Control cable | PUR | chainflex® CFROBOT2

10 million Cycles guaranteed

10 x d Bend radius, e-chain®

±180°/m Torsion angle

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

Dynamic information

Bend radius	**flexible twisted**	minimum 10 x d
	fixed	minimum 5 x d
Temperature	**flexible twisted**	-25°C up to +80°C
	fixed	-50°C up to +80°C (following DIN EN 50305)
v max.	**twisted**	180°/s
a max.	**twisted**	60°/s²
Travel distance	Robots and 3D movements, Class 1	
Torsion	Torsion ±180°, with 1m cable length, Class 3	

Cable structure

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

Electrical information

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

Properties and approvals

UV resistance	High
Oil resistance	Oil-resistant (following DIN EN 50363-10-2), Class 3
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
Halogen-free	Following DIN EN 60754

Example image

EPLAN download, configurators ▶ www.igus.eu/CFROBOT2

Class 6.1.3.3

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

UL verified	Certificate No. B129699: "igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year" See data sheet for details ▶ **www.igus.eu/CFROBOT2**
UL/CSA AWM	
NFPA	Following NFPA 79-2018, chapter 12.9
EAC	Certificate No. RU C-DE.ME77.B.00300/19
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 1. The outer jacket material of this series complies with CF77.UL.05.12.D - tested by IPA according to standard DIN EN ISO 14644-1
CE	Following 2014/35/EU
UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Guaranteed service life (details see page 28-29)

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

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

Typical application areas

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

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CFROBOT2.07.04.C	(4G0.75)C	8.0	43	78
CFROBOT2.07.05.C	(5G0.75)C	8.5	51	90
CFROBOT2.07.07.C	(7G0.75)C	10.0	71	120
CFROBOT2.07.12.C	(12G0.75)C	14.0	122	214
CFROBOT2.07.18.C	(18G0.75)C	16.5	185	301

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

Cables available in the chainflex® CASE

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

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

CFROBOT2
PUR
±180°/m