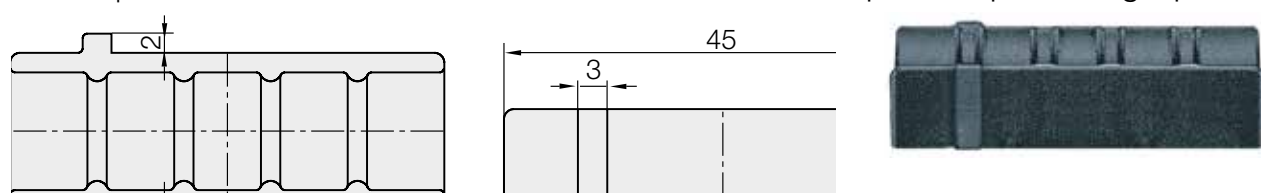
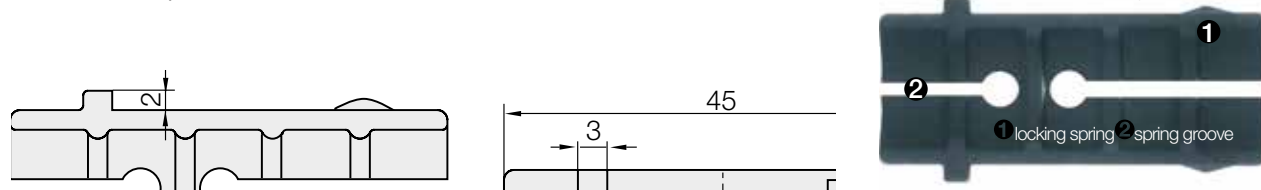
Part No. steel	Part No. stainless steel*	Ø [in.]	Ø [mm]	B ⁺² [in.]	B ⁺² [mm]	H [in.]	H [mm]	Part No. steel	Part No. stainless steel*	Ø [in.]	Ø [mm]	B ⁺² [in.]	B ⁺² [mm]	H [in.]	H [mm]
CFXL12-3	-	.24-.47	06-12	.63	16	4.17	106	CFXL18-3	-	.63-.71	16-18	.87	22	4.49	114
CFXL14-3	-	.47-.55	12-14	.71	18	4.02	102	CFXL20-3	-	.71-.79	18-20	.94	24	4.72	120
CFXL16-3	-	.55-.63	14-16	.79	20	4.25	108	CFXL22-3	-	.79-.87	20-22	1.02	26	4.96	126

*Material stainless steel: 1.4301/AISI 304

Suitable profile rails for CFXL clamps part no. CF-92-52G ► Page 778

Characteristics of igus® Chainfix clamps - stacker elements

- Built-in ribs for security of cables in the strain relief
- Optimized double-trough, captive by ① locking spring and with ② spring groove for a simplified and precise installation
- Conventional stacker saddles
- Long contact surface improves the clamp's stability
- More secure due to high stiffness
- Suitable for CFX- and CFXL-clamps

**CGXX** | Bottom saddles to slide into the clamp housing as single part**CDXX** | Conventional stacker saddles for all double and triple clamps as single part**CD-XX-C** | Optimized stacker saddles for all double and triple clamps as single part

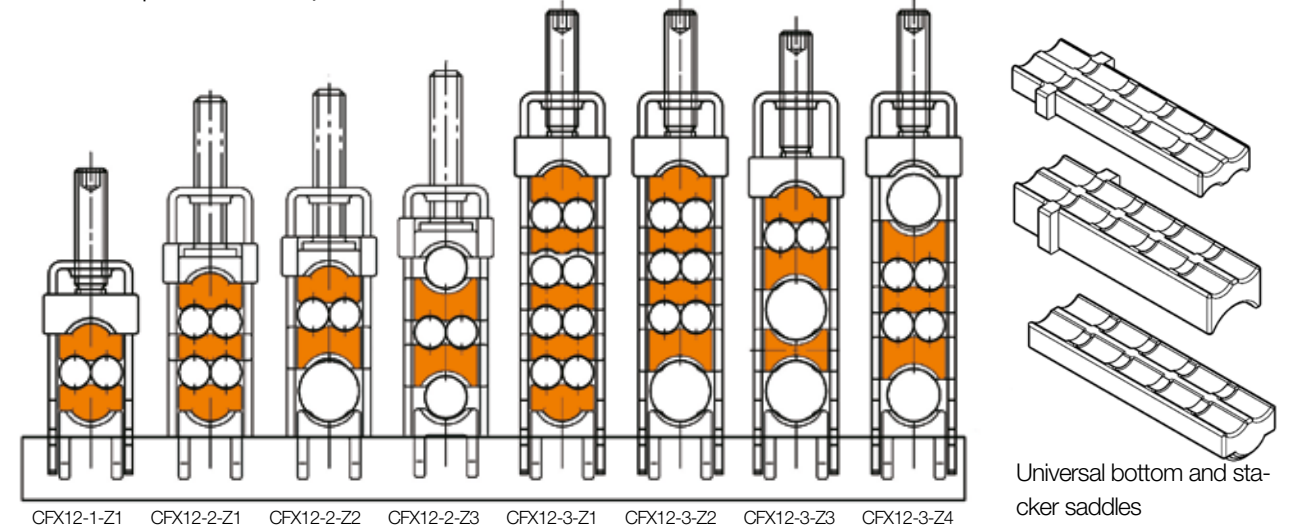
P/N Clamp	Bottom Single Saddle	Stacker Double/triple Saddle	Cable Ø [in.]	Cable Ø [mm]	P/N Clamp	Bottom Single Saddle	Stacker Double/triple Saddle	Cable Ø [in.]	Cable Ø [mm]		
CFX/CFXL12-X	CG12	CD12	CD-12-C*	.24-.47	06-12	CFX/CFXL26-X	CG26	CD26	CD-26-C*	.87-1.02	22-26
CFX/CFXL14-X	CG14	CD14	CD-14-C*	.47-.55	12-14	CFX/CFXL30-X	CG30	CD30	CD-30-C*	1.02-1.18	26-30
CFX/CFXL16-X	CG16	CD16	CD-16-C*	.55-.63	14-16	CFX/CFXL34-X	CG34	CD34	CD-34-C*	1.18-1.34	30-34
CFX/CFXL18-X	CG18	CD18	CD-18-C	.63-.71	16-18	CFX/CFXL38-X	CG38	-	-	1.34-1.50	34-38
CFX/CFXL20-X	CG20	CD20	CD-20-C*	.71-.79	18-20	CFX/CFXL42-X	CG42	-	-	1.50-1.65	38-42
CFX/CFXL22-X	CG22	CD22	CD-22-C*	.79-.87	20-22						



Please note: When using Chainfix clamps on profile rail in the mounting bracket for Series E4-32/H4-32/R4-32, 280/290/R770, 2828/2928/R7728, 28/29/R77 a shortened bottom saddle has to be used. For shortened bottom saddles supplement part no. with index "K" = Example: Part No. CFX12-1K

Characteristics of igus® Chainfix multi-clamps

- Now more flexible mounting options of the proven Chainfix strain relief elements with more components
- Universal strain relief - various assembly options
- Saves both time and space during installation
- Compact and modular
- For small outer diameters
- Cost-effective

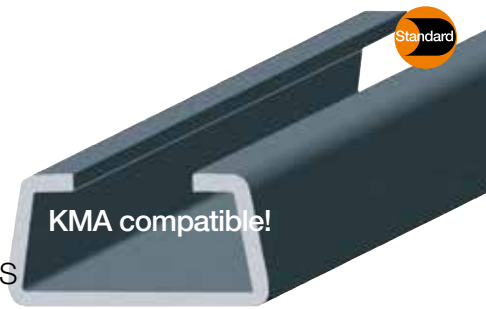
**CFX12** | Multi-clamps, universal strain relief

Part No. series	Part No. stacker saddles - single parts				For cables Ø max.	
					[in.]	[mm]
CFX12-1-Z1	X (2-piece)	-	-	-	.24	6
CFX12-2-Z1	X (2-piece)	X (1-piece)	-	-	.24	6
CFX12-2-Z2	X (1-piece)	-	X (1-piece)	-	.24 + .47	6 + 12
CFX12-2-Z3	-	-	X (2-piece)	-	.24 + .31	6 + 8
CFX12-3-Z1	X (2-piece)	X (3-piece)	-	-	.24	6
CFX12-3-Z2	X (1-piece)	X (2-piece)	X (1-piece)	-	.24 + .47	6 + 12
CFX12-3-Z3	X (1-piece)	-	X (1-piece)	X (1-piece)	.24 + .47	6 + 12
CFX12-3-Z4	-	X (1-piece)	X (2-piece)	-	.24 + .39	6 + 10

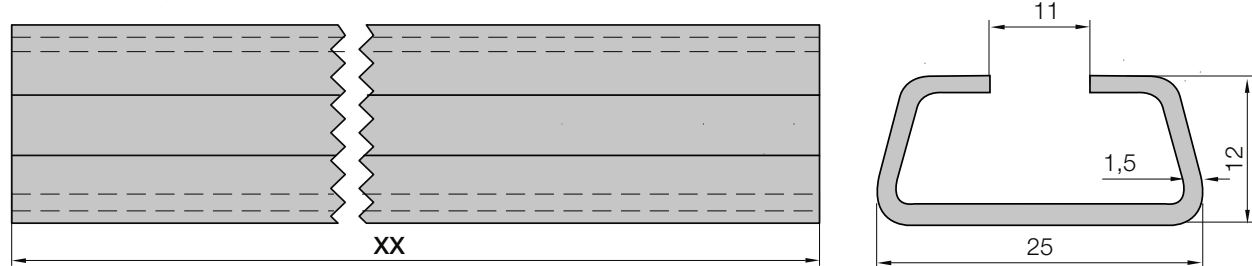
Standard material: galvanised steel. For the stainless steel version (material 1.4301/AISI 304) supplement part no. with Index "E" = example: part no. CFX-12-3.Z1-E

Standard profile rails part no. CF-92-42KMA

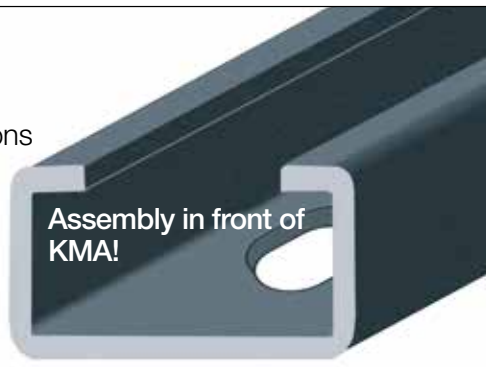
- For all igus® CFX clamps and KMA mounting brackets with host-option
- Standard material: galvanised steel part no. CF-92-42KMA
- Also available as stainless steel version
(Material: 1.4301/AISI 304)
Please add index **.SS**, example: Part No. CF-92-42-KMASS
- Length tolerances of $\pm .39$ (1 mm) possible!

**Standard profile rail part no. CF-92-42KMA. | For conventional applications**

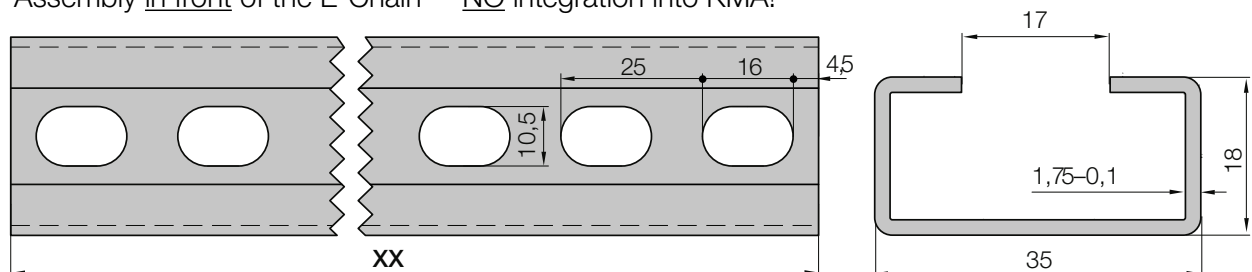
Can be integrated into KMA with profile rail host-option!

**Optional | For heavy-duty applications****C-profiles part no. CF-92-52G**

- For all igus® CFXL clamps
- With increased holding power - even for harsh applications
- Standard material galvanised steel part no. CF-92-52G-**XX** (XX = length in mm)
- Also available as stainless steel version
(Material: 1.4301/AISI 304)
Please add Index **.SS**, example: Part No. CF-92-52GSS
- Length tolerances of $\pm .20$ (5 mm) possible!



C-profile part no. CF-92-52G. With increased holding power for harsh applications
Assembly in front of the E-Chain® - NO integration into KMA!



Available from stock. **Delivery time*** from 24 hrs or same day!

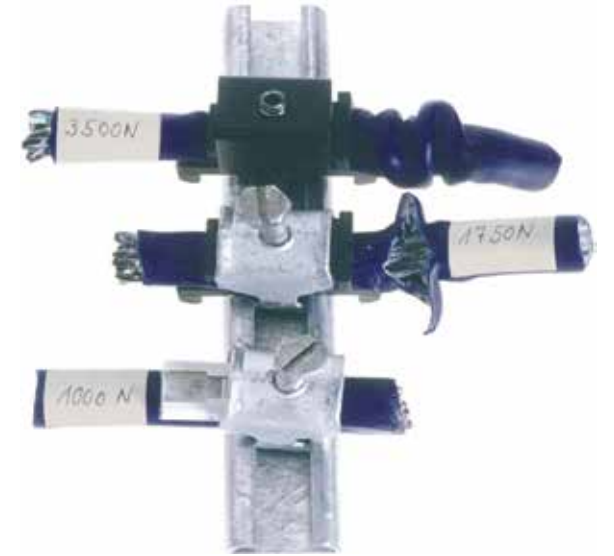
*Delivery time refers the time until the product is shipped (after verifying technical feasibility)



igus® tensile strength test with CFX clamps

igus® strain relief devices are tested under practical conditions, taking various 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 of course plays a big role in the in-house tests. **Detailed information about the tests: Chainfix strain relief parameter overview ► Page 770**



igus® test: Comparison of three different strain reliefs - Result: Triple tensile strength of igus® Chainfix clamps in comparison with conventional products.



Tensile strength tests with chainflex® cables



Tensile strength tests of igus® clamps with cable tiewraps

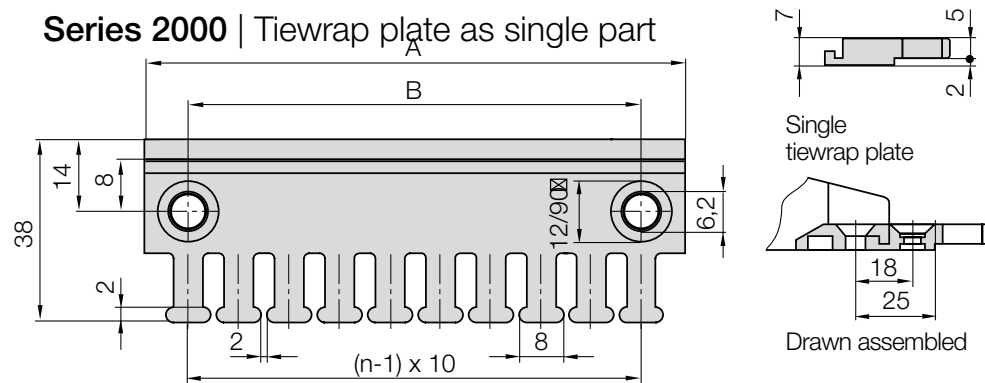
Characteristics of igus® Chainfix tiewrap plates - Series 2000

Option 1A.: Tiewrap plates as single parts

- Available as individual component
- Screwed on KMA* with profile rail (*polymer metal mounting bracket)
- Can be stacked onto the mounting bracket
- Single part for the manufacturing of switchgear cabinets or for the assembly of machines
- Accessory for igus® E-Chain systems®



Series 2000 | Tiewrap plate as single part



For the following igus® series

E-Z Chain®

- E200/Z200
- E2/000**
- 1400/1500/1450/1480
- 2400/2500/2450/2480

E2 e-tubes

- R117/R118
- R48

E4-1

- E4-28

E4/00

- 220 (2050.Z)

E6

- E6-29/R6-29
- E6-35
- E6-40

Tiewrap plate	n Number of teeth	Dim. A [in.] [mm]	Dim. B [in.] [mm]	Dim. C [in.] [mm]	Center bore -- = no / + = yes
2020-ZB	3	1.18 30	.59 15	- -	
2030-ZB	4	1.57 40	.79 20	- -	
2040-ZB	5	1.97 50	1.18 30	- -	
2050-ZB	6	2.36 60	1.57 40	- -	
2070-ZB	8	3.15 80	2.36 60	- -	
2090-ZB (= 2030-ZB + 2040-ZB)	9	3.54 90	2.76 70	- -	
2100-ZB	10	3.94 100	3.15 80	- -	
2125-ZB (= 2050-ZB + 2050-ZB)	12	4.72 120	3.94 100	- -	

Cable tiewraps as single part

Cable tiewraps (100-piece bag)	Width x length [in.] [mm]	Maximum Ø [in.] [mm]	Pull force resistance [lbs] [N]
CFB-001	.19 x 5.91 4.8 x 150	1.42 36	50 222



Available from stock. **Delivery time*** from 24 hrs or same day!

*Delivery time refers the time until the product is shipped (after verifying technical feasibility)

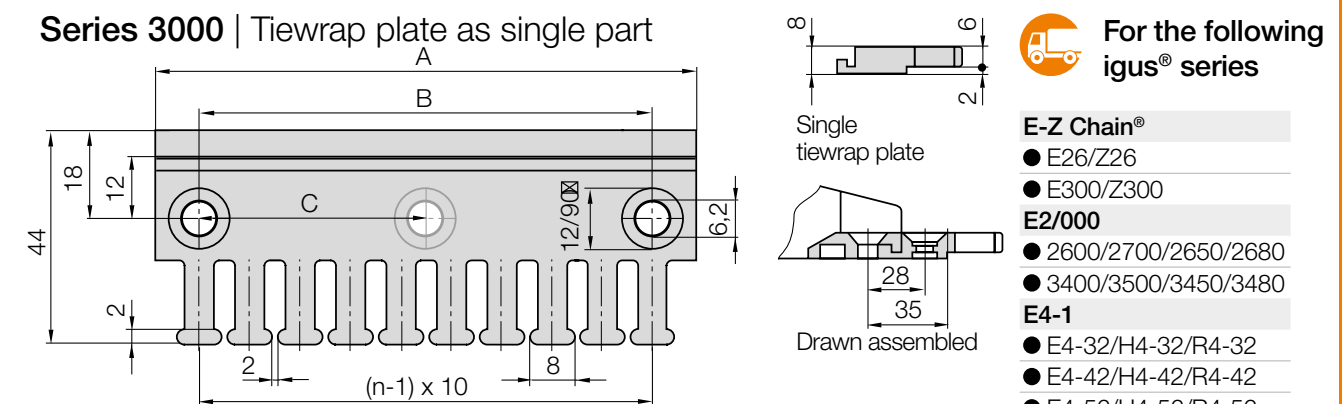
Characteristics of igus® Chainfix tiewrap plates - Series 3000

Option 1B.: Tiewrap plates as individual parts

- Available as individual component
- Screwed on KMA* with profile rail (*polymer metal mounting bracket)
- Can be stacked onto the mounting bracket
- Single part for the manufacturing of switchgear cabinets or for the assembly of machines
- Accessory for igus® E-Chain systems®



Series 3000 | Tiewrap plate as single part



For the following igus® series

E-Z Chain®

- E26/Z26
- E300/Z300
- E2/000**
- 2600/2700/2650/2680
- 3400/3500/3450/3480

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/light

- 1640
- 800
- 840
- 14040/14140/18840
- 14240/14340
- 14550/14650/19050
- 15050/15150/19850
- 15250/15350

E4/00

- 280/290/R770
- 380/390/R780
- 400/410/R880
- 600/601/R608
- 640

E4/4

- 2828/2928/R7728
- 3838/3938/R7828
- 4040/4140/R8840
- 5050/5150/R9850

E6

- E6-52/R6-52
- E6-62
- E6-80L / E6-80

Tiewrap plate	Number of teeth	Dim. A [in.] [mm]	Dim. B [in.] [mm]	Dim. C [in.] [mm]	Center bore -- = no / + = yes
3050-ZB	5	1.97 50	1.18 30	- -	
3075-ZB	7	2.95 75	2.16 55	- -	
3100-ZB	10	3.94 100	3.15 80	- -	
3115-ZB	11	4.53 115	3.74 95	- -	
3125-ZB	12	4.92 125	4.13 105	- -	
3150-ZB	15	5.91 150	5.12 130	- -	
3175-ZB	17	6.89 175	6.10 155	- -	
3200-ZB	20	7.87 200	7.09 180	3.54 90	+
3225-ZB	22	8.86 225	8.07 205	4.04 102.5	+
3250-ZB	25	9.84 250	9.06 230	4.53 115	+

Cable tiewraps as single part

Cable tiewraps (100-piece bag)	Width x length [in.] [mm]	Maximum Ø [in.] [mm]	Pull force resistance [lbs] [N]
CFB-001	.19 x 5.91 4.8 x 150	1.42 36	50 222



Available from stock. **Delivery time*** from 24 hrs or same day!

*Delivery time refers the time until the product is shipped (after verifying technical feasibility)

Characteristics of igus® Chainfix tiewrap plates**Option 2: With clip-on connection for the profile rails**

- Can be clipped into the KMA profile rail
- Easy to assemble without any screws
- Easy to remove with screwdriver
- Single part for the manufacturing of switchgear cabinets or for the assembly of machines
- Accessory for igus® E-Chain systems®

**Option 2** | Tiewrap plate with clip-on connection for profile rail

For all mounting brackets with C-profile connectivity!

Part No.	Width		Number of teeth
	[in.]	[mm]	
3050-ZC	1.97	50	5
3075-ZC	2.95	75	7

Characteristics of igus® Chainfix tiewrap plates**Option 3: Integrated strain relief for E2 e-tubes - Series R**

- Strain relief is hidden completely in the Energy Tube
- Easy to assemble without any screws
- Single part for the manufacturing of switchgear cabinets or for the assembly of machines
- Accessory for igus® E-Chain systems®

**Option 3** | Tiewrap plate for E2 Energy tubes of series R

For the following igus® series
► See table

Part No.	Width		Number of teeth	For series
	[in.]	[mm]		
3050-Z	1.97	50	5	R68
3075-Z	2.95	75	7	R68
5850-Z	1.81	46	4	R58



Available from stock. **Delivery time*** from 24 hrs or same day!

*Delivery time refers the time until the product is shipped (after verifying technical feasibility)

Characteristics of igus® Chainfix tiewrap plates**Option 4: For fixed crossbars or option 5: For opening crossbars**

- Can be fitted to fixed and opening crossbars
- In case of many harnessed cables
- Strain relief on two levels
- If the KMA is too small for the profile rail
- Easy to assemble without any screws
- Accessory for igus® E-Chain systems®

**Option 4** | Tiewrap plate for fixed crossbars

For the following igus® series
► See table

Part No.	Width		Number of teeth	For series
	[in.]	[mm]		
2050-Z	2.36	60	6	E/Z200, 2400/2500, 2600/2700
3050-Z	1.97	50	5	3400/3500
3075-Z	2.91	74	7	3400/3500

Option 5 | Tiewrap plate for opening crossbars

For the following igus® series
► See table

Part No.	Width		Number of teeth	For series
	[in.]	[mm]		
2050-Z	2.36	60	6	E4/H4/R4-28, 220, 2650
3035-ZS	1.38	35	3	3400/3500
3050-ZS	1.97	50	5	3400/3500
3075-ZS	2.95	75	7	3400/3500
3850-ZS	1.89	48	5	E4/H4/R4-32, E4/H4/R4-42, 280/290/R770, 380/390/R780, 2828/2928/R7728, 3838/3938/R7838, 14240/14340, 15250/15350, E6-52, E6-62
4550-ZS	1.89	48	5	E4/H4/R4-56, E4/H4/R4-80, 400/410/R880, 4040/4140/R8840, 5050/5150/R9850, 14040/14140/18840, 14550/14650/19050, 15050/15150/19850, E6-80L, E6-80, 1640/1608
4575-ZS	2.91	74	7	E4/H4/R4-56, E4/H4/R4-80, 400/410/R880, 4040/4140/R8840, 5050/5150/R9850, 14040/14140/18840, 14550/14650/19050, 15050/15150/19850, E6-80L, E6-80, 1640/1608



Available from stock. **Delivery time*** from 24 hrs or same day!

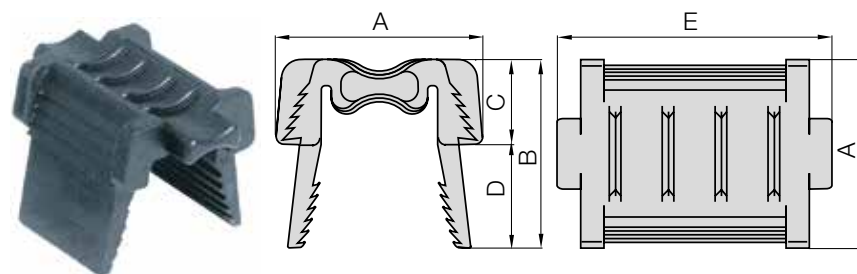
*Delivery time refers the time until the product is shipped (after verifying technical feasibility)

Characteristics of the igus® Chainfix clips**Option 1: Modular clip-on strain relief for profile rail**

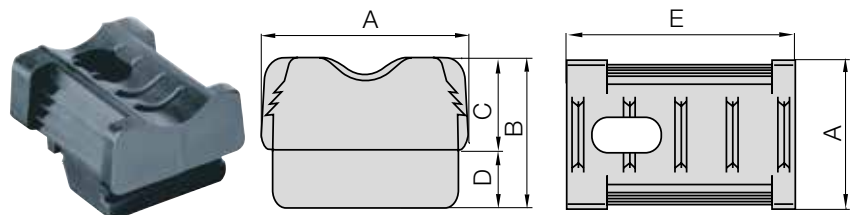
- Available for all igus® E-Chains® with profile rails
- Also suitable for assembly in the KMA mounting brackets
- Polymer, for cable diameters ranging from .16-.94 (4-24 mm)
- Quick assembly without any tools
- 2 to 3 layers on top of one another possible
- Each layer can be detached and changed later on

**Option 1 |** Clip-on strain relief for the profile rail**Clamp - Part No. CFC-XX-M**

Ø Cable	Part No.	Dim. A	Dim. B	Dim. C	Dim. D	Dim. E
[in.]	[mm]	[in.]	[mm]	[in.]	[mm]	[in.]
.16-.31	04-08 CFC-08-M	.57	14.5	.51	13	.22
.31-.47	08-12 CFC-12-M	.93	23.7	.94	24	.39
.47-.63	12-16 CFC-16-M	1.28	32.4	1.28	32.5	.54
.63-.79	16-20 CFC-20-M	1.70	43.2	1.54	39.1	.69
.79-.94	20-24 CFC-24-M	2.13	54	1.93	49	.87

**Bottom part - Part No. CFC-XX-C**

Ø Cable	Part No.	Dim. A	Dim. B	Dim. C	Dim. D	Dim. E
[in.]	[mm]	[in.]	[mm]	[in.]	[mm]	[in.]
.16-.31	04-08 CFC-08-C	.57	14.5	.49	12.5	.22
.31-.47	08-12 CFC-12-C	.93	23.8	.71	18	.39
.47-.63	12-16 CFC-16-C	1.28	32.4	.93	23.6	.54
.63-.79	16-20 CFC-20-C	1.70	43.2	.97	24.6	.69
.79-.94	20-24 CFC-24-C	2.13	54	1.14	29	.87



 Available from stock. **Delivery time*** from 24 hrs or same day!

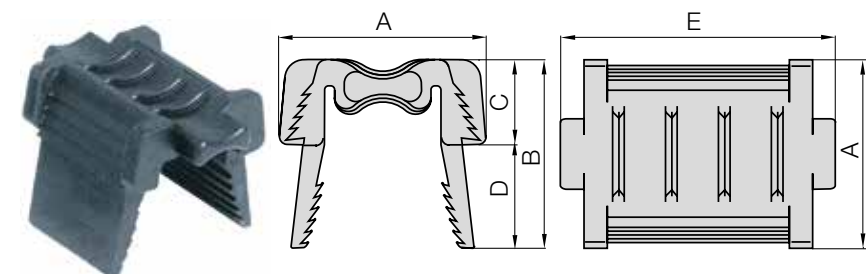
*Delivery time refers the time until the product is shipped (after verifying technical feasibility)

Characteristics of the igus® Chainfix clips**Option 2: Clip-on strain relief for opening crossbars**

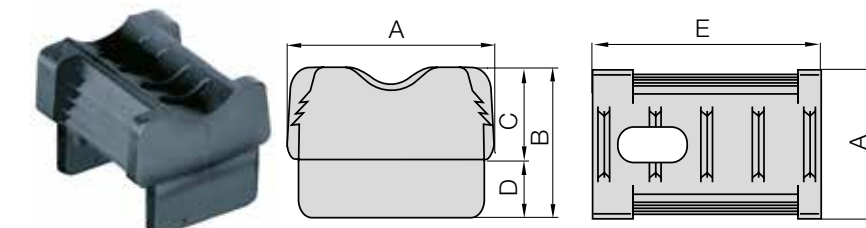
- Available for all igus® E-Chains® with opening crossbars Part No. 450-XX.
- Polymer, for cable diameters ranging from .31-.47 (8-12 mm)
- Quick assembly without any tools
- 2 to 3 layers on top of one another possible
- Each layer can be detached and changed later on

**Option 2 |** Clip-on strain relief for opening crossbars**Clamp - Part No. CFC-XX-M**

Ø Cable	Part No.	Dim. A	Dim. B	Dim. C	Dim. D	Dim. E
[in.]	[mm]	[in.]	[mm]	[in.]	[mm]	[in.]
.31-.47	08-12 CFC-12-M	.93	23.7	.94	24	0.39


**Bottom part - Part No. CFC-XX-B**

Ø Cable	Part No.	Dim. A	Dim. B	Dim. C	Dim. D	Dim. E
[in.]	[mm]	[in.]	[mm]	[in.]	[mm]	[in.]
.31-.47	08-12 CFC-12-B	.94	23.8	.83	21	.51



 Available from stock. **Delivery time*** from 24 hrs or same day!

*Delivery time refers the time until the product is shipped (after verifying technical feasibility)

 For the following igus® series

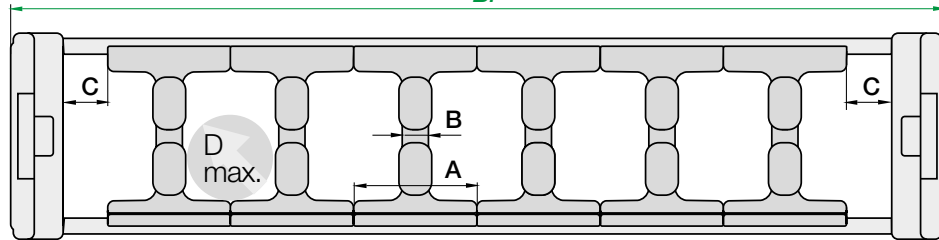
E4-1	● E4-56/H4-56/R4-56
	● E4-80/H4-80/R4-80
	● 1640
	● 840
E4/light	● 14040/14140
	● 14550/14650
	● 15050/15150
E4/00	● 400/410
	● 640
E4/4	● 4040/4140
	● 5050/5150
E6	● E6-80L
	● E6-80

Characteristics of igus® strain relief separators Separator with integrated strain relief teeth

- For use in the first or last E-Chain® link
- For restricted space conditions
- Accessory for igus® E-Chain systems®
- Easy to assemble without any screws
- The number of teeth depends on the selection of the cables (diameter, type) and the available space



Strain relief separator | With integrated teeth



For series	Part No. strain relief separator	Number of teeth	Dim. A [in.] [mm]	Dim. B [in.] [mm]	Dim. C [in.] [mm]	Dim. D [in.] [mm]
1400/1500	▶ 21-1-Z	2	.39 10	.16 4	- -	.24 6
2400/2500	▶ 2020-Z	2	.39 10	.16 4	- -	.24 6
2450/2480	▶ 2020-ZR	2	.39 10	.16 4	- -	.24 6
2600/2700	▶ 262-Z	3	.39 10	.16 4	- -	.24 6
3400/3500	▶ 301-Z	3	.70 18	.16 4	- -	.55 14
3450/3800	▶ 34501-Z	3	.55 14	.16 4	- -	.39 10
R157/R158	▶ 1585-01-Z	3	.87 22	.16 4	- -	.71 18
R167/R168	▶ 1685-01-Z	4	.87 22	.16 4	- -	.71 18
R48	▶ 481-ZR	2	.39 10	.14 3.5	.39 10	.26 6.5
E4-21	▶ T2103-Z	2	.31 8	.16 4	.039 1	.16 4
E4-28	▶ 28-Z	2	.39 10	.16 4	- -	.24 6
R4-28	▶ 28-ZT	2	.39 10	.16 4	.59 15	.24 6
T3-29	▶ E6-29-02-Z	2	.31 8	.16 4	.039 1	.16 4
E6-29/E61-29	▶ E6-29-02-Z	2	.31 8	.16 4	.039 1	.16 4
E6-35	▶ E6-35-02-Z	3	.31 8	.16 4	.039 1	.16 4
E6-40	▶ E6-40-02-Z	3	.51 13	.16 4	- -	.31 8

For the following igus® series

- E2/000**
 - 1400/1500
 - 2400/2500
 - 2450/2480
 - 2600/2700
 - 3400/3500
 - 3450/3480
- E2 e-tubes**
 - R157/R158
 - R167/R168
- E4-1**
 - E4-21
 - E4-28/R4-28
- T3**
 - T3-29
- E6**
 - E6-29
 - E6-35
 - E6-40
- E6-1**
 - E61-29



Strain relief separators are assembled either at the first or last E-Chain® link. For an intermediate strain relief they can alternatively be assembled in the E-Chain®



Available from stock. **Delivery time*** from 24 hrs or same day!

*Delivery time refers the time until the product is shipped (after verifying technical feasibility)



Strain relief separators | Product range overview

		1400/1500 E2/000 E-Chains® unassembled 21-1-Z assembled 21-1-Z-1			R157/R158 E2 e-tubes unassembled 1585-01-Z assembled 1586-01-Z
		2400/2500 E2/000 E-Chains® unassembled 2020-Z assembled 2120-Z			R167/R168 E2 e-tubes unassembled 1685-01-Z assembled 1686-01-Z
		2450/2480 E2/000 e-tubes unassembled 2020-ZR assembled 2120-ZR			R48 E2 e-tubes unassembled 481-ZR assembled 482-ZR
		2600/2700 E2/000 E-Chains® unassembled 262-Z assembled 263-Z			E4-21 E4-1 E-Chains® unassembled T2103-Z assembled T2113-Z
		3400/3500 E2/000 E-Chains® unassembled 301-Z assembled 311-Z			T3-29 T3 E-Chains® unassembled E6-29-02-Z assembled E6-29-12-Z
		3450/3480 E2/000 e-tubes unassembled 34501-Z assembled 34511-Z			E6-29/E61-29 E6/E6-1 E-Chains® unassembled E6-29-02-Z assembled E6-29-12-Z
		E4-28 E4-1 E-Chains® unassembled 28-Z assembled 28-Z-1			E6-35 E6 E-Chains® unassembled E6-35-02-Z assembled E6-35-12-Z
		R4-28 E4-1 e-tubes unassembled 28-ZT assembled 28-ZT-1			E6-40 E6 E-Chains® unassembled E6-40-02-Z assembled E6-40-12-Z




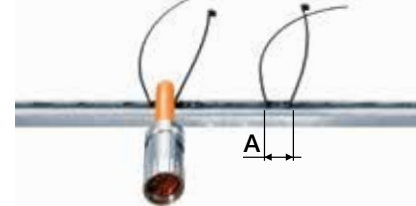
Characteristics of igus® Chainfix Nuggets**Option 1: Profile rail and option 2: top rail**

- Option 1: Universal cable fixation in profile rail
- Option 2: Clip onto a top rail
- Simple strain relief - harnessed cable tiewraps
- Very small space requirement
- Easy to assemble without any screws and tools
- Adjustable to every E-Chain® filling


**Option 1 | Chainfix nuggets for profile rail**

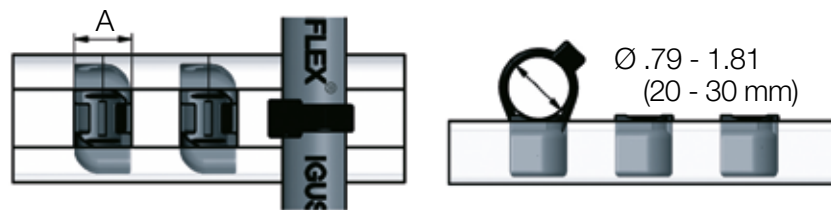
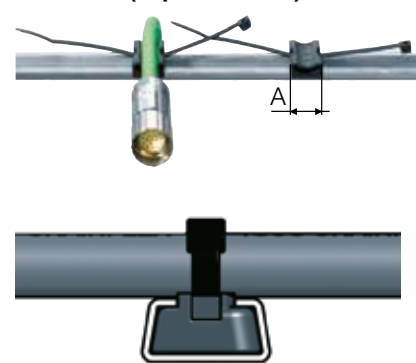
For C-profiles	Part No. nugget	Ø Cable		Dim. A	
		max. [in.]	max. [mm]	[in.]	[mm]
92-42.../92-42...E	CFN-20	.79	20	.43	10.8
92-52.../92-52...E	CFN-30-52	1.18	30	.65	16.4

 For all mounting brackets with C-profile connectivity!

**Option 2 | Chainfix nuggets for top-hat rail**

For top hat rail	Part No. nugget	Ø Cable		Dim. A	
		max. [in.]	max. [mm]	[in.]	[mm]
Top hat rail 35	CFN.20.N35	.79	20	.79	20.0

 For standard rails 35 (top-hat rails) !

**Characteristics of the special strain relief system for hoses igus® blocks**


- Modular, space-saving system
- No hose damage
- Combination of hoses and cables possible
- Hose diameters from .17 to .55 (4.3 to 14 mm)
- Easy to assemble without any screws and tools
- Adjustable to every E-Chain® filling

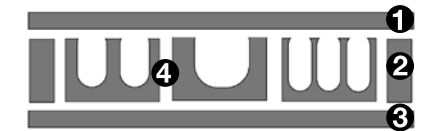
**Block | Strain relief for hoses**

Part No. block modules	Hose Ø		Number of hoses	Width	
	[in.]	[mm]		[in.]	[mm]
CFS 4.3	.17	4.3	4 - 12	1.08	27.5
CFS 6	.24	6	3 - 6	1.08	27.5
CFS 9	.35	9	2	1.08	27.5
CFS 55.9	.35	9	5	2.16	55.0
CFS 10	.39	10	2	1.08	27.5
CFS 12	.47	12	2	1.08	27.5
CFS 14	.55	14	1	1.08	27.5

Part No. base plate	Part No. cover plate	Width	
		[in.]	[mm]
CFS U75	CFS P75	2.95	75
CFS U102.5	CFS P102,5	4.04	102.5
CFS U130	CFS P130	5.12	130
CFS U185	CFS P185	7.28	185
CFS U212	CFS P212	8.34	212.5
CFS U240	CFS P240	9.45	240
CFS U295	CFS PD295	11.16	295

Part No. spacer	Height	
	[in.]	[mm]
CFS D 16	.63	16
CFS D 12	.47	12
CFS D295	.63	16

 Please contact us!



- 1 Cover plate
- 2 Spacers
- 3 Base plate
- 4 Grid-dimensions modules
W = 1.08 in. (27.5 mm),
H = .63 (16 mm)

The modules accommodate hoses from .17 to .55 (4.3 to 14 mm), 3 x .17 (3 x 4.3 mm) hoses can be fitted on top of each in module CFS 4-3 and 2 hoses can be fitted directly on top of each other in one notch using module CFS 6. The modules have a width of 1.08 (27.5 mm), are inserted into the base plate and then fastened in position with M4 countersunkhead screws. The exception is module CFS 55-9 which offers the capacity for 5 x .35 (5 x 9 mm) hoses with twice the width. The base plate and cover plate are available in widths ranging from 2.95 to 9.45 (75 to 240 mm). The height of the spacers and modules is .63 (16 mm). Several layers can be installed directly above one another.



Available from stock. **Delivery time*** from 24 hrs or same day!

*Delivery time refers the time until the product is shipped (after verifying technical feasibility)



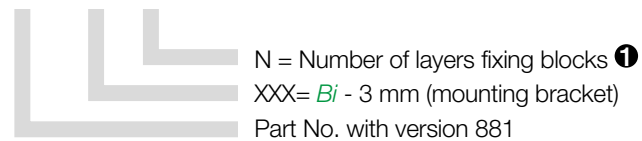
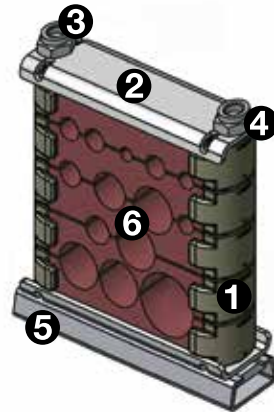
Delivery time upon request, in case of customer-specific fabrication!

Characteristics of the modular igus® CFB: Polymer strain relief connector system to be mounted onto the profile rail

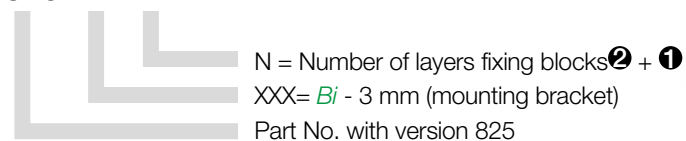
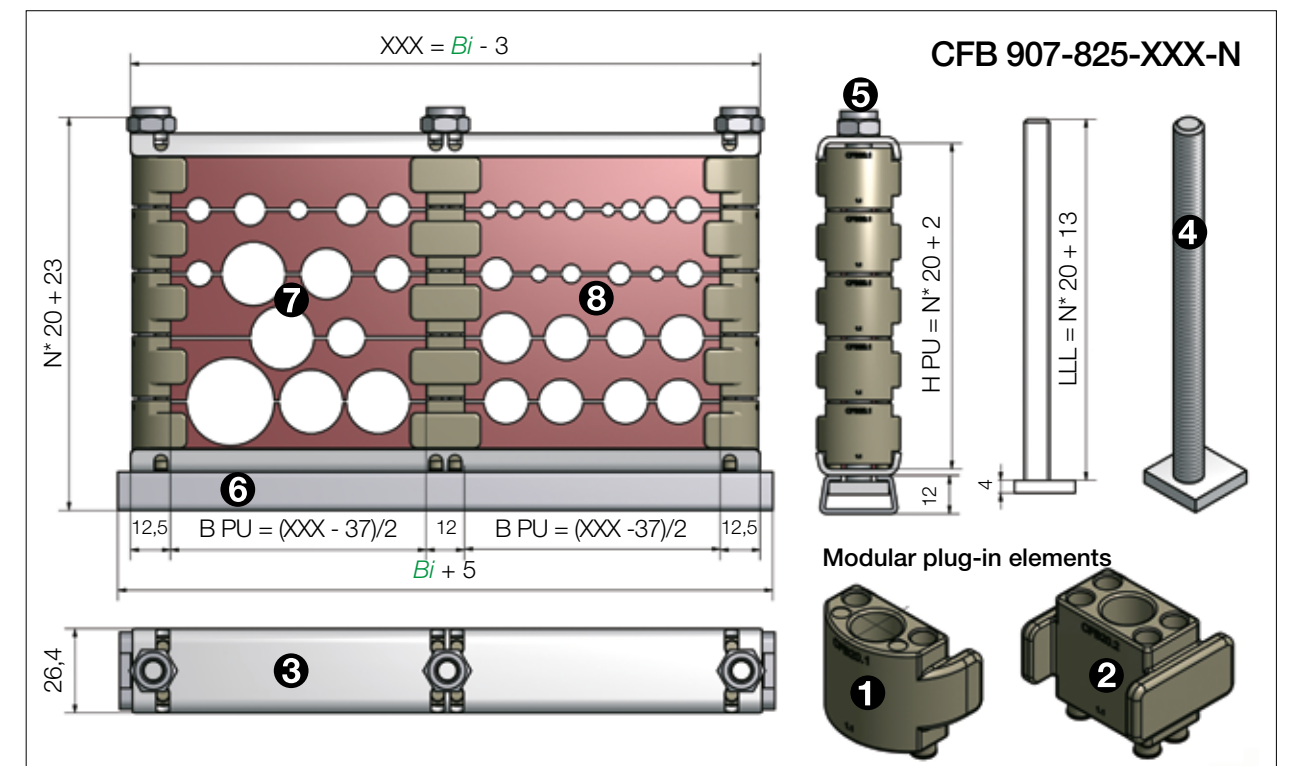
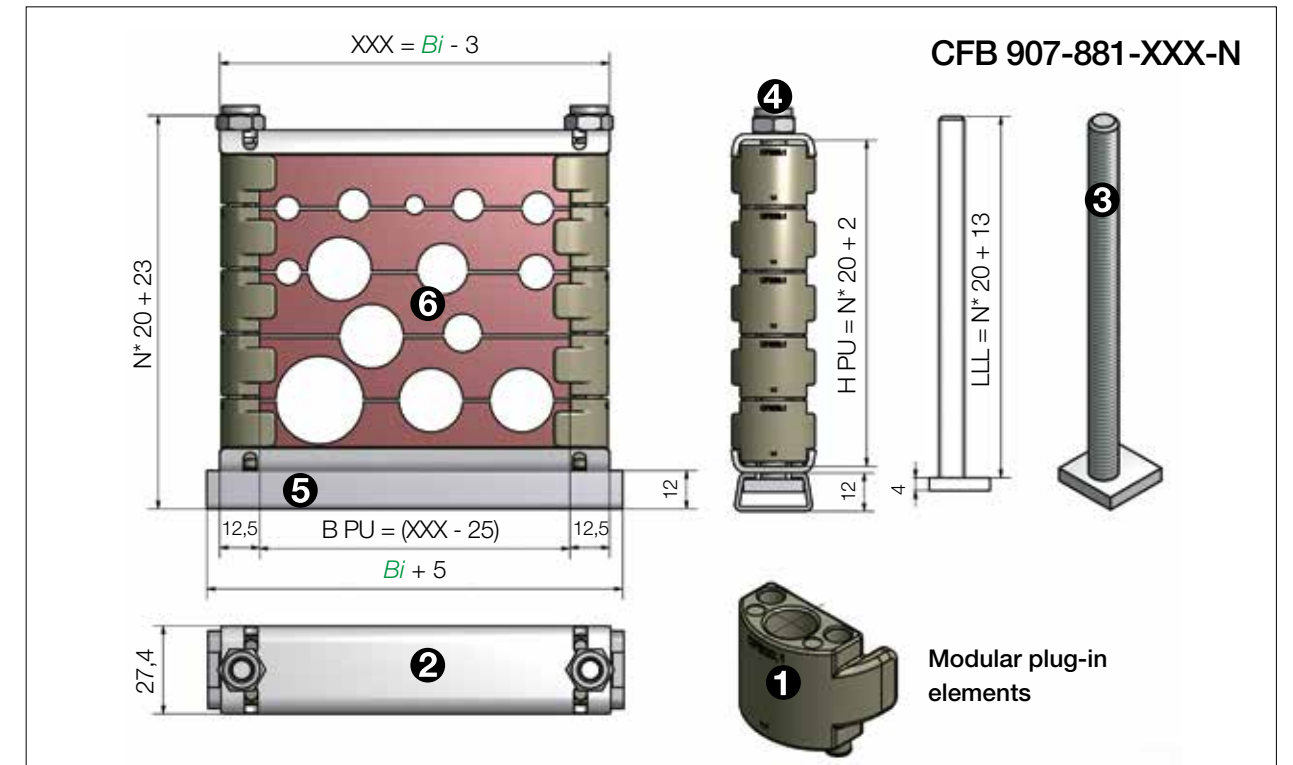
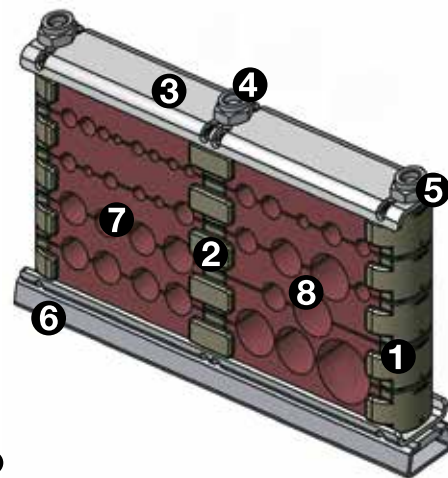
- Customized strain relief solutions can be offered
- 2 variations available
- Fast assembly by standard screw connection
- Can be mounted in the mounting bracket or in front of the E-Chain®
- Customized production from 1 piece
- Low priced and effective

**CFB 907-881 | Polymer strain relief connector system**

Parts list	Part No.	Number
❶ Outer fixing block	CFB20-1	N x 2
❷ Clamping bar	907-881-1-XXX	2
❸ Threaded bolt with plate	907-825-2-LLL	2
❹ Hexagon nut M8	MAT 0040012	2
❺ Profile rail (part of KMA)	92-42-KMA	1
❻ Strain relief block	customized	1

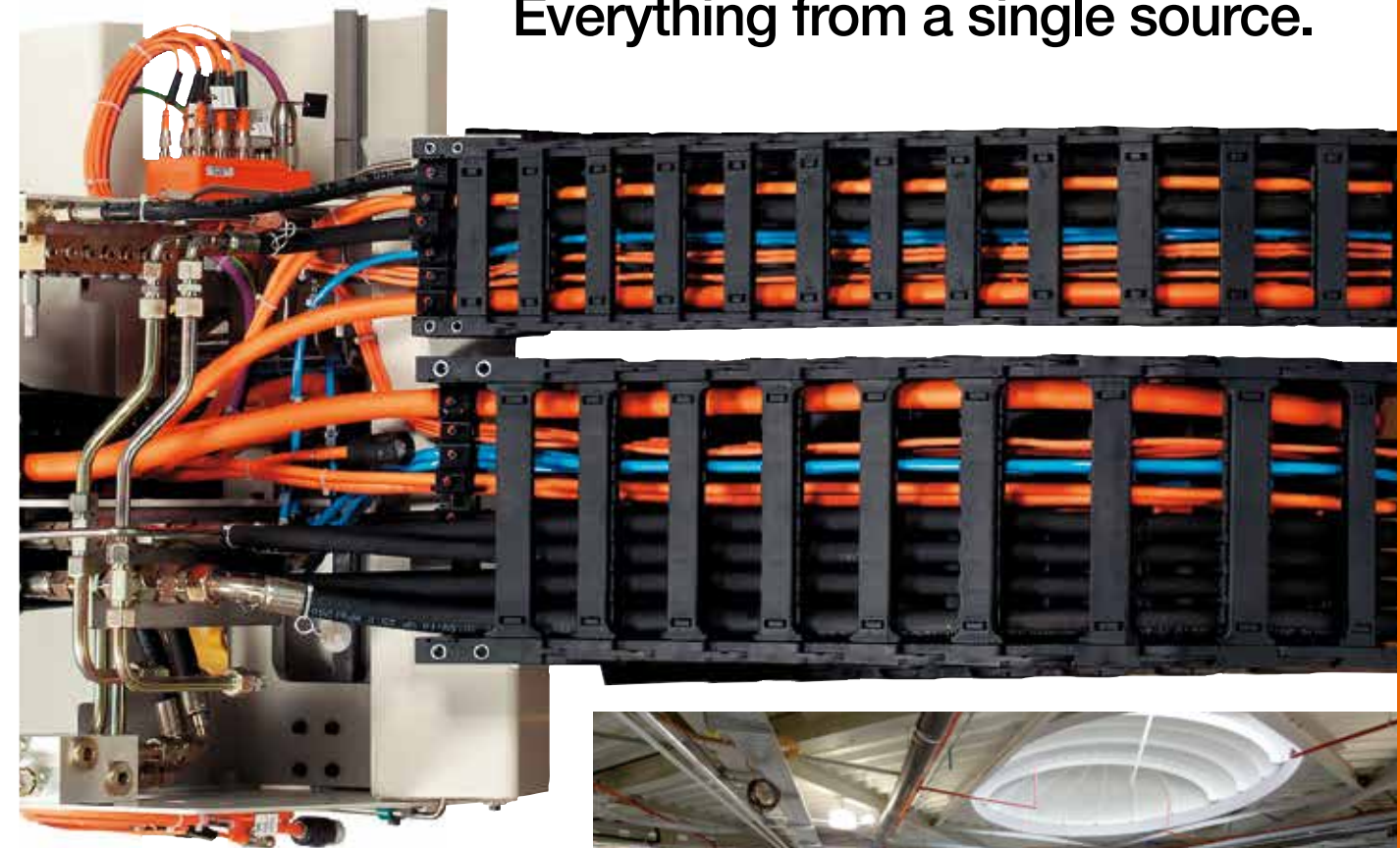
Order key
907-881-XXX-N

Please contact us!
Individual designing
**CFB 907.825 | Polymer strain relief connector system**

Parts list	Part No.	Number
❶ Outer fixing block	CFB20-1	N x 2
❷ Inner fixing block	CFB20-2	N
❸ Clamping bar	907-825-1-XXX	2
❹ Threaded bolt with plate	907-825-2-LLL	3
❺ Hexagon nut M8	MAT 0040012	3
❻ Profile rail (part of KMA)	92-42-KMA	1
❼ Strain relief block	customized	1
❽ Strain relief block	customized	1

Order key
907-825-XXX-N

Please contact us!
Individual designing

Delivery time upon request, in case of customer-specific fabrication!

igus[®] ReadyChain[®] & ReadyCable[®]

Ready-to-install energy supply systems.
Cables with connectors.
Minimize process costs.
Everything from a single source.



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-related production

ReadyChains® - Increase your capacities and cash flow quickly with igus®

- Lower the overhead costs
- Cut your throughput times from days to hours
- Respond flexibly to order variations
- Utilize igus® manufacturing capacities and our know-how in cable assembly



From one off to mass production

Reduce the number of suppliers and orders by 75%

- One order, one invoice, one delivery
- A partner for minimal machine downtimes
- All ReadyChain® components are subject to an extensive quality control and function testing

Industrial harnessed energychain® modules directly from the manufacturer ... you determine quantity, travel distance and level of the harnessing ...

3 Benefits: ReadyChain® basic



- 1 ONE supplier – combine suppliers
- 2 Reduce assembly time
- 3 Reduce failures

Reduction of assembly time
Reduction of logistics costs
Optimisation of procurement process



Further information, videos, configurators and product finder
► www.igus.eu/RCbasic

6 Benefits: ReadyChain® standard



- 4 No electrical termination needed
- 5 100% electrically tested
- 6 No cable surplus

Reduction of assembly time
Reduction of logistics costs
Optimisation of procurement process



Further information, videos, configurators and product finder
► www.igus.eu/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 costs
Optimisation of procurement process



Further information, videos, configurators and product finder
► www.igus.eu/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 costs
Optimisation of procurement process



Further information, videos, configurators and product finder
► www.igus.eu/RCpremium

600 orders/week, more than 32,300 ft² of floorspace, "chain-cable guarantee" since 1989... 3 shifts, 13 project engineers, 160 employees dedicated only to harnessing



In the igus® ReadyChain® factory, we assemble customized e-chainsystems®. All under one roof. All from one source.



Up-to-date production processes, custom-build or serial production



Customised cable assembling



12 ReadyChain® factories worldwide



Full Service: from system acceptance to assembly

1 Everything from a single source

The ReadyChain® includes pre-harnessed, customised energy chain systems®. The "plug in and ready" solutions are configured, manufactured and delivered according to individual customer specifications. The use of the mounting 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 situation on site. Changes in mass production can be undertaken easily. By the latching mechanism, additional components can also be easily attached to the rack subsequently.

3 Sustainable use

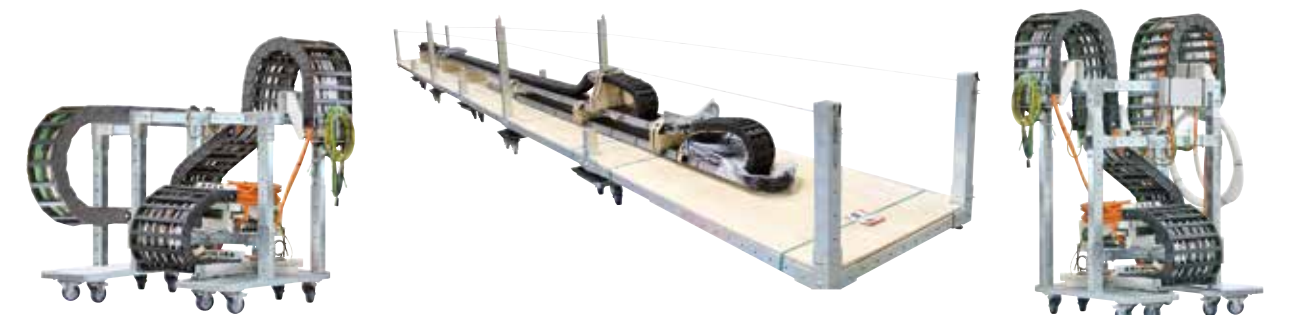
The components of the ReadyChain® rack are galvanized and thus designed for a long life. Each rack is constructed within a few hours. The individual elements can be reused at any time removing the need to dispose of custom made parts - as with conventional welded transport racks.

4 Precise fitting "Plug & Play"

All interfaces and attachments are designed in such a way that the installation of the e-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.



Save 80% at prototyping. Assembly transport rack for ready-to-install energy supply systems.



igus® Connectors



Round plug connector kit

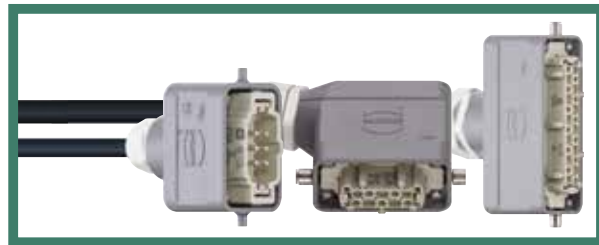


D-sub in the service kit



Tools and accessories

igus® ReadyCable®



Control cables with industrial connectors



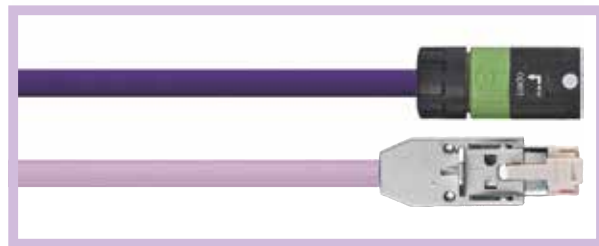
Harnessed hose packages and cables for robots



Drive technology: More than 4,000 cables



Catalog standards: Video-/vision-/bus technology



Catalog standards: Network/Ethernet/FOC/Field bus



Catalog standards: Initiator cables up to 4 x d



1

ReadyChain® service

- We visit you
- Define interfaces
- Logistics planning
- Cycle integration
- Time schedule



System acceptance on your machine



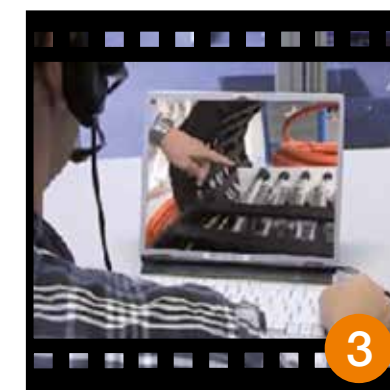
2

ReadyChain® service

- Component selection
- Interface optimizations
- Documentation
- Integrated project management
- Cost optimization



Project planning



3

ReadyChain® Skype service*

- Initial acceptance from your work place
- Build your prototype with an igus® project engineer, live in your meeting
- Your requests for changes explained with a model ... or visit us for acceptance in production

* only available in Germany



Prototype including transport rack



4

ReadyChain® installation

- System installation by igus® specialists
- igus® supervision service for own installation
- Transparent, fixed price



Installation on site

Capacity for 600,000 assembled cables a year... more than 18,000 test programs ... 1,800 test adapters



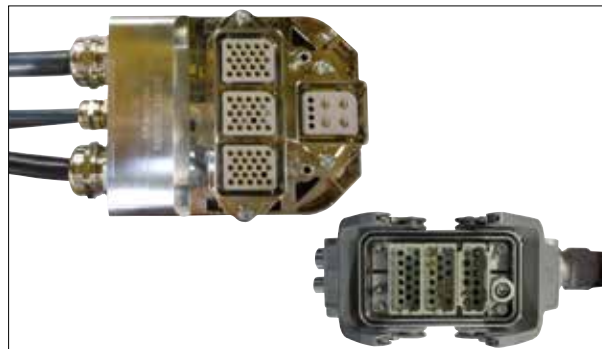
Process reliability ... Crimp force monitored ... automated ... time-optimized ...



Computer-based high-voltage testing and inspection of all assembled cables



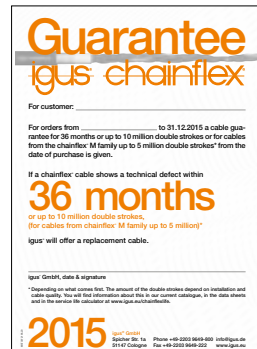
Modern machinery - automatic stripper-crimper



Special cable assemblies



Worldwide system guarantee



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 ...

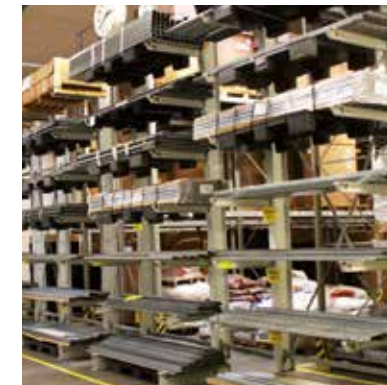


3 million meter of cables on stock

... harnessing



3,500 connector components



Hundreds of meters of guide troughs



29,600 ft² test lab - more than 8,000 tests every year



Quickly within reach



Numerous strain relief solutions

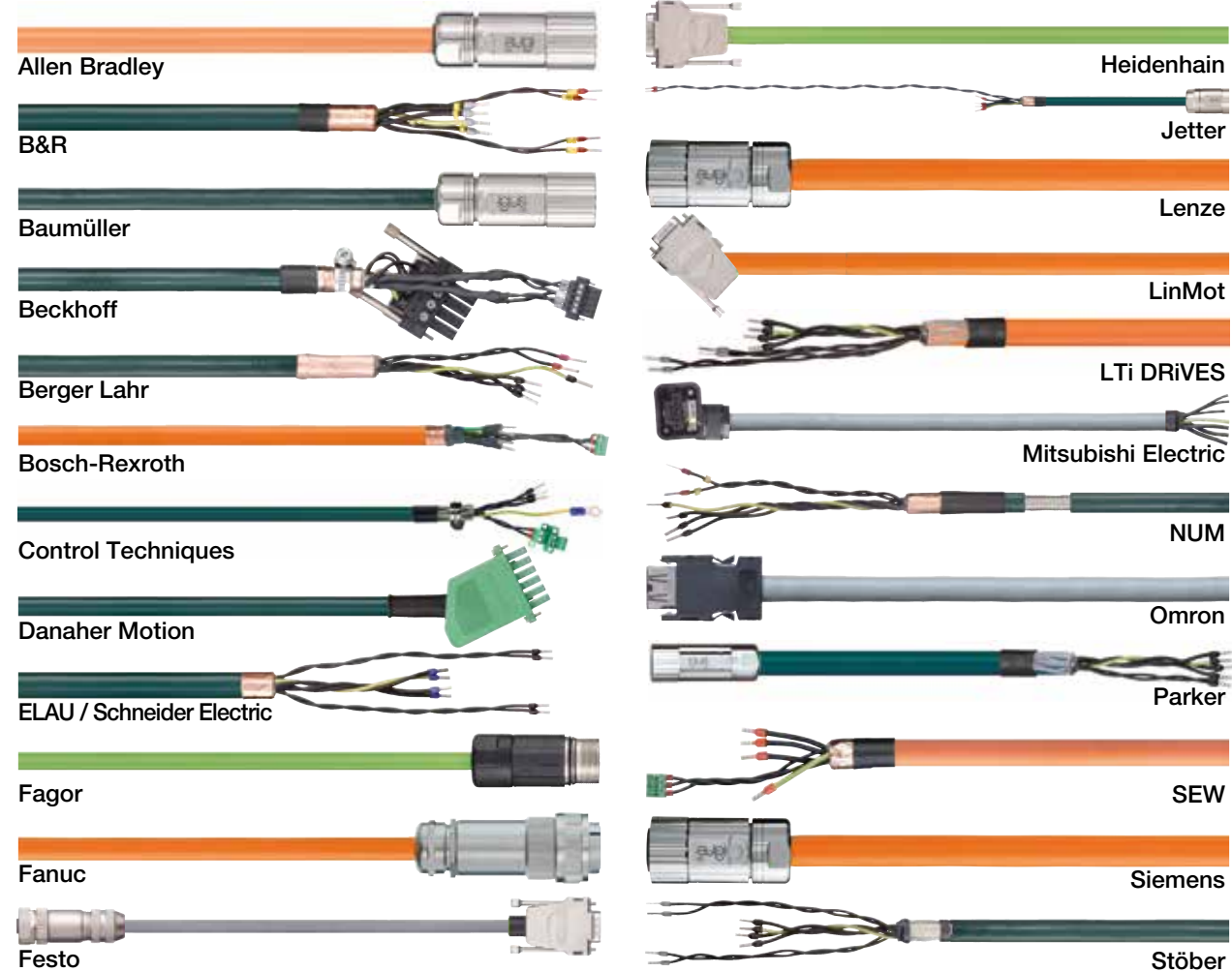


More than 8,000 cables per week



Just in time supply

ReadyCable® - harnessed cables in 24-48h



- igus® offers more than 4,000 harnessed cables online
- Servo, Motor and Signal/Encoder cables according to 24 manufacturers standards
- No cutting costs, no surcharges for small quantities and packaging
- Cable length accurate to the inch per customer spec
- Smallest bending radius from 7.5 x d
- Reduce storage costs and increase cashflow
- Available in 24h



QuickPin 2.0
Connector-cable configurator
integrated directly in EPLAN P8.
www.igus.com/quickpin



ReadyCable® M - Injection-molded cables



As individual as your project - injection-molded connectors from igus®

- Various sizes: M8, M12, M23, M40, USB 3.0 etc.
- Sizes M23+M40 with SpeedTec® quickrelease fastener
- Angled versions
- According to UL/CSA standard
- Individual customer logo possible
- ESD material for ATEX-areas
- Tamper-proof
- Tight according to IP66/67 already before the molding process
- 360° shielded
- Space and weight saving



Professionally injection molded - molding M23



Harnessed to your specifications



100% tested: test field



100% tested: digital electrical test

Designing

Technical data

The tricks and features of the chainflex® design

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Tested, tested, tested

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chainflex® ...

The ingenious features of...

From a customer's point of view, a flexible energy supply system only needs to function properly. However, this requires all components, including cables, to be incredibly reliable. In the 1980's, constant and tremendous increases in loads in automation technology began resulting in frequent cable failure in otherwise functional energy supply systems. In extreme cases, cable corkscrewing and core ruptures had brought entire production lines to a standstill, resulting in lost profits coupled with high repair/replacement costs.

To find a solution to this problematic and expensive customer issue, igus® began the development of complete energy supply systems, including E-Chain® cable carriers and chainflex® continuous-flex cables offered from a single source. Based on more than 25 years of experience and testing, certain design principles for chainflex® cables have been developed to prevent maintenance and downtime in factories around the world

How can corkscrews be prevented?

"Corkscrewing" of a cable refers to the permanent deformation of moving cables caused by excessive stress. In almost all cases, a corkscrewed cable's core will rupture as well. An important factor in preventing corkscrews, in addition to the guidance of a cable in the proper Energy Chain System®, is the construction of the cable itself, especially in terms of stranding in bundles as opposed to layers ▶ see picture 4.

Properties of cable constructed in layers

Cabling conductors in layers is significantly easier and less expensive to produce, and are therefore available on the market as so-called "chain-suitable," low-cost cables. However tempting this may seem, these cheap cables can quickly turn expensive when a corkscrew immobilizes the system and needs emergency repairs. A visual reference of a layered, chain-suitable cable is featured in ▶ picture 1.

Cables made with layered conductors are combined in progressive layers with various pitch lengths around the center element, then a jacket material is extruded to form a tube. Shielded cables add protection in the form of fleece or foil shielding around the cores. In normal continuous-flex operation, the movement of the conductors in the inner radius is compressed, while simultaneously being stretched in the outer radius. Initially, the elasticity of the materials allows this to work quite well, but material fatigue will, over time, cause permanent deformations. At the same time, conductors are able to move from their specified paths within the jacket, creating their own compressing and stretching zones, creating the corkscrew, followed quickly by core ruptures.

... works or your money back!

...the chainflex® cable design

Properties of cables made with bundles

Cables made with bundled conductors eliminate the problems of layered cables due to the internal groups of conductors. In the bundling process, conductors are cabled in groups with a special pitch length first, then the resulting groups are cabled into bundles. For large cross-sections, this is done around a strain-relief center element. ▶ see picture 2.

The overall cable construction allows the inner and outer radius of the cable to bend at identical intervals. Pulling and compressing forces balance around the high-tensile center element, giving necessary inner stability. This keeps the stranding of the cable stable, even under maximum bending components. ▶ see picture 3.

Picture 4: Shielded „chain-suitable“ control cable after only 400,000 cycles with a bending factor of 10 x d



EMC problems and shield breakage

In principle, a cable's shields must fulfill two tasks: protecting the cables from external influences, and shielding interferences before transmitting them to outside the cable. Both these tasks are equally important, as faulty signals can cause considerable and consequential damage within and outside of the cable system. As incorrect shielding cannot be detected from the outside, troubleshooting EMC and other problems due to a faulty shield can be extremely difficult.

Problems with a cable's shield can arise if the cable shield is not designed specifically for continuous-bending stresses. Although it is very simple to shield a fixed cable, dynamic applications prove much more difficult.

In the chain suitable cables referred to earlier in this section, the stranding bond of an intermediate layer is wrapped with foils or fleeces. This stranding bond is supposed to ensure separation between the conductors and the braided shield. While this is sufficient for fixed or static cables, it is often not enough for moving cables, as the foils/fleeces do not create a bond between the stranding, allowing the shield and jacket to fall apart under stress. Consequently, the metallic shield can then rub on the conductor insulation causing short circuiting.

Dictionary of cable defects

Loss of continuity

The copper conductors can break or become severed causing a loss of continuity when insulated conductors are twisted with incorrect pitch length/direction. The cable core cannot absorb the mechanical load caused by the cable's flexing, transferring the force to the copper conductors and causing them to break under the increased tensile load.

Insulation damage

Insulation damage occurs when the insulation integrity of a cable's conductors are compromised. This is caused by material fatigue under constant bending stress, abrasion within the cable structure and/or conductor strand breakage, which in turn perforates the insulation.

Corkscrewing

This failure type is named for its easily recognizable mechanical deformation of the entire cable. The corkscrew, sometimes called pigtail, effect is caused when the torsional forces incurred during the cabling process are allowed to release during continuous-flexing operation. These forces are released because the cable configuration, pitch length and pitch direction are incorrect. Cables constructed using the layering process are typically more susceptible to corkscrewing

Jacket abrasion

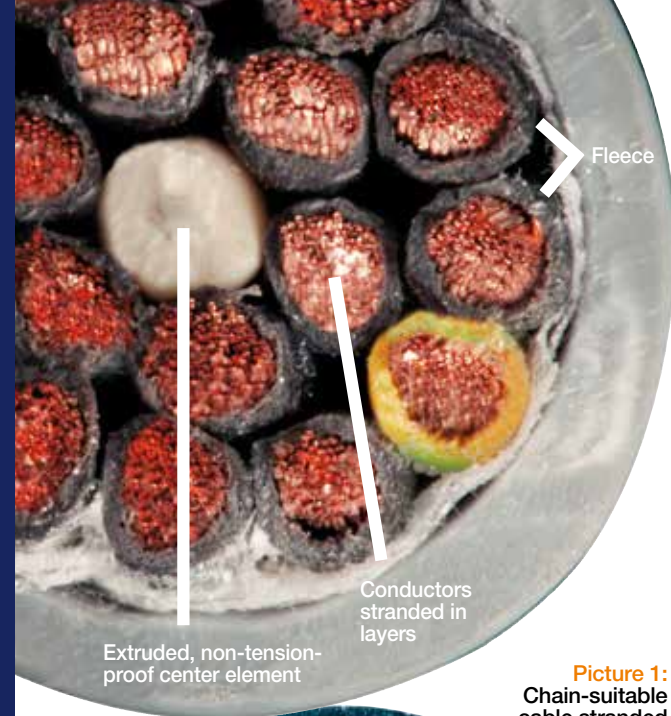
When the outer jacket of a cable wears through to the underlying layers of shielding or conductors, jacket abrasion occurs. This mechanical failure is common when soft jacket materials or a thin jacket extrusion is used.

Jacket swelling/cracking

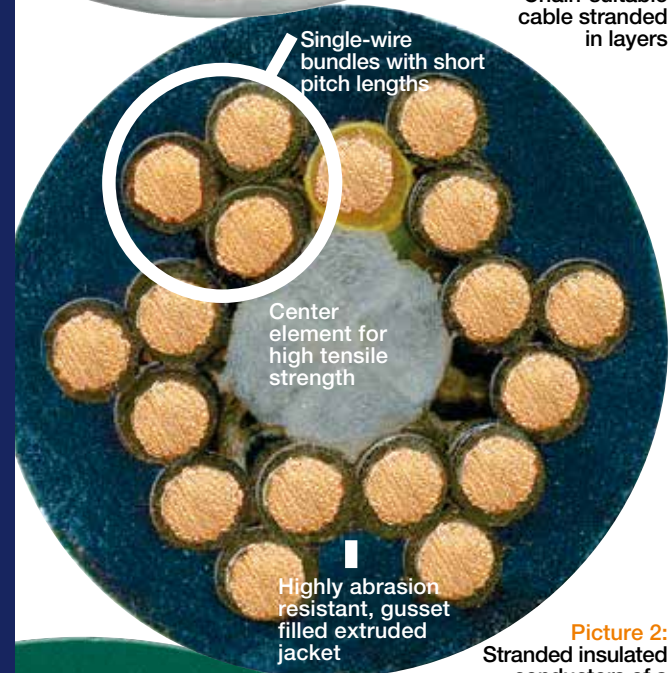
A cable's outer jacket usually swells because of exposure to oil or chemicals the cable was not designed to withstand. Jacket cracking occurs when the jacket breaks so that the shield can be seen, and is an effect of excessively high/low temperatures

Shielding losses/EMC problems

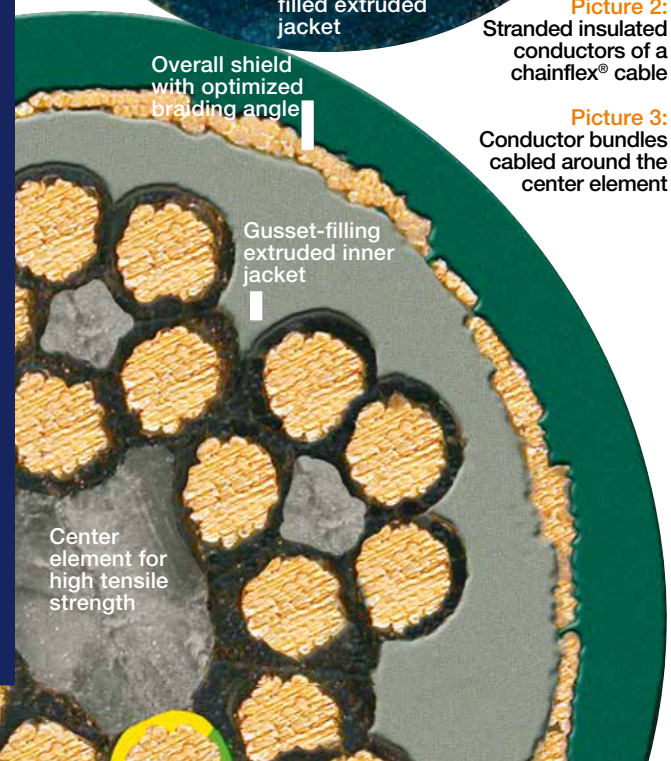
Increased electromagnetic interfaces (EMI) occurs when the shield designed to protect the cable signals from electromagnetic fields break and abrade due to continuous flexing.



Picture 1: Chain-suitable cable stranded in layers



Picture 2: Stranded insulated conductors of a chainflex® cable



Picture 3: Conductor bundles cabled around the center element

chainflex® ...

The ingenious features of...

As the production of a cable's shield is very time consuming and cost-intensive, open braid shields or simple wire wrappings are sometime used. However, these alternatives to the braided shield have significant disadvantages. For one, open shields only possess a limited shielding effect when used in motion, and additional movement can reduce their efficacy even further. The shielding of a cable is an important design point, but is not mentioned in some catalogs. By offering approximately 90% optical coverage of their cables, igus® eliminates these weak points by means of an optimized internal cable structure. In virtually all shielded chainflex® cables, a gusset-filled inner jacket over the cable core is used to fulfill two tasks:

- To hold the cable core together and guide individual conductors.
- To serve as a firm, round base structure for a very tight-fitting shield.

Prevent shield wire breakage

During the production of the shield, many things can be done correctly, or incorrectly, including using the correct braiding angle. In many chain-suitable cables, a tensile load of the shield wires along the outer radius of the cable must be taken into account. If an unfavorable braiding angle is added, the tensile load can increase even further causing shield wire breakage. This breakage can result in reduced shielding properties or short circuits if the sharp broken wires penetrate the protective fleeces/foils into the conductors.

Tip: If after the jacket has been stripped the shield can easily be pushed back over the insulation, the shield is generally unsuitable for use in flexible energy supply systems. igus® chainflex® cables use a direct approach to solve this problem of loose and ineffective shielding:

- Use braid angles determined in long-term testing to efficiently balance tensile forces
- Use a stable inner jacket to keep conductors in place.

Jacket abrasion/breakage

While defects of a cable's inner structure is not detectable from the outside, jacket problems are immediately visible. A cable's jacket is the first line of protection for the complicated inner structure, therefore, broken, worn, and swollen jackets should be considered a serious quality defect. To prevent these problems, igus® customers can select from 7 jacket material options to best suit the application at hand.

Jacket breakage at (36x0.14²)
after only 900,000 cycles with
a bending factor of 7.8 x d

... works or your money back!

...the chainflex® cable design

Gusset-filled extruded jacket

In the case of standard chain-suitable cables, the cable jackets are usually extruded as a tube, which does not support the stranded conductors during constant bending, allowing the cable core to fall apart over time. To avoid this, igus® designs its chainflex® cables with an extruded jacket.

With an extruded jacket design, the jacket material is injected between the insulated conductors to ensure the cable core cannot come apart. This method of production creates intermediate spaces between conductors, which are then filled with the extruded material, creating a channel-like guidance system which allows the conductors to carry out a defined longitudinal movement.

7 basic rules for a good cable

1. Strain-relieving center element

The center core should be filled with a high-quality, high tensile strength center element to protect conductors from falling into the center of the cable.

2. Conductor structure

The copper stranding in chainflex® continuous-flex cables is chosen in accordance with tested and proven designs. The test results from the igus® lab indicate that a medium to fine conductor strand diameter is preferable. Many competitive cable manufacturers will employ an extra-fine conductor strand, which has the tendency to kink when subjected to a high number of cycles. Using findings from long-term cable testing, igus® uses a combination of conductor strand diameter, pitch-length, and pitch direction to achieve the best service life and performance, even in the most demanding applications.

3. Conductor insulation

Insulation materials within the cable must be resistant to adhering to one another. The insulation must also support the stranded individual wires of the conductor. Only the highest quality high-pressure extruded PVC or TPE materials should be used.

4. Cable core

Individual conductors are bundled into groups, which are cabled together in a single layer surrounding the cable core. This design enables pulling and compressing forces of the bending motion to balance and cancel out torsional forces. Special attention is given to pitch length and direction. The cable's

inner jacket will also help to maintain the integrity of the cable core and provide a continuous surface for the shield.

5. Inner jacket

A pressure extruded inner jacket should be used for cables subjected to continuous-flexing, as opposed to inexpensive fleece wrap or filler. This extruded inner jacket both ensures that the insulated conductors are efficiently guided, as well as maintaining the integrity of the cable core and providing a continuous surface for the overall shield.

6. Shield design

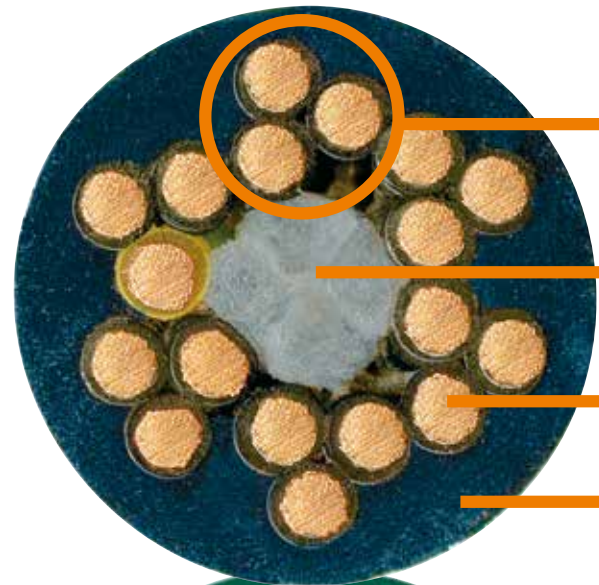
A high-quality braided shield provides electromagnetic interference (EMI) protection for the cable. An optimized braid angle prevents the shield strands from breaking over the linear axis and increases torsional stability. The shield has an optical coverage of approximately 90%, providing maximum shield effectiveness.

7. Outer jacket

The outer jacket material must be resistant to UV radiation, abrasion, oils, and chemicals, as well as being cost-effective. However, the outer jacket of a cable for dynamic applications must be resistant to abrasion, and remain flexible while providing support. For best wear rates and service life, the outer jacket should be extruded under pressure.

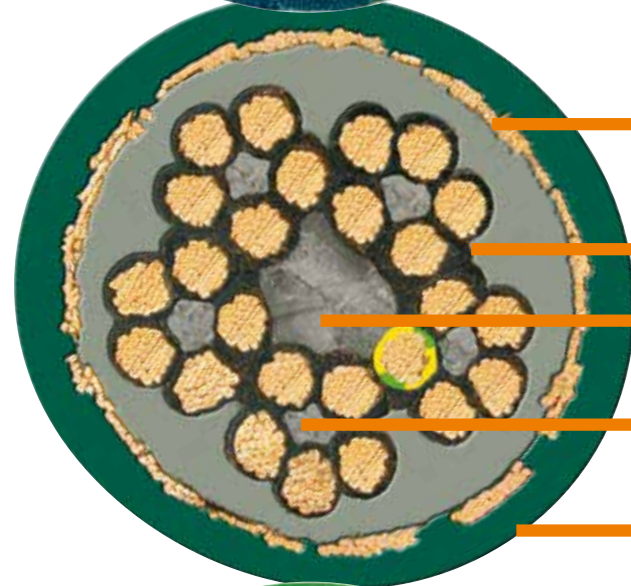
Sectional views through the i

Detailed structure of igus® control, data, servo and motor cables



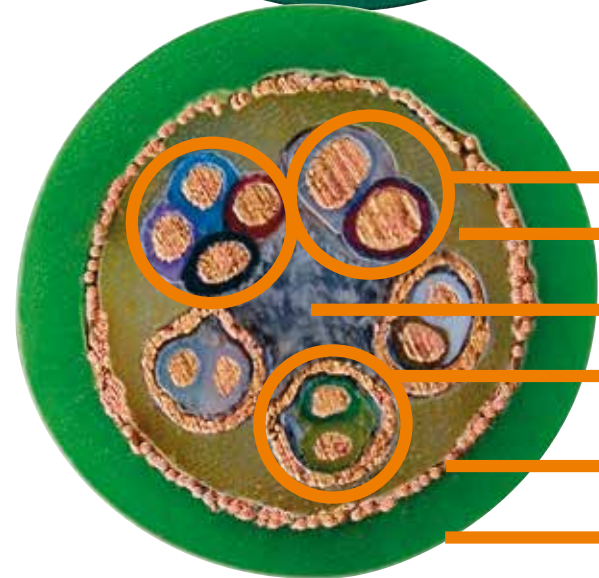
chainflex® control cable, unshielded

- Individual bundles with optimized pitch length and pitch direction
- Center element for high tensile strength
- Single-wire diameter optimized for Energy Chains®
- Highly abrasion-resistant, gusset-filled extruded jacket



chainflex® control cable, shielded

- Overall shield with optimized braiding angle (covering approx. 90% optical)
- Gusset-filled extruded inner jacket supports stranding
- Center element for high tensile strengths
- Center element for high tensile strengths in individual bundles
- Tension-proof centre element in individual bundles



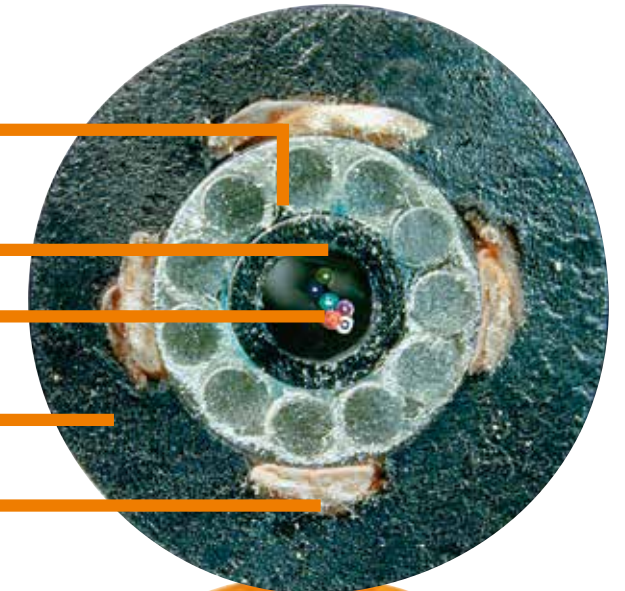
chainflex® data/sensor cable, shielded

- Stranded elements with optimized pitch length and pitch direction
- Gusset-filled extruded inner jacket supports stranding
- Center element for high tensile strength
- Pair braid shield
- Overall shield with optimized braiding angle (covering approx. 70% linear, approx. 90% optical)
- Pressure extruded jacket

igus® cable types

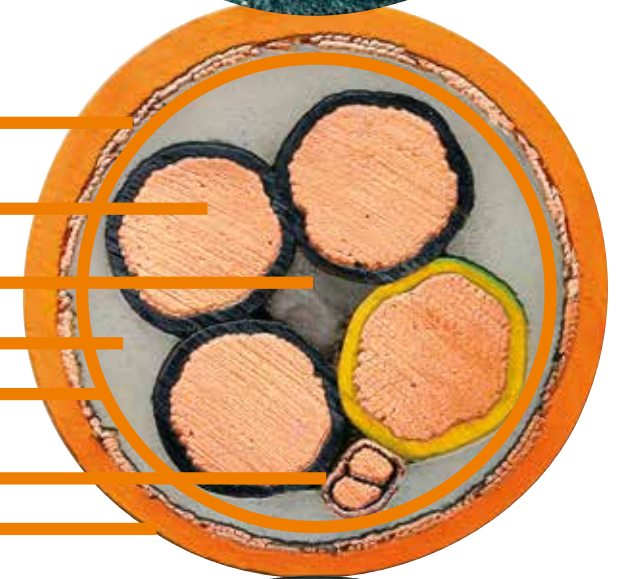
chainflex® FOC gradient fiber cable

- Supporting braid made of glass-yarn-stranded GRP rods
- Gel-filled fiber sheath
- FOC fibers
- Highly abrasion-resistant TPE jacket
- Integrated torsion protection



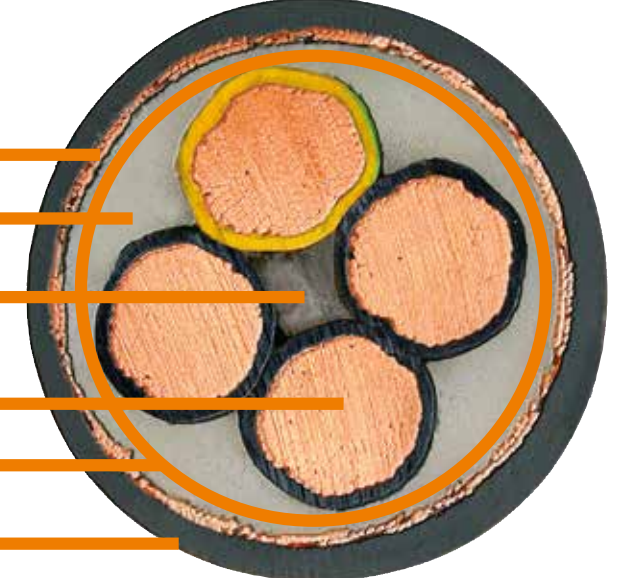
chainflex® servo cable, shielded

- Overall shield with optimized braiding angle (covering approx. 90% optical)
- Optimized single-wire diameter
- Center element for high tensile strength
- Gusset-filled extruded inner jacket
- Stranding with optimized pitch length and pitch direction
- Pair braid shield over optimized stranded core pair
- Highly abrasion-resistant pressure extruded jacket



chainflex® motor cable, shielded

- Overall shield with optimized braiding angle (covering approx. 90% optical)
- Gusset-filled extruded inner jacket
- Center element for high tensile strength
- Optimized single-wire diameter
- Stranding with optimized pitch length and pitch direction
- Highly abrasion-resistant pressure extruded jacket



Example: Test 4876

Tested at -40°F cold

Bending tests in cold conditions in the E-Chain® with amazing results.

25 years of tests in the igus® in-house chainflex® test lab have clearly shown that internationally valid standards for the testing of cables are quite useful, but do not meet the special requirements for the continuous movement in e-chains®. Thus we also have the standard ratings for "Mechanical tests - Low temperature bending tests for insulating sheaths and jackets" according to IEC 60811-504.

According to this internationally recognized standard, cables, according to your outer diameter, are wound around a mandrel and cooled down for a certain time to the temperature to be tested.

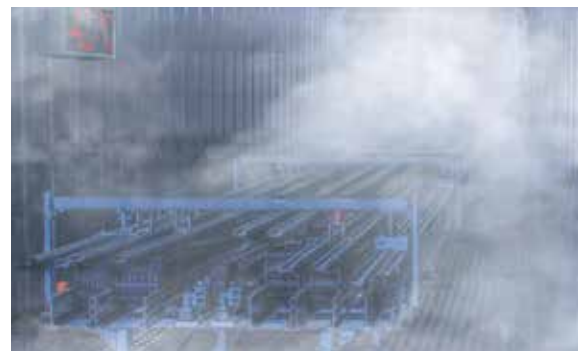
After the removal, a visual inspection is carried out. For the material to be tested, the test is deemed to have been passed if the material (in this case outer jacket) does not show damage, e.g. cracks.

Based on this standard, all cables for the movement are tested in this way and the limit temperature is specified in catalogs as the lowest temperature for the 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 the e-chain® 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 are moved in continuous motion in the igus® 40-foot cooling container in an e-chain® at -40°F with a bending factor of 6.5 x d on a travel of 16.4 ft (5 m).



Media and cold tests of chainflex® cables and E-Chains® in the 40-foot climatic container

The results of this experiment are extraordinary and representative:

Cables, which are available on the market as cold-flexible up to -40°F with a PUR outer jacket and are marketed professing a service life of 10 million cycles in the catalogues, fail in a real test in an E-Chain® at -40°F with a massive jacket break already after less than 41,000 strokes!



Jacket damage already after 41,000 strokes ...

The test of parallel running CF9-15-18, however, was discontinued after more than 520,000 double strokes since no alteration could be detected at all.

On the basis of this and many other test series, igus® is the only renowned supplier on the market that is able to list three different temperature ranges in the catalogs:

For the fixed installation, the flexible movement according to DIN EN 60811-504, as well as for the continuously moving application in the e-chain®.

A test result from the igus® database	
Test no.	4876
Bend factor in E-Chain®	6.5 x d
Test temperature	-40°F
Result PUR jacket	Break after 41,000 strokes
Result chainflex® TPE jacket	520,000 strokes without any damage

Details of the test online: www.chainflex.com/test4876

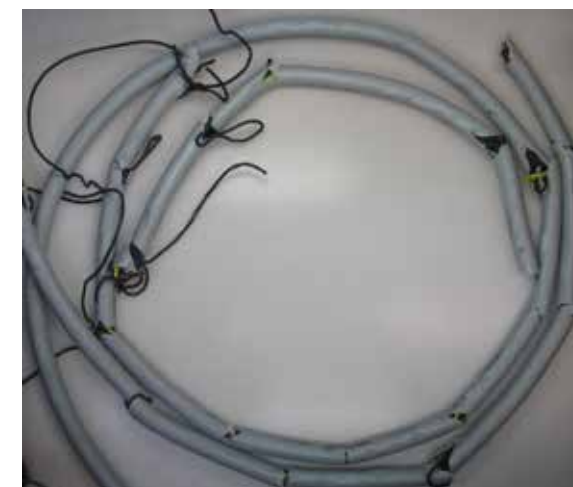
Calculate service life online: www.igus.com/chainflexlife



40-foot climatic container for cable tests in continuous motion at -40°F



520,000 strokes without any damage, which the CF9-15-18 managed in this test



Result PUR jacket: Break already after 41,000 strokes



Result chainflex® TPE jacket: Cable after the test with 520,000 strokes

Example: Test 4866

4 years in continuous test chainflex® Profinet

Bending tests in E-Chain® with Chainflex Profinet bus cable and over 29 million double strokes.

Due to its extensive equipment, the igus® laboratory with a floor area of 29,600 ft² offers the necessary environment to carry out continuous bending tests even over many years under real conditions. Because, only these real long-term tests lead to the necessary findings about the behaviour of cable constructions and materials.

These long-term studies are used to equip the chainflex® online service life calculator with the necessary 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 downtime.

In test 4866, the following question should be clarified: To what extent is the continuous bending stress 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 a secure data transmission still be expected.

At the time of this catalogue 2018 edition, the CFBUS-060 cable has been in the long-term test for over 4 years and has covered over 29 million double strokes without a measurable change in the electrical properties.



Linear chain tests with continuous monitoring of the electrical cable parameters



Kabelkennung: 4866-1.1

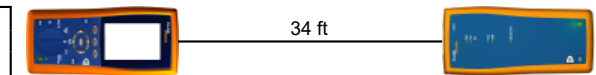
Datum/Uhrzeit: 03/08/2017 11:24:16 AM
Reserve 15.9 dB (NEXT 12-36)
Grenzwert: Profinet
Kabeltyp: Cat 5e F/UTP
NVP: 66.0%

Bediener: A.FINKE
Software-Version: 2.7800
Grenzwerte Version: 1.9500
Kalibrierungsdatum:
Hauptgerät (Tester): 03/03/2017
Remote (Tester): 03/03/2017

Testzusammenfassung: PASS

Modell: DTX-ELT
Hauptgerät S/N: 9751011
Remote S/N: 9751012
Adapter Hauptgerät: DTX-CHA002
Adapter Remote: DTX-CHA002

Länge (ft)	[Paar 12]	34
Laufzeit (ns), Grnz. 555	[Paar 12]	52
Abweichung (ns), Grnz. 20	[Paar 12]	0
Widerstand (Ohm), Grnz. 25.0	[Paar 12]	1.3
Einfüg.-Dämpf. Reserve (dB)	[Paar 12]	20.5
Frequenz (MHz)	[Paar 12]	100.0
Grenzwert (dB)	[Paar 12]	24.0



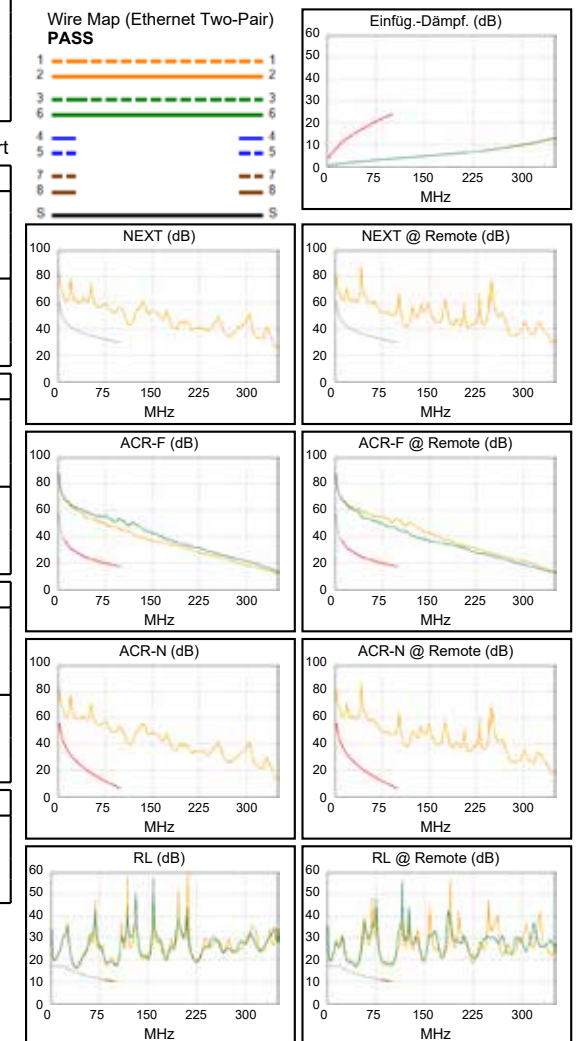
	Min. Abstand		Min. Wert	
N.A.	MAIN	SR	MAIN	SR
Schlechtest Paar	12-36	12-36	12-36	12-36
NEXT (dB)	15.9	16.4	20.8	19.7
Freq. (MHz)	11.9	11.0	86.0	90.0
Grenzwert (dB)	45.8	46.3	31.2	30.9
Schlechtest Paar	12	12	12	12
PS NEXT (dB)	18.9	19.4	23.8	22.7
Freq. (MHz)	11.9	11.0	86.0	90.0
Grenzwert (dB)	42.8	43.3	28.2	27.9

	MAIN		SR	
PASS	MAIN	SR	MAIN	SR
Schlechtest Paar	12-36	36-12	12-36	36-12
ACR-F (dB)	28.1	28.1	28.1	28.1
Freq. (MHz)	99.3	99.3	99.5	99.5
Grenzwert (dB)	17.5	17.5	17.4	17.4
Schlechtest Paar	36	12	36	12
PS ACR-F (dB)	31.1	31.1	31.1	31.1
Freq. (MHz)	99.3	99.3	99.5	99.5
Grenzwert (dB)	14.5	14.5	14.4	14.4

	MAIN		SR	
PASS	MAIN	SR	MAIN	SR
Schlechtest Paar	12-36	12-36	12-36	12-36
ACR-N (dB)	21.8	21.0	39.7	39.4
Freq. (MHz)	3.0	2.1	86.0	91.3
Grenzwert (dB)	51.6	54.0	9.1	7.9
Schlechtest Paar	12	12	12	36
PS ACR-N (dB)	24.8	24.0	42.6	42.4
Freq. (MHz)	3.0	2.1	86.0	91.3
Grenzwert (dB)	48.6	51.0	6.1	4.9

	MAIN		SR	
PASS	MAIN	SR	MAIN	SR
Schlechtest Paar	12	12	12	12
RL (dB)	6.9	6.7	7.2	6.7
Freq. (MHz)	85.5	89.8	99.8	89.8
Grenzwert (dB)	10.7	10.5	10.0	10.5

Erfüllte Network Standards:
10BASE-T 100BASE-TX 100BASE-T4
1000BASE-T ATM-25 ATM-51
ATM-155 100VG-AnyLan TR-4
TR-16 Active TR-16 Passive



Projekt: CHAINFLEX
Unbenannt1

Ort: LABOR



A test result from the igus® database

Test no. 4866

Bend factor in e-chain® 8.5 x d

Measuring devices Fluke DTX-ELT

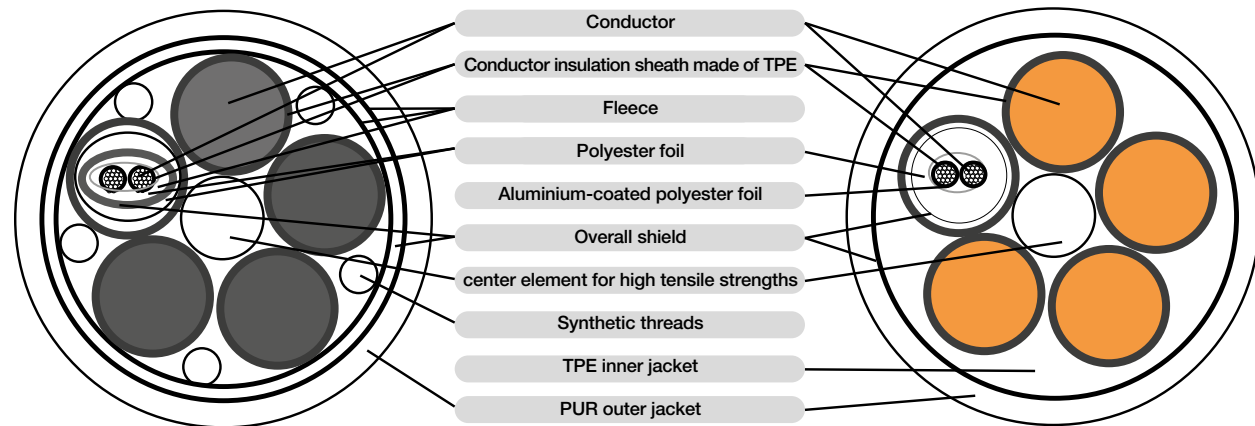
Double strokes without damage 29 million

Details of the test online:
www.chainflex.com/test4866

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

Example: tested, tested, tested!

Servo cable structure




Sample B with fleece and filler experimental production
4x10+(2x1.0) C



Testing a servo cable's structure is done to determine advantages of more expensive internal jackets in shielded servo cables when compared to less expensive cables that utilize fleece taping with fillers.

Typically, with flexible shielded cables, the shield is separated from the composite conductor structure. This is done to create a rounder braid form as well as prevent friction between the conductor insulation and the braided shield. This separation can be achieved via an internal jacket, or a fleece taping, which is wrapped around the composite conductor structure.

More technically sophisticated, and therefore expensive, an internal jacket is extruded around the composite conductor structure after the twisting process. A fleece wrap, on the other hand, can be applied during the twisting process, and does not require its own work operation, making it a less expensive, yet less stable option.

 **Product information**
CF27-D
▶ Page 284

Sample A with inner jacket igus® chainflex®
CF27-100-10-02-01-D



Comparison: chainflex® cables with extruded inner jacket vs. fleece wrapped cables

In this testing, the servo cables are highly flexible motion connection cables with complete copper shielding and an integrated, shielded pair of control conductors. With different size conductor cross sections, creating a round base for the braided shield can be problematic, emphasizing the various bending behaviors of both production methods.

- **Sample A: CF27-100-10-02-01-D (igus® GmbH)**
(4x 8AWG) + (2x 17AWG)
- **Sample B: experimental**
(4x 8AWG) + (2x 17AWG)

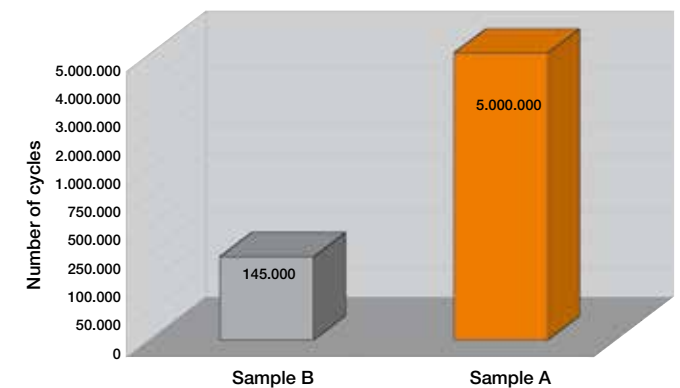
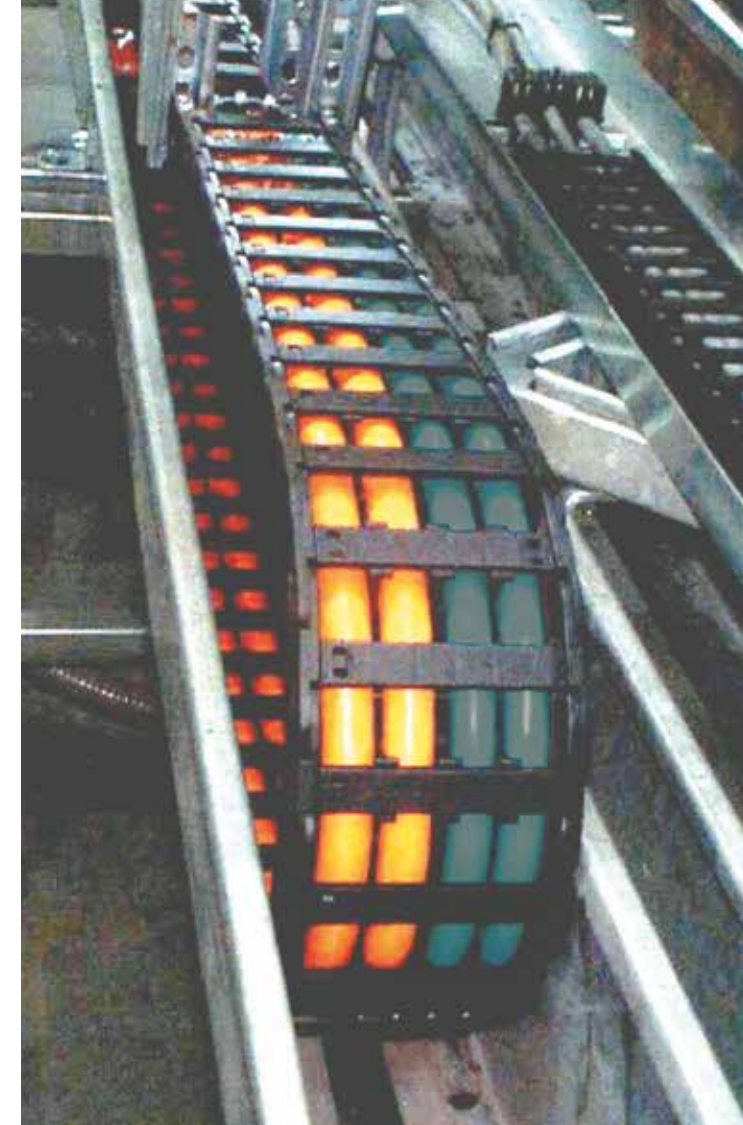
Both cables are created with identical conductor cross sections and insulation materials. Cable A is produced with an extruded inner jacket; cable B with a fleece wrapping and fillers, made up of fibrillated polyethylene. These fillers are easily compressible, and allow the conductors to move within the cable during bending.

In a dynamic test setting, cable B began showing a corkscrew formation after only 145,000 cycles (see image below). The extruded inner jacket used in cable A filled all gussets, creating a structure which holds the conductors in a defined position during movement.

During the bending process, while cable A's conductors were held in place and saw no signs of corkscrewing, the conductors in cable B detached from the composite braid structure, allowing the corkscrew effect to take hold.

Assessment

Despite the low bend factor (4.76), no signs of wear could be detected in cable sample A (CF27-100-10-02-01-D), even after 5 million cycles. The fleece wrap and fillers of cable sample B, on the other hand, were not able to hold conductors in place, allowing the cable to succumb to the corkscrew effect after only 145,000 cycles, justifying the use of an extruded inner jacket, despite the higher initial cost.



Sample A: CF27-100-10-02-01-D



Sample B: experimental production

Millions of cycles in an Energy Chain®: tested!

Profibus cables in continuously moving industrial applications

Gaining a clear overview of the cable market can be difficult. Competition between suppliers is intensifying, and manufacturers are always trying to out-do each other with promises of guaranteed service life for cables used in a cable carrier. Some suppliers even go so far as to claim the ability to sustain service life of cables in carrier systems for 10-50 million flexing cycles. Close examination of these purported figures begs the question, how was this testing completed? Or, how true-to-life, in regards to travel length, test environment, bend radii, etc., are these tests?

Even information stating that cables are tested in accordance with VDE (Association of German electrical engineers) 0472, Part 603, test method H, is irrelevant when it comes to determining the service life of a cable in an Energy Chain® cable carrier, as the roller testing stand cannot provide conclusive results, and there is no VDE test for special cables in Energy Chains®.



Picture 1: Sliding application as the basis of the test structure

Differences in service life

In 2002, a test was created in the igus® laboratory to determine the service life of Profibus cables in real-world applications, with the aim to examine differences in service life between a chainflex® CFBUS-001 cable and a competitive Profibus cable (test item A). The parameters of the test were selected based on data collected from the competitor's catalog.

As Profibus cables are typically used in long travels and transmission distances due to their data integrity, a gliding application was chosen as a suitable test structure.

Details	Test item "A" Competitor Profibus	Test item "B" chainflex® CFBUS-001
Cross section	(2 x AWG24)C	(2x 24AWG)C
Recommended Bend Radius	≥ 60 mm	85 mm
Cable Diameter	8.0 mm	8.5 mm

Table 2: Test parameters according to Catalog data of the competition

In order to carry out non-destructive testing while still achieving a large number of bend cycles in a short time, a genuine Profibus transmission path was constructed. A PC configured as a Profibus master was installed at the fixed end of the test carrier, and a Profibus slave connection on the moving end. With the help of diagnosis programming, the transmission rate could be determined, and any incorrect data transmissions could be indicated. Transmission for the test was set at 12 megabits/s.

The test, started in 2002, is still being run today. Results have shown that after a relatively low number of cycles (420,000), test item A resulted in a total failure. According to the manufacturer of the test cable, however, the same cable was rated to have been able to function safely for at least 4 million cycles, deviating from the real-world testing by a factor of ten.

On the other hand, the CFBUS-001 chainflex® cable is still undergoing testing without faulty data transmissions, even after carrying out more than 14 million test cycles to date.

Structure and materials

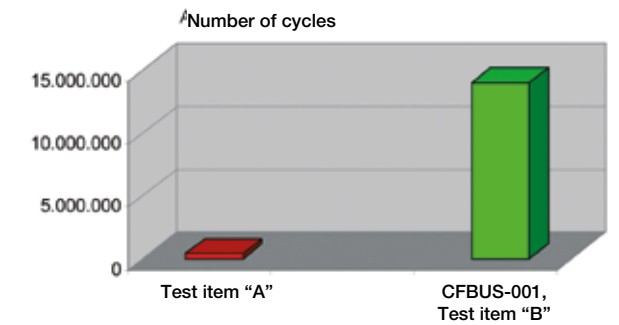
The reason for the major differences in the service life of the two cables is that the CFBUS-001 is constructed with special attention to key design factors and specially selected materials conducive to continuous flexing. In contrast, the competitor cable is constructed with attention to electrical performance only, making its design easily compromised by continuous movement.

The conductor insulation of both cables is comprised of a foam material, which is needed to achieve better transmission rates. The foam material, however, is weakened under stress. The test proved that, in order to alleviate mechanical stress on a conductor's insulation, an inner jacket is recommended to absorb forces that affect the bus pair.

Test parameters	
Distance of travel:	S=16.41 ft. (5 m)
Speed, approximate:	V=11.48 ft/s (3.5 m/s)
Acceleration, approximate:	a=24.61 ft/s² (7.5 m/s²)
Radius, approximately:	2.16" (55 mm)

Highly elastic inner jacketing

The CFBUS-001 cable was produced with an extruded TPE inner jacket, which protects the bus pair against mechanical influences in bending applications, and controls the movement of the conductors as the cable is flexed. An inner jacket must be highly elastic in order to function properly. A mechanically inferior inner jacket, such as inexpensive fillers, only serves to make the bus pair round, and is not able to protect from the high levels of mechanical stress present in the chain. These tensile and compressive forces mainly influence the parts of the cable in which there is a break in an element's jacketing. The jacketing of test item B (CFBUS-001), is produced with a mechanically superior, extruded inner TPE jacket which mechanically relieves the bus pair, fixing conductors in defined




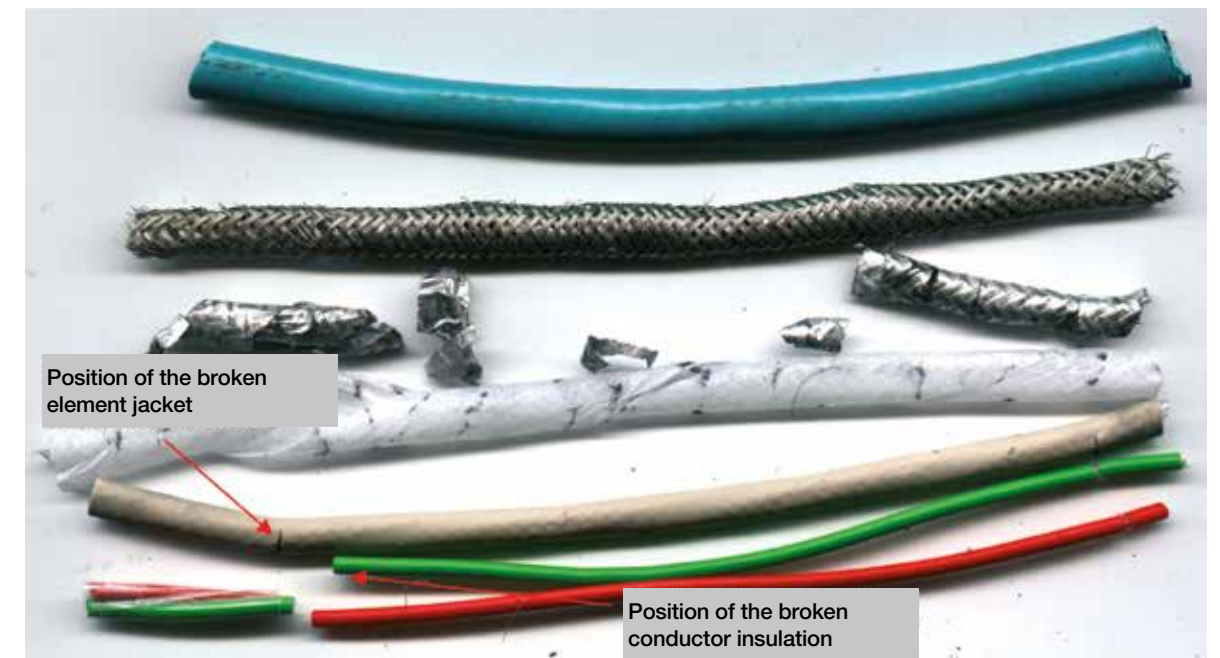
position and bends. The extremely short pitch of the conductor strands and special bundling of the conductors also ensure that no great tensile or compression forces have an effect on a long conductor length. This allows relatively small bend radii with high cycle rates to be achieved.

New: cRUus UL AWM compliance

chainflex® CFBUS cables are now also available for all standard field bus system, complete with CDA and UL cRUus compliance, as well as DESINA compliance. The highly abrasion-resistant, flame retardant TPE outer jacket is extruded onto the fully braided shield with a twisted angle adjusted to provide the cable with additional stability.

The bus elements, braided with a particularly short strand pitch, are protected by means of extruded TPE inner jacket, which fills all gaps. The required bus parameters are fulfilled by means of a choice of coordinating insulating materials and production methods. As with all chainflex® cables, the new standard field bus cables in the CFBUS series are now available from stock with no cutting costs or minimum orders.

 **Product information CFBUS**
▶ Page 190



Picture 3: A mechanically low-quality element jacket can't protect the bus pair against the high mechanical loads inside the Energy Chain®.

Tested, tested, tested with $< 4 \times d!$

For users of very small cable carriers or Energy Chains® with narrow bend radii, finding a suitable cable with a long service life has been a frequent challenge in the past. At bend radii of less than $5 \times d$, copper quickly reaches its physical limits, necessitating the search for suitable alternative conductor materials, or for fundamentally different conductor superstructures.


Many series of tests were performed on a variety of conductor materials and superstructures in order to determine how cables must be manufactured to endure millions of flexing cycles in Energy Chains® with bend radii of less than $4 \times d$.

Test setup: Horizontal, short travel distance

Test parameters:

Travel distance	S = 2.625 ft. (0.8 m)
Speed, approximate	V = 16.07 ft/s (4.9 m/s)
Acceleration, approximate	a = 5.38 ft/s ² (1.64 m/s ²)
Radius, approximate	0.71 inch (18 mm)



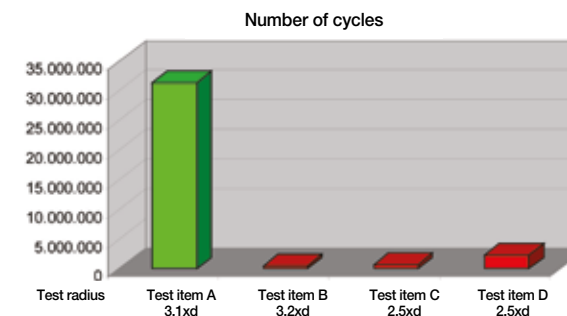
 Product information CF98
▶ Page 122

Test 1: Inspection of four cable designs

Four different cable constructions have been analyzed here:
Test Item A – Special Alloy Conductor
Test Item B – Copper Conductor
Test Item C – Copper conductor with braided structure
Test Item D – Copper conductor with concentric stranding

This long-term inspection, which was carried out over a period of two years, provided the following results:

	Number of cycles	Cross section	d [inch]	Test radius
Test item A	47,434,277	7x0.20	0.23	3.1xd = 18
Test item B	450,000	7x0.20	0.22	3.2xd = 18
Test item C	638,000	7x0.25	0.29	2.5xd = 18
Test item D	2,350,000	7x0.25	0.29	2.5xd = 18



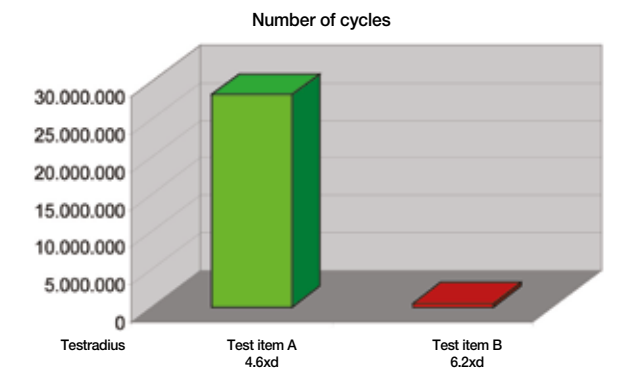
Test 2:

Two different cable designs were tested, whereby different numbers of conductors and conductor cross sections were selected and compared to test 1.

Test Item A – Conductor with special alloy
Test Item B – Conductor with copper

In this test, item B was manufactured completely identically to A, with the exception of 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 cycles. Test item B, on the other hand, only achieved approximately 1.4 million cycles before complete destruction of the conductor was determined. This test also demonstrates that the alloy material 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 cycles	Cross section	d [inch]	Test radius
Test item A	28,267,000	2x0.14	0.15	4.6xd = 18
Test item B	1,450,000	2x0.14	0.11	6.2xd = 18



Conductivity of alloys

The outstanding mechanical properties of the alloyed material must make do with a reduced conductivity compared to copper, which can be compensated by slightly increasing the cross sections. This means that the cross sections mentioned in the catalog meet the electrically defined cross sections defined using the conductivity value. The diameter of an alloyed conductor increase slightly when compared to the diameter of a copper conductor. This compromise results in a 10% greater external diameter for the CF98 series when compared to a comparable CF9 cable, although the service life differences to be expected between the two speak for themselves, and increase by a multiple factor in comparison to 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-filled extruded TPE outer jacket, the oil and UV resistance, as well as the absence of PVC and halogen compounds.

Especially in applications that have minimum construction space as well as the demand for a high number of cycles, chainflex® cables offer an increased degree of operational safety and efficiency. Some areas of application include semi-conductor and component part industries, as well as in automotive and automation applications. New possible applications for cables with a tight bend radius include automatic doors on motor vehicles and trains, in vending machines, and throughout the packaging industry.

Fiber and ice: tested!

chainflex® gradient fiber-optic cable in the deep freeze test

For the safe transmission of large amounts of data in bus systems at high speeds and over long distances, chainflex® gradient fiber glass CFLG cable has already become a standard in numerous crane applications. Insensitivity to electromagnetic load and resistance to rough environmental factors allow for use, alongside energy supply cables, in very long travels.



CFLG-G TPE 10 x d

PVC iguPUR PUR TPE

Fiber optic cable | TPE | Chainflex

36 10,000,000 Cycles guaranteed

5 x d Bend radius E-Chai

- Glass-fiber cable for maximum mechanical load requirements
- TPE outer jacket
- Oil and bio-oil-resistant
- PVC
- Low
- Hyc

Dynamic Information

- Bend radius
- Temperature
- v max.
- a max.
- Travel distance

Cable structure

- Fibre Optic Cable
- Conductor construction
- Color code
- Outer jacket

Example image

What happens in crane facilities in regions with extremely low temperatures? Does the maximum possible cable length of several hundred meters increase attenuation, or does the cable jacket break at extreme low temperatures?

In these cables, sensitive glass fibers are held in a gel-filled hollow space. How does the gel behave in highly dynamic applications, and what happens in restarts after long periods of downtime? As no precise answer to these questions could be found in relevant technical journals, and little was known about the thermal features of the gel, igus®, as part of its philosophy, undertook testing to determine the reliable specifications for applications in Energy Chain® cable carriers.

For this task, the igus® test lab was equipped with a freezer able to generate temperatures of -40° F (-40°C), and a test rig was created with travels up to 22.9 ft. (7 m) at a speed of 5.2 ft/s (1.6 m/s), and accelerations up to 19.6 ft/s² (6 m/s²). The chainflex® gradient fiber glass cable CFLG-6G-50/125-TC was tested at a length of approximately 50 feet in a 3500-125-200-0 Energy Chain® with a radius of 7.8 in. (200 mm). Varied and extreme temperature fluctuations served as the simulation of environmental influences, particularly when temperatures plunged to -40° F during downtime and motion was restarted afterwards.

Under these application conditions, the attenuation of the cable also should not rise above 3 dB at 850 nm wave length. After one million cycles, which corresponds to an operational performance of approximately 4,350 miles (7,000 km), the maximum attenuation is reached and still remains significantly below 3 dB.

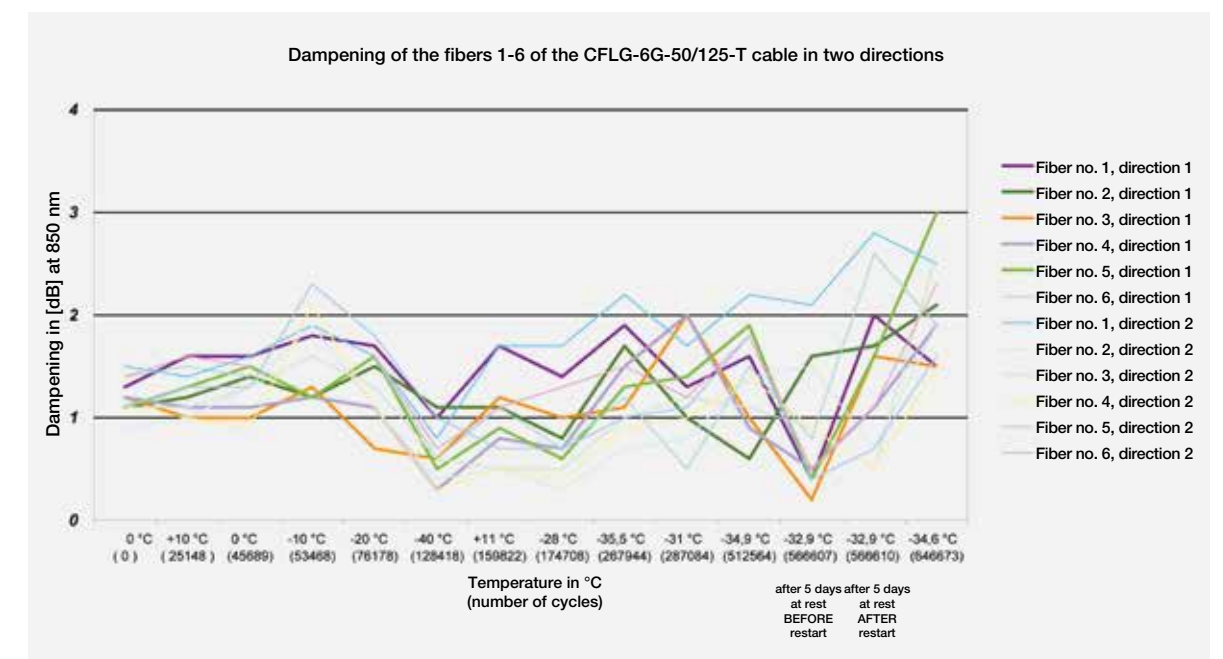
The measurements highlighted in the diagram reveal that distinct variations in temperature, combined with the constant movement in the Energy Chain® have only minor effects on the attenuation of the CFLG-6G-TC cable. The noticeable high initial attenuation is attributed to the plugs used, and also reflects reality, as in practice, approximately 90% of the cables used in automation are pluggable fiber optic cables.

Product information CFLG-G

▶ Page 220



The test with the igus® cable makes it quite clear that only realistic and absolutely very expensive tests can fetch clarity about the service life of cables.



Torsion cables: tested!

chainflex® cables for Energy Chains® are designed for applications in linear movement, and their efficiency has been proven countless times in a wide variety of applications. However, as industrial applications and their necessary motion sequences are becoming more complex, special cables for torsional movements are being requested more and more. The service life of the differing constructions of these cables is harder to calculate for torsional applications, as no fixed values, such as radii, travels, etc., have been defined.

Shielded cables are very difficult to use in torsional applications. Braided shields are generally woven in opposing directions. In torsional movements, the shield's wires are drawn in one winding direction, and then turned in the other direction. The woven arrangement and the entailing constriction of each winding direction lead to quick breakage of the shield from the resulting expansion of the shield wires.

Unshielded cables, particularly bundled chainflex® cables, can, on the other hand, be successfully used in many torsional applications. Whether a cable can maintain torsional



Example image
igus® chainflex® CFROBOT

PVC
iguPUR
PUR
TPE

Spindle cable/Single core | TPE | C

36
Cycles guaranteed

10 x d
Bend radius E-Chain®

- For torsion applications
- TPE outer jacket
- Shielded
- Oil and bio-oil-resistant
- PVC-free
- UV-resist.
- Flame-ret
- Hydrolysi

Dynamic Information

- ↻ Bend radius
- 🌡️ Temperature
- ↔️ v max.
- ↔️ a max.
- 📏 Travel distance
- 🌀 Torsion

Cable structure

- 🔌 Conductor
- 🛡️ Conductor insulation
- 🛡️ Overall shield
- 🛡️ Outer jacket

Electrical Information

- ⚡ Nominal voltage
- ⚡ Test voltage

Properties and approvals

- ☀️ UV resistance
- 🛡️ Oil resistance
- 🔥 Flame resistance
- 🛡️ Silicone-free

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.

Product information CFROBOT
▶ Page 392

demands is dependent strongly on the application and type of installation.

The development of a new chainflex® shielded single conductor cable picks up on this point and ensures that only the smallest possible forces act on the shield wire due to the special design and understructure of the shield.

Test setup:

The new CFROBOT cable was tested at the igus® laboratory on a test rig specially designed for torsional movement of $\pm 270^\circ$ for a total length of approximately 8.2 feet. The cable was tested in different versions of Triflex® R multi-axis cable carriers.

Fitted for the test were:

- 3 CFROBOT-037 cables
- 3 CF310-250-01-UL cables
- 3 CF310-250-01 cables



igus® test lab: The cables were tested in movements of $\pm 270^\circ$

The initial test sample of the CF310 with braided shield, and CFROBOT were taken after 250,000 test movements at a torsional angle of $\pm 270^\circ$.

Analysis of the cables (taken apart), show, in Picture 1, distinct damage to the overall shield, noticeable in the upper third of the cable.



Picture 1: Damaged overall shield sample of the braid version after 250,000 torsional movements



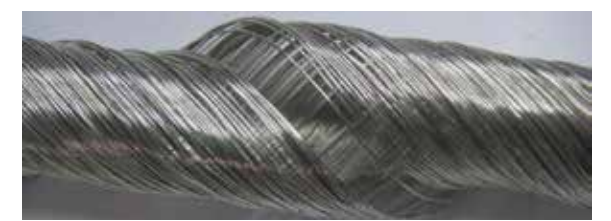
The detail inspection of the shield braid shows distinct damage on the shield wires.

The analyzed samples of the CFROBOT-037 (Picture 2), were taken at 250,000, 1.5 million, and 3 million torsional movements, and all show no damage.



Picture 2: The CFROBOT shows absolutely no damage after more than 3 million movements

The detailed analyses of the shield wires, buffer fibers, PTFE film (Picture 3) of the cable show no apparent wear. It was decided to extend the testing to determine the maximum service life of the cables.



Picture 3: Detail pictures of the CFROBOT after more than 3.0 million movements of $\pm 270^\circ$

164 ft. container crane travel: tested!

In the crane engineering industry, energy supply systems must adapt to the ever increasing technical and economic demands of their customers. Flexibility, variability, and space-saving installation options are only a few of a number of criteria very important to crane designers and maintenance teams. A major building block of a reliable energy supply system is always the cables.

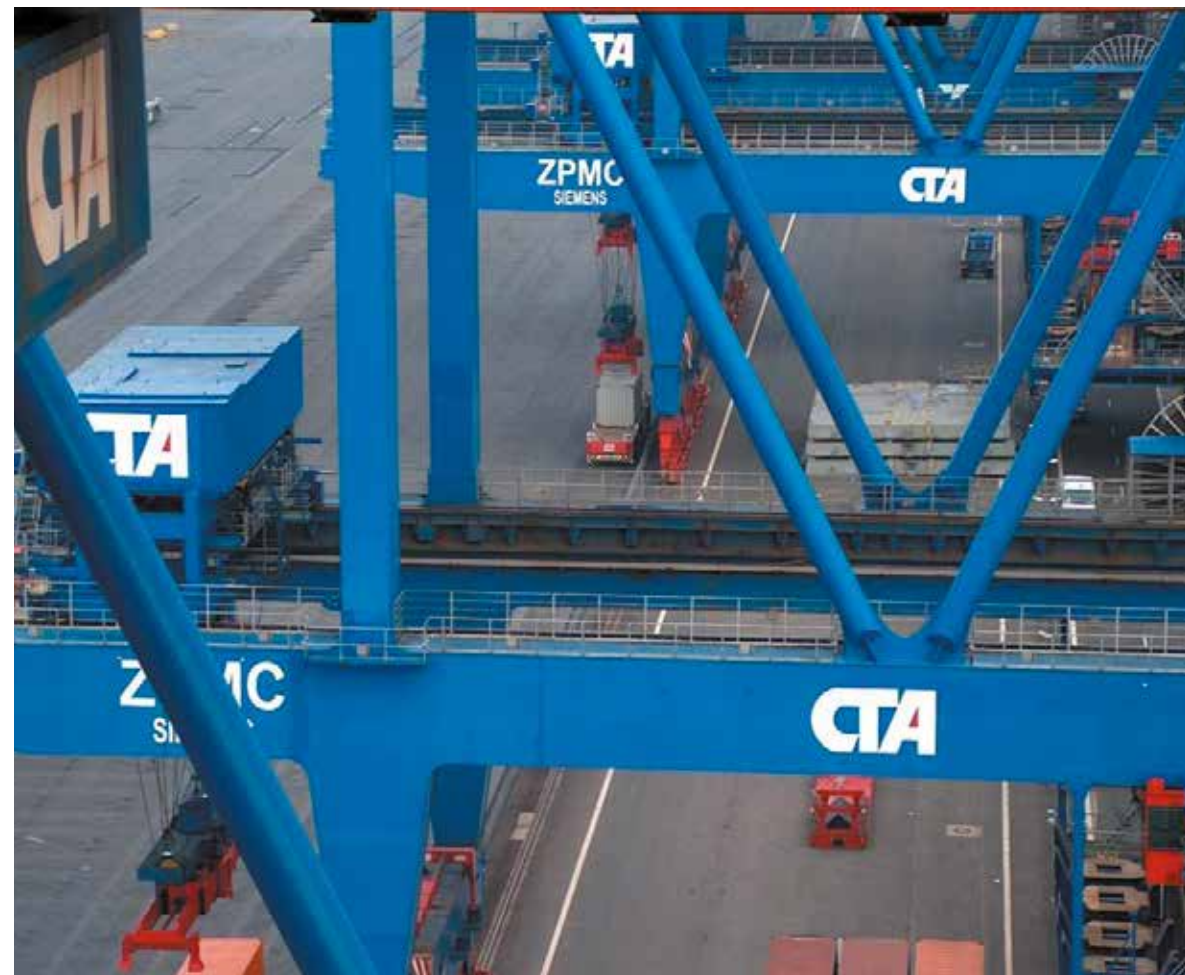
In the igus® laboratory, chainflex® cables undergo constant testing to obtain important information about the service life of particular cables, and to determine improvements for future cable designs. However, the occasional chance comes along to examine and record inspection data from cables removed from real, tough applications.

Current inspection:

The chainflex® cable CF9-60-05 was used in a container crane for many years, repeating a travel distance of approximately 154 ft. (47 m). An inspection contract commissioned by the crane owner-operator was tasked with presenting a performance balance sheet and determine when preventative maintenance should next be scheduled after more than 24,854 miles (40,000 km) of chain travel were completed.

Following the removal of the CF9-60-05 cable, inspections were performed with the following objectives:

1. Observe and record outer jacket abrasion and other damage
2. Observe and record the overall stranding and insulation of the individual conductors
3. Observe and record the structural wire design and the number of broken or possibly broken wires.



An 82 ft. igus® Energy Chain harnesses with chainflex® cables in a stainless steel trough.



The Energy Chain system® was filled with many different igus® chainflex® cables, e.g. the CF9-60-05

Inspection objective 1:

Only slight traces of abrasion could be detected on the TPE outer jacket. No failures could be expected due to jacket breakage, despite extreme environmental factors, such as temperature fluctuation and UV rays.

Inspection objective 2:

The overall stranding showed that no indications of conductor fatigue or changes in pitch length thanks to the extruded outer jacket. The large share of talc protected from any abrasion between the TPE-insulated conductors. Additionally, high voltage tests showed no changes.

Inspection objective 3:

The cable was fully opened to the copper conductor in the most stressed section of the radius. Here too, after more than 24,854 miles, no damage was seen to the individual wires.

Summary:

The chainflex® cable, used in a real crane application on the second trolley of a ship to shore crane was completely intact and no preventative maintenance was required, even after 24,854 miles of travel.



An igus® energy supply system with an approx. length of 85 ft. in a stainless steel trough.



The individual elements of the CF9 from the cable piece dissected for the test setup.



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 not have any individual wire breakages.

Jacket material oil resistance: tested!

For years, specially developed tests have been utilized to obtain results tailored to customer requirements. The relatively generalized claim of "oil resistance" or "coolant resistance" are little help in selecting the right jacket material to be used in an application with exposure to oils, coolants, or lubricants.

In the igus® test lab, generally applicable tests like those set by DIN EN 60811-2-1 and IEC 60811-1-1 are run alongside tests that replicate everyday application conditions as realistically as possible. One such test mounts samples of chainflex® cables in Energy Chains® which are moved in and out of an oil bath.

Throughout and after testing, samples can be examined to determine changes in material characteristics, like material strength, swelling, or tearing, with values noted. This method of testing and examining offers customers not just a statement on the resistance of a cable against media, but also an expected service life.

If the test samples, such as the cables depicted below, do not stand up to testing, they are not advised for use in the respective application.



Cracks in the outer sheathing of materials from competitors caused by the „use of oil“ in E-Chains®.




Torsion-resistance: tested take two!

The requirement for torsion resistant cables for Energy Chains® is not new, but exact requirements are rarely specifically defined. So, how is a statement like "torsion resistant up to $\pm 180^\circ$ " to best be evaluated?

To carry out this testing, the "torsion test bench" was developed in the igus® test lab. Here, various cable types, all 3.3 ft. (1 m) in length, are subject to twisting. The degree of torsion is adjustable for testing different requirements, with standard torsional testing moving at $\pm 180^\circ$.

After a predetermined number of torsional movements, or a negative electrical or mechanical result, the tested cables are taken apart and inspected to determine the type and position of any damage.

The complete chainflex® CFROBOT cable series was tested to this standard before its release to the market.

 Product information CFROBOT
▶ Page 392



The „torsion test bench“ especially developed according to the igus® standard

Information | **color code**

DIN 47100 color code
(however, deviating from DIN: without color repetition after 44th core)*

1	white	32	yellow-blue
2	brown	33	green-red
3	green	34	yellow-red
4	yellow	35	green-black
5	gray	36	yellow-black
6	pink	37	gray-blue
7	blue	38	pink-blue
8	red	39	gray-red
9	black	40	pink-red
10	violet	41	gray-black
11	gray-pink	42	pink-black
12	red-blue	43	blue-black
13	white-green	44	red-black
14	brown-green	45	white-brown-black
15	white-yellow	46	yellow-green-black
16	yellow-brown	47	gray-pink-black
17	white-gray	48	red-blue-black
18	gray-brown	49	white-green-black
19	white-pink	50	brown-green-black
20	pink-brown	51	white-yellow-black
21	white-blue	52	yellow-brown-black
22	brown-blue	53	white-gray-black
23	white-red	54	gray-brown-black
24	brown-red	55	white-pink-black
25	white-black	56	pink-brown-black
26	brown-black	57	white-blue-black
27	gray-green	58	brown-blue-black
28	yellow-gray	59	white-red-black
29	pink-green	60	brown-red-black
30	yellow-pink	61	black-white
31	green-blue		

*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.

Information | **AWG**

Copper wire dimensions according to Anglo-American AWG numbers

AWG No.	Diameter [mm]	Cross section [mm ²]	AWG No.	Diameter [mm]	Cross section [mm ²]
500	17.96	253.00	16	1.29	1.31
350	15.03	177.00	18	1.024	0.823
250	12.70	127.00	20	0.813	0.519
4/0	11.88	107.20	22	0.643	0.324
3/0	10.40	85.00	24	0.511	0.205
2/0	9.27	67.50	26	0.405	0.128
1/0	8.25	53.50	28	0.320	0.0804
1	7.35	42.40	30	0.255	0.0507
2	6.54	33.60	32	0.203	0.0324
4	5.19	21.20	34	0.160	0.0200
6	4.12	13.30	36	0.127	0.0127
8	3.26	8.37	38	0.102	0.00811
10	2.59	5.26	40	0.079	0.00487
12	2.05	3.31	42	0.064	0.00317
14	1.63	2.08	44	0.051	0.00203

chainflex® type	Multi-core cables			Motor/Servo cables		Single-core cables	
	CF5, CF6, CF2, CF130US, CF140US	CF880, CF881, CF130.UL, CF140.UL, CF240, CF211, CF884	CF890, CF891, CF77.UL.D, CF78.UL, CF9, CF10, CF9.UL, CF10.UL, CF98, CF99, CF112, CF11, CF12, CF298, CF299, CF894, CF113.D, CF111.D, CF11.D, CFROBOT, CFROBOT6, CFROBOT7, CFROBOT9	CF885, CF886, CF30, CF31, CF887, CF897, CF210.UL, CF220.UL.H, CF21.UL, CF895, CF896	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
Insulation material	PVC	TPE	TPE	TPE/XLPE	XLPE	PVC	TPE
Loaded cores	2 or 3	2 or 3	2 or 3	2 or 3	2 or 3	1	1
Nominal cross section of copper core [mm²]	AWG size	Load capacity [A]	Load capacity [A]	Load capacity [A]	Load capacity [A]	Load capacity [A]	Load capacity [A]
0.14	26	2.5	2.5	2.5	-	-	-
0.25	24	4	5	5	-	-	-
0.34	22	5	7	7	-	-	-
0.5	20	8	10	10	-	11	-
0.75	18	12	13	14	-	14	-
1	17	15	15	17	-	17	-
1.5	16	18	19	21	19	21	25
2.5	14	26	27	30	27	30	34
4	12	-	37	41	37	41	46
6	10	-	48	53	48	53	58
10	8	-	-	74	69	74	81
16	6	-	-	99	92	99	110
25	4	-	-	131	121	131	144
35	2	-	-	162	152	162	179
50	1	-	-	-	191	202	228
70	2/0	-	-	-	-	-	250
95	3/0	-	-	-	-	-	301
120	4/0	-	-	-	-	-	394
150	300MCM	-	-	-	-	-	466
185	350MCM	-	-	-	-	-	532
240	500MCM	-	-	-	-	-	610
300	600MCM	-	-	-	-	-	754
400	750MCM	-	-	-	-	-	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 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 mm²

Group	chainflex® cable	Jacket material	1	2	3	4	5	Page
Control cables								
Control cable	CF880	PVC	1					50
Control cable	CF881	PVC	1					54
Control cable	CF130US	PVC	1					58
Control cable	CF140US	PVC	1					62
Control cable	CF130-UL	PVC	1					66
Control cable	CF140-UL	PVC	1					70
Control cable	CF5	PVC		2				74
Control cable	CF6	PVC		2				78
Control cable	CFSOFT1	PVC		2				82
Control cable	CFSOFT2	PVC		2				84
Control cable	CF890	iguPUR			3			86
Control cable	CF891	iguPUR			3			90
Control cable	CF77-UL-D	PUR				4		94
Control cable	CF78-UL	PUR				4		98
Control cable	CF2	PUR				4		102
Control cable	CF9	TPE					5	106
Control cable	CF10	TPE					5	110
Control cable	CF9-UL	TPE					5	114
Control cable	CF10-UL	TPE					5	118
Control cable	CF98	TPE					5	122
Control cable	CF99	TPE					5	124
Data cables								
Data cable	CF8821	PVC	1					130
Data cable	CF240	PVC		2				132
Data cable	CF240-PUR	PUR				4		136
Data cable	CF211	PVC		2				140
Data cable	CF211-PUR	PUR				4		144
Data cable	CF11	TPE					5	148
Data cable	CF112	PUR				4		152
Data cable	CF12	TPE					5	156
Data cable	CF298	TPE					5	158
Data cable	CF299	TPE					5	160
Data cable	CFKoax	TPE					5	162
Bus cables								
Bus cable	CF888	PVC	1					174
Bus cable	CFBUS-PVC	PVC		2				178
Bus cable	CF898	iguPUR			3			182
Bus cable	CFBUS-PUR	PUR				4		186
Bus cable	CF14US	PUR				4		190
Bus cable	CFBUS	TPE					5	192
Bus cable	CFBUS-LB	TPE					5	198
Fibre Optic Cables								
Fibre Optic Cable	CFLK	PUR				4		208
Fibre Optic Cable	CFLG88	PVC	1					210
Fibre Optic Cable	CFLG-LB-PUR	PUR				4		212
Fibre Optic Cable	CFLG-LB	TPE					5	216
Fibre Optic Cable	CFLG-G	TPE					5	220
Measuring system cables								
Measuring system cable	CF884	PVC	1					230
Measuring system cable	CF211	PVC		2				234
Measuring system cable	CF894	iguPUR			3			240
Measuring system cable	CF111-D	PUR				4		244
Measuring system cable	CF113-D	PUR				4		250
Measuring system cable	CF11-D	TPE					5	256

Group	1	2	3	4	5
Inorganic chemicals					
Aqueous solutions, neutral					
Water	+	+	0	+	+
Common salt (10%)	+	+	0	+	+
Glauber's salt (10%)	+	+	0	+	+
Aqueous solutions, alkaline					
Soda (10%)	0	+	+	0	+
Aqueous solutions, acid					
Sodium bisulfate (10%)	0	+	+	0	+
Aqueous solutions, oxidising					
Hydrogen peroxide (10%)	+	+	0	+	+
Potassium permanganate (2%)	+	+	0	+	+
Inorganic acids					
Hydrochloric acid, concentrated	-	-	-	-	-
Hydrochloric acid (10%)	0	0	+	0	+
Sulfuric acid, concentrated	-	-	-	-	-
Sulfuric acid (10%)	0	0	+	0	+
Nitric acid, concentrated	-	-	-	-	-
Nitric acid (10%)	0	0	+	-	0
Inorganic caustic solutions					
Sodium hydroxide, concentrated	-	-	-	-	0
Sodium hydroxide (10%)	0	0	+	0	+
Caustic potash, concentrated	-	-	-	-	0
Caustic potash (10%)	0	0	+	0	+
Ammonia, concentrated	0	0	-	0	+
Ammonia (10%)	+	+	+	+	+
Organic chemicals / organic acids					
Acetic acid, concentrated (glacial acetic acid)	-	-	-	-	0
Acetic acid (10% in H ₂ O)	0	+	+	0	+
Tartaric acid (10% in H ₂ O)	0	+	+	+	+
Citric acid (10% in H ₂ O)	0	+	+	+	+
Ketone					
Acetone	-	-	-	-	0
Methyl ethyl ketone (MEK)	-	-	-	-	0
Alcohols					
Ethyl alcohol (spirit)	-	0	+	0	+
Isopropyl alcohol	-	0	+	0	+
Diethylene glycol	0	0	+	+	+
Aromatic compounds					
Toluol	-	-	-	0	-
Xylol	-	-	-	0	-
Fuels					
Gasoline	-	0	0	+	+
Diesel fuel	-	0	0	+	+
Synthetic oils					
lubricating oil					
ASTM oil #2	0	+	+	+	+
Hydraulic oil					
Mineral oil base	-	0	+	+	+
Glycol base	0	0	+	+	+
Synthetic ester base	-	0	-	+	+
Vegetable oils					
Rapeseed oil	0	+	0	+	+
Olive oil	0	+	0	+	+
Soya bean oil	0	+	0	+	+
Cold cleaning agent					
Cold cleaning agent	-	0	+	+	0

+ no or minimum negative influence

0 medium reciprocal effect, short-term exposure permissible

- unstable, material partly destroyed

All information applies to room temperature

Group	chainflex® cable	Jacket material	1	2	3	4	5	Page
Servo cables								
Servo cable	CF887	PVC	1					268
Servo cable	CF210-UL	PVC		2				270
Servo cable	CF21-UL	PVC		2				274
Servo cable	CF897	iguPUR			3			278
Servo cable	CF270-UL-D	PUR				4		280
Servo cable	CF27-D	PUR				4		284
Servo cable	CF29-D	TPE					5	288
Hybrid servo cable	CF220-UL-H	PVC		2				290
Hybrid servo cable	CF280-UL-H	PUR				4		294
Motor cables								
Motor cable	CF885	PVC	1					306
Motor cable	CF886	PVC	1					308
Motor cable	CF210-UL	PVC		2				310
Motor cable	CF30	PVC		2				312
Motor cable	CF31	PVC		2				316
Motor cable	CF895	iguPUR			3			320
Motor cable	CF896	iguPUR			3			322
Motor cable	CF270-UL-D	PUR				4		324
Motor cable	CF27-D	PUR				4		328
Motor cable	CF34-UL-D	TPE					5	332
Motor cable	CF35-UL	TPE					5	336
Motor cable	CF37-D	TPE					5	340
Motor cable	CF38	TPE					5	342
Spindle cable/Single conductor	CF885	PVC	1					344
Spindle cable/Single conductor	CF885-PE	PVC	1					346
Spindle cable/Single conductor	CF886	PVC	1					348
Spindle cable/Single conductor	CF270-UL-D	PUR				4		350
Spindle cable/Single conductor	CF300-UL-D	TPE					5	352
Spindle cable/Single conductor	CFPE	TPE					5	354
Spindle cable/Single conductor	CF310-UL	TPE					5	356
Spindle cable/Single conductor	CF330-D	TPE					5	358
Spindle cable/Single conductor	CF340	TPE					5	360
Medium voltage cable	CFCRANE-PUR	TPE					5	362
Torsion cables								
Torsion cable	CF77-UL-D	PUR				4		372
Torsion cable	CFROBOT2	PUR				4		376
Torsion cable	CFROBOT3	PUR				4		378
Torsion cable	CFROBOT4	PUR				4		380
Torsion cable	CFROBOT5	TPE					5	384
Torsion cable	CFROBOT6	PUR				4		386
Torsion cable	CFROBOT7	PUR				4		388
Torsion cable	CFROBOT	TPE					5	392
Torsion cable	CFROBOT8	PUR				4		394
Torsion cable	CFROBOT8-PLUS	PUR				4		398
Torsion cable	CFROBOT9	PUR				4		402
Special cables								
Special cable	CFTHERMO	PUR				4		408
Special cable	CFFLAT	TPE					5	410
Special cable	CFSPECIAL-182	PUR				4		412
Special cable	CFSPECIAL-792	PUR				4		418

Group	1	2	3	4	5
Inorganic chemicals					
Aqueous solutions, neutral					
Water	+	+	0	+	+
Common salt (10%)	+	+	0	+	+
Glauber's salt (10%)	+	+	0	+	+
Aqueous solutions, alkaline					
Soda (10%)	0	+	+	0	+
Aqueous solutions, acid					
Sodium bisulfate (10%)	0	+	+	0	+
Aqueous solutions, oxidising					
Hydrogen peroxide (10%)	+	+	0	+	+
Potassium permanganate (2%)	+	+	0	+	+
Inorganic acids					
Hydrochloric acid, concentrated	-	-	-	-	-
Hydrochloric acid (10%)	0	0	+	0	+
Sulfuric acid, concentrated	-	-	-	-	-
Sulfuric acid (10%)	0	0	+	0	+
Nitric acid, concentrated	-	-	-	-	-
Nitric acid (10%)	0	0	+	-	0
Inorganic caustic solutions					
Sodium hydroxide, concentrated	-	-	-	-	0
Sodium hydroxide (10%)	0	0	+	0	+
Caustic potash, concentrated	-	-	-	-	0
Caustic potash (10%)	0	0	+	0	+
Ammonia, concentrated	0	0	-	0	+
Ammonia (10%)	+	+	+	+	+
Organic chemicals / organic acids					
Acetic acid, concentrated (glacial acetic acid)	-	-	-	-	0
Acetic acid (10% in H2O)	0	+	+	0	+
tartaric acid (10% in H2O)	0	+	+	+	+
Citric acid (10% in H2O)	0	+	+	+	+
Ketone					
Acetone	-	-	-	-	0
Methyl ethyl ketone (MEK)	-	-	-	-	0
Alcohols					
Ethyl alcohol (spirit)	-	0	+	0	+
Isopropyl alcohol	-	0	+	0	+
Diethylene glycol	0	0	+	+	+
Aromatic compounds					
Toluol	-	-	-	0	-
Xylol	-	-	-	0	-
Fuels					
Gasoline	-	0	0	+	+
Diesel fuel	-	0	0	+	+
Synthetic oils					
lubricating oil					
ASTM oil #2	0	+	+	+	+
Hydraulic oil					
Mineral oil base	-	0	+	+	+
Glycol base	0	0	+	+	+
Synthetic ester base	-	0	-	+	+
Vegetable oils					
Rapeseed oil	0	+	0	+	+
Olive oil	0	+	0	+	+
Soya bean oil	0	+	0	+	+
Cold cleaning agent					
Cold cleaning agent	-	0	+	+	0

+ no or minimum negative influence

0 medium reciprocal effect, short-term exposure permissible

- unstable, material partly destroyed

All information applies to room temperature



Rules for:

- Maximum cable diameters
- Separation
- Bend radius

General rules for cables and hoses in E-Chains®

Data and energy supply in all forms within an Energy Chain System®

The key advantage of an igus® Energy Chain System® is the safe accommodation of various forms of data cables and energy suppliers 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 Cable/hose 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® is allowed to 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



Orderly 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 electrical round 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. You may talk to us about this.

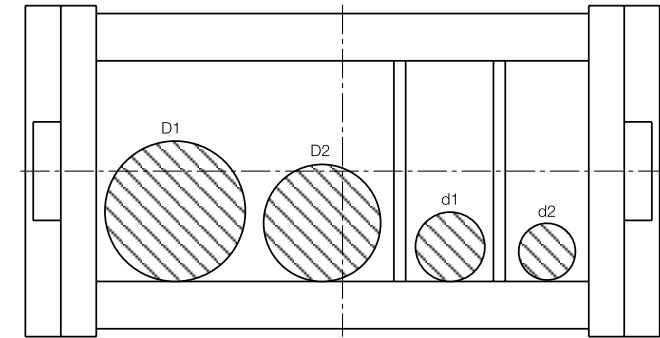


Electrical cables need at least 10% clearance space all around, hydraulic hoses need 20%

The maximum conduit diameter is specified for each series on its respective chapter

Distribution in E-Chains®

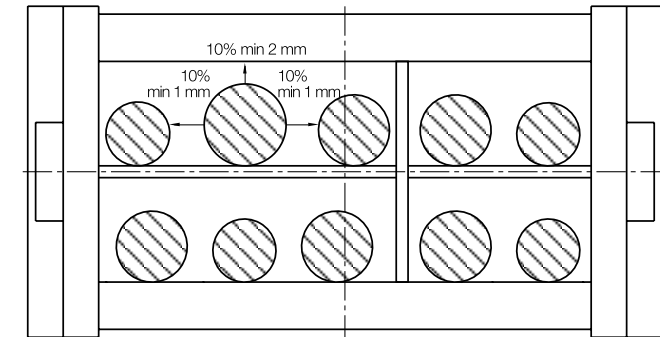
- Cables and hoses with very different diameters should be laid separately. The separation is achieved using modular separators.
- Cables and hoses must **under no circumstances** have the opportunity to tangle. Therefore, the clearance height of a compartment with several similar cables or hoses next to one another **must not amount to more than one and a half times the cable/hose diameter.**



Expressed in rules, this means:

Rule 1:

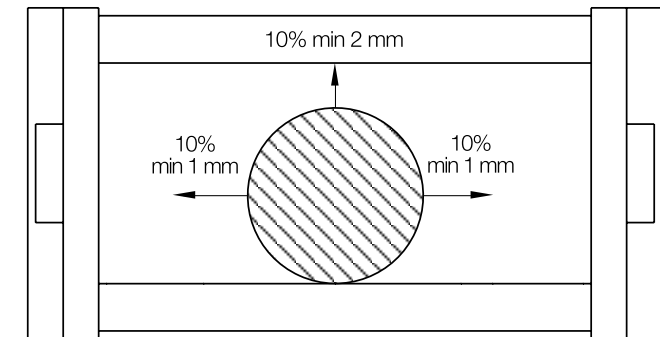
if $D1 + D2 > 1.2 \times$ E-Chain® inner height, no separation between the two cables/ hoses is necessary. Two cables/ hoses should never be left unguided on top of one another or be allowed to become tangled.



Rule 2:

if $d1 + d2 \leq 1.2 \times$ 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 $d2$.

$d1 + d2 \leq 1.2 \times hi$



Clearance space "all around" for round electrical cables

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®.

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 **1.64 ft/s (0.5 m/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 "all around"
Electrical round cables	10%
Electrical flat cables	10%
Pneumatics	5-10%
Hydraulics	20%
Media hoses	15-20%

**Further guidelines
for distribution**

- The cable weight should be symmetrically distributed along the width of the E-Chain®.
- Cables with different outer jacket materials must not be allowed to stick together. If necessary, they must be laid separately. All igus® chainflex® cables can be combined with each and all other brands of cables.
- The cables should always be fixed at the moving end. The fixed end should always involve strain relief. Exceptions are made only for certain hydraulic hoses with length compensation issues or other high pressure hoses. (i.e. 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 like the ones seen in our guarantee charts within each chapter. 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 $4 \times d$ 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-ChainSystems® - 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 792

Electrical round 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
- 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 Fiber 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® experimental laboratory: constant development and testing of chainflex® electrical round cables

Design parameters | Electrical round cables

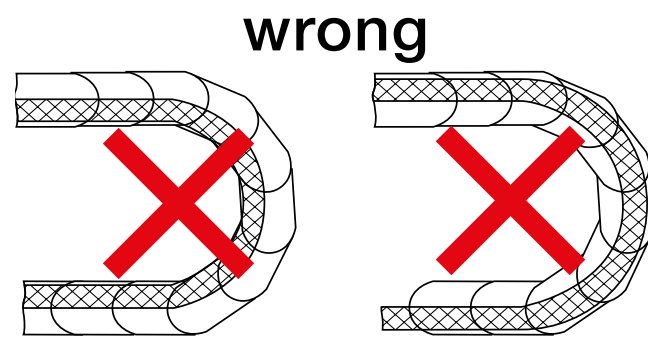
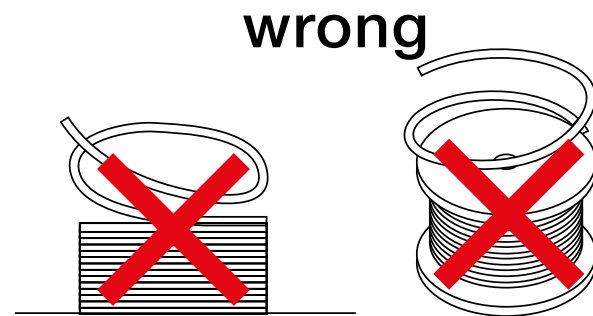
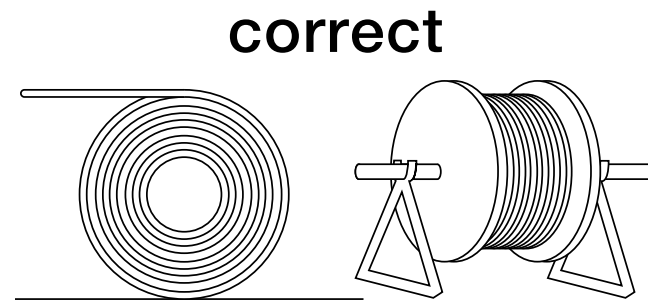
Installation and strain relief of round electrical cables

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 placement 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).

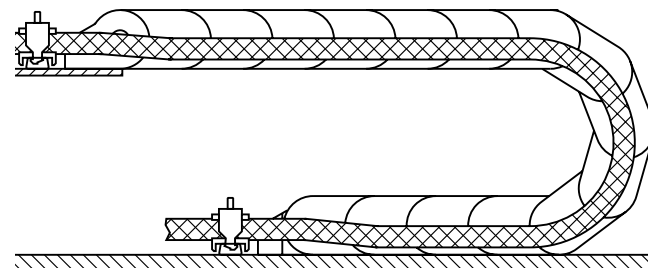
We will be pleased to provide you with recommendations for complete E-ChainSystems:

„ReadyChain®: chain-cable harnessing“.

► ReadyChain® from page 792



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-Chainsystem® with several pneumatic and hydraulic hoses

The igus® product range also offers thermo polymer pneumatic hoses called "chainflex® CFAir and CFCleanAir" ► page 422

At home in the world ...

The chainflex® approvals and their significance:
www.igus.eu/chainflex-certificates

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



Guarantee
igus chainflex
36
up to 36 months guarantee

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 do this, the processes and logic of service life determination were evaluated in a comprehensive audit programme in 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.com/chainflex-at-home-in-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.com/chainflex-at-home-in-the-world



NFPA

The US National Fire Protection Association (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 CC-Link Partner Association 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-GL 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-GL 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 GL 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.dnvgl.com

 **More information:**
www.igus.com/chainflex-at-home-in-the-world

EAC and CTP certificates

EAC (Eurasian Conformity) and CTP are testing standards that are binding for components to be exported to Russia. Among other things, CTP provides proof of compliance with fire protection guidelines for Russia, Kazakhstan and Belarus. 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
- 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.com/chainflex-at-home-in-the-world





REACH directive

The term REACH stands for a regulation called Registration, Evaluation, Authorisation and Restriction of Chemicals.

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 of **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.



More details online:

c.europa.eu/growth/single-market/ce-marking_de



More information:

www.igus.com/chainflex-at-home-in-the-world

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 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



The following describes the typical Approvals and Standards that chainflex® cables carry. The table of contents and respective catalog page details the actual approval.



This is an Underwriters Laboratory designation that indicates compliance to the AWM (Appliance Wire Material) standard 758. This describes cables intended for internal and external wiring components. An AWM cable is useful when obtaining a UL listing on an overall product.



This mark is the same as except approved for use in Canada and the United States. In accordance with Canadian AWM Standard C22.2 No.210 and UL AWM Standard 758 respectively.



Cables that bear this mark are in compliance to a specific Article of the National Electrical Code. For example UL 1277 Tray Cable fulfills the requirements of Article 336 of the 2002 NEC. Listed products are intended for use within residential, commercial and industrial structures



This is the mark of the Canadian Standards Association. Many Chainflex types carry CSA AWM approvals. The Canadian AWM designates compliance to CSA Standard C22.2 No. 210. These products are intended for the internal and external wiring of electronic equipment. Typical markings on cable include the following. EX "CSA AWM I/II A/B 80°C 300V FT1" Optional markings for oil resistance and wet ratings may apply.

Class I: Internal

- A - Where not subject to mechanical abuse
- B - Where may be subject to mechanical abuse

Class II: External

- A - Where not subject to mechanical abuse
- B - Where may be subject to mechanical abuse

The cable must also pass a flame test typically as described below:
FT1 - Vertical Flame Test CSA 22.2

No. 3: In general a Bunsen burner applies flame at base of 18" specimen. Cotton is placed below specimen. Flame is applied 5 times more for 15 seconds FT4 - Vertical Flame Test CSA 22.2 No. 3: In general a propane burner (70,000 BTU/HR) applies flame at one end of 8 foot cable lengths arranged in open steel trays.



Developed by VDW – Association of German Machine Tool Manufacturers. It describes a comprehensive total concept for the standardization and decentralization of the electrical and fluid-technical installation of machines and plants.



European Conformity – The CE mark on a cable designates that the product complies with relevant European health, safety and environmental protection legislations. 2014/35/EG

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)

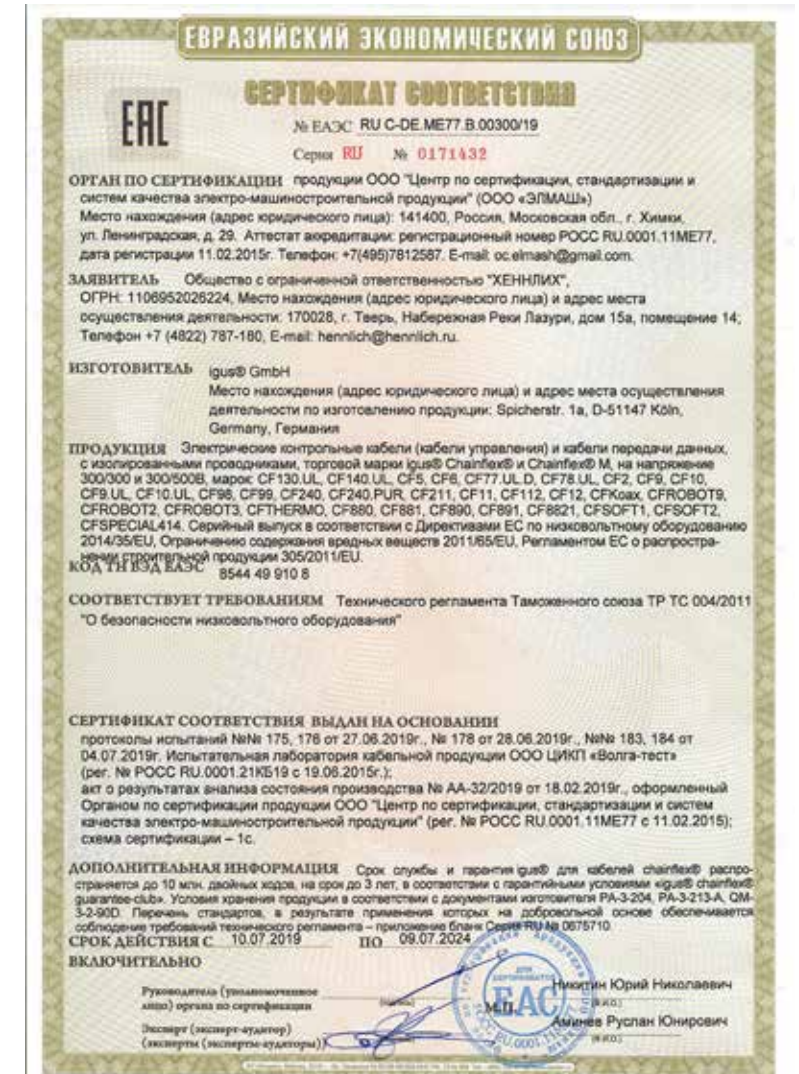
Nr. RU C-DE.ME77.B.02324 (TR ZU)

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



All certificates can be found on ► www.igus.com/CTP-EAC

The 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.eu.

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 yellow-green, 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 gray and RAL 7016 is a dark gray. The RAL number describes the colour, but cannot guarantee the same shade in different applications.

RAL: German Institute for Quality Assurance and Certification EV. ► 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 prove for a perfect 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!

Reduce costs in delivery, storage space & reordering

... with the new chainflex® CASE – ship'n store by igus®

The greatest potential is often in the details. The new chainflex® CASE – ship'n store by igus allows you to save at multiple levels:

- In delivery by standard shipping
- In terms of storage costs through direct "unreeling" from the shipping carton without the cost of expensive storage systems
- In process costs through fast & mobile online ordering

Specifically, this chainflex storage logistics innovation consists of clever shipping packaging for cables sold by the metre, which greatly simplifies the cable handling process. The box can be sent by standard shipping, which reduces the shipping costs enormously.

The shipment can then be placed directly at the use or storage location without additional intermediate steps because the cables can be unreeled directly from the packaging. It is also possible to stack several chainflex cases, as the special construction of the chainflex shipping drum has been specially designed for modular stackability.

And finally, the QR code on the shipping label can be used to re-order the desired goods online via a mobile end device.

► www.igus.com/cf-case



igus	igus GmbH Spicher Str. 1a 51147 Köln/Germany	chainflex
Artikel/Article:	Einfach nachbestellen/Easy to reorder:	
CF880.15.03		
Bezeichnung/Description:		
chainflex PVC Steuer-Ltg. 3G1,5		
Länge/Length:	100m	





Find & compare cables

Quickcable



The chainflex® product finder simply shows which of our cables is best suited for your E-Chain® application:

Select the cable type, the connection and other desired product properties as well as the number of cores and the cross-section, the nominal voltage and type of the E-Chain® for your application. Select the bending radius, the maximum and minimum operating temperature ①, torsion, maximum speed and acceleration, as well as the travel ②. Select the bend radius, the maximum and minimum operating temperature ③, torsion, maximum speed and acceleration, as well as the travel ④.

The results are displayed at the bottom edge of the screen ⑤.

► www.igus.com/quickcable



Calculate service life of cables

QuickLife



Calculate the service life of your required cable online with a few clicks. Enter the name of your system and select cable type, series and part number ①. Enter the system information ② of your Energy Chain® and select whether you have an unsupported or gliding application.

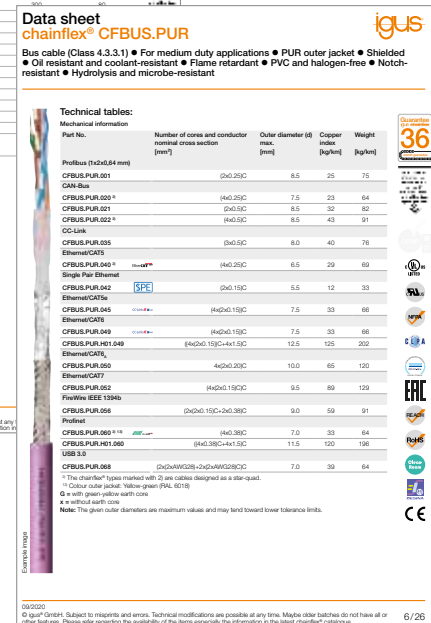
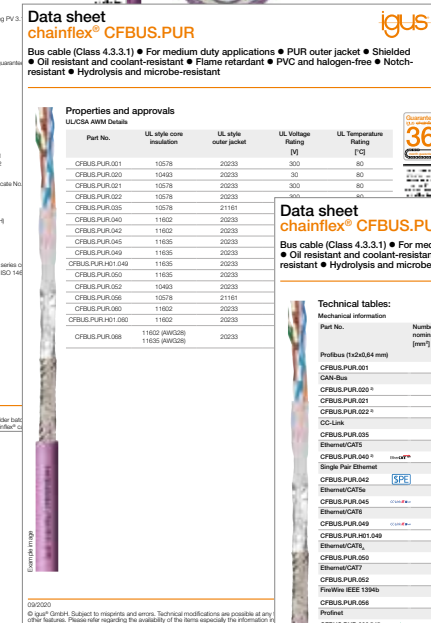
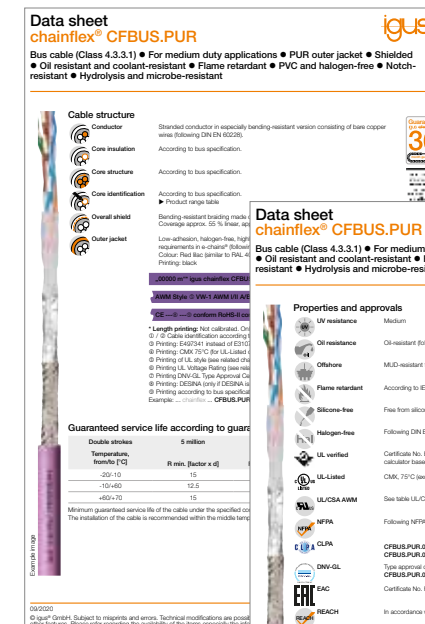
By clicking on "Calculate" ③ you will be shown the results ④.

► www.igus.com/cf-lifetime

Data sheets online

Technical details for all chainflex® cables series ... to be found online as PDF file:

► www.igus.com/download



Printed CATALOGS:



Catalog: E-Chains® and systems

The standard catalogue for e-chains® and e-chain systems®.

MAT0072320.16



Catalog: dry-tech® bearing technology

Catalogue about iglidur® bearings, igubal® spherical bearings, xiros® ball bearings and drylin® linear guide systems, lead screw technology and drive technology.

MAT0070571.16



Catalog: chainflex® cables

Worldwide No. 1 for cables in e-chains® - tested, tested, tested. More than 1,354 cables from stock. 36 months guarantee on every chainflex® cable ... up to 10 million double strokes guaranteed.

MAT0070582.16

You can also download all catalogs and brochures in our download area at www.igus.com/downloads

Printmedia, Brochures, Whitepaper:



Brochure: chainflex® Ethernet cables

chainflex® cables and harnessed readycable® cables for Ethernet applications: CAT5, CAT5e, CAT6, CAT6A und CAT7, Profinet, Connectors.

MAT0073498.16



Whitepaper online

Find our latest whitepaper for these approvals online:

- UL verified
- DNV-GL
- CE
- UL & CSA
- EAC & CTP

► www.igus.com/info/chainflex-welcome-to-the-world



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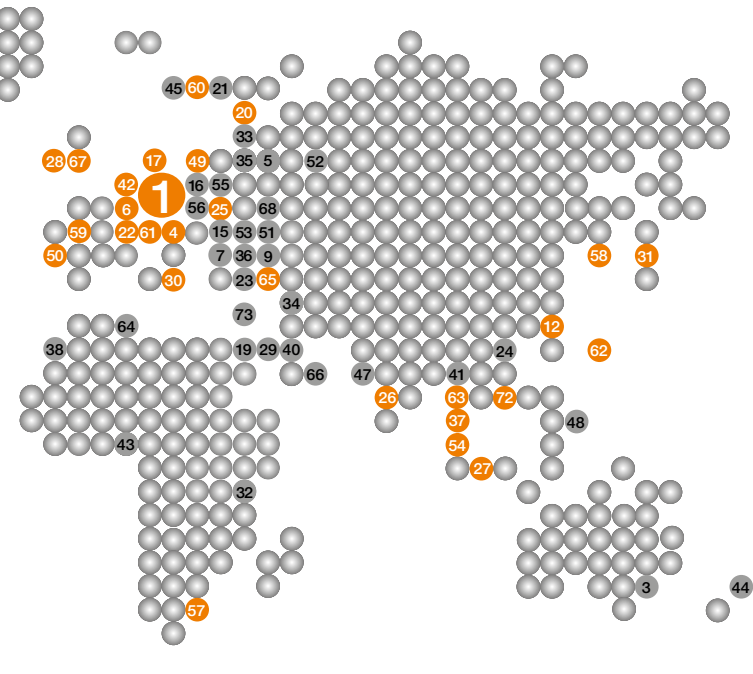
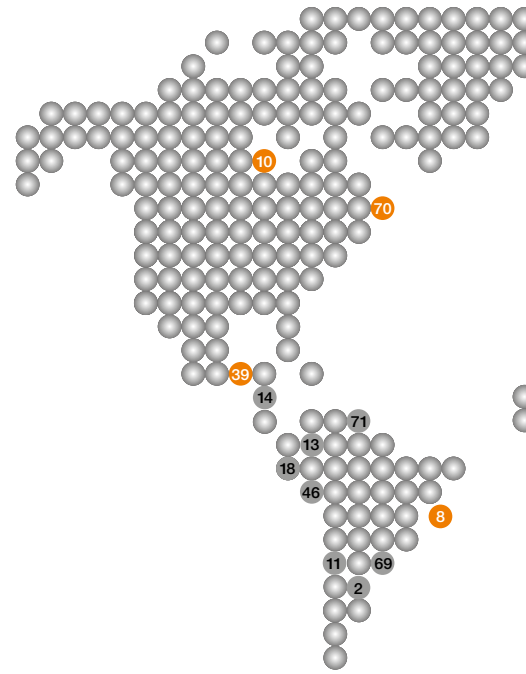
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