

# ÖLFLEX® ROBOT F1/F1 (C)

Robotic Cable for Flexing & Torsion Motion; cRUus AWM



ÖLFLEX® ROBOT F1 is designed to transmit control and monitoring signals as well as power supply in environments where combined twisting and bending stresses occur. ÖLFLEX® ROBOT F1 (C) with copper shield is designed for use where EMI emissions need to be suppressed.

### Recommended Applications

Multi-axis articulated robots with twisting and bending motion; automated handling equipment in cable tracks or moving machine parts

### Approvals



### Unshielded Construction

**Conductors:** Finely stranded bare copper

**Insulation:** TPE; conductors or pairs twisted into bundles or layers

**Jacket:** Black polyurethane

### Shielded Construction

**Conductors:** Finely stranded bare copper

**Insulation:** TPE; conductors or pairs twisted into bundles or layers

**Shielding:** Tinned copper spiral shield

**Jacket:** Black polyurethane

### Application Advantage

- UL AWM approval for USA and Canada
- Specially formulated PUR jacket protects against the harshest of industrial plant environments
- Maximum twist of  $\pm 360^\circ/\text{m}$  unshielded for wide variety of robot applications

**Cable Attributes, see page 659**

OR-05	FR-02	TCF-01	MP-05
OIL	FLAME	MOTION	MECHANICAL

**Similar Cables**

- ÖLFLEX® ROBOT 900 P
- ÖLFLEX® ROBOT 900 DP

**Complete the Installation**

	SKINTOP® Strain Relief: page 502		EPIC® Connectors: page 278
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### Technical Data

<b>Minimum Bend Radius:</b> - unshielded: 10 x cable diameter - shielded: 10 x cable diameter	<b>Conductor Stranding:</b> Extra fine wire
<b>Maximum Torsion (Twist):</b> - unshielded: $\pm 360^\circ/\text{m}$ - shielded: $\pm 180^\circ/\text{m}$	<b>Color Code:</b> - up to 22 AWG: DIN 47100: Chart 8, page 697 - 20 AWG & larger: White numbers with black numbers, plus green/yellow ground
<b>Temperature Range:</b> -40°C to +80°C	<b>Approvals:</b> UL: AWM 20940 Attributes: VW-1 Canada: c(RU) AWM I/II A/B FT1 Additional: CE & RoHS
<b>Nominal Voltage:</b> - UL/CSA: - up to 16 AWG: 600V - 14 AWG & larger: 1000V - IEC: - up to 22 AWG: 250V - 20 - 14 AWG: 300/500V	

ÖLFLEX® ROBOT F1

Part Number	Number of Conductors (incl. ground)	Nominal Outer Diameter (inches) (mm)		Copper Weight (lbs/mft)	Approx. Weight (lbs/mft)	SKINTOP® Non-Metallic Thread	Part Number	Number of Conductors (incl. ground)	Nominal Outer Diameter (inches) (mm)		Copper Weight (lbs/mft)	Approx. Weight (lbs/mft)	SKINTOP® Non-Metallic Thread
<b>24 AWG (0.25 mm<sup>2</sup>)</b>							<b>18 AWG (1.00 mm<sup>2</sup>)</b>						
0029590	7	0.264	6.7	11	42	S2109	0029612	4	0.283	7.2	26	58	S2111
0029591	12	0.354	9.0	20	82	S2111	0029614	7	0.362	9.2	44	95	S2111
0029592	18	0.417	10.6	30	105	S2113	0029615	12	0.488	12.4	74	159	S2116
0029593	25	0.492	12.5	40	138	S2116	0029616	14	0.520	13.2	86	173	S2116
<b>22 AWG (0.34 mm<sup>2</sup>)</b>							<b>16 AWG (1.50 mm<sup>2</sup>)</b>						
0029594*	2	0.181	4.6	5	26	S2107	0029617	16 + 1pr	0.606	15.4	128	233	S2121
0029596	4	0.205	5.2	10	32	S2107	0029618	18	0.634	16.1	114	235	S2121
0029599	12	0.370	9.4	27	87	S2111	0029619	23 + 1pr	0.709	18.0	168	310	S2129
0029600	18	0.441	11.2	40	114	S2113	0029620	25	0.701	17.8	161	274	S2129
0029601	25	0.516	13.1	56	148	S2116	<b>10 AWG (6 mm<sup>2</sup>)</b>						
<b>20 AWG (0.50 mm<sup>2</sup>)</b>							0029624	4	0.323	8.2	38	77	S2111
0029608	18	0.484	12.3	56	136	S2116	0029627	7	0.413	10.5	68	126	S2113
							0029629	12	0.563	14.3	114	198	S2121
							0029631	25	0.776	19.7	242	444	S2129
							0029641	4	0.524	13.3	148	222	S2116

\*2c cable does not include ground.

ÖLFLEX® ROBOT F1 (C)

Part Number	Number of Conductors (incl. ground)	Nominal Outer Diameter (inches) (mm)		Copper Weight (lbs/mft)	Approx. Weight (lbs/mft)	SKINTOP® MS-SC PG Thread	Part Number	Number of Conductors (incl. ground)	Nominal Outer Diameter (inches) (mm)		Copper Weight (lbs/mft)	Approx. Weight (lbs/mft)	SKINTOP® MS-SC PG Thread
<b>24 AWG (0.50 mm<sup>2</sup>)</b>							<b>16 AWG (1.50 mm<sup>2</sup>)</b>						
0029653	3pr	0.315	8.0	26	67	53112220	0029689	12	0.606	15.4	155	255	53112250
0029654	25	0.543	13.8	77	188	53112250	0029690	18	0.728	18.5	228	370	53112260
<b>22 AWG (0.34 mm<sup>2</sup>)</b>													
0029655*	2	0.205	5.2	12	36	53112210							
0029656	3	0.213	5.4	13	38	53112210							
0029657	4	0.260	6.6	19	48	53112210							
0029658	5pr	0.402	10.2	46	106	53112230							

\*2c cable does not include ground.

Recommended SKINTOP® assumes minimal OD variance. Additional configurations are available, please see our SKINTOP® Section. Photographs are not to scale and are not true representations of the products in question. For current information go to our website. If not otherwise specified, all values relating to the product are nominal values.