

UNITRONIC® BUS LD FD P A ...x2x0.25 mm²

DB2170813

valid from: 09.08.2017

Application

UNITRONIC® BUS LD FD P A is a screened, twisted paired flexible cable with UL/CSA approval 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.

Applicable connectors: D-Sub-Connector, 9-pins; Round-Connector, 9-pins (system of protection IP 65)

Design

Certification	UL/CSA Type CMX acc. to UL 444 and CSA C22.2 No. 214-02
Conductor	super fine wire stranding of bare copper wires
Insulation	special PE-based compound
Core identification code	acc. to DIN 47100
Stranding	Cores twisted into pair, pairs twisted together, fleece wrapping
Screen	Braiding with tinned copper wires
Outer sheath	special PUR-based compound, flame retardant colour: violet similar to RAL 4001

Diameter of the outer sheath

Article number	Dimension	Outer sheath $\varnothing$
2170813	1x2x0.25 mm ²	ca. 6.2 mm
2170814	2x2x0.25 mm ²	ca. 8.3 mm
2170815	3x2x0.25 mm ²	ca. 8.4 mm

Electrical properties at 20°C

Loop resistance	max. 159,8 Ω /km
Insulation resistance	min. 5 G Ω km
Mutual capacitance	max. 60 nF/km (at 800 Hz)
Characteristic impedance	100 - 120 Ω
Attenuation	max. 0.79 dB/100m (100 kHz) max. 1.4 dB/100m (500 kHz) max. 1.9 dB/100m (1 MHz) max. 8.5 dB/100m (10 MHz)
Near-end cross-talk	min. 50 dB (1 MHz) min. 40 dB (10 MHz)
Velocity of propagation	nom. 0.66c
Signal transit time	nom. 5.06 ns/m
Transfer impedance	max. 250 m Ω /m (at 30 MHz)
Peak operating voltage	250 V (not for power applications)
Test voltage	C/C: 1500 V C/S: 1000 V

Mechanical and thermal properties

Minimum bending radius	Fixed installation: 6 x cable $\varnothing$ Flexing: 15 x cable $\varnothing$
Temperature range	Fixed installation: - 40 °C up to +80 °C Flexing: - 30 °C up to +70 °C
Flammability	flame retardant acc. to IEC 60332-1-2
General requirements	This cable is conform to the EC-Directive 2011/65/EC (RoHS, Restriction of the use of certain hazardous substances).