

2170882	DATA SHEET	
valid from: 01.02.2019	UNITRONIC® BUS PB FD Y HYBRID 1X2X0,64+4X1,5	

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	data pair: bare copper, fine-wire stranded (19 x 0.14), approx. 0.67 mm Ø
	power pair: bare copper, fine-wire stranded (84 x 0.15 mm), approx. 2.4 mm Ø
Insulation	data pair: Foam-Skin PE, approx. 2.6 mm Ø
	power pair: PVC, approx. 2.4 mm Ø
Core identification code	data pair: red and green
	power pair: black with white numbers
Stranding	screened data pair (aluminium laminated foil with braid of tinned copper wires, coverage approx. 65 % ± 5 %) twisted together with power conductors and optional fillers
Taping	plastic tape
Outer sheath	PVC, violet outer Ø: approx. 11.0 mm

Electrical properties at 20°C

Conductor resistance	power cores: max. 14 Ω /km
Loop resistance	data cores: max. 138 Ω /km
Specific volume resistivity	20 MΩ*km
Inductance	data pair (loop): nom. 900 mH/km (1 kHz)
	power pair (loop): nom 600 mH/km (1 kHz)
Capacitive coupling	nom. 30 nF/km (1 kHz)
Characteristic impedance	9,6 kHz: max. 270 Ω ± 27 Ω 31,25 – 38,4 kHz: max. 185 Ω ± 18,5 Ω 3 Mhz – 20 MHz: max. 150 Ω ± 15 Ω
Attenuation	9,6 kHz: max. 3 dB/km 38,4 kHz: max. 4 dB/km 4 MHz: max. 25 dB/km 16 MHz: max. 49 dB/km
Velocity of propagation	nom. 0,81 c
Signal transit time	nom. 480 ns/km (1 MHz)
Peak operating voltage	600 V (not for power applications)
Test voltage	conductor/conductor 2000 V conductor/screen 2000 V

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Mechanical and thermal properties

Minimum bending radius	fixed use 5 x cable Ø flexible use 7.5 x cable Ø
Temperature range	- 5° C up to +80° C
Bending cycles and power chain operation parameters	travel distance: 5m acceleration: 2.5 m/s ²
Number of cycles	approx. 1 Mio. bending cycles
Flammability	flame retardant acc. to UL 1685 Vertical-Tray Flametest
UV resistance	Sunlight resistance acc. to UL 1581 Sec. 1200
Oil resistance	acc. To UL 1581 Sec. 480 (60°)
Tests	ampacity: max. 12 A (up to 25 °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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