

## UNITRONIC® FD CP (TP) plus A


Shielded PUR data cable w/ twisted pairs for chain/ track - AWM/Recognized for 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

Flexible at low temperatures  
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

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

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## 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

Drag chain use - in case of horizontal installation travel distances up to 100 m

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

Designed for 10 million alternating bending cycles and horizontal travel distances up to 100 meter

### Norm references / Approvals

cRUJus 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)

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### Technical Data

Classification ETIM 5:	ETIM 5.0 Class-ID: EC000104 ETIM 5.0 Class-Description: Control cable
Classification ETIM 6:	ETIM 6.0 Class-ID: EC000104 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 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 Fixed installation: 4 x outer diameter
Test voltage:	Core/Core: 1500 V Core/Shield: 1500 V
Temperature range:	-40°C to +80°C 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.

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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)
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

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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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