

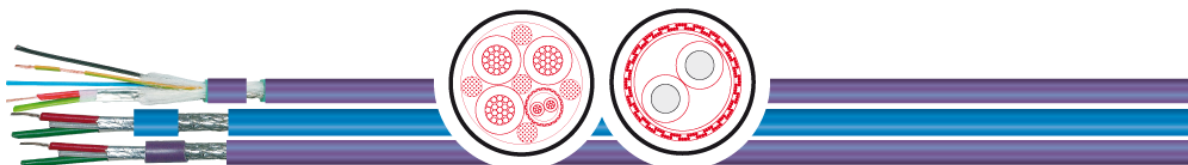
PROFIBUS DP / FMS / FIP 150 Ohm - HF UL/CSA

-high flexible -



for high flexible applications (drag chain, robotic & festoon), UL/CSA

TKD
an INFINIT[®] brand



APPLICATION

as fieldbus cables for PROFIBUS (**Process Field BUS**) systems, for highly flexible applications (e.g. energy guiding chains, gantry robots, pick&place units, conveyor systems, machine tools, automatic production systems, manufacturing systems etc.)

The cables are suitable for PROFIBUS DP (**D**ecentral **P**eriphery), PROFIBUS FMS (**F**ieldbus **M**essage **S**pecification) as well as FIP (**F**actory **I**nstrumentation **P**rotocol). Standard according to Profibus specification: EN61158 & EN61784 (DIN19245 T3 & EN50170)

SPECIAL FEATURES

- low adhesion
- largely resistant to grease, coolants and lubricants
- **oil-resistant**: PUR & PVC acc. DIN EN 60811-2-1 (PVC only mineral oil)
- **UV-resistant**
- optimized EMC-compliant shielding
- max. cable length of a bus according to PNO at specified transmission rate:

REMARKS

- RoHS-compliant // DESINA-compliant (violet)
- LABS/silicone-free (during production)
- compliant to the 2014/35/EU Directive ("Low Voltage Directive") CE
- FRNC: **F**lame **R**etardant **N**on **C**orrosive, halogen-free
- FC type with 'fast-connect' cable construction // PNO = PROFIBUS Nutzerorganisation e.V.



PROFIBUS DP

93,7 kbit/s	max. 1,2km
187,5 kbit/s	max. 1,0km
0,5 Mbit/s	max. 400m
1,5 Mbit/s	max. 200m
12,0 Mbit/s	max. 100m

FIP

2,5 Mbit/s	max. 200m
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PRODUCT DETAILS

DESIGN

Conductor material	bare copper strand
Conductor class	Ø 0,64L & 0,34 mm ² : 19-wired; 1,0 mm ² : fine wired acc. to IEC 60228 cl. 6
Core insulation	BUS: foamed PE/PP; supply cores: Polyolefin
Core identification	BUS: gn, rd; supply cores: bk, bu, gnye (1,0mm ²) bk with numerals (1,5mm ²)
Stranding	BUScores stranded to a pair
Element shielding	alu-lam. polyester foil, metal side outside, coverage 100% under copper braid tinned
Overall stranding	HYBRID: screened BUSelem. a. supply cores stranded
Outer sheath material	PVC resp. PUR
Sheath colour	violet RAL 4001 (VT) or petrol (PT)

ELECTRICAL PROPERTIES

Rated voltage AC IEC	BUScores: 250 V (not for high voltage purposes); supply cores: 500 V
Loop resistance	max. 133,0 Ω/km-0,64L & 0,8L, max. 39,0 Ω/km-1 mm ² , max. 26,6 Ω/km-1,5 mm ²
Capacity	nom. 30 nF/km
Characteristic impedance	150 +/- 15 Ω

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MECHANICAL & DYNAMIC PROPERTIES

Min. bending radius fixed	5 x d
Min. bending radius moved	7,5 x d < 3mTL* 15 x d ≥ 3mTL*, FESTOON: 10 x d
Traverse length (m) - drag chain	max. 10 m (TL)
Traverse speed (m/s) - drag chain	self-supporting: 4 m/s
Acceleration (m/s ²) - drag chain	max. 5 m/s ² TORSION: max. 10 m/s ²

THERMAL PROPERTIES

Operat. temp. fixed min./max. [°C]	-40 °C / +80 °C
Operat. temp. moved min/max [°C]	PVC: -10 °C / +70 °C; PUR: -30 °C / +70 °C

PROPERTIES IN CASE OF FIRE

Halogen-free	acc. to IEC 60754-1 (FRNC types)
Burning behavior	PVC CMG: acc. IEC 60332-3-24(Cat.C), FT 4 PUR: acc. IEC 60332-1-2 PUR CMX: acc. IEC 60332-1-2, VW-1

STANDARDS & APPROVALS

Approvals	see table
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ITEM OVERVIEW

PROFIBUS DP - Trailing

Item no. [TKD]	OEM - Ref. no.	Type	Dimension	Outer-Ø [mm]	Cu Index [kg/km]	Weight [kg/km]
2003646		SK-C-PUR FRNC - VT	1X2X0,64L (AWG23/19)	7,8	30,0	65,0
2003647	6XV1831-2L	FC SK-C-PUR UL/CSA ¹ - VT	1X2X0,64L (AWG23/19)	7,8	30,0	78,0
2003648	6XV1830-3EH10	FC SK-C-PUR UL/CSA ¹ - PT	1X2X0,64L (AWG23/19)	7,8	30,0	78,0
2003649		FC SK-C-PUR FRNC UL/CSA ¹ - VT	1X2X0,64L (AWG23/19)	8,0	30,0	70,0

PROFIBUS DP - HYBRID

Item no. [TKD]	OEM - Ref. no.	Type	Dimension	Outer-Ø [mm]	Cu Index [kg/km]	Weight [kg/km]
2003650		SK-C-PUR FRNC UL/CSA ¹ - VT	1X2X0,64L(AWG23/19)+3G1(AWG18)	9,9	60,0	108,0
2003651	6XV1860-2R	SK-C-PVC UL/CSA ¹ - VT	1X2X0,64L(AWG23/19)+2X1,5(AWG16)	11,0	60,0	128,0
2003652	6XV1860-2S	SK-C-PUR FRNC UL/CSA ¹ - VT	1X2X0,64L(AWG23/19)+2X1,5(AWG16)	11,0	60,0	131,0

PROFIBUS DP - ECOFAST

Item no. [TKD]	OEM - Ref. no.	Type	Dimension	Outer-Ø [mm]	Cu Index [kg/km]	Weight [kg/km]
2003653	6XV1860-2P	SK-C-PVC UL/CSA ¹ - VT	1X2X0,64L(AWG23/19)+4X1,5(AWG16)	11,0	90,0	162,0
2003654	6XV1830-7AH10	SK-C-PUR FRNC UL/CSA ¹ - VT	1X2X0,64L(AWG23/19)+4X1,5(AWG16)	11,0	90,0	170,0

PROFIBUS DP - Torsion

Item no. [TKD]	OEM - Ref. no.	Type	Dimension	Outer-Ø [mm]	Cu Index [kg/km]	Weight [kg/km]
2003655	6XV1830-0PH10	3D-C-PUR FRNC UL/CSA ¹ - VT	1 X 2 X 0,8L (AWG22/19)	8,2	31,0	75,0

PROFIBUS DP - Festoon

Item no. [TKD]	OEM - Ref. no.	Type	Dimension	Outer-Ø [mm]	Cu Index [kg/km]	Weight [kg/km]
2003656	6XV1830-3GH10	HF-C-PVC UL/CSA ¹ - PT	1 X 2 X 0,64L (AWG23/19)	8,0	30,0	71,0
2003657		HF-C-PUR FRNC UL/CSA ¹ - PT	1 X 2 X 0,64L (AWG23/19)	8,0	30,0	75,0

¹Approvals

2003647 - cULus: 300V, 75°C, CMX/SunRes/OilRes
 2003648 - cULus: 300V, 75°C, CMX/SunRes/OilRes
 2003649 - cULus: 300V, 75°C, CMX/SunRes/OilRes
 2003650 - cULus: 300V, 75°C, CMX/SunRes/OilRes
 2003651 - cULus: 300V, 75°C, CMG/SunRes/OilRes
 2003652 - cULus: 300V, 75°C, CMX/SunRes/OilRes
 2003653 - cULus: 300V, 75°C, CMX/SunRes/OilRes
 2003654 - cULus: 300V, 75°C, CMG/SunRes/OilRes
 2003655 - cULus: 300V, 75°C, CMX/SunRes/OilRes
 2003656 - cULus: 300V, 75°C, CMG/CL3/SunRes/OilRes & cURus: 600 V, 60°C

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¹Approvals
2003657 - cULus: 300V, 75°C, CMX/SunRes/OilRes