Application

ÖLFLEX® SERVO FD zeroCM cables are high-flexible, screened, oil-resistant, halogen free, low capacitance servo motor cables with an outer sheath of Polyurethane for the European, North American and Canadian market.
They are also suitable for use in dry, damp or wet areas. They are suitable for outdoor use if the indicated temperature range is observed.
ÖLFLEX® SERVO FD zeroCM cables are increased resistant to oils and at room temperature largely resistant to acids and alkalis. The outer sheath withstands high mechanical stresses, in particular abrasion and dragging. It is also cut proof and resists microbes and hydrolysis.
They are designed for use in power chains as well as for fixed installation subject to medium mechanical load conditions. They are suitable for linear, automated movements. The maximum tensile load is 15 N/mm^2 of conductor cross-section during installation and operation. Compulsory guidance is not permitted.

The zeroCM®-Technology is based on a special stranding-concept, which eliminates magnetic coupling and reduces capacitance coupling to its minimum. By using this cable, low- and high-frequency leakage currents will be proven reduced at the location of the frequency drive but also in the system surroundings.
Cable-charging-currents which occur when a cable is driven by power-electronics are reduced as well due to optimized capacitances. This results often in better EMI-values emitted by the related active component; this usually allows the use of higher cable-length. The zeroCM®-technology provides full electro-magnetically symmetry of the cable, this keeps the ground-potential clean, without any disturbances even by high load or higher cable length.
The earthing concept is composed of the defined cross-section of the protective conductor and the braided shield.

Application range:
Connecting cable between servo controller and motor, in power chains or moving machine parts, for use in assembling- & pick-and –place machines, machine tools and transfer lines, for assembly lines, production lines in all kind of machines.

Use acc. to UL: PUR sheathed cable for external interconnection of electronic equipment.
Use acc. to cRUus: PUR sheathed cable for external interconnection of electronic equipment with or without mechanical load conditions.

Design

Design	acc. to UL AWM Style 20234, UL 758, CSA 22.2 No. 210-15 based on EN 50525-2-21
Certification	UL AWM Style 20234, UL 758 (File No. E63634) cRUus AWM I A/B II A/B (File No. E63634)
Conductor	extra fine wire strands of bare copper acc. to IEC 60228 resp. EN 60228, Class 6
Core insulation	Polypropylen- based compound
Core identification	**Power cores:** Black cores with white alphanumeric labelling U/L1/C/L+; V/L2; W/L3/D/L-; GN/YE ground conductor
Stranding	Special stranding
Screen	braid of tinned copper wires, coverage = 85% (nominal value)
Outer sheath	Polyurethane-compound TMPU acc. to EN 50363-10-2 UL 758, CSA AWM C22.2 No.210-15 colour: anthracite grey, similar RAL 7016

Electrical properties

Nominal voltage	**power cores** (IEC): U_0 / U: 600/1000V AC
Rated voltage	**power cores** (UL/CSA): 1000V

Test voltage	core / core: 4000 V AC core / screen: 4000 V AC
Transfer impedance at 30 MHz	max. 250 mΩ/m

Mechanical and thermal properties

Min. bending radius	flexing: up from 10 x outer diameter fixed installation: 5 x outer diameter
Bending cycles and power chain operation parameters	See Selection Table A2-1 in the appendix of our online catalogue For use in power chains: Please comply with assembly guideline Appendix T3
Temperature range	flexing (IEC): -40 °C up to +90 °C (max. conductor temp.) flexing (UL/CSA): up to +80 °C (max. conductor temp.) fixed installation (IEC): -50 °C up to +90 °C (max. conductor temp.) fixed installation (UL/CSA): up to +80 °C (max. conductor temp.)
Flammability	acc. to IEC 60332-1-2 resp. EN 60332-1-2 UL: Vertical flame test VW-1 CSA: FT1
Halogen-free	acc. to IEC 60754-1 resp. EN 60754-1
UV-resistance	acc. to EN 50618 EN 50620 EN ISO 4892-2-2013, method A (change of colour allowed)
Ozone resistance	acc. to EN 50396 method B
Oil resistance	acc. to EN 50363-10-2
MUD resistance	acc. to IEC 60092-360, Annex C+D
Tests	acc. to IEC 60811, EN 50395, EN 50396, UL 1581and CSA C22.2
EU Directives	These cables are conform to the EU-Directive 2014/35/EU (Low Voltage Directive).
Environmental information	These cables meet the substance-specific requirements of the EU Directive 2011/65/EU (RoHS).