



<b>DATA SHEET</b>	<b>0029 590</b>
<b>ÖLFLEX® ROBOT F 1 UL / CSA</b>	valid from : <b>01.09.2005</b>

## Application

ÖLFLEX® ROBOT F1 UL / CSA is especially designed to withstand torsion and bending stress in once, e.g. for connecting handling tools to assembling- or welding robotics, to manipulators, for connecting to rotating or tilting tables. Usable for transmission of control- and monitoring signals or as supply cables. They are for use in dry, damp or wet locations as well as outdoor. Usage on motor drum guidance or under a strain of more than 15N/mm<sup>2</sup> is not allowed. ÖLFLEX® ROBOT F1 UL / CSA cables are increased oil-resistant and at room temperature generally resistant against acids and caustics solutions. The outer sheath of Polyurethane is resistant against high mechanical abuse, particularly to abrasion cuts, microbe proof and hydrolysis resistant. ÖLFLEX® ROBOT F1 cables, market by ( C ) or ( D ) are screened against electromagnetic interference effects (EMC). UL AWM approvals for USA and Canada covers its usage for factory wired equipment; field-wiring or out-door usage is not covered.

## Technical data

Conductor:	Fine or extra fine copper wires in acc. To IEC 60 228 / VDE 0295 Cl. 5 or 0,14mm <sup>2</sup> up to 0,5mm <sup>3</sup> tinned copper wires, above bare copper wires.
Design:	Cores arranged in layers, versions up from 12 cores and more: cores arranged in groups of bundles of cores with adhesive-free slip tape -wrapping.
Core insulation:	TPE (Thermoplastic elastomer)
Core identification:	up to and incl. 0,34mm <sup>2</sup> colour coded according DIN 47100. Up from 0,5mm <sup>2</sup> : White cores with black numbers, version "G" with protective conductor GNYE. Version "X" = without protective conductor (GNYE).
Screen:	Screened versions „C“ having a braid, made of tinned copper wires. Screened versions „D“ having a helix, made of tinned copper wires
Outer sheath:	Polyurethane compound TPU acc. HD 22.10 S1 and UL style 20940, flame retardant & self-extinguishing acc. UL VW-1, CSA FT1, IEC 60332.1.
Sheaths colour:	black, matt.
Nominal voltages:	IEC: up to sizes 0,5mm <sup>2</sup> U <sub>0</sub> /U 300/500 V, UL & CSA: sizes 1,5mm <sup>2</sup> 600V, sizes =<2,5mm <sup>2</sup> 1000V
Voltage peak to peak:	Sizes up to and incl. 0,34mm <sup>2</sup> : 350V (not for low-voltage purpose)
Test voltages:	cores: all sizes: Spark test 6kV Finished cable: up to and incl. 0,34mm <sup>2</sup> : 1500 V AC; up from 0,5mm <sup>2</sup> 2000 V AC
Temperature range:	Flexing use: -40°C up to + 80° C (max. allowable cont. temp. at the conductor). Static use: -50°C up to + 80°C (max. allowable cont. temp. at the conductor).
Min. bending radius:	Flexing use: 10 x cable outer diameter, Static: 4 x cable outer diameter
Max. torsion load:	+/- 180 ° / per meter
Flame retardance	IEC 60 332.1 resp. VDE 0482 part 265-2-1, UL VW-1, CSA FT1
Oil resistance:	According VDE 0472 part 803 test methode B
Approvals:	UL rec. AWM 20940, cUL rec. for Canada: AWM I/II A/B 80° 600V or 1000V
Tests:	Acc. UL & CSA, VDE 0472 & IEC 60 811-x.x resp. VDE 0473
EC directives:	Conform to European Low- Voltage, -R.o.H.S. – and W.E.E.E. –directives.

elaborated by: PD-KL: V. Huber	Document: DB0029590_1_EN	page 1 of 1
-----------------------------------	--------------------------	-------------