

HELUCONTROL® ROBOFLEX®-D

Control cable, 90°C UL-Style, EMC-preferred type



TECHNICAL DATA

PUR robot cable acc. to UL-Std. 758 (AWM) Style 21209, CSA-Std. C22.2 No. 210 - AWM I/II A/B, in alignment with DIN VDE 0250, DIN VDE 0285-525-1 / DIN EN 50525-1

Temperature range	flexible -30°C to +90°C fixed -40°C to +90°C
Nominal voltage	VDE AC U ₀ /U 300/500 V UL (AWM) AC 600 V
Test voltage core/core	3000 V
Minimum bending radius	flexible 10x Outer-Ø fixed 5x Outer-Ø

CABLE STRUCTURE

- Copper wire bare, extra finely stranded acc. to DIN VDE 0295 Class 6 / IEC 60228 Class 6
- Core insulation: Polyolefin
- Core identification acc. to DIN VDE 0293-334, black cores with consecutive labeling in white digits
- G = with protective conductor GN-YE
- Cores stranded in layers with optimally matched lay lengths
- Fleece wrapping
- Screen: helically wound tinned copper wires, approx. coverage 90%
- 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
- 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
- Torsion load / cycles:
5 Mio. at +/- 180°/m
- Bending cycles: 5 Mio.

TESTS

- 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

APPLICATION

Control cable to transmit control 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; to optimize the EMC features we recommend a large round contact of the D-screen on both ends.

NOTES

- the conductor is metrically (mm²) constructed, AWG numbers are approximated, and are for reference only

Part no.	No. cores x cross-sec. mm ²	AWG, approx.	Outer Ø mm, approx.	Cu-weight kg/km	Weight kg/km, approx.
25497	12 G 0.5	20	11.2	117.0	175.0
25498	18 G 0.5	20	13.6	160.0	231.0
25499	25 G 0.5	20	14.8	255.0	347.0
17002075	4 G 0.75	18	8.5	43.0	78.0
703864	5 G 0.75	18	7.6	70.0	93.0
17002076	7 G 0.75	18	8.5	71.0	120.0
25500	12 G 0.75	18	11.8	155.0	220.0
25501	18 G 0.75	18	15.0	210.0	305.0

Part no.	No. cores x cross-sec. mm ²	AWG, approx.	Outer Ø mm, approx.	Cu-weight kg/km	Weight kg/km, approx.
25502	25 G 0.75	18	16.6	275.0	415.0
705462	3 G 1	17	6.3	76.0	90.0
25503	12 G 1	17	13.0	190.0	265.0
25504	18 G 1	17	16.1	245.0	390.0
25505	25 G 1	17	18.1	345.0	540.0
25506	12 G 1.5	16	16.2	260.0	345.0
25507	18 G 1.5	16	20.3	370.0	485.0
25508	25 G 1.5	16	22.5	498.0	710.0