

## UNITRONIC® FD CP (TP) plus

Screened highly flexible data transmission cable with PUR outer sheath and twisted pairs - UL/CSA-listed

UNITRONIC® FD CP (TP) plus: Low-frequency PUR data cable UL AWM CMX VW-1 Halogen-free, Highly flexible Drag chain, Screened Twisted pair, Low capacitance, -40°C

### Info

Flexible at low temperatures  
Low capacitance  
Halogen-free



Torsion-resistant



Interference signals



Power chain



Oil-resistant



Mechanical resistance



Halogen-free



Wind Energy



Cold-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

### 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 allows for internal laying next to power cables with applied UL rating of 1kV

In the USA inside of industrial machines, per NFPA 79, 2015 Ed., 12.9.2 (condition 3 under 12.9.2: Through 1 mm<sup>2</sup> and <16 AWG)

### 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 drag chains: 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, oil resistant

Flame retardance: IEC 60332-1-2, VW-1, FT2

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

### Norm references / Approvals

cULus CMX certified by UL (UL: E236660)

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)

## UNITRONIC® FD CP (TP) plus

### Technical Data

Classification:	ETIM 5.0 Class-ID: EC000104 ETIM 5.0 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
Peak operating voltage:	Peak: 250 V (not for power current use or continuous operating voltage to ground above 49VAC or 74VDC)
Inductivity:	approx. 0.65 mH/km
Conductor stranding:	Stranded, extra-fine wire From 0.5 mm <sup>2</sup> : extra-fine wire according to IEC 60228 class 6
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 rms Core/screen: 500 V
Temperature range:	Flexing: -40°C to +80°C Fixed installation: -40°C to +80°C cULus CMX: max. +75°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 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**

Article number	Number of pairs and mm <sup>2</sup> per conductor	Outer diameter [mm]	Copper index (kg/km)	Weight (kg/km)
UNITRONIC® FD CP (TP) plus				
0030910	2 x 2 x 0.14	5.9	19.4	42
0030911	3 x 2 x 0.14	6.2	23.4	47
0030912	4 x 2 x 0.14	6.7	27.1	59
0030913	5 x 2 x 0.14	7.3	37.4	68
0030914	6 x 2 x 0.14	7.5	49.4	91
0030915	8 x 2 x 0.14	8.8	54.8	109
0030916	10 x 2 x 0.14	10.1	60.1	120
0030962	1 x 2 x 0.25	4.7	14	27
0030919	2 x 2 x 0.25	6.6	32	60
0030920	3 x 2 x 0.25	7	38.4	72
0030921	4 x 2 x 0.25	7.6	43.2	85
0030922	5 x 2 x 0.25	8.5	51.5	92
0030923	6 x 2 x 0.25	8.8	71.8	114
0030924	8 x 2 x 0.25	10.3	74.4	155
0030925	10 x 2 x 0.25	11.8	90	186
0030926	14 x 2 x 0.25	12	111.2	219
0030963	1 x 2 x 0.34	5.1	20	36
0030928	2 x 2 x 0.34	7.3	41	69
0030929	3 x 2 x 0.34	8	52	101
0030930	4 x 2 x 0.34	8.7	59	106
0030932	6 x 2 x 0.34	10	86.2	165
0030934	10 x 2 x 0.34	13.7	131.1	274
0030964	1 x 2 x 0.5	5.5	22	47
0030937	2 x 2 x 0.5	8.3	50	99
0030938	3 x 2 x 0.5	8.8	71.8	130
0030939	4 x 2 x 0.5	9.8	74.4	148
0030940	5 x 2 x 0.5	10.7	84.5	168
0030941	6 x 2 x 0.5	11.3	99.6	194
0030942	8 x 2 x 0.5	13.2	144.3	284
0030943	10 x 2 x 0.5	15.2	176	343
0030944	14 x 2 x 0.5	15.5	215.4	401
0030965	1 x 2 x 0.75	5.9	34	61
0030946	2 x 2 x 0.75	9	60	112

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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)
0030947	3 x 2 x 0.75	9.8	85.7	157
0030948	4 x 2 x 0.75	10.7	93.6	172
0030950	6 x 2 x 0.75	12.3	130.4	231
0030951	8 x 2 x 0.75	14.7	192.2	342
0030952	10 x 2 x 0.75	16.7	258	390
0030953	14 x 2 x 0.75	17	316.6	545
0030955	1 x 2 x 1	6.3	42	71
0030956	2 x 2 x 1	9.9	73	129
0030957	3 x 2 x 1	10.5	93.6	169
0030958	4 x 2 x 1	11.8	117.8	204
0030959	5 x 2 x 1	13.1	139	237

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