UNITRONIC® BUS DN THIN Y 1x2xAWG24 + 1x2xAWG22

DB2170343
valid from: 29.04.2016

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 fixed installation. DeviceNet connects limit switches, photoelectric switches, valve islands, motor starters, drives, PLCs, etc.

Approval: CMG UL/CSA - certified 75°C or CL2 FT4, Sun Res, Oil Res

DESIGN

data pair

conductor	tinned copper AWG 24/19 wire stranded copper 19 x 0,127 mm ⌀ (19/36 AWG), ⌀ approx. 0,63 mm
insulation	foamed skin polyethylene (02YS), ⌀ 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 ⌀ (19/34 AWG), ⌀ approx. 0,80 mm
insulation	polyvinyl chloride (Y), ⌀ 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 ⌀ (19/34 AWG), ⌀ approx. 0,80 mm

overall

stranding all	central element: drainwire, first layer: datapair + powerpair + filler (optional)
screening	braid of tinned copper wire, coverage approx. 70 %
wrapping (optional)	thin non-woven tape, longitudinally applied
outer sheath	PVC, 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 140 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 core/screen	 2000V 2000V

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ELECTRICAL PROPERTIES AT 20°C

	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: 15 x outer diameter
permissible temperature range	fixed installation: -25˚C up to +80˚C
flame retardant	acc. to UL 1685 (CSA FT4)
UV resistant	acc. to UL 2556 Sec. 4.2.8.5
oil resistant	acc. to UL 13 Sec. 40 (60°)

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