


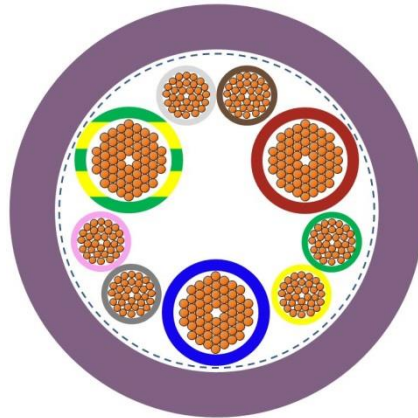
2170818	DATA SHEET	
valid from: 01.01.2019	UNITRONIC® BUS IBS FD P COMBI A	

Application

UNITRONIC® BUS IBS FD P COMBI A is a high flexible data cable for the field-bus system INTERBUS, with a data transmission of 500kBit/s at a length of 400m. The field-bus cable is designed to the requirements of the bus-system INTERBUS, the transmission characteristics are conform to the system and guarantee a high operating security during data transmission.

UNITRONIC® BUS IBS FD P COMBI A is designed for high flexible use in power chains, linear robots and permanently moved machines with high lifetime requirements in dry and damp interiors and for rough industry environment. The outer sheath ensures low abrasion and also effects high resistance against mineral oil.

Design




Certification	c(UL)us CMX 75° C acc. to UL 444
Conductor	power supply cores: bare copper, superfine-wire stranded, 56 x ϕ ca. 0.15 mm, ca. 1.0 mm ² data cores: bare copper, superfine-wire stranded (single wire ϕ ca. 0.10 mm), ca. 0.25 mm ²
Insulation	power supply cores: insulation PE, ϕ ca. 1.7 mm data cores: PE, ϕ ca. 1.1 mm
Core identification code	power supply cores: red, blue, yellow/green data cores: pair 1: white, brown; pair 2: green, yellow; pair 3: grey, pink (DIN 47100)
Stranding	pairs and cores stranded together with central filler data cores: two cores twisted to pair
Screen	braid of copper wire coverage ca. 85%
Taping	non-woven tape, applied longitudinal (optional)
Outer sheath	PUR compound, violet similar to RAL 4001 outer ϕ : ca. 7.7 mm

Electrical properties at 20°C

Conductor resistance	Power supply cores: max. 19.5 Ω /km
Loop resistance	data cores: 159.8 Ω /km
Insulation resistance	power supply cores: min. 5 G Ω km data cores: min. 5 G Ω km
Mutual capacitance	data cores: max. 60 nF/km (at 800 Hz)
Characteristic impedance	data cores: 64 Hz: 120 Ω \pm 20 % > 1 MHz: 100 Ω \pm 15 Ω

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Attenuation	256 kHz: dB/100m 1.5 722 kHz: dB/100m 2.5 1 MHz: dB/100m 2.8 4 MHz: dB/100m 6.9 10 MHz: dB/100m 12.0 16 MHz: dB/100m 15.5 20 MHz: dB/100m 17.2
Near-end cross-talk	722 kHz: min dB 61 1 MHz: min dB 59 4 MHz: min dB 50 8 MHz: min dB 46 10 MHz: min dB 44 16 MHz: min dB 41 20 MHz: min dB 40
Velocity of propagation	data cores: 0.66 c
Peak operating voltage	data cores: 250 V (not for power applications)
Rated voltage	power supply cores: U ₀ /U 300/500 V
Test voltage	power supply cores (50 Hz, 1 min.): core/core 1500 V data cores (5: Hz, 1 min.): core/core 1500 V core/screen 1000 V

Mechanical and thermal properties

Minimum bending radius	15 x cable diameter
Temperature range	fixed installation: -40°C up to +80°C moved: -10°C up to +70°C
Flammability	flame retardant acc. to IEC 60332-1-2; VW-1 acc. to UL 1581, section 1080
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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