



UNITRONIC® BUS PB FD P 1 x 2 x 0,64

DB 2170222

valid from: 14.09.2012

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
Wrapping	1 layer non woven tape
Screening	plastic-laminated aluminium foil, side with metal outwards, braid of tinned copper wires, coverage nom. 85%
Outer sheath	PU 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

Resistance (loop)	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 38,4 kHz: 185 Ω ± 18 3 bis 20 Mhz: 150 Ω ± 15
Line 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 up to 20 MHz	max. 10 mΩ/m
Operating peak voltage	220 V (not for power purposes)
Test voltage U _{eff.} core/core und core/screen	1500 V



UNITRONIC® BUS PB FD P 1 x 2 x 0,64

DB 2170222

valid from: 14.09.2012

Mechanical and thermal properties

Min. bending radius	65 mm
Permissible temperature range	moved: -30° C up to +70° C
Torsion movement in WTG	TW-0 (5000 cycles at ≥ +5°C) TW-2 (2000 cycles at ≥ -40°C) ± 150 °/m at 1 revolution per minute
Flame propagation	flame retardant acc. to IEC 60332-1-2
Halogen free	acc. to VDE 0472-815
EC-Directives	Dangerous and forbidden substances acc. to RoHS directive (2002/95/EG) are not allowed to the manufacturing.