

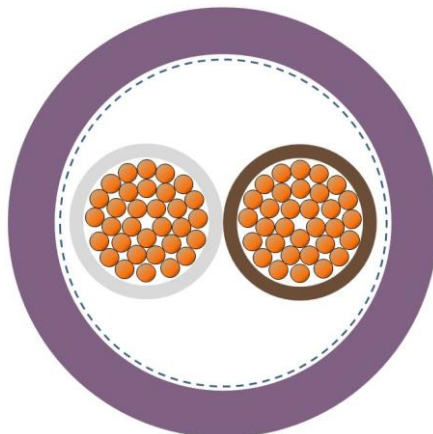
2170213	DATA SHEET	
valid from: 01.01.2019	UNITRONIC® BUS FD P LD 1/2/3 x2x0,25 mm²	

Application

UNITRONIC® BUS FD P LD is a screened, twisted paired flexible cable for bus systems with a data transmission rate up to 10 MBit/s and a nominal impedance of 100 Ohms. The twisting of the conductors into pairs ensure maximum interference suppression of the individual signals. The copper screening protects against external electromagnetic influences.

The cable is applicable for constantly moving employment in power chain systems, linear robots and automatic handling machines in dry and damp interiors. Outdoor use: They may only be installed considering the indicated temperature range, whereat changings of the colour of the outer sheath may occur. The polyurethane outer sheath is largely resistant to certain oils and to abrasion.

Design



Conductor	bare copper, superfine-wire stranded nom. 0.25 mm ²
Insulation	PE, core Ø: 1x2x0.25 mm ² (art.-no.: 2170213) : ca. 1.66 mm 2x2x0.25 mm ² (art.-no.: 2170214) : ca. 1.56 mm 3x2x0.25 mm ² (art.-no.: 2170215) : ca. 1.46 mm
Core identification code	acc. to DIN 47100
Stranding	cores stranded to pairs, pairs stranded to bundle 1 layer non woven tape
Screen	braid of tinned copper wires
Outer sheath	PUR compound, violet similar to RAL 4001, wall thickness nom. 1.0 mm, outer diameter: 1x2x0.25 mm ² (art.-no.: 2170213) : ca. 6.0 mm 2x2x0.25 mm ² (art.-no.: 2170214) : ca. 7.9 mm 3x2x0.25 mm ² (art.-no.: 2170215) : ca. 8.0 mm

Electrical properties at 20°C

Loop resistance	max. 159,8 Ω/km
Insulation resistance	min. 5 GΩ x km
Mutual capacitance	max. 60 nF/km (at 800 Hz)
Characteristic impedance	100 Ω up to 120 Ω
Attenuation	100 kHz: nom. 0,79 dB/100 m 500 kHz: nom. 1,4 dB/100 m 1 MHz: nom. 1,9 dB/100 m 10 MHz: nom. 8,5 dB/100 m
Near-end cross-talk	1 MHz: min. 50 dB 10MHz: min. 40 dB
Velocity of propagation	nom. 0,66c
Signal transit time	nom. 5,06 ns/m

Creator: TOST / PDC	Document: DB2170213EN	Page 1 of 2
Released: ALTE / PDC	Version: 07	

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Transfer impedance	max. 250 mΩ/m
Peak operating voltage	250 V (not for power applications)
Test voltage	conductor/conductor 1500 V
	conductor/screen 1000 V

Mechanical and thermal properties

Minimum bending radius	moved:	15 x cable Ø
	fixed installation:	6 x cable Ø
Temperature range	moved:	-30° C up to +70° C
	fixed installation:	-40° C up to +80° C
Flammability	flame retardant acc. to IEC 60332-1-2	
Halogen free	acc. to VDE 0472-815	
General requirements	This cable is conform to the EU-Directive 2011/65/EU (RoHS, Restriction of the use of certain hazardous substances).	

Creator: TOST / PDC	Document: DB2170213EN	Page 2 of 2
Released: ALTE / PDC	Version: 07	