ÖLFLEX® ROBOT F1

Abrasion- and oil resistant PUR robot cable for high dynamic bending and torsion motions, UL/cUL AWM certified

ÖLFLEX® ROBOT F1 - Power and control cable für bending and torsional load in harsh environmental conditions with UL/cUL AWM certification

Info
Simultaneous bending and torsion
Torsion angle up to +/- 360 °/m
AWM certification for USA and Canada

- Supplementary automation components from Lapp
- Suitable for outdoor use
- Cold-resistant
- Mechanical resistance
- Oil-resistant
- Power chain
- Torsion-resistant
- UV-resistant

Last Update (23.01.2026)

Product Management www.lappkabel.de
You can find the current technical data in the corresponding data sheet.
PN 0456 / 02_03.16

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Benefits
Allows much faster speed and accelerations which increases the economic efficiency of the machines
Increased durability under harsh conditions thanks to robust PUR outer sheath
Resistant to contact with many mineral oil-based lubricants, diluted acids, aqueous alkaline solutions and other chemical media
Wide temperature range for applications in harsh climatic environments
Certified for the USA and Canada for export-oriented machine, appliance and apparatus manufacturers

Application range
Industrial machinery and machine tools
Automated handling equipment
Automotive industry
In power chains or moving machine parts
Inside of dresspacks of buckling arm robots and for use for gantry robots

Product features
Abrasion and notch-resistant
Flame-retardant
High oil-resistance
Flexible at low temperatures
Low-adhesive surface

Norm references / Approvals
UL AWM Style 20940
cUL AWM I/II A/B
UL File No. E213974
Designed for up to 10 million torsion cycles
For use in power chains: Please comply with assembly guideline Appendix T3
For travel distances up to 10 m

Product Make-up
Extra-fine strands, 0.14 mm^2 - 0.5 mm^2 made of tinned copper wires, bare above
Core insulation: TPE
Cores (or core pairs) twisted in layers or bundles
Wrapping of PTFE tape
Wrapping made of tinned copper wires for versions with individually screened pairs
PUR outer sheath, colour anthracite

Technical Data

Classification ETIM 5:	ETIM 5.0 Class-ID: EC000104 ETIM 5.0 Class-Description: Control cable
Classification ETIM 6:	ETIM 6.0 Class-ID: EC000104 ETIM 6.0 Class-Description: Control cable
Core identification code:	Up to 0.34 mm^2: DIN 47100 cores From 0.5 mm^2: white cores with black numbers, cores of screened pair (2 x 1.0) are marked with no. 1 + 2
Conductor stranding:	Extra-fine wire
Torsion:	Torsion load max. ± 360 °/m
Minimum bending radius:	Flexible use: 10 x outer diameter Fixed installation: 4 x outer diameter
Nominal voltage:	IEC: up to 0.34 mm^2 250 Vss.

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	0.5 - 2.5 mm² U_0/U 300/500 V UL/CSA: up to 1.5 mm² 600 V, from 2.5 mm² 1000 V
Test voltage:	Up to 0.34 mm²: 1500 V From 0.5 mm²: 2000 V
Protective conductor:	G = with GN-YE protective conductor X = without protective conductor
Temperature range:	Flexing: -40 °C to +80 °C Fixed installation: -50 °C to +80 °C

Note

Unless specified otherwise, the shown product values are nominal values at room temperature. 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
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 and graphics 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.

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PRODUCT INFORMATION

Article number	Number of cores and mm² per conductor	Outer diameter [mm]	Copper index (kg/km)	Weight (kg/km)
0029590	7 X 0.25	6.7	16.8	62
0029591	12 X 0.25	9.0	30	122
0029592	18 X 0.25	10.6	45	156
0029593	25 X 0.25	12.5	60	205
0029594	2 X 0.34	4.6	7	38
0029595	3 X 0.34	4.8	10	40
0029596	4 X 0.34	5.2	15	48
0029599	12 X 0.34	9.4	40	130
0029600	18 X 0.34	11.2	60	170
0029601	25 X 0.34	13.1	83	220
Numbered Cores				
0029608	18 G 0.5	12.3	84	202
0029609	25 G 0.5	15.2	120	284
0029610	2 X 1.0	6.3	19	60
0029611	3 G 1.0	6.6	28	71
0029612	4 G 1.0	7.2	38	87
0029614	7 G 1.0	9.2	65	141
0029615	12 G 1.0	12.4	110	237
0029616	14 G 1.0	13.2	128	257
0029617	16 G 1,0 + (2 x 1,0)	15.4	190	346
0029618	18 G 1.0	16.1	170	349
0029619	23 G 1 + (2 x 1,0)	18.0	250	461
0029620	25 G 1.0	18.3	240	407
0029621	34 G 1.0	21.1	320	600
0029622	41 G 1.0	23.6	390	753
0029624	4 G 1.5	8.2	57	114
0029625	5 G 1.5	9.1	72	141
0029627	7 G 1.5	10.5	101	187
0029629	12 G 1.5	14.3	170	294
0029630	18 G 1.5	17.5	259	450
0029631	25 G 1.5	22.2	360	661
0029632	3 G 2.5	9.1	72	136
0029641	4 G 6.0	13.3	220	330