




0028650	DATA SHEET	
valid from: 2021-10-15	UNITRONIC® FD P plus A	

Application

UNITRONIC® FD P plus A is a high flexible data cable with an outer sheath of PUR.
The cable with low capacitance is designed especially for use in power chains, automatic manipulators, in permanently moved machine parts.
The cable is increased oil-, abrasion-, tear and notch resistant, in addition microbe- and hydrolysis resistant.
It is cold-resistant and for harsh environmental conditions.

Design

Design	acc. to UL AWM Style 11117 and 21576, UL 758 and CSA C22.2 No. 210 based on standard VDE 0812 and EN 50288-7
Certification	 UL AWM Style 21576 (File No. E63634), UL 758  AWM I/II A/B (File No. E63634)
Conductor	extra-fine wire strands of bare copper wires
Insulation	special Polyolefin-based compound
Core identification code	acc. to DIN 47100
Stranding	cores stranded in layers, wrapping with fleece on the outer layer
Outer sheath	special PUR-based compound, flame retardant, halogen free colour: grey (similar RAL 7001)


Electrical properties at 20 °C

Conductor resistance	0.14 mm ² : max. 138.0 Ω/km 0.25 mm ² : max. 79.0 Ω/km 0.34 mm ² : max. 55.4 Ω/km 0.5 mm ² : max. 39.0 Ω/km 0.75 mm ² : max. 26.0 Ω/km 1 mm ² : max. 19.5 Ω/km
Specific volume resistivity	> 5 G Ω x km
Mutual capacitance	C/C approx. 60 nF/km
Inductance	approx. 0.65 mH/km
Maximum operating voltage	VDE: 0.14 mm ² : 350 V (not for power applications) ≥ 0.25 mm ² : 500 V (not for power applications) Must not be connected to the mains supply voltage.
Rated voltage	UL: 1000 V
Test voltage	C/C: 1500 V

Mechanical and thermal properties

Minimum bending radius	flexing: 5 x outer diameter fixed installation: 3 x outer diameter
Temperature range	EN: flexing: -40 °C up to +80 °C fixed installation: -40 °C up to +80 °C UL AWM: max. +80 °C
Bending cycles and power chain operation parameters	bending radius: ≥ 5 x outer diameter travel distance: ≤ 5 m Acceleration: ≤ 3 m/s ² Velocity: ≤ 3 m/s Cycles: ≥ 5.000.000 Please comply with assembly guideline Appendix T3
Flammability	flame retardant acc. to IEC 60332-1-2 resp. EN 60332-1-2 UL: Horizontal Flame Test acc. to UL 1581 CSA: FT2 acc. to CSA 22.2 No. 2556
Halogen free	acc. to VDE 0472-815
Weather and UV resistance	acc. to ISO 4892-2, method A (change of colour allowed)
Ozone resistance	acc. to EN 50396, method B
Oil resistance	acc. to EN 50363-10-2

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General requirements

These cables are conform to EU-Directive 2014/35/EU (Low Voltage Directive) and 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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