

HELUCONTROL® ROBOFLEX®

Control cable, 90°C UL-Style



HELUCONTROL® ROBOFLEX® 4G1,5 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, 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, x = without protective conductor
- Cores stranded in layers with optimally matched lay lengths
- 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

Part no.	No. cores x cross-sec. mm ²	AWG, approx.	Outer Ø mm, approx.	Cu-weight kg/km	Weight kg/km, approx.
25463	12 G 0.5	20	10.4	57.8	90.0
25519	16 G 0.5	20	11.6	76.8	277.0
25464	18 G 0.5	20	12.7	86.4	121.0
25465	25 G 0.5	20	14.2	120.0	256.0
25466	4 G 0.75	18	6.0	28.8	63.0
25450	7 G 0.75	18	7.9	50.4	96.0
25467	12 G 0.75	18	11.5	84.4	171.0
25468	14 G 0.75	18	12.8	100.8	200.0
25469	2 x 1	17	5.5	19.2	48.0
25470	3 G 1	17	6.0	29.0	60.0
25471	4 G 1	17	6.3	38.4	78.0
25472	7 G 1	17	8.5	67.2	131.0

- 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 +/- 360°/m
10 Mio. at +/- 180°/m
- Bending cycles: 10 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.

■ 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.
25473	12 G 1	17	12.5	115.2	216.0
25474	18 G 1	17	15.4	172.8	306.0
25475	25 G 1	17	17.4	240.0	432.0
25476	34 G 1	17	21.3	326.4	569.0
25477	41 G 1	17	23.2	393.6	694.0
25520	3 G 1.5	16	6.9	43.2	94.0
25529	4 G 1.5	16	4.9	57.6	107.0
25559	5 G 1.5	16	8.6	72.0	121.0
25509	8 G 1.5	16	11.1	115.2	292.0
25478	12 G 1.5	16	15.5	172.8	356.0
25479	18 G 1.5	16	19.3	259.2	445.0
25480	25 G 1.5	16	21.8	360.0	636.0