

2170208	DATA SHEET	
valid from: 01.02.2019	UNITRONIC® BUS IBS P COMBI 3 x 2 x 0,22 mm² + 2 x 1,0 mm²	

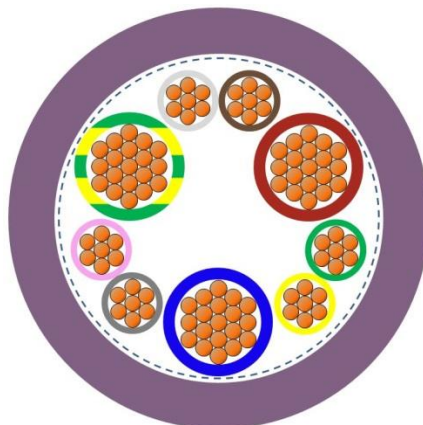
Application

UNITRONIC® BUS P COMBI IBS is a data cable for the field-bus system INTERBUS with a data transmission rate 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 conform to the system and guarantee a high operating security during data transmission.

UNITRONIC® BUS P COMBI IBS is certified by the INTERBUS-CLUB.

The cable is intended for limited flexible use and for permanent installation in dry and damp interiors.

Design



Conductor	data pair: stranded conductor: bare copper, 0.22 mm ² , multicore (7 x 0.2 mm) 24AWG
	power pair: stranded conductor: bare copper, 1.0 mm ² ,(14 x 0.3 mm) 18 AWG
Insulation	data pair: PE, core diameter approx. 1.0 mm
	power pair: PE, core diameter approx. 1.7 mm
Core identification code	data pair: white-brown, green-yellow, grey-pink (acc. to DIN 47100)
	power pair: red, blue, green/yellow
Stranding	data pairs twisted together with power supply cores with wrapping on top
Screen	braid of tinned copper wires
Outer sheath	PUR, flame retardant, halogen free, violet outer diameter max. 8.0 mm

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Electrical properties at 20°C

Conductor resistance	power cores: max. 19.5 Ω/km		
Loop resistance	data cores: max. 87.6 Ω/km		
Specific volume resistivity	power cores: min. 5 GΩ x km		
Mutual capacitance	max. 60 nF/km (800Hz)		
Characteristic impedance	110 Ω (±20Ω) (64 kHz) 95 Ω (± 15Ω) (>1 MHz)		
Attenuation	256 kHz	max. dB/100m	1.0
	772 kHz	max. dB/100m	2.5
	1 MHz	max. dB/100m	2.8
	4 MHz	max. dB/100m	6.9
	10 MHz	max. dB/100m	12.0
	16 MHz	max. dB/100m	15.5
	20 MHz	max. dB/100m	17.2
Near-end cross-talk	772 kHz	min. dB	61
	1 MHz	min. dB	59
	2 MHz	min. dB	55
	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	nom. 0,66 c		
Transfer impedance	screen resistance: max. 10 Ω/km transfer impedance: max. 250 mΩ/m (30 MHz)		
Peak operating voltage	data pair: 250 V (not for power applications) power pair: 450 V (not for power applications)		
Test voltage	conductor/conductor conductor/screen	1500 V 1000 V	

Mechanical and thermal properties

Minimum bending radius	fixed use 7.5 x cable Ø flexible use 15 x cable Ø
Temperature range	fixed use - 30° C up to +80° C flexible use - 5° C up to +70° C
Burning load	0,3 kWh/m
Flammability	flame retardant acc. to VDE0482-265-2-1, IEC60332-1 and UL1581 VW-1
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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