
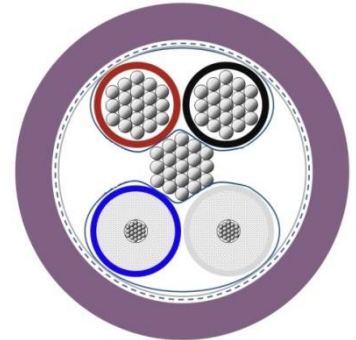


2170347	DATA SHEET	
valid from: 10.03.2020	UNITRONIC® BUS DN THIN FD Y 1x2x24/19 AWG + 1x2x22/19 AWG	

Application


UNITRONIC® BUS DeviceNet is a field bus cable based on proven CAN (Controll Area Network) technology with lengthrelated 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. Data transfer rate: 125 kBit/s =500 m, 250 kBit/s =250 m, 500 kBit/s =100 m



Design

Certification	c(UL)us CMG 75°C acc. to UL 444 and CSA C22.2 No. 214 or CL2 FT4 OIL RES SUN RES acc. to UL 13
Conductor	<p>data pair: fine-wire stranded tinned copper 24/19 AWG (19x0,127 mm Ø) Ø ca. 0,63 mm</p> <p>power pair: fine-wire stranded tinned copper 22/19 AWG (19x0,160 mm Ø) Ø ca. 0,80 mm</p>
Insulation	<p>data pair: foamed PE core-Ø: ca. 1,90 mm</p> <p>power pair: PVC core-Ø: ca. 1,40 mm</p>
Core identification code	<p>data pair: white, blue</p> <p>power pair: red, black</p>
Stranding	data pair with power pair and optional fillers stranded around central drain-wire (fine-wire stranded tinned copper, 22/19 AWG (19x0,160 mm Ø), Ø ca. 0,80 mm)
Pair screen	data pair: plastic laminated aluminium foil (overlapping) power pair: plastic laminated aluminium foil (overlapping)
Screen	conductive plastic tape on top: braid of tinned copper wires (coverage ca. 70 %)
Taping	non-woven tape (overlapping)
Outer sheath	PVC violet, similar RAL 4001 outer-Ø: ca. 6,9 mm

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Electrical properties at 20°C

Conductor resistance	data cores:	max. 90,9 Ω
	power cores:	max. 57,4 Ω
	drain-wire:	max. 57,4 Ω
Insulation resistance	200 MΩxkm	
Mutual capacitance	data pair:	nom. 39,8 nF/km (1 kHz)
	power pair:	nom. 39,8 nF/km (1 kHz)
Inductance	data pair:	nom. 900 mH/km (1 kHz)
	power pair:	nom. 700 mH/km (1 kHz)
Characteristic impedance	120 Ω ± 10 % (1 MHz)	
Attenuation	125 kHz:	nom. 0,95 dB/100m
	500 kHz:	nom. 1,64 dB/100m
	1 MHz:	nom. 2,29 dB/100m
Velocity of propagation	0,70 c	
Signal propagation time	nom. 480 ns/km (1 MHz)	
Peak operating voltage	300 V (not for power purposes)	
Test voltage	core/core	2000 V
	core/screen	2000 V

Mechanical and thermal properties

Minimum bending radius	fixed:	7,5x cable ø
	occasional flexing:	15x cable ø
Temperature range	-10 °C bis +80 °C	
Flammability	flame retardant acc. to EN 60332-1-2 resp. IEC 60332-2 FT4 acc. To. UL 1685	
UV resistance	SUN RES acc. to UL 444 §7.22	
Oil resistance	OIL RES acc. To UL 13 §40.2	
General requirements	These cables are conform to the EU-Directive 2011/65/EU (RoHS, Restriction of the use of certain hazardous substances) and the LV-Directive 2014/35/EU (Low voltage Directive).	
Environmental information	These cables meet the substance-specific requirements of the EU Directive 2011/65/EU (RoHS).	

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