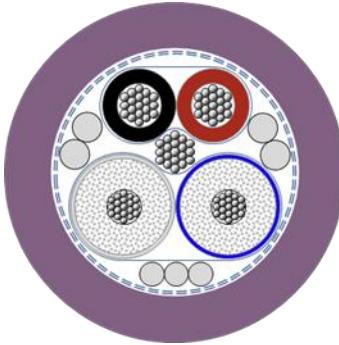


2170347	DATA SHEET	 LAPP
valid from: 2025-11-06	UNITRONIC® BUS DN THIN FD Y 1x2x24/19AWG + 1x2x22/19AWG	

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) CL2 FT4 SUN RES acc. to. UL 13 E236660 c(UL)us CMG 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:	foamed 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	PVC		
	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: core/screen:	nom. 39.37 nF/km (1 kHz) nom. 78.74 nF/km (1 kHz)

AbN
Automation

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Capacitance unbalance	data pair:	core/core:	nom. 3937 pF/km (1 kHz)
Characteristic impedance	data pair:	1 MHz:	120 Ω ± 12 Ω
Attenuation	data pair:	125 kHz: 500 kHz: 1 MHz:	nom. 0.95 dB/100m nom. 1.64 dB/100m nom. 2.3 dB/100m
Signal propagation time	data pair:	1 MHz:	nom. 4.8 ns/m
Maximum operating voltage	overall assembly:	EN/IEC:	300 V (not intended to be used in conjunction with low impedance sources, such as power grids)
Nominal voltage	power pair:	EN/IEC:	24 V DC
Rated voltage	overall assembly:	UL/CSA:	300 V
Test voltage	overall assembly:	core/core: core/screen:	2000 V 2000 V

Mechanical and thermal properties

Minimum bending radius	overall assembly:	fixed installation: continuous flexing:	8 × outer diameter 15 × outer diameter
Temperature range	overall assembly:	fixed installation: continuous flexing: UL/CSA:	-30 °C up to +80 °C -10 °C up to +60 °C 75 °C
Flammability	FT4 acc. to UL 1685 §12 - §19		
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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