

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 |