



DATA SHEET	2170225
UNITRONIC® BUS COMBI L2/FIP 7-wire 1 x 2 x 0.64 Ø + 3 x 1.0	valid from : 08.07.2004

Application

Data cable with integrated power supply for the bus-logic of SIEMENS field-net Sinec L2 DP (acc. to DIN 19245 part 3 and EN 50170), for fieldbus system FIP (Factory Instrumentation Protocol) as well as for high performance data networks with 150 Ω 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.

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

The double screening ensures a reliable transmission of data. It is suitable for installation in electromagnetically bonded areas.

Data pairs stranded conductor: bare copper, 0.22 mm² (24AWG), 7 x 0.2
 insulation: PE, core diameter approx. 2.5 mm
 coding: cores red and green
 stranding: 2 cores together with 2 fillers (core-filler-core-filler)
 screening: plastic laminated aluminium-foil, metal-side outwards,
 braid of tinned copper

Cores of power supply stranded conductor: bare copper, 1.0 mm² (18AWG), 19 x 0.25
 insulation: PE, core diameter approx. 1.7 mm;
 core colour: green/yellow, black and blue.

Stranding screened data pair with 3 cores twisted to power supply,
 wrapping: one layer of non woven tape.

Sheath PVC, violet RAL 4001, Outer diameter approx. 9.8 mm

Marking on the sheath:

LAPPKABEL STUTTGART UNITRONIC® BUS COMBI L2/FIP 7-wire 1 x 2 x 0,64 Ø + 3 x 1,0
 ART. 2170225

Electrical characteristics at 20°C

Data transmissions pairs:	Loop resistance		max. Ω /km	186
	Screen resistance		max. Ω /km	10
	Insulation resistance		min. $G\Omega$ xkm	5
	Mutual capacitance	at 800 Hz	nom. nF/km	28
	Impedance	at 9.6 kHz	Ω	270 \pm 27
		at 30.25 kHz	Ω	185 \pm 18.5
		at 3 to 20 kHz	Ω	150 \pm 15
	Line attenuation	at 9.6 kHz	max. dB/100 m	0.3
		at 38.4 kHz	max. dB/100 m	0.4
		at 4 kHz	max. dB/100 m	2.5
at 16 MHz		max. dB/100 m	4,9	
	Transfer impedance	at 20 MHz	max. m Ω /m	10
	Nominal velocity of propagation		nom.	0,81c
Cores power supply:	Conductor resistance		max. Ω /km	26
	Insulation resistance		min. $M\Omega$ x km	20
Cable core:	Peak operation voltage		U_{eff} V	100
	(not for purposes of power/high voltage current)	Test voltage	U_{eff} V	600

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Mechanical and thermal characteristics

Minimum bend radius	static	mm	60
	flexible	mm	90
Pulling force		min.N	100
Temperature range	static	°C	- 40 up to + 80
	flexible	°C	- 5 up to + 50
Burning load		kWh/m	approx.. 0,260
Flammability	flame retardant to VDE 0482, part 265-2-1 / IEC 60 332-1		

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