

Bus cable | PUR | chainflex® CFROBOT8.PLUS

New







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

Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 400m	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

Class 6.1.3.4

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
	PFAS-free	Use of PFAS-free materials according to the content of the REACH directive and its rules for the production and processing of chemical substances
	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/CFROBOT8PLUS
	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

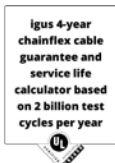
Guaranteed service life (details see page 28-29)

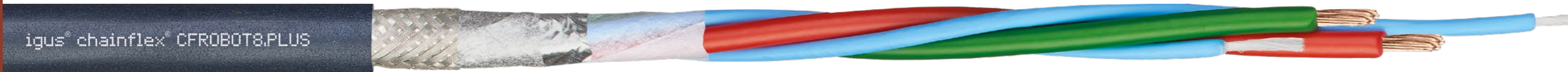
Cycles*	5 million	7.5 million	10 million
Temperature, from/to [°C]	Torsion max. [°/m]	Torsion max. [°/m]	Torsion max. [°/m]
-25/-15	±330	±240	±150
-15/+60	±360	±270	±180
+60/+70	±330	±240	±150

* 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





Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
Profibus (1x2x0.64mm)				
 CFROBOT8.PLUS.001	(2x0.25)C	9.0	30	80
CAN-Bus				
CFROBOT8.PLUS.022	(4x0.5)C	9.0	47	103
Ethernet/CAT5e/PoE				
CFROBOT8.PLUS.045	(4x(2x0.15))C	7.5	32	67
Ethernet/CAT6/PoE				
CFROBOT8.PLUS.049	(4x(2x0.15))C	7.5	32	67
Ethernet/CAT6A				
CFROBOT8.PLUS.050	4x(2x0.15)C	10.5	49	115
Ethernet/CAT7				
New  CFROBOT8.PLUS.052	4x(2x0.15)C	10.5	49	115
Profinet				
 CFROBOT8.PLUS.060 ²⁾	(4x0.34)C	7.0	32	64

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

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



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.

Part No.	Characteristic wave impedance approx. [Ω]	Core group	Colour code
Profibus (1x2x0.64mm)			
CFROBOT8.PLUS.001	150	2x0.25	red, green
CAN-Bus			
CFROBOT8.PLUS.022	120	4x0.5	white, green, brown, yellow (star-quad)
CFROBOT8.PLUS.045	100	4x(2x0.15)	white-blue/blue, white-orange/orange, white-green/green, white-brown/brown
Ethernet/CAT6/PoE			
CFROBOT8.PLUS.049	100	4x(2x0.15)	white-blue/blue, white-orange/orange, white-green/green, white-brown/brown
Ethernet/CAT6A			
CFROBOT8.PLUS.050	100	4x(2x0.15)C	white-blue/blue, white-orange/orange, white-green/green, white-brown/brown
Ethernet/CAT7			
CFROBOT8.PLUS.052	100	4x(2x0.15)C	white-blue/blue, white-orange/orange, white-green/green, white-brown/brown
Profinet			
CFROBOT8.PLUS.060 ²⁾	100	4x0.34	white, orange, blue, yellow (star-quad)

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

 Order online ► www.igus.eu/CFROBOT8PLUS

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



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