

UNITRONIC® BUS DN THIN FD P
1x2xAWG24 + 1x2xAWG22
DB2170345
 valid from: 23.08.2016

APPLICATION

UNITRONIC® BUS DeviceNet is a field bus cable based on proven CAN (Control 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.

Approval: CMX UL/CSA - certified 75°C or CL2X, Sun Res, Oil Res

DESIGN
data pair

conductor tinned copper AWG 24/19
wire stranded copper 19 x 0,127 mm Ø (19/36 AWG), Ø approx. 0,63 mm

insulation foamed skin polyethylene (02YS), Ø 1,90 mm (nominal value)

core identification code white/blue

screening 2 data cores longitudinal under aluminium laminated shield foil (outside metal),

power pair

conductor tinned copper AWG 22/19
wire stranded copper 19 x 0,160 mm Ø (19/34 AWG), Ø approx. 0,80 mm

insulation polyethylene (2Y), Ø 1,40 mm (nominal value)

core identification code red/black

screening 2 power cores longitudinal under aluminium laminated shield foil (outside metal),

drainwire

conductor tinned copper AWG 22/19
wire stranded copper 19 x 0,160 mm Ø (19/34 AWG), Ø approx. 0,80 mm

overall

stranding all central element: drainwire, first layer: datapair + powerpair + filler (optional)

wrapping conductive plastic tape

screening braid of tinned copper wire, coverage approx. 80 %

wrapping (optional) thin non-woven tape, longitudinally applied

outer sheath PUR, violet (similar RAL 4001), outer Ø: 6,9 mm ± 0,3 mm

ELECTRICAL PROPERTIES AT 20°C

	data pair 1 x 2 x AWG 24	power pair 1 x 2 x AWG 22	drainwire AWG 22
DC resistance (core) at 20°C acc. to UL 444	max. 90,9 Ω	max. 57,4 Ω	max. 57,4 Ω
mutual capacitance	nom. 39,8 nF/km (1 kHz)	nom 65 nF/km (1 kHz)	
inductance (loop)	nom. 900 mH/km (1 kHz)	nom 700 mH/km (1 kHz)	
insulation resistance	200 MΩ*km		
operating peak voltage (not for power purposes)	300 V		
test voltage (AC 50Hz, 1min)			
core/core	2000V		
core/screen	2000V		

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	data pair 1 x 2 x AWG 24
data transfer rate (DeviceNet THIN)	125 kBit/s = 100m 250 kBit/s = 100m 500 kBit/s = 100m
characteristic impedance	120 Ω (±10%) (1 MHz)
attenuation	nom. 0,95 dB/100m (125 kHz) nom. 1,64 dB/100m (500 KHz) nom. 2,29 dB/100m (1 MHz)
v/c ratio	nom. 480 ns/km (1 MHz)
signal propagation time	nom. 0,7

MECHANICAL PROPERTIES AT 20°C

minimum bending radius	fixed installation: 7,5 x outer diameter moved: 15 x outer diameter
permissible temperature range	-40 °C up to +80 °C
flame retardant	acc. to UL 2556 Sec. 9.4 (VW-1)
UV resistant	acc. to UL 2556 Sec. 4.2.8.5
oil resistant	acc. to UL 13 Sec. 40 (60°)
halogen free	acc. to IEC 60754