



<b>DATA SHEET</b>	2170220
<b>UNITRONIC® BUS L2/FIP 1 x 2 x 0.64</b>	valid from : 08.07.2004

## Application

UNITRONIC® BUS L2/FIP is a data cable for the SIEMENS field-net Sinec L2 DP (to DIN 19245 part 3 and EN 50170), for field bus system F.I.P.(Factory Instrumentation Protocol) as well as for high performance data networks with 150 Ohms nominal impedance. The cable is designed for the system-defined transmission rates of 1.5 Mbit/s, 2.5 Mbit/s and 12 Mbit/s, the transmission characteristics conform to the system and guarantee a high operating security during data transmission. It is suitable for interfaces RS 422 and RS 485.

The cable is intended for permanent installation in dry and damp interiors. Due to its double screening it is suitable for installation in electromagnetically demanding areas.

## Design

Conductor	single wire of bare copper, 0.64mm Ø (22AWG)
Insulation	foam-skin PE (02YS); core diameter approx 2.5mm
Coding	cores red and green
Twisting	2 cores together with 2 fillers (core-filler-core-filler)
Wrapping	isolation foil
Screening	aluminium- mylar tape wrap, metal-side outwards on top a tinned copper wire braid
Sheath	PVC, flame retardant, violet, OD max. 7.8 mm
Weight	approx. 60 kg/km net
Marking on the sheath:	

LAPPKABEL STUTTGART **UNITRONIC® BUS L2/FIP** 1 x 2 x 0,64 ART. 2170220

## Electrical characteristics at 20°C

Loop resistance		max. Ω/km	115
Screen resistance		max. Ω/km	10
Insulation resistance		min. GΩxkm	5
Mutual capacitance	at 800 Hz	nom. nF/km	30
Impedance	at 9.6 kHz	Ω	270 ± 27
	at 38.4 kHz	Ω	185 ± 18.5
	at 3 to 20 MHz	Ω	150 ± 15
Line attenuation	at 9.6 kHz	max. dB/100 m	0.25
	at 38,4 kHz	max. dB/100 m	0.4
	at 4 MHz	max. dB/100 m	2.2
	at 16 MHz	max. dB/100 m	4.2
Transfer impedance	at 20 MHz	nom. mΩ/m	10
Nominal velocity of propagation		nom.	0.81c
Peak operation voltage (not for purposes of power/high voltage current)		V	250
Test voltage	core/core / core/screen	U <sub>eff</sub> V	1500

## Mechanical and thermal characteristics

Minimum bend radius	single bending	mm	75
	multiple bending	mm	150
Permissible pulling force		N	100
Permissible temperature range	static	°C	- 40 up to + 80
	flexible	°C	- 5 up to + 50
Burning load		kWh/m	0.235
Flammability	flame retardant to VDE 0482, part 265-2-1 / IEC 60 332.1		

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