


2170532	DATA SHEET	
valid from: 01.01.2019	UNITRONIC® BUS CAN FD P	

Application

UNITRONIC® BUS CAN FD P is a highly flexible data cable with UL and cUL approval, for CAN (Controller Area Network) fieldbus system according to ISO11898 as well as for high performance data networks with 120 Ohms nominal impedance. The second pair can be used for electrical power supply for the logical bus units. The transmission characteristics of the cable conform to the CAN system and guarantee a high operating security during data transmission. The possible data transmission acc. to ISO 11898 for max. 40m is 1 Mbit/s. UNITRONIC® BUS FD P CAN UL/CSA is intended for high flexible application in power chains, or permanently moving machines, in dry and damp interiors and in harsh industrial environment.

Design

Certification	UL / cUL Typ CMX according to UL 444 and CSA C22.2 No.214-0
Conductor	bare copper, 0.25 mm ² (24 AWG), fine-wire stranded
Insulation	Foam-Skin PE, core Ø nom. 1.65 mm
Core identification code	pair 1: white and brown, pair 2: green and yellow (DIN 47100)
Stranding	2 cores twisted to pair, 2 pairs stranded to bundle with two fillers
Screen	braid of tinned copper wires
Taping	non-woven tape
Outer sheath	PUR, flame retardant, halogen free, violet similar to RAL 4001, Outer diameter: ca. 8.4 mm

Electrical properties at 20°C

Conductor 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/100 m 1 MHz: nom. 1.5 dB/100 m 5 MHz: nom. 4.3 dB/100 m 10 MHz: nom. 8.1 dB/100 m 20 MHz: nom. 10.5 dB/100 m
Near-end cross-talk	min. 40 dB (at 20 MHz)
Velocity of propagation	nom. 76%
Signal transit time	4,4 ns/m
Transfer impedance	up to 30 MHz: 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 core diameter static: 6 x core diameter
Temperature range	moved: -30 °C up to +70 °C static: -40 °C up to +80 °C
Flammability	flame retardant acc. to IEC 60332-1-2/UL 1581 VW-1
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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