

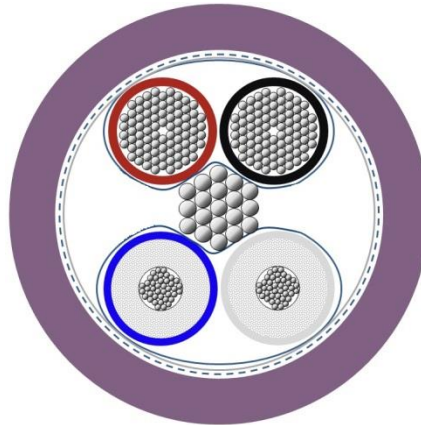
2170346	<b>DATA SHEET</b>	
valid from: 01.02.2019	<b>UNITRONIC® BUS DN THICK FD Y 1x2xAWG18 + 1x2xAWG15</b>	

### Application

UNITRONIC® BUS DeviceNet is a field bus cable based on proven CAN (Controll Area Network) technology with length-related transmission rates (125/250 and 500) kbit/s. Up to 64 participants can communicate in the network with one another. These cable includes two wires for data transmission and also two wires for the powersupply (24 V DC).

The product with a nominal impedance of 120 Ω is resistance to a lot of oils, has a moderate UV-resistant and is suitable for highly flexible applications. DeviceNet connects limit switches, photoelectric switches, valve islands, motor starters, drives, PLCs, etc.

### Design



Certification	cUL CMG - certified 75°C or PLTC FT4, Sun Res, Oil Res
Conductor	<p>data pair: tinned copper AWG 18 wire stranded copper 40 x 0,180 mm <math>\phi</math> (40/33 AWG), <math>\phi</math> approx. 1,30 mm</p> <p>power pair: tinned copper AWG 15 wire stranded copper 84 x 0,160 mm <math>\phi</math> (86/34 AWG), <math>\phi</math> approx. 1,70 mm</p>
Insulation	<p>data pair: foamed skin polyethylene (02YS), <math>\phi</math> 3,80 mm (nominal value)</p> <p>power pair: polyvinyl chloride (Y), <math>\phi</math> 2,70 mm (nominal value)</p>
Core identification code	<p>data pair: white/blue</p> <p>power pair: red/black</p>
Stranding	<p>screened data pairs (longitudinal applied aluminium laminated foil) twisted together with screened power pairs (longitudinal applied aluminium laminated foil) and optional fillers around a central drain wire element</p> <p>drain wire: tinned copper AWG 18/19 wire stranded copper 19 x 0,254 mm <math>\phi</math> (19/30 AWG), <math>\phi</math> approx. 1,30 mm</p>
Screen	conductive plastic tape with braid of tinned copper wires, coverage approx. 80 %
Taping	thin non-woven tape wrapping (longitudinally applied)
Outer sheath	PVC, violet (similar RAL 4001), outer $\phi$ : 12,2 mm $\pm$ 0,3 mm

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### Electrical properties at 20°C

Conductor resistance	data pair: max. 22.7 Ω  power pair: max. 11.3 Ω  drain wire: max. 22.7 Ω
Specific volume resistivity	200 MΩ*km
Inductance	data pair (loop): nom. 900 mH/km (1 kHz)  power pair (loop): nom 600 mH/km (1 kHz)
Capacitive coupling	data pair: nom. 39,8 nF/km (1 kHz)  power pair: nom 140 nF/km (1 kHz)
Characteristic impedance	120 Ω (±10%) (1 MHz)
Attenuation	nom. 0,42 dB/100m (125 kHz) nom. 0,81 dB/100m (500 KHz) nom. 1,31 dB/100m (1 MHz)
Velocity of propagation	nom. 0,7 c
Signal transit time	nom. 480 ns/km (1 MHz)
Peak operating voltage	300 V (not for power applications)
Test voltage	conductor/conductor 2000 V conductor/screen 2000 V

### Mechanical and thermal properties

Minimum bending radius	fixed use 7.5 x cable Ø flexible use 15 x cable Ø
Temperature range	- 10° C up to +80° C
Flammability	flame retardant acc. to UL 1685 / CSA FT4
UV resistance	acc. to UL 2556 Sec. 4.2.8.5
Oil resistance	acc. to UL 13 Sec. 40 (60°)
General requirements	This cable is conform to the EU-Directive 2011/65/EU (RoHS, Restriction of the use of certain hazardous substances).

\* informative:  
data transfer rate  
125 kBit/s = 500m  
250 kBit/s = 250m  
500 kBit/s = 100m

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