


2170534	DATA SHEET	
valid from: 01.01.2019	UNITRONIC® BUS PB TORSION 1X2X0,8	

Application

Flame retardant fieldbus cable, for example for SIEMENS SIMATIC® NET (acc. to DIN 19245 and EN 50170) and FIP-Fieldbus (Factory Instrumentation Protocol) systems. The fieldbus cable is designed for transmission rates of 12 MBit/s (100 m), 1.5 MBit/s (200 m), 500 kbit/s (400 m), 187.5 kbit/s (1000m) and 93.74 kbit/s (1200 m). The transmission characteristics are conform to the system and guarantee a high operating security during the data transmission.

The cable is designed for applications with torsional stress of $\pm 180^\circ/\text{m}$. Due to its double screening it is suitable for installation in electromagnetically demanding areas.

Design

Certification	c(UL)us, type CMX acc. To UL 444 and CSA C22.2 No. 214-02
Conductor	bare copper, nom. 0.38 mm ²
Insulation	Foam-Skin PE, core diameter nom. 2.56 mm
Core identification code	cores red and green
Stranding	2 cores together with 2 fillers
Screen	plastic-laminated aluminium foil (side with metal outwards), aluminized non wo-ven tape, braid of tinned copper wires (coverage min. 80%)
Outer sheath	PUR flame retardant and halogen free, violet similar to RAL 4001, wall thickness nom. 1.0 mm, outer diameter: ca. 8.0 mm

Electrical properties at 20°C

Conductor resistance	max. 110 Ω/km
Insulation resistance	min. 16 G Ωkm
Mutual capacitance	nom. 30 nF/km (at 800 Hz)
Inductance	ca. 0.58 mH/km (at 800 Hz)
Characteristic impedance	9,6 kHz: 270 $\Omega \pm 27$ 38,4 kHz: 185 $\Omega \pm 18,5$ 3 to 20 Mhz: 150 $\Omega \pm 15$
Attenuation	9,6 kHz: max. 0.25 dB/100 m 38,4 kHz: max. 0.3 dB/100 m 4 MHz: max. 2.5 dB/100 m 16 MHz: max. 4.9 dB/100 m
Velocity of propagation	ca. 81%
Transfer impedance	max. 480 m Ω/m
Peak operating voltage	300 V (not for power purposes)
Test voltage	3600 V

Mechanical and thermal properties

Minimum bending radius	fixed: 4 x outer diameter moved: 15 x outer diameter
Temperature range	fixed: -40°C up to +80°C moved: -25°C up to +75°C
Flammability	flame retardant acc. to IEC 60332-1-2, VW-1 acc. to UL 1581 sec. 1080
General requirements	This cable is conform to the EU-Directive 2011/65/EU (RoHS, Restriction of the use of certain hazardous substances).

Creator: TOST / PDC	Document: DB2170534EN	Page 1 of 1
Released: ALTE / PDC	Version: 02	