Bus cable | iguPUR | chainflex® CF898

Example image

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

Dynamic information

Bend radius	**e-chain® linear**	minimum 15 x d
	flexible	minimum 12 x d
	fixed	minimum 8 x d
Temperature	**e-chain® linear**	-20 °C to +70 °C
	flexible	-40 °C to +70 °C (following DIN EN 60811-504)
	fixed	-50 °C to +70 °C (following DIN EN 50305)
v max.	**unsupported**	3 m/s
a max.		20 m/s²
Travel distance		Unsupported travel distances up to 10 m, Class 1

Cable structure

Conductor	Conductor 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
Overall shield	Braiding made of tinned copper wires. Coverage approx. 60 % optical
Outer jacket	Low-adhesion iguPUR mixture, adapted to suit the requirements in e-chains®. Colour: Red lilac (similar to RAL 4001) **CF898.080/CF898.082:** Gelb (vergleichbar RAL 1021) **CF898.081/CF898.083:** Jet black (similar to RAL 9005)

Electrical information

Nominal voltage	50 V
Testing voltage	500 V

Class 3.1.3.1

Basic requirements	low	1	2	**3**	4	5	6	7 highest
Travel distance	unsupported	**1**	2	3	4	5	6	≥ 400 m
Oil resistance	none	1	2	**3**	4	highest		
Torsion	none	**1**	2	3	±180°			

Properties and approvals

UV resistance	Medium.
Oil resistance	Oil-resistant (following DIN EN 50363-10-2), Class 3.
Flame retardant	**CF898.001-CF898.060:** According to IEC 60332-1-2, CEI 20-35, FT1, VW-1 **CF898.080-CF898.083:** According to IEC 60332-1-2, CEI 20-35, FT2
Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992).
UL/CSA	**CF898.001:** Style 1589 and 20236, 80 V, 80 °C **CF898.021-CF898.060:** Style 1598 and 20236, 80 V, 80 °C **CF898.080-CF898.081:** Style 10493 and 20549, 300 V, 80 °C **CF898.082-CF898.083:** Style 21866, 90 V, 80 °C
EAC	Certificate no. RU C-DE.ME77.B.01559 (TR ZU)
CTP	Certificate no. C-DE.PB49.B.00449 (Fire safety)
Lead-free	Following 2011/65/EU (RoHS-II).
CE	Following 2014/35/EU.

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

Double strokes*	1 million	3 million	5 million
Temperature, from/to [°C]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-20/-10	17.5	18.5	19.5
-10/+60	15	16	17
+60/+70	17.5	18.5	19.5

* Higher number of double strokes? Online lifetime calculation: www.igus.eu/chainflexlife

Typical mechanical application areas

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

CF898
iguPUR
15 x d

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Bus cable | iguPUR | chainflex® CF898

Class 3.1.3.1

Basic requirements: low 1 2 3 4 5 6 7 highest
Travel distance: unsupported 1 2 3 4 5 6 ≥ 400 m
Oil resistance: none 1 2 3 4 highest
Torsion: none 1 2 3 ±180°

CF898
iguPUR
15 x d

Example image

Part No.	Number of cores and conductor nominal cross section	Outer diameter (d) max.	Copper index	Weight	Part No.	Characteristic wave impedance approx.	Core group	Colour code
	[mm²]	[mm]	[kg/km]	[kg/km]		[Ω]		
Profibus								
CF898.001	(2x0.25)C	8.0	19	58	**CF898.001**	150	(2x0.25)C	red, green
CAN-Bus								
CF898.021	(2x0.5)C	8.5	26	82	**CF898.021**	120	(2x0.5)C	white, brown
Ethernet/CAT5e								
CF898.045	(4x(2x0.14))C	7.5	27	64	**CF898.045**	100	(4x(2x0.14))C	white-blue/blue, white-orange/orange, white-green/green, white-brown/brown
Profinet								
EtherCAT. **CF898.060** [2) 16)]	(4x0.34)C	7.0	27	60	**CF898.060** [2) 16)]	100	(4x0.34)C	white, orange, blue, yellow (star-quad stranding)
ASI BUS (flat cables)								
CF898.080	2x1.5		32	64	**CF898.080**	-	2x1.5	blue, brown
CF898.081	2x1.5		32	64	**CF898.081**	-	2x1.5	blue, brown
CF898.082	2x2.5		50	78	**CF898.082**	-	2x2.5	blue, brown
CF898.083	2x2.5		50	78	**CF898.083**	-	2x2.5	blue, brown

The chainflex® types marked with [2)] are cables designed as a star-quad.
[16)] Colour outer jacket: Yellow-green (RAL 6018)
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

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 so that all these factors are taken into account and, with extensive tests, helps you to ensure the process reliability of your system from the very beginning.