

HELUDATA® ROBOFLEX®-D PUR UL/CSA



Data cable, EMC-preferred type



HELUDATA® ROBOFLEX®-D PUR UL/CSA 10x0,14 QMM E170315 AWM STYLE 21209 CE

TECHNICAL DATA

PUR robot cable acc. to UL-Std. 758 (AWM) Style 21209, CSA-Std. C22.2 No. 210 - AWM I/II A/B

Temperature range	flexible -30°C to +90°C fixed -40°C to +90°C
Nominal voltage	VDE AC U ₀ /U 300/300 V UL (AWM) AC 300 V
Test voltage core/core	2000 V
Minimum bending radius	fixed 5x Outer-Ø flexible: see properties

CABLE STRUCTURE

- Copper wire bare, extra finely stranded
- Wire structure:
 - 0.14 mm²: approx. 18 x 0.1 mm
 - 0.25 mm²: approx. 32 x 0.1 mm
 - 0.34 mm²: approx. 42 x 0.1 mm
- Core insulation: PP
- Core identification acc. to DIN 47100, colour coded
- x = without protective conductor
- Stranding:
 - 10 core(s): cores stranded into one layer with an optimally matched lay length
 - 12 - 25 core(s): cores stranded into bundles with optimally matched lay lengths; bundles stranded together around a tensile core
- Fleece wrapping
- Screen: helically wound tinned copper wires, approx. coverage 90%
- Fleece wrapping
- Outer sheath: Special grade of full polyurethane acc. to DIN VDE 0207-363-10-2 / DIN EN 50363-10-2 (compound type TMPU)
- Sheath colour: black (RAL 9005)
- Length marking: in metres

PROPERTIES

- resistant to: oil, UV radiation, ozone, oxygen, weathering effects, hydrolysis, microbes, coolants, hydraulic fluids, acids, alkalis, greases, seawater and wastewater
- highly abrasion-resistant, notch-resistant, tear-resistant, cut-resistant, wear-resistant, low adhesion
- smooth, high-quality core insulation for eased sliding and optimized core stranding ensure long service-life within applications that request combined bending and torsion movements
- for outdoor use

- torsion rated
- suitable for use in drag chains
- Torsion parameters
 - Acceleration (max.): 60 °/s²
 - Velocity (max.): 180 °/s
 - Minimum bending radius: 10x Outer-Ø
 - Torsional stress up to 180 °/m: 5 Mio. Cycles (max.)
- Drag chain parameters
 - Acceleration (max.): 10 m/s²
 - Velocity (max.), unsupported: 3 m/s
 - Velocity (max.), gliding: 2 m/s
 - Traverse path (max.): 10 m
 - Minimum bending radius (Traverse path ≤ 3m): 10x Outer-Ø
 - Minimum bending radius (Traverse path > 3m): 12.5x Outer-Ø
 - Bending cycles (max.): 5 Mio.
- halogen-free
- the materials used during manufacturing are cadmium-free, contain no silicone and are free from substances harmful to the wetting properties of lacquers

TESTS

- halogen-free acc. to DIN VDE 0482-754-1 / DIN EN 60754-1 / IEC 60754-1
- flame-retardant acc. to DIN VDE 0482-332-1-2 / DIN EN 60332-1-2 / IEC 60332-1-2, UL VW-1, CSA FT1
- oil-resistant acc. to DIN VDE 0473-811-404 / DIN EN 60811-404 / IEC 60811-404
- UV-resistant acc. to DIN EN ISO 4892-2
- weather-resistant acc. to DIN EN ISO 4892-2

APPLICATION

Data cable to transmit data and monitoring signals specifically designed for combined torsion and bending movements; for use in assembly and welding robots, in material handlings and automation centres, in transport and conveyor systems, on rotary and swivel tables and wherever a defined cable routing with only alternating bending movements is not applicable, but 3D-movements and torsional load have an impact on the cable; for applications with the highest requirements on mechanical, chemical and thermal resilience. EMC = Electromagnetic Compatibility; in order to optimise EMC properties, we recommend a double-sided and all-round large contact area of the D-screen.

NOTES

- the conductor is metrically (mm²) constructed, AWG numbers are approximated, and are for reference only
- for use in energy supply systems:
 - 1) the assembly instructions must be observed
 - 2) for special applications, we recommend contacting us and using our data entry form for energy supply systems

Part no.	No. cores x cross-sec. mm ²	AWG, approx.	Outer Ø mm, approx.	Cu-weight kg/km	Weight kg/km, approx.
11022427	10 x 0.14	26	7.8	32.1	80.0
11022428	12 x 0.14	26	8.3	39.1	89.0

Part no.	No. cores x cross-sec. mm ²	AWG, approx.	Outer Ø mm, approx.	Cu-weight kg/km	Weight kg/km, approx.
11022429	18 x 0.14	26	9.7	50.8	119.0
11022430	25 x 0.14	26	11.0	66.6	149.0

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Part no.	No. cores x cross-sec. mm ²	AWG, approx.	Outer Ø mm, approx.	Cu-weight kg/km	Weight kg/km, approx.
11022431	12 x 0.25	24	9.1	54.5	112.0
11022432	18 x 0.25	24	10.7	74.1	151.0
11022433	25 x 0.25	24	12.2	99.5	194.0

Part no.	No. cores x cross-sec. mm ²	AWG, approx.	Outer Ø mm, approx.	Cu-weight kg/km	Weight kg/km, approx.
11022434	12 x 0.34	22	9.6	66.3	128.0
11022435	18 x 0.34	22	11.3	93.8	177.0
11022436	25 x 0.34	22	13.0	121.6	227.0