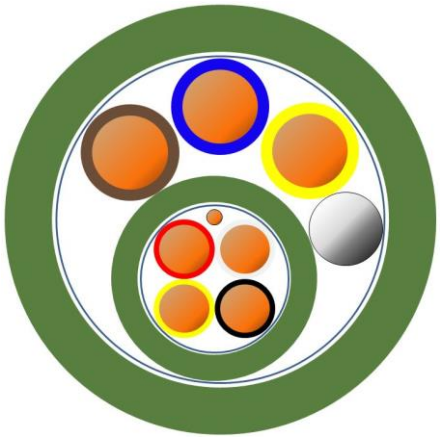
2170242	DATA SHEET	LAPP
valid from: 01.02.2019	UNITRONIC® BUS EIB COMBI 2x2x0.8 + 3x1.5	

Application

UNITRONIC® BUS EIB COMBI is a screened installation cable based on type J-Y(ST)Y acc. to VDE 0815 combined with power supply cores 3x1.5 mm² based on NYM acc. to VDE 0250 part 204.The cable is designed for data transmission in the building management, in particular as bus cable for the European Installation Bus EIB (use for decentralised control of lighting, heating, air-conditioning, ventilation, energy management, blind, time management, locking systems etc.) and electrical power supply.
The EIB bus cable can be laid in, on and under plaster, in pipes and cable ducts, in dry, damp and wet rooms.
They may only be installed outdoors with UV-protection and in observation of the temperature range. EIB cables has been tested with a test voltage of 4 kV. The cables may be laid respectively be touched without restrictions next to power cables.

Design



Certification	EN 13501-6 and EN 50575 Classification of fire behaviour
Design	Design and characteristics are similar to VDE 0815 resp. VDE 0250-204
Conductor	EIB: solid, bare copper wire, Ø 0.8 mm NYM: solid, bare copper wire, 1.5 mm²
Insulation	EIB: PVC TI51, coreØ ca. 1.6 mm NYM: PVC TI1, coreØ ca. 2.6 mm
Core identification code	EIB: Pair1: red and black; Pair 2: white and yellow NYM: brown, blue, green/yellow acc. to DIN VDE 0293- 308
Stranding	EIB: 4 cores twisted (star quad formation), wrapping with plastic foil, one layer plastic-coated aluminium foil, tape metal side inside with Ø 0.4 mm bare copper drain wire, sheath of PVC TM1, Ø 6.2 mm, colour similar to RAL 6017 All-up stranding: EIB bus cable with NYM-Adern 3x1.5 mm², wrapping with plastic foil (optional)
Screen	one layer plastic-coated aluminium foil, tape metal side inside with bare copper drain wire 1.5 mm²
Outer sheath	PVC TM1, colour green similar to RAL 6017, outer Ø max. 12.7 mm

Electrical properties at 20°C

Loop resistance	EIB: max. 73.2 Ω/km NYM: max. 24.4 Ω/km
Insulation resistance	> 100 MΩ x km
Mutual capacitance	at 800 Hz: nom. 100 nF/km
Inductance	at 800 Hz: approx. 0.65 mH/km
Capacitive coupling	100 m at 800 Hz: max. 300 pF
Characteristic impedance	nom. 85 Ω (100 kHz) nom. 75 Ω (1 MHz)
Attenuation	nom. 3.5 dB/km (10 kHz) nom. 8 dB/km (100 kHz)
Peak operating voltage	300 V (not for power purposes)
Rated voltage	only NYM: 300/500 V
Test voltage	EIB: core/core: 1000 V core/screen: 1000 V NYM: core/core: 1500 V Complete cable in a water quench (5 min): 4000 V

Mechanical and thermal properties

Minimum bending radius	18 x cable Ø
Temperature range	Fixed installation: - 30˚C up to +70˚C
Burning load	0.63 kWh/m
Flammability	flame retardant acc. to IEC 60332-1-2
General requirements	This cable is conform to EU-Directive 2014/35/EU (Low Voltage Directive) and to EU-Directive 2011/65/EU (RoHS, Restriction of the use of certain hazardous substances). This cable is classified in accordance with the EU-Regulation no. 305/2011 (CPR).