



<b>DATA SHEET</b>	2170206
<b>UNITRONIC® BUS IBS 3 x 2 x 0,22 mm<sup>2</sup></b>	valid from : 12.02.2004

**Application**

UNITRONIC® BUS 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 IBS is certified by the INTERBUS-CLUB.  
The cable is intended for limited flexible use and for permanent installation in dry and damp interiors.

Applicable connectors:                   D-Sub-connector, 9 pin  
  Round connector, 9 pin, IP 65

**Design**

Conductor                                multi-wire stranded ( 7 x 0.2 mm) of bare copper  
Insulation                               PE, 2Y11 in acc. to VDE 0207 part 2  
Coding                                    colour-coded to DIN 47100  
Stranding                                2 cores twisted to pair  
  3 pairs laid up  
Screen                                    copper wire braid  
Wrapping                                one layer polyester foil  
Sheath                                    PVC, violet, outer diameter    approx 7.4 mm

LAPP KABEL STU<sup>U</sup>TGART **UNITRONIC® BUS IBS** 3 x 2 x 0,22    ART. 2170206

**Electrical properties at 20° C**

Loop resistance		max. Ω/km	186
Insulation resistance		min GΩx km	5
Mutual capacitance at	800 Hz	max nF/km	60
Impedance    at	64 kHz	Ω	120 +/- 20%
	1 MHz	Ω	100 +/- 15%
Line attenuation at	0.256 MHz	max dB/100m	1.5
	0.772 MHz	max dB/100m	2.4
	4 MHz	max dB/100m	5.2
	10 MHz	max dB/100m	8.4
	16 MHz	max dB/100m	11.2
	20 MHz	max dB/100m	11.9
Near-end cross-talk attenuation at	0.772 MHz	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
Transfer impedance at	30 MHz	max. mΩ/m	250
Nominal velocity of propagation		nom.	0.66c
Peak operating voltage		V	250
(not for purposes of power / high voltage current)			
Test voltage	core/core	U <sub>eff</sub> V	1500



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core/screen

$U_{eff}$  V

1000

### Mechanical and thermal properties

Temperature range	static	°C	-30 up to +80
Minimum bend radius	fixed installation	mm	64
Burning load		kWh/m	0.2
Flame propagation	flame retardant to VDE 0482, part 265-2-1 / IEC 60332-1		

### General properties

All materials used and during manufacturing have to be **free of LBS** (e.g. silicone).  
LBS = substances destructive to lacquer-coatings.

INTERBUS = registered trademark of Phoenix Contact GmbH & Co

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