



DATA SHEET	2170816
UNITRONIC® BUS FD P /BS UL/CSA 3 x 2 x 0.25 mm ²	valid from : 30.03.2004

Application

UNITRONIC® BUS FD P /BS UL/CSA is a highly flexible 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. All used materials are halogen free.

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

The cable is intended for highly flexible application in power chains, or permanently moving machines and linear robots, in dry and damp interiors and in harsh industrial environment. The PUR sheath is very resistant against mineral oils and abrasion.

Approval: UL/CSA Type: CMX acc. to UL444 and CSA C22.2 No. 214-02

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

Design

Conductor	very fine-wired stranded (32 x 0.1 = 0.25 mm ² = 24AWG) of bare copper
Insulation	solid PE, core diameter approx. 1.5 mm
Coding	colour-coded acc. to DIN 47100
Twisting	2 cores twisted to pair 3 pairs cabled together
Screening	tinned copper wire braid
Sheath	PUR, halogen free, flame retardant, violett, RAL 4001
OD	approx 7.9mm

Sheath printing:

LAPP KABEL STUTTGART UNITRONIC® BUS FD P /BS UL/CSA 3 x 2 x 0,25 c(UL)us CMX 75°C 24AWG
(SHIELDED) E236660 ART. 2170816

Electrical properties at 20° C

Loop resistance		max. Ω/km	159.8
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%

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Line attenuation at	0.256 MHz	max dB/100m	1.5
	0.772 MHz	max dB/100m	2.4
	1 MHz	max dB/100m	2.7
	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 (not for purposes of power current)		V	250
Test voltage	core/core	U _{eff} V	1500
	core/screen	U _{eff} V	1000

Mechanical and thermal properties

Temperature range	static	°C	- 40 to + 80
	flexing	°C	- 30 to + 70
Minimum bend radius	flexing	mm	110
Burning load		kWh/m	0.225
Flame propagation	flame retardant to VDE 0482, part 265-2-1 / IEC 60 332-1		

General properties

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

INTERBUS = registered trademark of Phoenix Contact GmbH&Co

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