
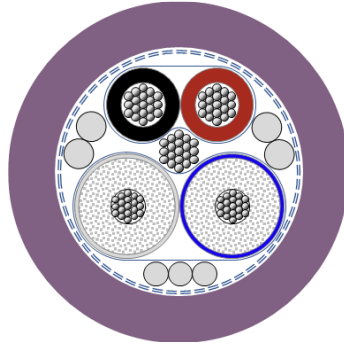


2170345	<b>DATA SHEET</b>	
valid from: 05.06.2023	<b>UNITRONIC BUS DN THIN FD P 1x2x 24 AWG + 1x2x 22 AWG</b>	

## Application

Field of use:	Field bus cable for DeviceNet applications based on CAN technology standardized in IEC/EN 62026-3. For links between industrial devices such as sensors and actuators and higher-level devices such as PLCs and PCs. Suitable for highly flexible applications in power chains and permanent moved machine parts.
Performance:	Screened foiled twisted pair cable, having a nominal impedance of 120 Ω. Designed for transmission rates of 125 Kbit/s up to 500 Kbit/s. For cable lengths up to 100 m. The cable consists of two wires for data transmission and two wires for power supply (24 V DC).
Characteristics:	flame retardant, no flame propagation, UV resistant, halogen free
Applications:	for use as trunk cable or as drop cable in DeviceNet networks




## Design

Certification	E224262 (UL) CL2X SUN RES acc. to UL 13 E236660 c(UL)us CMX 75°C acc. to UL 444 and CSA C22.2 No. 214		
Conductor	data pair:	fine-wire stranded tinned copper 24/19 AWG conductor diameter:	nom. 0.63 mm
	power pair:	fine-wire stranded tinned copper 22/19 AWG conductor diameter:	nom. 0.8 mm
Insulation	data pair:	foam-skin polyolefine core diameter:	nom. 2.0 mm
	power pair:	polyolefine core diameter:	nom. 1.4 mm
Core identification code	data pair:	white/blue	
	power pair:	red/black	
Stranding	data pair:	data cores twisted to pair	
	power pair:	power cores stranded to pair	
	overall assembly:	screened data pair and screened power pair stranded around a central drain wire	
Screen	data pair:	plastic laminated aluminum foil	
	power pair:	plastic laminated aluminium foil	
	overall assembly:	braid of tinned copper wires (coverage 80 % ± 5 %)	
	drain wire:	fine-wire stranded tinned copper (22/19 AWG)	
Taping	overall assembly:	non-woven tape	
Outer sheath	overall assembly:	TPU violet, similar RAL 4001 outer diameter:	6.8 mm ± 0.3 mm

## Electrical properties at 20 °C

Conductor resistance	data pair:	loop resistance:	max. 181.8 Ω/km
	power pair:	loop resistance:	max. 114.8 Ω/km
	screen:	DC resistance:	nom. 10.5 Ω/km
Insulation resistance	data pair:	core/core:	≥ 5 GΩ×km
	power pair:	core/core:	≥ 200 MΩ×km
Mutual capacitance	data pair:	core/core:	nom. 39.37 nF/km (1 kHz)
		core/screen:	nom. 78.74 nF/km (1 kHz)

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Capacitance unbalance	data pair:	core/core:	nom. 3937 pF/km (1 kHz)
Characteristic impedance	data pair:	1MHz:	120 Ω ± 12 Ω
Attenuation	data pair:	125 kHz:	nom. 0.95 dB/100m (125 kHz)
		500 kHz:	nom. 1.64 dB/100m (500 kHz)
		1 MHz:	nom. 2.3 dB/100m (1 MHz)
Velocity of propagation	data pair:	1 MHz:	nom. 0.7 c
Signal propagation time	data pair:	1 MHz:	nom. 480 ns/km
Maximum operating voltage	complete cable:	EN/IEC:	300 V (not for power applications)
Nominal voltage	power pair:	EN/IEC:	24 V DC
Rated voltage	complete cable:	UL/CSA:	300 V
Test voltage	complete cable:	core/core:	2000 V
		core/screen:	2000 V

### Mechanical and thermal properties

Minimum bending radius	complete cable:	fixed:	7.5 × outer diameter
		continuous flexing:	15 × outer diameter
Temperature range	complete cable:	fixed:	-40 °C up to +80 °C
		continuous flexing:	-30 °C up to +70 °C
		UL/CSA:	75 °C
Flammability	VW-1 acc. to UL 13 §27 resp. UL 444 §7.14.5		
Halogen free	amount of halogen acid gas acc. to. EN 60754-1 resp. IEC 60754-1		
Weather and UV resistance	SUN RES acc. to UL 13 §29		
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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