


2170854	<b>DATA SHEET</b>	
valid from: 01.01.2019	<b>UNITRONIC® BUS PB FD FRNC FC</b>	

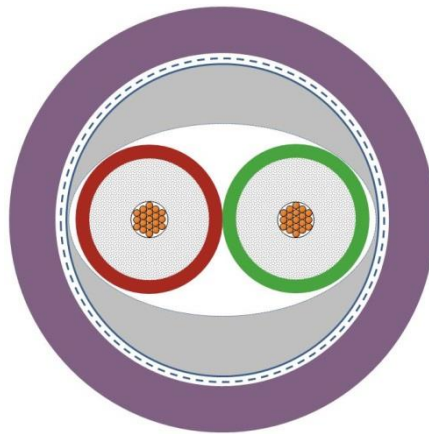
## Application

Highly flexible, Halogen free and flame retardant data cable for fieldbus system PROFIBUS DP and PROFIBUS FMS (Siemens SIMATIC NET) acc. to DIN 19245, part 3 and EN 50 170 cable type A, and 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 9.6 Kbit/s up to 12 Mbit/s, the transmission characteristics conform to the system and guarantee a high operating security during the data transmission.

This data cable provides special advantages for the use in sensitive areas, where flame propagation must be avoided and the presence of toxic fumes would cause personal injuries and damage of property. This cable is intended for high flexible application in power chains, or permanently moving machines, in dry and damp interiors and in harsh industrial environment.

With the „Fast Connect“ stripping tool the cable is intended for the fast mounting of the connectors. By one single operation the end of the cable is prepared for connection, especially if the IDC (Insulation Displacement Connector) method of termination is used.

## Design




Conductor	stranded bare copper, conductor diameter 0.64 mm (19 x 0.135)
Insulation	skin foam skin PE, core diameter approx. 2.55 mm
Core identification code	cores red and green
Stranding	two cores twisted in pair
Inner sheath	thermoplastic and halogen free compound, interstice filled extruded
Screen	plastic laminated aluminum foil, metal side outwards and on top braiding of tin copper wire
Taping	one layer non-woven tape
Outer sheath	PUR flame retardant and halogen free compound, violet similar to RAL 4001, outer diameter ∅ approx. 8 mm

## Electrical properties at 20°C

Conductor resistance	screen resistance: max. 10 Ω/km
Loop resistance	max. 110 Ω/km
Insulation resistance	min. 5 GΩ x km
Mutual capacitance	800 Hz nom. nF/km 28
Characteristic impedance	at 9,6 kHz Ω 270 ± 27 at 38,4 kHz Ω 185 ± 18,5 at 3 bis 20 MHz Ω 150 ± 15
Attenuation	at 9,6 kHz max. dB/100 m 0,25 at 38,4 kHz max. dB/100 m 0,4 at 200 kHz max. dB/100 m 0,9 at 4 MHz max. dB/100 m 2,2 at 16 MHz max. dB/100 m 4,2
Velocity of propagation	nom. 0,81c
Transfer impedance	at up to 20 MHz max. 10 Ω/km

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Peak operating voltage	250 V (not for power applications)
Test voltage	conductor/conductor 1500 V conductor/screen 1500 V

### Mechanical and thermal properties

Minimum bending radius	for flexible cable diameter x 15 for static cable diameter x 8
Temperature range	for flexible: -5°C bis + 70°C for static: -30°C bis + 80°C
Flammability	flame retardant acc. to CSA FT-4 IEEE 1202 acc. to UL 1685 (CMG) IEC 60 332-3-25 (KAT-D)
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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