


| | | |
|---------------------------|---|---|
| 2170996 | DATA SHEET |  |
| valid from: 01.02.2019 | UNITRONIC® BUS PB FRNC FC 1 x 2 x 0.64 | |

Application

Highly flexible, halogen free and flame retardant data cable for field bus system PROFIBUS DP, PROFIBUS FMS (Siemens SIMATIC NET) acc. to EN 61158-2 cable type A, and for field bus system FIP (Factory Instrumentation Protocol) as well as for high performance data networks with 150 Ohms nominal impedance. The cable is designed for the system-defined transmission rates of 9.6 Kbit/s up to 12 Mbit/s, the transmission characteristics conform to the system and guarantee a high operating security during the data transmission. The cable is intended for high flexible application in power chains or permanently moving machines, in dry and damp interiors and in harsh industrial environment.

With the „Fast Connect“ stripping tool the cable is intended for the fast mounting of the connectors.

The end of the cable can be prepared for the mounting of the cable plug with one work step, especially for the IDC (Insulation Displacement Connector) method.

Design

| | |
|--------------------------|--|
| Certification | c(UL)us Type CM 60 °C nach UL 444 |
| Conductor | bare copper wire, approx. 0,32 mm ² conductor Ø 0,64 mm AWG 22/1 |
| Insulation | Skin-Foam-Skin PE core ø approx. 2,55 mm |
| Core identification code | red and green |
| Stranding | two cores twisted to a pair, above: non-woven tape |
| Inner sheath | thermoplastic and halogen free compound |
| Screen | plastic laminated aluminum foil , metal side outwards on top: braid of tinned copper wire coverage approx. 65% |
| Outer sheath | PUR compound, flame retardant and halogen free colour: RAL 4001 / violet outer Ø: approx. 8.0 mm Farbe: RAL 4001 / violett Außen Ø: ca. 8,0 mm |

Electrical properties at 20°C

| | |
|--------------------------|---|
| Loop resistance | max. 123 Ω/km acc. to UL 444 Table 2 and 13 |
| Insulation resistance | min. 5 GΩ x km |
| Mutual capacitance | nom. 28 nF/km (at 800 Hz) |
| Characteristic impedance | 9,6 kHz: 270 Ω ± 27 Ω 38,4 kHz: 185 Ω ± 18,5 Ω 3 up to 20 MHz: 150 Ω ± 15 Ω |
| Attenuation | 9,6 kHz: max. 0,25 dB/100 m 38,4 kHz: max. 0,4 dB/100 m 200 kHz: max. 0,9 dB/100 m 4 MHz: max. 2,2 dB/100 m 16 MHz: max. 4,2 dB/100 m |
| Velocity of propagation | nom. 0,81 c |
| Peak operating voltage | 250 V (not for power purposes) |
| Test voltage | core/core: 1500 V core/screening: 1500 V |

Mechanical and thermal properties

| | |
|------------------------|--|
| Minimum bending radius | flexible installation: 15 x cable Ø fixed installation: 8 x cable Ø |
| Temperature range | flexible installation: -5 °C up to +70 °C fixed installation: -30 °C up to +80 °C |
| Flammability | Vertical-Tray Flame Test acc. to UL 1685 |
| 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: DB2170996EN | Page 1 of 1 |
| Released: ALTE / PDC | Version: 3 | |