PVC | iguPUR | **PUR** | TPE

New

Bus cable | PUR | chainflex® CFROBOT8.PLUS

Example image

10 million Cycles guaranteed

10 x d Bend radius, e-chain®

±360°/m Torsion angle

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

Dynamic information

Bend radius	**flexible twisted**	minimum 10 x d
	fixed	minimum 5 x d
Temperature	**flexible twisted**	-25°C up to +70°C
	fixed	-50°C up to +70°C (following DIN EN 50305)
v max.	**twisted**	360°/s
a max.	**twisted**	60°/s²
Travel distance	Robots and 3D movements, Class 1	
Torsion	Torsion ±360°, with 1m cable length, Class 4	

Cable structure

Conductor	Stranded conductor in especially bending-resistant version consisting of bare copper wires (following DIN EN 60228).
Core insulation	According to bus specification.
Core structure	According to bus specification.
Core identification	According to bus specification. ▶ Product range table
Intermediate layer	Foil taping over the outer layer.
Overall shield	Torsion resistant tinned braided copper shield. Coverage approx. 80% optical
Outer jacket	Low-adhesion, halogen-free, highly abrasion resistant PUR mixture, adapted to suit the requirements in e-chains® (following DIN EN 50363-10-2) Colour: Steel blue (similar to RAL 5011)

Electrical information

Nominal voltage	50V 30V (following UL)
Testing voltage	500V

EPLAN download, configurators ▶ www.igus.eu/CFROBOT8PLUS

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

igus

EU2023

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Class 6.1.3.4

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

Properties and approvals

UV resistance	High
Oil resistance	Oil-resistant (following DIN EN 50363-10-2), Class 3
Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
Halogen-free	Following DIN EN 60754
UL verified	Certificate No. B129699: "igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL/CSA AWM	See data sheet for details ▶ www.igus.eu/CFROBOT8PLUS
EAC	Certificate No. RU C-DE.ME77.B.00295/19
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 1. The outer jacket material of this series complies with CF77.UL.05.12.D - tested by IPA according to standard DIN EN ISO 14644-1
CE	Following 2014/35/EU
UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

Guaranteed service life (details see page 28-29)

Cycles*	5 million	7.5 million	10 million
Temperature, from/to [°C]	Torsion max. [°/m]	Torsion max. [°/m]	Torsion max. [°/m]
-25/-15	±330	±240	±150
-15/+60	±360	±270	±180
+60/+70	±330	±240	±150

* Higher number of double strokes? Service life calculation online ▶ www.igus.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 ±360°, with 1m cable length, Class 4
- Indoor and outdoor applications, UV-resistant
- Robots, handling, spindle drives

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

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

CFROBOT8.
PLUS
PUR
±360°/m

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Bus cable | PUR | chainflex® CFROBOT8.PLUS

New

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CFROBOT8.
PLUS
PUR
±360°/m

Example image

	Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
	Profibus (1x2x0.64mm)				
PROFIBUS	**CFROBOT8.PLUS.001**	(2x0.25)C	9.0	30	80
	CAN-Bus				
New	**CFROBOT8.PLUS.022**	(4x0.5)C	9.5	47	103
	Ethernet/CAT5e/PoE				
	CFROBOT8.PLUS.045	(4x(2x0.15))C	7.5	32	67
	Ethernet/CAT6/PoE				
New	**CFROBOT8.PLUS.049**	(4x(2x0.15))C	7.5	32	67
	Ethernet/CAT6A				
New	**CFROBOT8.PLUS.050**	(4x(2x0.15C)C	10.5	49	115
	Profinet				
PROFINET EtherCAT	**CFROBOT8.PLUS.060** 2)	(4x0.34)C	7.0	32	64

Part No.	Characteristic wave impedance approx. [Ω]	Core group	Colour code
Profibus (1x2x0.64mm)			
CFROBOT8.PLUS.001	150	(2x0.25)C	red, green
CAN-Bus			
CFROBOT8.PLUS.022	120	(4x0.5)C	white, green, brown, yellow (star-quad)
Ethernet/CAT5e/PoE			
CFROBOT8.PLUS.045	100	(4x(2x0.15))C	white-blue/blue, white-orange/orange, white-green/green, white-brown/brown
Ethernet/CAT6/PoE			
CFROBOT8.PLUS.049	100	4x(2x0.15)C	white-green/green, white-orange/orange, white-blue/blue, white-brown/brown
Ethernet/CAT6A			
CFROBOT8.PLUS.050	100	4x(2x0.15)C	white-green/green, white-orange/orange, white-blue/blue, white-brown/brown
Profinet			
CFROBOT8.PLUS.060 2)	100	(4x0.38)C	white, orange, blue, yellow (star-quad)

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

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

Cables available in the chainflex® CASE

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

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

Technical note on bus cables
chainflex® bus cables have been specially developed and tested for continuously moving use in e-chains®. Depending on the material used for the outer jacket and on the underlying construction principle, the bus cables are designed for different mechanical requirements and resistance to diverse media.
The cables have been electrically designed in such a way that, on the one hand, the electrical requirements of the respective bus specification are reliably met and, on the other, that greater value is placed on a high degree of EMC reliability.
It is also ensured that the electrical values remain stable over the long term in spite of permanent movement.
The overall quality of transmission in a complete bus communication system, however, is not solely dependent on the cable used. What is also essential is that all components (electronic parts, connecting system and cable) are precisely matched to each other and that the maximum transmission lengths, which are dependent on the respective system, are adhered to with regard to the data transmission rates needed. A cable is thus not solely responsible for the reliable transmission of signals.
igus® advises you when you are designing your bus system to take all these factors into account and, with extensive tests, helps you to ensure the process reliability of your system from the very beginning.

Order example: CFROBOT8.PLUS.060 – to your desired length (0.5m steps)
CFROBOT8.PLUS chainflex® series .060 Code bus type

Order online ▶ www.igus.eu/CFROBOT8PLUS

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

EPLAN download, configurators ▶ www.igus.eu/CFROBOT8PLUS

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