

Data sheet

chainflex® CFSPECIAL.182



Bus cable for high tensile strain ● PUR outer jacket ● Shielded
 ● Oil resistant and coolant-resistant ● Flame-retardant ● PVC and halogen-free
 ● Notch-resistant ● Hydrolysis and microbe-resistant

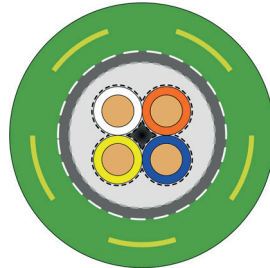
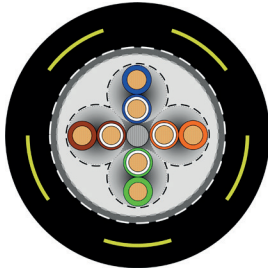


Ethernet (CAT5/CAT5e/GigE/PoE)

Profinet (Type C)

CFSPECIAL.182.045

CFSPECIAL.182.060



Data sheet

chainflex® CFSPECIAL.182



Bus cable for high tensile strain • PUR outer jacket • Shielded
 • Oil resistant and coolant-resistant • Flame-retardant • PVC and halogen-free
 • Notch-resistant • Hydrolysis and microbe-resistant

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.
	Inner jacket	TPE mixture adapted to suit the requirements in e-chains®.
	Overall shield	Bending-resistant braiding made of tinned copper wires. Coverage linear approx. 70%, optical approx. 90%
	Outer jacket	1. Outer jacket: PUR mixture adapted to suit the requirements in e-chains®. Reinforcement: High tensile-strength aramid braid embedded in the outer jacket. 2. Outer jacket: Low-adhesion, halogen-free PUR mixture, highly abrasion- and bending-resistant, adapted to suit the requirements in hanging applications (following DIN EN 50363-10-2). Colour: Jet black (similar to RAL 9005), Variants ► Product range table Printing: white

„00000 m** igus chainflex CFSPECIAL.182.---① ---② E310776 cRUus

AWM Style 20233 VW-1 AWM I/II A/B 80°C 300V FT1 EAC CE -----③

RoHS-II conform www.igus.de +++ chainflex cable works +++

* **Length printing:** Not calibrated. Only intended as an orientation aid.

① / ② Cable identification according to Part No. (see technical table).

③ Printing according to bus specification (inclusive wave resistance).

Example: ... chainflex CFSPECIAL.182.001 (2x0.25)C ...



Example image



Data sheet

chainflex® CFSPECIAL.182



Bus cable for high tensile strain ● PUR outer jacket ● Shielded
 ● Oil resistant and coolant-resistant ● Flame-retardant ● PVC and halogen-free
 ● Notch-resistant ● Hydrolysis and microbe-resistant

Properties and approvals

	UV resistance	High
	Oil resistance	Oil-resistant (in accordance with DIN EN 50363-10-2)
	Offshore	MUD-resistant following NEK 606 - status 2016
	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
	PTFE-free	The design of these products does not contain PTFE
	UL/CSA AWM	Style 10138 and 20233, 300 V, 80 °C
	NFPA	Following NFPA 79-2018, chapter 12.9
	REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
	Lead-free	Following 2011/65/EC (RoHS-II)
	CE	Following 2014/35/EU

Dynamic information

	Bend radius	e-chain® linear flexible fixed	minimum 10 x d minimum 8 x d minimum 5 x d
	Temperature	e-chain® linear flexible fixed	-25°C up to +80°C -40°C up to +80°C (following DIN EN 60811-504) -50°C up to +80°C (following DIN EN 50305)
	v max.	unsupported gliding	10m/s 6m/s
	a max.		100m/s²
	Travel distance		For hanging applications up to 50m

These values are based on specific applications or tests. They do not represent the limit of what is technically feasible.



Example image

igus® chainflex® CFSPECIAL.182.060

Data sheet

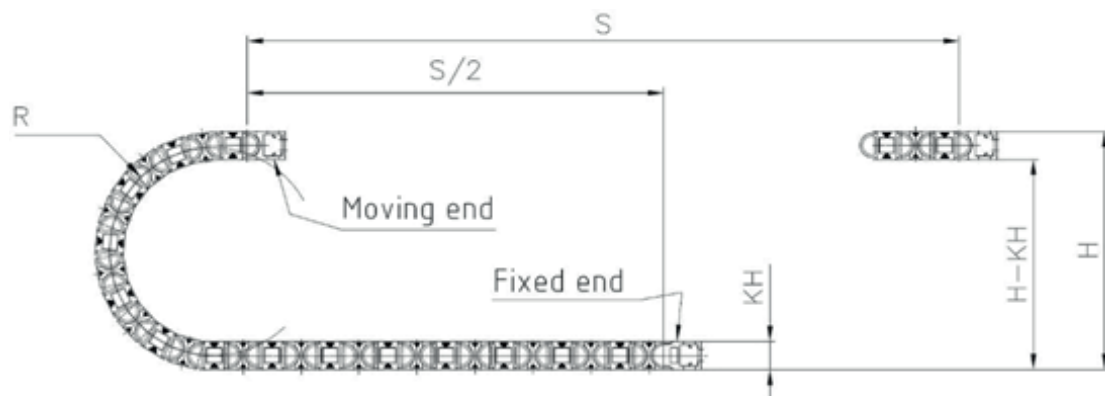
chainflex® CFSPECIAL.182



- Bus cable for high tensile strain ● PUR outer jacket ● Shielded
 ● Oil resistant and coolant-resistant ● Flame-retardant ● PVC and halogen-free
 ● Notch-resistant ● Hydrolysis and microbe-resistant

Typical lab test setup for this cable series

Test bend radius R	approx. 63 - 100 mm
Test travel S	ca. 1 - 15 m
Test duration	minimum 2 - 4 Millionen Doppelhübe
Test speed	ca. 0,5 - 2 m / s
Test acceleration	ca. 0,5 - 1,5 m / s ²



Typical application areas

- For high tensile strain
- For hanging applications up to 50 m
- Almost unlimited resistance to oil
- Storage and retrieval units, hanging control units, lifts

Technical tables:

Mechanical information

Part No.	Number of cores and conductor nominal cross section [mm ²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
Ethernet/CAT5/PoE				
CFSPECIAL.182.045	(4x(2x0.15))C	9.5	42	136
Profinet				
CFSPECIAL.182.060 ¹³⁾	(4x0.38)C	8.5	37	125

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



Example image

igus® chainflex® CFSPECIAL.182.060

Data sheet

chainflex® CFSPECIAL.182

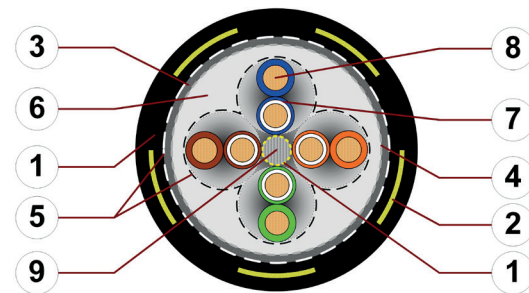


Bus cable for high tensile strain • PUR outer jacket • Shielded
 • Oil resistant and coolant-resistant • Flame-retardant • PVC and halogen-free
 • Notch-resistant • Hydrolysis and microbe-resistant

Ethernet (CAT5/CAT5e/GigE/PoE) CFSPECIAL.182.045

Cable structure

(Electrical information please see next page)



1. Outer jacket: Pressure extruded PUR mixture
2. Reinforcement: Tensile strength aramid braiding (embedded in the outer jacket)
3. Overall shield: Bending-resistant braiding made of tinned copper wires
4. Shield foil: Aluminium clad PE foil
5. Inner jacket: Pressure extruded, gusset-filling TPE mixture
6. Banding: Plastic fleece
7. Core insulation: Mechanically high quality TPE mixture (according to bus specification)
8. Conductor: Fine-wire strand in especially bending-stable version consisting of bare copper wires
9. Strain relief: Tensile stress-resistant centre element wrapped with aramid

Example image

For detailed overview please see design table

Design table

Part No.	Core group	Colour code	Core design
CFSPECIAL.182.045	(4x(2x0.15))C	white-blue/blue, white-orange/orange, white-green/green, white-brown/brown	



Example image

igus® chainflex® CFSPECIAL.182.060

Data sheet

chainflex® CFSPECIAL.182



- Bus cable for high tensile strain • PUR outer jacket • Shielded
 • Oil resistant and coolant-resistant • Flame-retardant • PVC and halogen-free
 • Notch-resistant • Hydrolysis and microbe-resistant

Ethernet (CAT5/CAT5e/GigE/PoE)

CFSPECIAL.182.045

Electrical information

(Cable structure please see previous page)

Part No.	CFSPECIAL.182.045
Nominal voltage	50 V
Testing voltage (following DIN EN 50289-1-3)	500 V
Characteristic wave impedance (following DIN EN 50289-1-11)	100 ± 10 Ω (1-100 MHz)
Operating capacity	60 pF/m
Nominal Velocity of Propagation (NVP)	67 %

Line attenuation approx. [dB/100m]

Part No.	1 MHz	10 MHz	20 MHz	100 MHz
CFSPECIAL.182.045	4.2	13.7	19.2	40.5

Conductor nominal cross section	Maximum conductor resistance at 20 °C (following DIN EN 50289-1-2)	Maximum current rating at 30 °C (following DIN VDE 0298-4)
[mm²]	[Ω/km]	[A]
0.15	111	2.5

The final maximum current rating depends among other things on the ambient conditions, the type of the installation and the number of loaded cores.

Part No.	Bus type	Link class	Maximum transmission length
CFSPECIAL.182.045	Ethernet/CAT5	Class D - (Data applications up to 100 MHz)	60 m

Example image



Data sheet

chainflex® CFSPECIAL.182



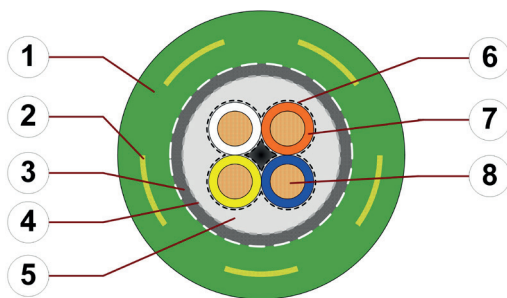
Bus cable for high tensile strain • PUR outer jacket • Shielded
 • Oil resistant and coolant-resistant • Flame-retardant • PVC and halogen-free
 • Notch-resistant • Hydrolysis and microbe-resistant

Profinet (Type C)

CFSPECIAL.182.060

Cable structure

(Electrical information please see next page)



Example image

For detailed overview please see design table

1. Outer jacket: Pressure extruded PUR mixture
2. Reinforcement: Tensile strength aramid braiding (embedded in the outer jacket)
3. Overall shield: Bending-resistant braiding made of tinned copper wires
4. Shield foil: Aluminium clad PE foil
5. Inner jacket: Pressure extruded, gusset-filling TPE mixture
6. Banding: Plastic fleece
7. Core insulation: Mechanically high quality TPE mixture (according to bus specification)
8. Conductor: Fine-wire strand in especially bending-stable version consisting of bare copper wires

Design table

Part No.	Core group	Colour code	Core design
CFSPECIAL.182.060	(4x0.38)C	white, orange, blue, yellow (Star-quad)	

Example image



Data sheet

chainflex® CFSPECIAL.182



- Bus cable for high tensile strain ● PUR outer jacket ● Shielded
 ● Oil resistant and coolant-resistant ● Flame-retardant ● PVC and halogen-free
 ● Notch-resistant ● Hydrolysis and microbe-resistant

Profinet (Type C)

CFSPECIAL.182.060

Electrical information

(Cable structure please see previous page)

Part No.	CFSPECIAL.182.060
Nominal voltage	50 V
Testing voltage (following DIN EN 50289-1-3)	500 V
Characteristic wave impedance (following DIN EN 50289-1-11)	100 ± 15 Ω (1-100 MHz)
Operating capacity	50 pF/m
Nominal Velocity of Propagation (NVP)	66 %

Line attenuation approx. [dB/100m]

Part No.	1 MHz	10 MHz	20 MHz	100 MHz
CFSPECIAL.182.060	2.4	7.6	10.7	24.0

Conductor nominal cross section	Maximum conductor resistance at 20 °C (following DIN EN 50289-1-2)	Maximum current rating at 30 °C (following DIN VDE 0298-4)
[mm²]	[Ω/km]	[A]
0.38	51	7

The final maximum current rating depends among other things on the ambient conditions, the type of the installation and the number of loaded cores.

Example image

