


2170225	<b>DATA SHEET</b>	
valid from: 01.02.2019	<b>UNITRONIC® BUS PB COMBI 7-W</b> <b>1x2x0,22 mm<sup>2</sup> + 3x1,0 mm<sup>2</sup></b>	

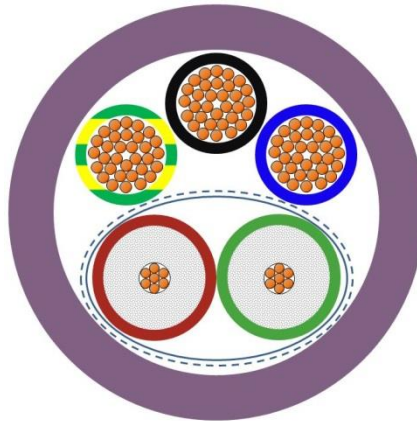
## Application

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.

## Design




Conductor	<p>data pair: stranded conductor: bare copper, 0.22 mm<sup>2</sup> (24AWG), 7 x 0.2</p> <p>power pair: stranded conductor: bare copper, 1.0 mm<sup>2</sup> (18AWG), 19 x 0.25</p>
Insulation	<p>data pair: PE, core diameter approx. 2.5 mm</p> <p>power pair: PE, core diameter approx. 1.7 mm</p>
Core identification code	<p>data pairs: red and green</p> <p>power pair: black, blue, green/yellow</p>
Stranding	individually screened data pairs (plastic laminated aluminium-foil with braid of tinned copper wires) twisted together with power supply cores
Taping	non-woven tape
Outer sheath	PVC, violet RAL 4001, Outer diameter approx. 9.8 mm

## Electrical properties at 20°C

Conductor resistance	power cores: max. 26 Ω/km
Loop resistance	data cores: max. 186 Ω/km
Specific volume resistivity	data cores: min. 5 GΩ x km
	power cores: min. 20 MΩ x km

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Mutual capacitance	max. 28 nF/km (800Hz)		
Characteristic impedance	at 9.6 kHz	270 ± 27 Ω	
	at 30.25 kHz	185 ± 18.5 Ω	
	at 3 to 20 kHz	150 ± 15 Ω	
Attenuation	at 9.6 kHz	0.3	max. dB/100 m
	at 38.4 kHz	0.4	max. dB/100 m
	at 4 kHz	2.5	max. dB/100 m
	at 16 MHz	4,9	max. dB/100 m
Velocity of propagation	nom. 0,81 c		
Transfer impedance	screen resistance:		
	max. 10 Ω/km		
	transfer impedance:		
Peak operating voltage	max. 10 mΩ/m (20 MHz)		
	100 V (not for power applications)		
Test voltage	conductor/conductor 1500 V		

### Mechanical and thermal properties

Minimum bending radius	fixed use	6 x cable Ø
	flexible use	9 x cable Ø
Temperature range	fixed use	- 40° C up to +80° C
	flexible use	- 5° C up to +50° C
Burning load	0,26 kWh/m	
Flammability	flame retardant acc. to IEC 60332-1-2	
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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