

Bus cable | TPE | chainflex® CFBUS.LB



12.5 million
Double strokes guaranteed



7.5 x d
Bend radius, e-chain®



400m
Travel distance, e-chain®

- For heaviest duty applications
- TPE outer jacket
- Shielded
- Oil and bio-oil-resistant
- Low-temperature-flexible
- PVC and halogen-free
- Hydrolysis and microbe-resistant

Now available
with UL approval
& 25% longer
service life

Dynamic information

	Bend radius	e-chain® linear	minimum 7.5 x d
		flexible	minimum 6 x d
		fixed	minimum 4 x d
	Temperature	e-chain® linear	-35°C up to +70°C
		flexible	-50°C up to +70°C (following DIN EN 60811-504)
		fixed	-55°C up to +70°C (following DIN EN 50305)
	v max.	unsupported	10m/s
		gliding	6m/s
	a max.		100m/s ²
	Travel distance		Unsupported travels and up to 400m and more for gliding applications, Class 6

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
	Inner jacket	TPE mixture adapted to suit the requirements in e-chains®.
	Overall shield	Extremely bending-resistant braiding made of tinned copper wires. Coverage linear approx. 70%, optical approx. 90%
	Outer jacket	Low-adhesion, extremely abrasion-resistant and highly flexible TPE mixture, adapted to suit the requirements in e-chains®. Colour: Red lilac (similar to RAL 4001) Variants ► Product range table

Electrical information

	Nominal voltage	50V
		600V (following UL)
	Testing voltage	500V (following DIN EN 50289-1-3)

EPLAN download, configurators ► www.igus.eu/CFBUSLB

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



EU2023

EU2023



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 7.6.4.1

Properties and approvals

	UV resistance	Medium
	Oil resistance	Oil-resistant (following DIN EN 60811-404), bio-oil-resistant (following VDMA 24568 with Plantocut 8 S-MB tested by DEA), Class 4
	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 AWM	See data sheet for details ► www.igus.eu/CFBUSLB (from production date 01/2022)
	CLPA	CFBUS.LB.045: CC-Link IE Field , Reference no. 131 CFBUS.LB.049: CC-Link IE Field , Reference no. 138
	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 CF9.15.07 - tested by IPA according to standard DIN EN ISO 14644-1
	DESINA	According to VDW, DESINA standardisation
	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)

Double strokes*	5 million		7.5 million		12.5 million	
	CFBUS.LB .001-.022	CFBUS.LB .040-.060	CFBUS.LB .001-.022	CFBUS.LB .040-.060	CFBUS.LB .001-.022	CFBUS.LB .040-.060
Temperature, from/to [°C]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-35/-25	12.5	10	13.5	11	14.5	12
-25/+60	10	7.5	11	8.5	12	9.5
+60/+70	12.5	10	13.5	11	14.5	12

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

Typical application areas

- For heavy-duty applications, Class 7
- Unsupported travels and up to 400m and more for gliding applications, Class 6
- Almost unlimited resistance to oil, also with bio-oils, Class 4
- No torsion, Class 1
- Indoor and outdoor applications without direct sun radiation
- Storage and retrieval units for high-bay warehouses, machining units/machine tools, quick handling, cleanroom, semiconductor insertion, indoor cranes, low temperature applications



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

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



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Example image

igus® chainflex® CFBUS.LB.049



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



igus® chainflex® CFBUS.LB.049

Example image

Class 7.6.4.1



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)				
CFBUS.LB.001	(2x0.25)C	9.0	33	78
CAN-Bus/Feldbus				
CFBUS.LB.020 ²⁾	(4x0.25)C	6.5	28	49
CFBUS.LB.021	(2x0.5)C	8.0	39	67
CFBUS.LB.022 ²⁾	(4x0.5)C	8.0	43	78
Ethernet/CAT5I				
CFBUS.LB.040 ²⁾	(4x0.25)C	7.0	33	50
Ethernet/CAT5e				
CFBUS.LB.045	(4x(2x0.15))C	8.5	42	71
Ethernet/CAT6				
CFBUS.LB.049	(4x(2x0.15))C	8.5	42	71
Profinet				
CFBUS.LB.060 ^{2) 13)}	(4x0.38)C	7.5	39	67

Part No.	Characteristic wave impedance approx. [Ω]	Core group	Colour code
Profibus (1x2x0.64mm)			
CFBUS.LB.001	150	2x0.25	red, green
CAN-Bus/Feldbus			
CFBUS.LB.020 ²⁾	120	4x0.25	white, green, brown, yellow (star-quad)
CFBUS.LB.021	120	2x0.5	white, brown
CFBUS.LB.022 ²⁾	120	4x0.5	white, green, brown, yellow (star-quad)
Ethernet/CAT5I			
CFBUS.LB.040 ²⁾	100	4x0.25	white, green, brown, yellow (star-quad)
Ethernet/CAT5e			
CFBUS.LB.045	100	4x(2x0.15)	white-blue/blue, white-orange/orange, white-green/green, white-brown/brown
Ethernet/CAT6			
CFBUS.LB.049	100	4x(2x0.15)	white-blue/blue, white-orange/orange, white-green/green, white-brown/brown
Profinet			
CFBUS.LB.060 ^{2) 13)}	100	4x0.38	white, orange, blue, yellow (star-quad)

The chainflex® types marked with ²⁾ are cables designed as a star-quad.
¹³⁾ 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



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



cost down...



...life up

Reduce cost, improve technology, now!

Do the chainflex® price check ...
www.igus.eu/cf-price-check

... for example: reduce cost with CFBUS.PUR ...

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.

