

1032100	DATA SHEET	
valid from: 20.01.2025	UNITRONIC® ROBUST C (TP)	

Application

UNITRONIC® ROBUST C (TP) are halogen free, robust, screened, twisted pair data cables for low frequency applications with outstanding weather, ozone and UV resistance. The cables are among others designed for dry, humid and wet conditions. Considering the temperature range, an outdoor use is possible. At room temperature they are increased resistant to acids, caustic solutions and certain oils. They are not for use with continuous operational movements, tensile strain or restricted guidance.

The twisted pairs with short lay lengths provides good decoupling of the conductor circuits. The screen provides protection against electromagnetic interferences.

Design

Design	Design based on standard VDE 0812
Conductor	fine wire strands of bare copper wires
Insulation	modified PP, halogen free, copper stabilised
Core identification code	acc. to DIN 47100
Cable assembly	cores twisted to pairs, pairs are stranded in layers, optionally with fillers wrapping with foil on the outer layer, optionally with fillers
Screen	braid of tinned copper, coverage 85 % (nominal value)
Outer sheath	special halogen free TPE-V compound colour: black (similar RAL 9005)

Electrical properties at 20 °C

Conductor resistance	0.14 mm ² : max. 148.0 Ω/km 0.25 mm ² : max. 79.9 Ω/km 0.34 mm ² : max. 57.5 Ω/km 0.5 mm ² : class 5 0.75 mm ² : class 5 1 mm ² : class 5
Specific volume resistivity	> 20 G Ω x cm
Mutual capacitance	C/C: approx. 60 nF/km C/S: approx. 100 nF/km (at 800 Hz)
Inductance	approx. 0.65 mH/km
Maximum operating voltage	0.14 mm ² : 350 V ≥ 0.25 mm ² : 500 V (not intended to be used in conjunction with low impedance sources, such as power grids)
Test voltage	0.14 mm ² : 1200 V ≥ 0.25 mm ² : 1500 V

Mechanical and thermal properties

Minimum bending radius	occasional flexing: 15 x outer diameter fixed installation: 6 x outer diameter
Temperature range	occasional flexing: -40 °C up to +90 °C fixed installation: -50 °C up to +90 °C
Torsional stress	Torsion movement in WTG TW-0 (5000 cycles at ≥ +5 °C) TW-2 (2000 cycles at ≥ -40 °C) ± 150 °/m at 1 revolution per minute
Flammability	not flame retardant
Halogen free	acc. to IEC 60754-1 resp. EN 60754-1
Corrosivity of gases	acc. to IEC 60754-2 resp. EN 60754-2
Toxicity	according to EN 50305
Weather and UV resistance	according to ISO 4892-2, method A
Ozone resistance	acc. to EN 50396, method B

General requirements

These cables are conform to EU-Directive 2011/65/EU (RoHS, Restriction of the use of certain hazardous substances).

Environmental information

These cables meet the substance-specific requirements of the EU Directive 2011/65/EU (RoHS).

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