Motor cable | PUR outer jacket

chainflex® CFROBOT7



Image exemplary

10 million Cycles guaranteed

10 x d Bend radius, e-chain®

±180°/m Torsion angle

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

Dynamic information

Bend radius	**flexible twisted**	minimum 10 x d
	fixed	minimum 5 x d
Temperature	**flexible twisted**	-25°C up to +80°C
	fixed	-55°C up to +80°C (following DIN EN 50305)
v max.	**twisted**	180°/s
a max.	**twisted**	60°/s²
Travel		Robots and multi-axis movements, Class 1
Torsion		Torsion ±180°, with 1m cable length, Class 3

Cable structure

Conductor	Stranded conductor in especially bending-resistant version consisting of bare copper wires (following DIN EN 60228).
Core insulation	Mechanically high-quality TPE mixture.
Core identification	**Power cores:** Black cores with white numbers, one green-yellow core. **2 control pairs:** Black cores with white numbers. 1. Control core: 5 2. Control core: 6 3. Control core: 74. Control core: 8 **4 Control pairs:** Colour code in accordance with DIN 47100
Overall shield	Extremely torsion-resistant tinned wound copper shield. Coverage approx. 85% optical
Outer jacket	Low-adhesion, halogen-free, highly abrasion resistant PUR mixture, adapted to suit the requirements in e-chains® (following DIN EN 50363-10-2) Colour: Steel blue (similar to RAL 5011)

Electrical information

Nominal voltage	600/1,000V (following DIN VDE 0298-3) 1,000V (following UL)
Testing voltage	4,000V (following DIN EN 50395)

4-year guarantee ... more than 1,350 cable types from stock ... no cutting costs

Class 6.1.3.3

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

Properties and approvals

UV resistance	High
Oil resistance	Oil-resistant (following DIN EN 50363-10-2), Class 3
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
Halogen-free	Following DIN EN 60754
PTFE-free	The design of these products does not contain PTFE
UL-verified	Certificate No. V293650: „igus 4-year 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.eu/CFROBOT7
NFPA	Following NFPA 79-2018, chapter 12.9
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
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 14-15)

Cycles*	5 million	7.5 million	10 million
Temperature, from/to [°C]	Torsion max. [°/m]	Torsion max. [°/m]	Torsion max. [°/m]
-25/-15	±150	±90	±30
-15/+70	±180	±120	±60
+70/+80	±150	±90	±30

* Higher number of cycles? Calculate service life online: ▶ www.igus.eu/chainflexlife

Typical application areas

- For heaviest duty applications with torsion movements, Class 6
- Especially for robots and multi-axis movements, Class 1
- Almost unlimited resistance to oil, Class 3
- Torsion ±180°, with 1m cable length, Class 3
- Indoor and outdoor applications, UV-resistant
- Robots, handling, lead screw drives

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

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Image exemplary

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
2 control pairs				
CFROBOT7.07.03.02.02.C [11]	(4G0.75+2x(2x0.34)C)C	11.5	88	155
CFROBOT7.15.15.02.02.C	(4G1.5+2x(2x1.5)C)C	16.5	197	304
CFROBOT7.25.15.02.02.C	(4G2.5+2x(2x1.5)C)C	16.5	243	349
4 control pairs				
CFROBOT7.40.02.02.04.C	(4G4.0+4x(2x0.25)C)C	17.0	253	366
without control pair				
CFROBOT7.15.03.C	(3G1.5)C	8.5	61	98
CFROBOT7.15.04.C	(4G1.5)C	9.5	77	120
CFROBOT7.25.03.C	(3G2.5)C	10.0	93	142
CFROBOT7.25.04.C	(4G2.5)C	11.0	119	173
CFROBOT7.60.04.C	(4G6.0)C	15.0	278	374

Shop and prices online

CF-J-0007

www.igus.eu/CFROBOT7

[11] Phase-out model

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

Order example: CFROBOT7.15.03.C – to your required length (0.5m steps)
CFROBOT7 chainflex® series .15 Code nominal cross section .03 Number of cores

Online order ▶ www.igus.eu/CFROBOT7

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

Guarantee igus chainflex 4 YEARS up to 4 years guarantee

igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year

CFRP

PTFE FREE

c UL us LISTED

c RU us

nec

NFPA

CLP A

DNV

REACH

RoHS

clean-room

dry cleanroom

CE

Cables available in the chainflex® CASE

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

More on this online: www.igus.eu/cf-case

Guarantee igus chainflex 4 YEARS up to 4 years guarantee

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