
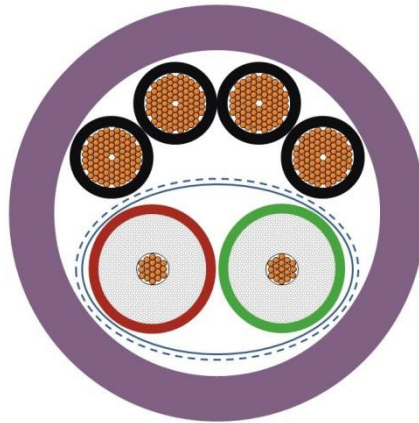


2170875	DATA SHEET	
valid from: 01.01.2019	UNITR. BUS PB FD Y HYBRID	

Application

UNITRONIC® BUS PB FD Y HYBRID is a highly flexible bus cable with 150 Ω impedance and with integrated control cores. The cable is suitable for applications in power chains.

Design




Conductor	<p>data cores: inner conductor bare copper, fine-wire stranded (19 x 0.14), ca. 0.67 mm \varnothing</p> <p>control cores: bare copper, fine-wire stranded (84 x 0.15 mm), ca. 2.4 mm \varnothing</p>
Insulation	<p>data cores: insulation Foam-Skin PE, ca. 2.56 mm \varnothing</p> <p>number of cores 2</p> <p>control cores: PVC, black, wall-thickness ca. 0.4 mm, ca. 2.4 mm \varnothing</p>
Core identification code	<p>data cores: red and green</p> <p>control cores: numbered: 1-2-3-4</p>
Stranding	<p>data cores: twisted to pair</p> <p>completely cable: screened pair and 4 control cores are twisted together with yarn to round cable core</p>
Screen	<p>data cores: plastic laminated aluminum foil, overlapping, on top braid of tinned copper wire, coverage 65 % \pm 5 %</p>
Taping	<p>data cores: plastic foil, overlapping</p> <p>completely wrapping: plastic foil, overlapping</p>
Outer sheath	<p>PVC, violet, wall-thickness ca. 1.0 mm, outer \varnothing: ca. 11.0 mm</p>

Electrical properties at 20°C

Conductor resistance	control cores: max. 14 Ω/km
Loop resistance	data cores: 138 Ω/km
Specific volume resistivity	control cores: min. 20 MΩxkm
Mutual capacitance	Data cores: 30 nF/km (at 1 kHz)
Characteristic impedance	<p>data cores:</p> <p>9.6 kHz: max. 270 Ω \pm 27 Ω</p> <p>31.25 kHz – 38.4 kHz: max. 185 Ω \pm 18,5 Ω</p> <p>3 Mhz – 20 MHz: max. 150 Ω \pm 15 Ω</p>
Attenuation	<p>data cores:</p> <p>9.6 kHz: max. 3 dB/km</p> <p>38.4 kHz: max. 4 dB/km</p> <p>4 MHz: max. 25 dB/km</p> <p>16 MHz: max. 49 dB/km</p>
Velocity of propagation	data cores: ca. 81 %

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Rated voltage	control cores: 600 V (not for power purposes)
Test voltage	conductor/conductor 2000 V conductor/screen 2000 V

Mechanical and thermal properties

Minimum bending radius	power chains (moved): 7.5 x min. cable diameter 1 million bending cycles acceleration 2.5 m/s ² fixed: 5 x cable diameter
Temperature range	form -5 °C up to +80 °C
Flammability	flame retardant acc. to UL 1685 (CSA FT 4)
UV resistance	sunlight resistant acc. to UL 1581 Sec. 1200
Oil resistance	oil resistant acc. to UL 1581 Sec. 480 (60 °C)
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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