PCF

IMCAVI
SPECIAL CABLES SINCE 1973

PCF Cores, PCF Bus Cables

Application

PCF (**P**olymer **C**ladded **F**ibre) bus cables are distinguished by a lower attenuation and thus longer transmission distances as compared to POF cables. On principle, the same transmission and reception devices as in POF can be used.

The cables are designed for fixed installation in indoor use, and especially the PUR-sheathed cables have an excellent resistance to most types of mineral oils and greases. By the use of suitable hardware, the cables can be applied in nearly every bus system.

The Simplex core with minimized diameter is – for example – highly suitable for applications in the SERCOS systems specified in ISO as well as in EN 61491.

In addition, versions for outdoor use and direct burial are also available.

→ **Transmission distances**

max. 500 m

Construction

Conductor:	Step index glass fibre coated with special polymer (PCF) 200/230/500 µm
Filling:	Petroleum jelly (optional)
Strengh members:	Aramid (optional)
Insulation:	Special compound of polyvinylchloride (PVC), or thermoplastic, halogen-free and flame-retardant polymer compound (FRNC), thermoplastic polyurethane compound (PUR), matt, low adhesion, halogen-free and flame-retardant orange, black, red, green or blue
Strengh members:	Aramid (optional)
Sheath:	Special compound of polyvinylchloride (PVC), thermoplastic, halogen-free and flame-retardant polymer compound (FRNC), thermoplastic polyurethane compound (PUR), matt, low adhesion, halogen-free and flame-retardant or polyethylene (PE), green (similar RAL 6018), orange (similar RAL 2003), red (similar RAL 3000) or black (similar RAL 9005) (optional)

Mechanical Properties

Operating temperature:	-20°C to +70°C
Temperature at laying:	-10°C to +50°C
Min. bending radius:	10 x cable diameter 20 x cable diameter (PN 110926, 110927, 110931, 111038)

Optical Properties

Attenuation:	max. 10 dB/km at 650 nm (laser) max. 8 dB/km at 850nm (LED)
Bandwidth:	min. 17 MHz x km at 650 nm (laser) min. 20 MHz x km at 850 nm (LED)
Numeric aperture:	0.37

Supported Connector Types

- ST (BFOC)-connector
- FSMA-connector
- HFBR 4521-connector
- SC-connector
- FC-connector
- LC-connector
- F05-connector (TOSLINK compatible), F07-connector (TOSLINK compatible)

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Technical Data

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Type	Sheath	OD mm	Insulation mm	Insulation colour	Weight [kg/km]	Part number	UL/ resistances
PCF SIMPLEX 1 K200/230 FR-PVC OG	PVC	2.2	-	-	4.0	110862	PVC BS1
for flexible application without compulsory guide at low mechanical load							
PCF SIMPLEX 1 K200/230 FR-PVC BK	PVC	2.2	-	-	4.0	104731	PVC BS1
for flexible application without compulsory guide at low mechanical load							
PCF SIMPLEX 1 K200/230 FRNC OG	FRNC	2.9	-	-	9.0	110863	FRNC BS1
for flexible indoor application without compulsory guide at low mechanical load, halogen-free[1)]							
PCF SIMPLEX 1 K200/230 FR-PUR BK	PUR	2.9	-	-	8.0	60171	PUR BS1
for flexible application without compulsory guide at high mechanical load, halogen-free[1)]							
PCF BUS CABLE 1 K200/230 FR-PVC/FR-PVC OG	PVC	5.0	2.2	OG	26	110864	PVC BS2
for flexible application without compulsory guide at high mechanical load							
PCF BUS CABLE Indoor 2 K200/230 FRNC/FRNC OG	FRNC	3.8x6.6	2.9	RD/GN	30	57909	FRNC BS1
for flexible indoor INTERBUS applications without compulsory guide, halogen-free[1)]							
PCF BUS CABLE 2 K200/230 FR-PVC/FR-PVC GN c(UL)us OFNG	PVC	7.2	2.2	BK/OG	61	84181	OFNG
for fixed indoor and outdoor PROFIBUS/PROFINET installations, approvals: c(UL)us listing OFNG according to UL 1651							
PCF BUS CABLE highflex 2 K200/230 FR-PVC/FR-PUR GN	PUR	8.8	2.2	BK/OG	68	110926	PUR BS1
for PROFIBUS/PROFINET applications with continuous flexing, e.g. in drag chains							
PCF BUS CABLE highflex 2 K200/230 FR-PVC/FR-PVC GN	PVC	8.8	2.2	BK/OG	75	110927	PVC BS3
for PROFIBUS/PROFINET applications with continuous flexing, e.g. in drag chains with increased flame-resistance							
PCF BUS CABLE Outdoor 2 K200/230 FRNC/PE BK	PE	7.0	2.2	BU/OG	39	110928	PE BS1
for fixed outdoor installation, halogen-free[1)]							
PCF BUS CABLE highflex 2 K200/230 FR-PVC/FR-PUR RD	PUR	7.0	2.2	BU/OG	44	83163	PUR BS1
for continuous flexing, e.g. in drag chains							
PCF BUS CABLE highflex 2 K200/230 FR-PVC/FR-PUR RD	PUR	7.4	2.2	BU/OG	59	110929	PUR BS1
for continuous flexing, e.g. in drag chains							
PCF BUS CABLE highflex 2 K200/230 FR-PVC/FR-PVC RD c(UL)us OFNG	PVC	7.4	2.2	BU/OG	66	110930	OFNG
for continuous flexing, e.g. in drag chains, approvals: c(UL)us listing OFNG according to UL 1651							
PCF BUS CABLE Outdoor 2 K200/230 FRNC/PE BK	PE	10.5	2.9	RD/GN	88	110931	PE BS1
for fixed outdoor INTERBUS installations, longitudinal watertight, halogen-free[1)]							
PCF BUS CABLE Burial 2 K200/230 RP PE BK	PE	7.5	-	OG	49	111038	PE BS1
for direct burial with non-metallic rodent protection, longitudinal and transversal watertight, halogen-free[1)]							

[1)] with the exception of the fibre coating

Resistances

	Oil resistance		Flame resistance		UV resistance	
PE BS1	+		-		++	
FRNC BS1	-		o	IEC 60332-1-2	-	
PUR BS1	++	IEC 60811-2-1	-		+	
PVC BS1	o		-		+	
PVC BS2	o		o	IEC 60332-1-2	+	
PVC BS3	++	UL 2556	++	IEC 60332-3-24	++	UL 2556
PVC OFNG	++	UL 2556	++	IEC 60332-3-24 FT4 (UL 1685 / CSA)	++	UL 2556

++ excellent / + good / o adequate / - poor