

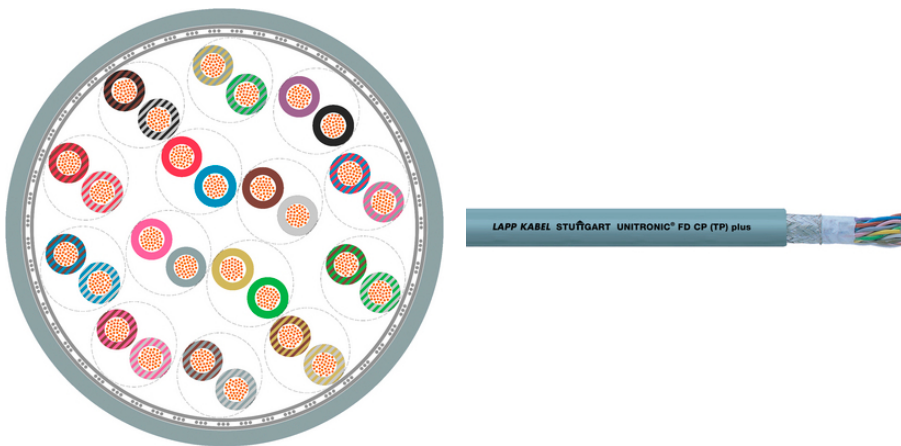
# UNITRONIC® FD CP (TP) plus A

Shielded, High-Performance PUR Chain/ Track cable with TP's and AWM/Rec. per CSA/ NFPA 79

UNITRONIC® FD CP (TP) plus A - Shielded, Highly flexible, Low-capacitive PUR Data Cable w/ TP for sophisticated Chain Track, AWM for USA (per NFPA 79) and CAN

**Info**

- Chain/Track: High Performance + Cold flexible
- Low capacitance
- Halogen-free



- Mechanical and plant engineering
- Wind Energy
- Suitable for outdoor use
- Good chemical resistance
- Halogen-free
- Cold-resistant
- Mechanical resistance
- Oil-resistant

## UNITRONIC® FD CP (TP) plus A



Power chain



Interference signals



Torsion-resistant



Torsion load



UV-resistant

### Benefits

Wide temperature range for applications in harsh climatic environments

Decoupling of circuits by means of twisted-pair (TP) design (crosstalk effects)

UL AWM voltage rating 1000V in case of internal wiring (for instance, inside Industrial Platform under Field Labeling) allows for internal laying next to power cables with applied UL rating of 1kV

In the USA inside of industrial machines and in chain track inside Industrial Platform under Field Labeling (subject to AHJ approval), per NFPA 79, Section 12.9.2 (condition 3 under 12.9.2: Thru 1 mm<sup>2</sup> and <16 AWG)

Overall braid minimises electrical interference

### Application range

Suitable for use in measuring, control and regulating circuits

Linear robots, automated handling equipment

Sophisticated design for high-performance chain/ track use

For use in chain/carrier: Please respect the assembly guidelines listed in Appendix T3

Suitable for torsional applications which are typical for the loop in wind turbine generators (WTG)

### Product features

Halogen-free, has low capacitance and is flexible down to -40 °C

PUR outer sheath, tear and notch-resistant, resistant to mineral oils and abrasion when used in power chains

Low-adhesive surface, resistant to hydrolysis and microbes, commonly for outdoor use (not in North America) thanks to UV and ozone resistance

Flame retardance: IEC 60332-1-2, FT2

### Norm references / Approvals

cRUus AWM certified by UL (UL: E63634): UL AWM Style 21576 and AWM A/B I/II

### Product Make-up

Extra-fine wire strand made of bare copper wires

Core insulation: Based on Polyolefin

TP structure

Non-woven wrapping

Tinned-copper braiding

Outer sheath made of special PUR compound

Outer sheath colour: grey (RAL 7001)

Last Update (05.11.2024)

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Product Management [www.lappkabel.de](http://www.lappkabel.de)

You can find the current technical data in the corresponding data sheet.

PN 0456 / 02\_03.16

## UNITRONIC® FD CP (TP) plus A

### Technical Data

|                           |                                                                              |
|---------------------------|------------------------------------------------------------------------------|
| Classification ETIM 5:    | ETIM 5.0 Class-ID: EC000104<br>ETIM 5.0 Class-Description: Control cable     |
| Classification ETIM 6:    | ETIM 6.0 Class-ID: EC000104<br>ETIM 6.0 Class-Description: Control cable     |
| Core identification code: | DIN 47100, refer to Appendix T9                                              |
| Mutual capacitance:       | Up to 0.5 mm <sup>2</sup> : 60 nF/km<br>Up to 1.0 mm <sup>2</sup> : 70 nF/km |
| Inductivity:              | approx. 0.65 mH/km                                                           |
| Conductor stranding:      | Stranded, extra-fine wire                                                    |
| Torsion movement in WTG:  | TW-0 & TW-2, refer to Appendix T0                                            |
| Minimum bending radius:   | Flexing: 7.5 x outer diameter<br>Fixed installation: 4 x outer diameter      |
| Test voltage:             | Core/Core: 1500 V<br>Core/Shield: 1500 V                                     |
| Temperature range:        | -40 °C to +80 °C<br>cRUus AWM: max. +80 °C                                   |

### Note

Unless specified otherwise, the shown product values are nominal values. Detailed values (e.g. tolerances) are available upon request.

Copper price basis: EUR 150/100 kg. Refer to catalogue appendix T17 for the definition and calculation of copper-related surcharges.

Please find our standard lengths at: [www.lappkabel.de/en/cable-standardlengths](http://www.lappkabel.de/en/cable-standardlengths)

Packaging size: coil ≤ 30 kg or ≤ 250 m, otherwise drum

Please specify the preferred type of packaging (e.g. 1 x 500 m drum or 5 x 100 m coils).

Photographs and graphics are not to scale and do not represent detailed images of the respective products.

Prices are net prices without VAT and surcharges. Sale to business customers only.

**UNITRONIC® FD CP (TP) plus A**

| Article number | Number of pairs and mm <sup>2</sup> per conductor | Outer diameter [mm] | Copper index (kg/km) | Weight (kg/km) |
|----------------|---------------------------------------------------|---------------------|----------------------|----------------|
| 11139501       | 2 x 2 x 0.14                                      | 5.9                 | 19.4                 | 42             |
| 11139502       | 3 x 2 x 0.14                                      | 6.2                 | 23.4                 | 47             |
| 11139503       | 4 x 2 x 0.14                                      | 6.7                 | 27.1                 | 59             |
| 11139504       | 5 x 2 x 0.14                                      | 7.3                 | 37.4                 | 68             |
| 11139505       | 6 x 2 x 0.14                                      | 7.5                 | 49.4                 | 91             |
| 11139506       | 8 x 2 x 0.14                                      | 8.8                 | 54.8                 | 109            |
| 11139507       | 10 x 2 x 0.14                                     | 10.1                | 60.1                 | 120            |
| 11139544       | 1 x 2 x 0.25                                      | 4.7                 | 14                   | 27             |
| 11139508       | 2 x 2 x 0.25                                      | 6.6                 | 32                   | 60             |
| 11139509       | 3 x 2 x 0.25                                      | 7                   | 38.4                 | 72             |
| 11139510       | 4 x 2 x 0.25                                      | 7.6                 | 43.2                 | 85             |
| 11139511       | 5 x 2 x 0.25                                      | 8.5                 | 51.5                 | 92             |
| 11139512       | 6 x 2 x 0.25                                      | 8.8                 | 71.8                 | 114            |
| 11139513       | 8 x 2 x 0.25                                      | 10.3                | 74.4                 | 155            |
| 11139514       | 10 x 2 x 0.25                                     | 11.8                | 90                   | 186            |
| 11139515       | 14 x 2 x 0.25                                     | 12                  | 111.2                | 219            |
| 11139541       | 1 x 2 x 0.34                                      | 5.1                 | 20                   | 36             |
| 11139516       | 2 x 2 x 0.34                                      | 7.3                 | 41                   | 69             |
| 11139517       | 3 x 2 x 0.34                                      | 8                   | 52                   | 101            |
| 11139518       | 4 x 2 x 0.34                                      | 8.7                 | 59                   | 106            |
| 11139519       | 6 x 2 x 0.34                                      | 10                  | 86.2                 | 165            |
| 11139499       | 8 x 2 x 0.34                                      | 11.8                | 107.3                | 221            |
| 11139520       | 10 x 2 x 0.34                                     | 13.7                | 131.1                | 274            |
| 11139542       | 1 x 2 x 0.5                                       | 5.5                 | 22                   | 47             |
| 11139521       | 2 x 2 x 0.5                                       | 8.3                 | 50                   | 99             |
| 11139522       | 3 x 2 x 0.5                                       | 8.8                 | 71.8                 | 130            |
| 11139523       | 4 x 2 x 0.5                                       | 9.8                 | 74.4                 | 148            |
| 11139524       | 5 x 2 x 0.5                                       | 10.7                | 84.5                 | 168            |
| 11139525       | 6 x 2 x 0.5                                       | 11.3                | 99.6                 | 194            |
| 11139526       | 8 x 2 x 0.5                                       | 13.2                | 144.3                | 284            |
| 11139527       | 10 x 2 x 0.5                                      | 15.2                | 176                  | 343            |
| 11139528       | 14 x 2 x 0.5                                      | 15.5                | 215.4                | 401            |
| 11139543       | 1 x 2 x 0.75                                      | 5.9                 | 34                   | 61             |
| 11139529       | 2 x 2 x 0.75                                      | 9                   | 60                   | 112            |

Last Update (05.11.2024)

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| Article number | Number of pairs and mm <sup>2</sup> per conductor | Outer diameter [mm] | Copper index (kg/km) | Weight (kg/km) |
|----------------|---------------------------------------------------|---------------------|----------------------|----------------|
| 11139530       | 3 x 2 x 0.75                                      | 9.8                 | 85.7                 | 157            |
| 11139531       | 4 x 2 x 0.75                                      | 10.7                | 93.6                 | 172            |
| 11139532       | 6 x 2 x 0.75                                      | 12.3                | 130.4                | 231            |
| 11139533       | 8 x 2 x 0.75                                      | 14.7                | 192.2                | 342            |
| 11139534       | 10 x 2 x 0.75                                     | 16.7                | 258                  | 390            |
| 11139535       | 14 x 2 x 0.75                                     | 17                  | 316.6                | 545            |
| 11139536       | 1 x 2 x 1.0                                       | 6.3                 | 42                   | 71             |
| 11139537       | 2 x 2 x 1.0                                       | 9.9                 | 73                   | 129            |
| 11139538       | 3 x 2 x 1.0                                       | 10.5                | 93.6                 | 169            |
| 11139539       | 4 x 2 x 1.0                                       | 11.8                | 117.8                | 204            |
| 11139540       | 5 x 2 x 1.0                                       | 13.1                | 139                  | 237            |

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