

**UNITRONIC® BUS DN THICK Y**  
**1x2xAWG18 + 1x2xAWG15**
**DB2170342**  
 valid from: 28.04.2016

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

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

**DESIGN**
**data pair**

conductor tinned copper AWG 18/19  
wire stranded copper 19 x 0,254 mm  $\phi$  (19/30 AWG),  $\phi$  approx. 1,30 mm

insulation foamed skin polyethylene (02YS),  $\phi$  3,80 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 15  
wire stranded copper 19 x 0,340 mm  $\phi$ ,  $\phi$  approx. 1,70 mm

insulation polyvinyl chloride (Y),  $\phi$  2,70 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 18/19  
wire stranded copper 19 x 0,254 mm  $\phi$  (19/30 AWG),  $\phi$  approx. 1,30 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  $\phi$ : 12,2 mm  $\pm$  0,3 mm

**ELECTRICAL PROPERTIES AT 20°C**

	<b>data pair</b> <b>1 x 2 x AWG 18</b>	<b>power pair</b> <b>1 x 2 x AWG 15</b>	<b>drainwire</b> <b>AWG 18</b>
DC resistance (core) at 20°C acc. to UL 444	max. 22,7 $\Omega$	max. 11,3 $\Omega$	max. 22,7 $\Omega$
mutual capacitance	nom. 39,8 nF/km (1 kHz)	nom 140 nF/km (1 kHz)	
inductance (loop)	nom. 900 mH/km (1 kHz)	nom 600 mH/km (1 kHz)	

insulation resistance	200 M $\Omega$ *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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**ELECTRICAL PROPERTIES AT 20°C**

	<b>data pair</b> <b>1 x 2 x AWG 18</b>
data transfer rate <b>(DeviceNet THICK)</b>	125 kBit/s = 500m 250 kBit/s = 250m 500 kBit/s = 100m
characteristic impedance	120 Ω (±10%) (1 MHz)
attenuation	nom. 0,42 dB/100m (125 kHz) nom. 0,81 dB/100m (500 KHz) nom. 1,31 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°)