

|                                   |                            |                                                                                     |
|-----------------------------------|----------------------------|-------------------------------------------------------------------------------------|
| <b>1032050</b>                    | <b>DATA SHEET</b>          |  |
| <b>valid from:<br/>20.01.2025</b> | <b>UNITRONIC® ROBUST C</b> |                                                                                     |

## Application

UNITRONIC® ROBUST C are halogen free, robust, screened 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 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 are stranded in layers, optionally with fillers<br>wrapping with foil on the outer layer |
| Screen                   | braid of tinned copper, coverage 85 % (nominal value)                                          |
| Outer sheath             | special halogen free TPE-V compound<br>colour: black (similar RAL 9005)                        |

## Electrical properties at 20 °C

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

## Mechanical and thermal properties

|                           |                                                                                                                                    |
|---------------------------|------------------------------------------------------------------------------------------------------------------------------------|
| Minimum bending radius    | occasional flexing: 15 x outer diameter<br>fixed installation: 6 x outer diameter                                                  |
| Temperature range         | occasional flexing: -40 °C up to +90 °C<br>fixed installation: -50 °C up to +90 °C                                                 |
| Torsional stress          | Torsion movement in WTG<br>TW-0 (5000 cycles at ≥ +5 °C)<br>TW-2 (2000 cycles at ≥ -40 °C)<br>± 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).

|                      |                       |             |
|----------------------|-----------------------|-------------|
| Creator: PESA / PDC  | Document: DB1032050EN | Page 1 of 1 |
| Released: ALTE / PDC | Version: 03           |             |