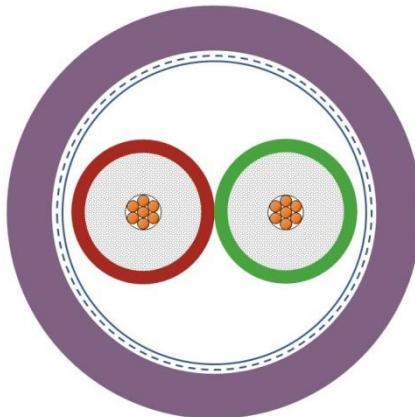


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**DATA SHEET**valid from:  
01.01.2019**UNITRONIC® BUS PB 105 plus****LAPP****Application**

UNITRONIC® BUS PB 105 plus 1x2x0,64 is a field bus cable with 150  $\Omega$  nominal impedance and a length-related transmission rate by 9,75 kBit/s b to 12 MBit/s. The product is suitable for fixed installation and requires flexible use in high temperature ranges (permanent up to 105°C / briefly up to 120°C). Another application is the installation in the hollow shaft between the gearbox and pitch systems for wind power turbines.

**Design**

Conductor	stranded bare copper wire 7 x 0,203 mm, diameter approx. 0.61 mm
Insulation	foamed skin polypropylene (09YS), diameter 2,55 mm (nominal value)
Core identification code	red/green
Stranding	two cores stranded to pair, fillers in stranding gore
Screen	aluminium laminated shield foil under braid, tinned copper wires, coverage 85 % $\pm$ 5 %
Taping	plastic tape (overlapping) optional: thin non-woven tape, longitudinally applied
Outer sheath	TPE compound, violet (similar RAL 4001), outer diameter: 7,8 mm $\pm$ 0,2 mm

**Electrical properties at 20°C**

Loop resistance	max. 157 $\Omega$ /km
Insulation resistance	min. 5 G $\Omega$ km
Mutual capacitance	max. 30 nF/km (800 Hz)
Inductance	nom. 1000 mH/km (800 Hz)
Characteristic impedance	270 $\Omega$ ( $\pm$ 10%) (9,6 kHz) 185 $\Omega$ ( $\pm$ 10%) (38,4 kHz) 150 $\Omega$ ( $\pm$ 10%) (3-20 MHz)
Attenuation	max. 0,3 dB/100m (9,6 kHz) max. 0,5 dB/100m (38,4 kHz) max. 0,9 dB/100m (200 kHz) max. 2,5 dB/100m (4 MHz) max. 4,9 dB/100m (16 MHz)
Velocity of propagation	v/c ratio nom. 0,75
Signal transit time	nom. 450 ns/100m (3-20 MHz)
Transfer impedance	max.10 m $\Omega$ /m (up to 20,0 MHz)
Peak operating voltage	250 V (not for power applications)
Test voltage	conductor/conductor 1500 V conductor/screen 1500 V

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UNITRONIC® BUS PB 105 plus



**LAPP**

## Mechanical and thermal properties

Minimum bending radius	fixed installation (uniquely): 45 mm moved: 65 mm
Temperature range	fixed installation: -40 °C up to +105 °C moved: -30 °C up to +105 °C short-term: +120 °C
General requirements	This cable is conform to the EU-Directive 2011/65/EU (RoHS, Restriction of the use of certain hazardous substances).

Creator: TOST / PDC  
Released: ALTE / PDC

Document: DB2170635EN  
Version: 03

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