


2170222	DATA SHEET	
valid from: 01.01.2019	UNITRONIC® BUS PB FD P 1 x 2 x 0,64	

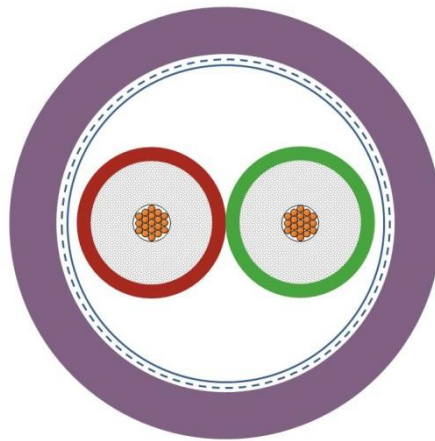
Application

Highly flexible data cable for the SIEMENS field-net SINEC L2 DP (acc. to DIN 19245, part 3 and EN 50 170) for fieldbus system FIP (Factory Instrumentation Protocol) as well as for high performance data networks with 150 Ω nominal impedance. The cable is designed for the system-defined transmission rates of 1.5 MBit/s, 2.5 MBit/s and 12 MBit/s, the transmission characteristics are conform to the system and guarantee a high operating security during the data transmission. The used materials are halogen free.

The cable is intended for high flexible application in power chains, on permanently moving machines and linear robots. Due to its double screening it is suitable for installation in electromagnetically demanding areas. The PUR-sheath is very resistant against mineral oils and abrasion.

This cable is suitable for torsion application in wind turbines (WTG). The torsional load is limited to applications, as they typically occur in the loop of a wind turbine.

Design




Conductor	bare copper, nom. 0.25 mm ² (24 AWG)
Insulation	Skin-Foam-Skin PE, core Ø nom. 2.55 mm
Core identification code	cores red and green
Stranding	2 cores together with 2 fillers 1 layer non woven tape
Screen	plastic-laminated aluminium foil, side with metal outwards, braid of tinned copper wires, coverage nom. 85%
Outer sheath	PUR flame retardant and halogen free, violet similar to RAL 4001, wall thickness nom. 1.0 mm, outer diameter: max. 8.0 mm

Electrical properties at 20°C

Loop resistance	max. 145 Ω/km
Insulation resistance	min. 5 GΩxkm
Mutual capacitance	A/A: ca. 32 nF/km A/S: ca. 49 nF/km (at 800 Hz)
Inductance	800 Hz: ca. 0,82 mH/km
Characteristic impedance	9,6 kHz: 270 Ω ± 27 Ω 38,4 kHz: 185 Ω ± 18 Ω 3 up to 20 Mhz: 150 Ω ± 15 Ω
Attenuation	9,6 kHz: max. 0,3 dB/100 m 38,4 kHz: max. 0,4 dB/100 m 4 MHz: max. 2,5 dB/100 m 16 MHz: max. 4,9 dB/100 m
Velocity of propagation	nom. 0,81c
Transfer impedance	max. 10 mΩ/m

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Peak operating voltage	220 V (not for power purposes)
Test voltage	conductor/conductor 1500 V conductor/screen 1500 V

Mechanical and thermal properties

Minimum bending radius	65 mm
Temperature range	moved: -30° C up to +70° C
Torsional stress	TW-0 (5000 cycles at ≥ +5°C) TW-2 (2000 cycles at ≥ -40°C) ± 150 °/m at 1 revolution per minute
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).

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