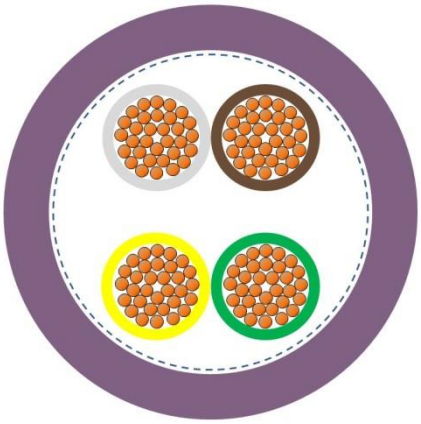
2170273	DATA SHEET	LAPP
valid from: 2026-07-22	UNITRONIC® BUS CAN FD P 2x2x0.25 mm²	

Application

Field of use: Flexible for the field-bus system CAN (Controller Area Network) acc. to ISO 11898 for use in industrial automation.
Performance: Twisted pair cable, having a nominal impedance of 120 Ω. Designed for transmission rates of 10 Kbit/s up to 1 Mbit/s.
Cable length is dependent on the transmission rate and the conductor cross section.
Characteristics: Flame retardant, halogen free
Applications: CAN BUS, CANopen und weitere



Design

Certification	E236660 c(UL)us CMX 75 °C according to UL 444 and CSA C22.2 Nr. 214
Conductor	fine-wire stranded bare copper 0.25 mm² (24 AWG)
Insulation	Foam-Skin Polyolefin Core diameter: approx. 1.65 mm
Core identification code	pair 1: white and brown; pair 2: green and yellow (DIN 47100)
Stranding	two cores stranded to pair, two pairs with two fillers stranded to bundle on top: non-woven tape
Screen	braid of tinned copper wires (coverage: 85 % ± 5 %)
Taping	non-woven tape
Outer sheath	TPU violet, similar RAL 4001 outer diameter: approx. 8.4 mm

Electrical properties at 20 °C

Loop resistance	max. 159,8 Ω/km
Insulation resistance	min. 5 GΩxkm
Mutual capacitance	nom. 40 nF/km (at 800 Hz)
Characteristic impedance	120 Ω ± 15% (at f ≥ 1 MHz)
Attenuation	100 kHz nom. 0.6 dB/100m 1 MHz nom. 1.5 dB/100m 5 MHz nom. 4.3 dB/100m 10 MHz nom. 8.1 dB/100m 20 MHz nom. 10.5 dB/100m
Near-end cross-talk	min. 40 dB (at 20 MHz)
Velocity of propagation	0,76 c
Transfer impedance	1 MHz: ≤ 50 mΩ/m 10 MHz: ≤ 100 mΩ/m 20 MHz: ≤ 200 mΩ/m
Maximum operating voltage	250 V (not for power purposes)
Rated voltage	300 V acc. to UL 444 and CSA C22.2 No.214

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Test voltage	Core/Core:	1500 V AC
	Core/Screen:	1000 V AC

Mechanical and thermal properties

Minimum bending radius	fixed installation: 10× outer diameter occasional flexing: 13× outer diameter continuous flexing: 15× outer diameter
Temperature range	fixed installation: -40 °C up to +80 °C occasional flexing: -30 °C up to +70 °C continuous flexing: -30 °C up to +70 °C
Flammability	flame retardant acc. to IEC 60332-1-2 resp. EN 60332-1-2 VW-1 acc. to UL 1581 §1080
Halogen free	acc. to IEC 60754-1 resp. EN 60754-1
General requirements	This cable is conform to EU-Directive 2014/35/EU (Low Voltage Directive) and to EU-Directive 2011/65/EU (RoHS, Restriction of the use of certain hazardous substances).
Environmental information	These cables meet the substance-specific requirements of the EU Directive 2011/65/EU (RoHS).

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