

# Bus cable | iguPUR | chainflex® CF898

**36** 5,000,000 Double strokes guaranteed **15 x d** Bend radius, e-chain® **10m** Travel distance, e-chain®

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

### Dynamic information

<b>Bend radius</b>	<b>e-chain® linear flexible</b>	minimum 15 x d
	<b>fixed</b>	minimum 12 x d
<b>Temperature</b>	<b>e-chain® linear flexible</b>	-20°C up to +70°C
	<b>fixed</b>	-40°C up to +70°C (following DIN EN 60811-504)
<b>v max.</b>	<b>unsupported</b>	3m/s
<b>a max.</b>		20m/s <sup>2</sup>
<b>Travel distance</b>		Unsupported travels up to 10m, Class 1

### Cable structure

<b>Conductor</b>	Conductor consisting of bare copper wires (according to DIN EN 60228).
<b>Core insulation</b>	According to bus specification.
<b>Core structure</b>	According to bus specification.
<b>Core identification</b>	According to bus specification. ► <b>Product range table</b>
<b>Overall shield</b>	Braiding made of tinned copper wires. Coverage approx. 60% optical
<b>Outer jacket</b>	Low-adhesion iguPUR mixture, adapted to suit the requirements in e-chains®. Colour: Red lilac (similar to RAL 4001) Variants ► <b>Product range table</b>

### Electrical information

<b>Nominal voltage</b>	50V 300V (following UL), except <b>CF898.001</b> : 30V (following UL)
<b>Testing voltage</b>	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 3.1.3.1

### Properties and approvals

<b>UV resistance</b>	Medium
<b>Oil resistance</b>	Oil-resistant (following DIN EN 50363-10-2), Class 3
<b>Flame-retardant</b>	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame <b>CF898.082-CF898.083</b> : According to IEC 60332-1-2, FT2
<b>Silicone-free</b>	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
<b>UL verified</b>	Certificate No. B129699: "igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
<b>UL/CSA AWM</b>	See data sheet for details ► <a href="http://www.igus.eu/CF898">www.igus.eu/CF898</a>
<b>NFPA</b>	<b>CF898.001-CF898.060</b> : Following NFPA 79-2018, Kapitel 12.9
<b>EAC</b>	Certificate No. RU C-DE.ME77.B.00295/19
<b>REACH</b>	In accordance with regulation (EC) No. 1907/2006 (REACH)
<b>Lead-free</b>	Following 2011/65/EC (RoHS-II/RoHS-III)
<b>CE</b>	Following 2014/35/EU
<b>UK CA</b>	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

### Guaranteed service life (details see page 28-29)

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? Service life calculation online ► [www.igus.eu/chainflexlife](http://www.igus.eu/chainflexlife)

### Typical application areas

- For flexing applications, Class 3
- Especially for unsupported travels, Class 1
- With influence of oil, Class 3
- No torsion, Class 1
- Indoor and outdoor applications without direct sun radiation
- Machining units/machine tools, low temperature applications



igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year



igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year



Example image

igus® chainflex® CF898.045

EPLAN download, configurators ► [www.igus.eu/CF898](http://www.igus.eu/CF898)

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



EU2023

EU2023



UL-verified chainflex® guarantee ... [www.igus.eu/ul-verified](http://www.igus.eu/ul-verified)



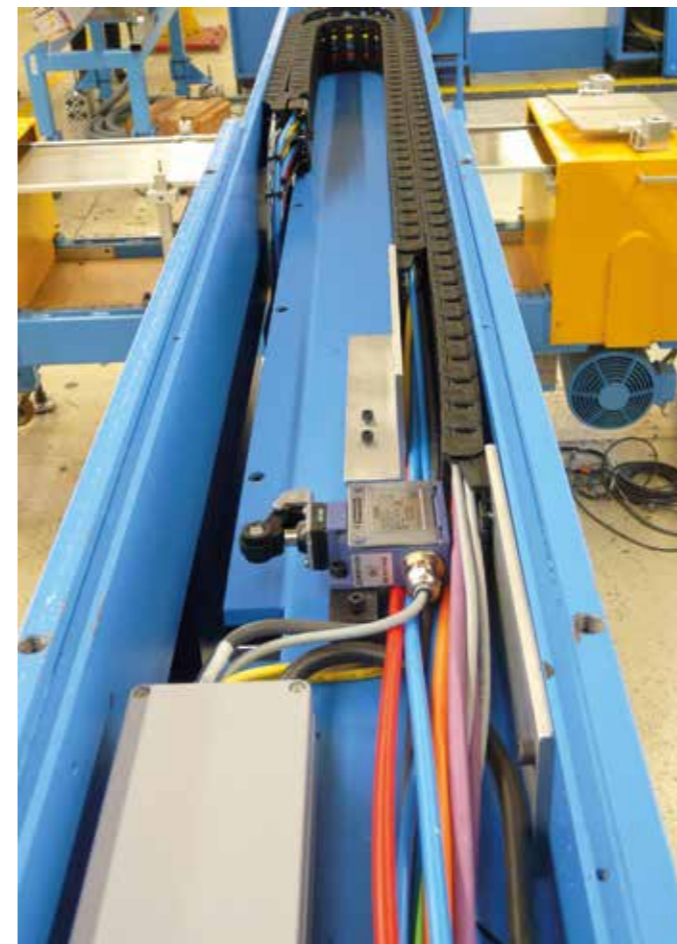
Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
<b>Profibus (1x2x0.64mm)</b>				
CF898.001	(2x0.25)C	8.0	18	56
<b>CAN-Bus</b>				
CF898.021	(2x0.5)C	8.5	24	80
<b>Ethernet/CAT5e</b>				
CF898.045	(4x(2x0.14))C	7.0	25	54
<b>Profinet</b>				
CF898.060 <sup>13)</sup>	(4x0.34)C	7.0	25	58
CF898.061.FC	(4x0.34)C	7.0	25	72
<b>ASI BUS (flat cables)</b>				
CF898.082 <sup>14)</sup>	According to ASI	4.0	50	82
CF898.083 <sup>15)</sup>	According to ASI	4.0	50	79

<sup>13)</sup> Colour outer jacket: Yellow-green (RAL 6018)  
<sup>14)</sup> Colour outer jacket: Yellow (RAL 1021)  
<sup>15)</sup> Colour outer jacket: Jet black (RAL 9005)

**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

Part No.	Characteristic wave impedance approx. [Ω]	Core group	Colour code
<b>Profibus (1x2x0.64mm)</b>			
CF898.001	150	2x0.25	red, green
<b>CAN-Bus</b>			
CF898.021	120	2x0.5	white, brown
<b>Ethernet/CAT5e</b>			
CF898.045	100	4x(2x0.14)	white-blue/blue, white-orange/orange, white-green/green, white-brown/brown
<b>Profinet</b>			
CF898.060 <sup>13)</sup>	100	4x0.34	white, orange, blue, yellow (star-quad)
CF898.061.FC	100	4x0.34	white, orange, blue, yellow (star-quad)
<b>ASI BUS (flat cables)</b>			
CF898.082 <sup>14)</sup>	According to ASI	2x2.5	blue, brown
CF898.083 <sup>15)</sup>	According to ASI	2x2.5	blue, brown



Adjustment device with chainflex® CF898 bus cables



**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](http://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.

EPLAN download, configurators ► [www.igus.eu/CF898](http://www.igus.eu/CF898)



igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year



igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year