

2170997	DATA SHEET	
valid from: 01.02.2019	UNITRONIC® BUS PB FD FRNC FC 1 x 2 x 0.64	

Application

Highly flexible, halogen free and flame retardant data cable for field bus system PROFIBUS DP, PROFIBUS FMS (Siemens SIMATIC NET) acc. to EN 61158-2 cable type A, and for field bus system FIP (Factory Instrumentation Protocol) as well as for high performance data networks with 150 Ohms nominal impedance. The cable is designed for the system-defined transmission rates of 9.6 Kbit/s up to 12 Mbit/s, the transmission characteristics conform to the system and guarantee a high operating security during the data transmission. The cable is intended for high flexible application in power chains or permanently moving machines, in dry and damp interiors and in harsh industrial environment.

With the „Fast Connect“ stripping tool the cable is intended for the fast mounting of the connectors. The end of the cable can be prepared for the mounting of the cable plug with one work step, especially for the IDC (Insulation Displacement Connector) method.

Design

Certification	c(UL)us type CM 60 °C acc. to UL 444
Conductor	stranded bare copper wires conductor Ø 0.64 mm (e.g. 19 x 0.135mm) AWG 22/19
Insulation	Skin-Foam-Skin PE core Ø approx. 2.6 mm
Core identification code	red and green
Stranding	two cores twisted to a pair, above: non-woven tape
Inner sheath	thermoplastic and halogen free compound
Screen	plastic laminated aluminum foil , metal side outwards on top: braid of tinned copper wire
Outer sheath	PUR compound, flame retardant and halogen free colour: RAL 4001 / violet outer Ø: approx. 8.0 mm

Electrical properties at 20°C

Loop resistance	max. 182.2 Ω/km acc. To UL 444 Table 2 and 13
Insulation resistance	min. 5 GΩ x km
Mutual capacitance	nom. 28 nF/km (at 800 Hz)
Characteristic impedance	9,6 kHz: 270 Ω ± 27 Ω 38,4 kHz: 185 Ω ± 18,5 Ω 3 up to 20 MHz: 150 Ω ± 15 Ω
Attenuation	9,6 kHz: max. 0,25 dB/100 m 38,4 kHz: max. 0,4 dB/100 m 200 kHz: max. 0,9 dB/100 m 4 MHz: max. 2,2 dB/100 m 16 MHz: max. 4,2 dB/100 m
Velocity of propagation	nom. 0,81 c
Peak operating voltage	250 V (not for power purposes)
Test voltage	core/core: 1500 V core/screening: 1500 V

Mechanical and thermal properties

Minimum bending radius	flexible installation: 15 x cable Ø fixed installation: 8 x cable Ø
Temperature range	flexible installation: -5 °C up to +70 °C fixed installation: -30 °C up to +80 °C
Flammability	Vertical-Tray Flame Test acc. to UL 1685
General requirements	This cable is conform to the EU-Directive 2011/65/EU (RoHS, Restriction of the use of certain hazardous substances).

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