Application

ÖLFLEX® SERVO FD 7DSL - the one cable solution for power and feedback circuits - are highly flexible and screened servo cables with an outer sheath of Polyurethane suitable for Europe and North-America. All of the motor's feedback signals are transmitted by just one control pair of the servo cable. An optionally additional control pair can be used to connect the electro-magnetic break. They are designed for use in high-dynamic applications in power chains as well as for fixed installation subject to medium mechanical load conditions.
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. The outer sheath withstands high mechanical stresses, in particular abrasion and dragging. It is also cut proof and resists microbes and hydrolysis.
The cables are oil resistant, halogen-free, flame retardant, free of CFCs and silicones.
They are especially suitable for increased requirements (Extended Line) in power chains and in permanently moved machine parts. 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.

Application range: Connecting cable between servo controller and motor, in power chains or moving machine parts
acc. to UL: PUR-sheathed cables for external interconnection of electronic equipment.
acc. CSA: CSA AWM I A/B II A/B, cables for internal or external interconnection with or without mechanical load

Design

Design	according to UL AWM 758, style 21223, CSA C22.2 No. 210-15
Approvals	UL AWM: Style 21223 (File No. E63634) cRU AWM I/II A/B (File No. E63634)
Conductor	Extra fine wire strands of bare copper acc. to IEC 60228 resp. VDE 0295, Class 6 Signal pair: Tinned copper conductor (19-wires)
Core insulation	Polyolefine (based on PP)
Core identification	Power conductors: Black with white imprint U/L1/C/L+; V/L2; W/L3/D/L- and GN/YE Control pair: Black with white numbers 5, 6 Signal pair: White; Blue
Cable make-up	Power conductors Control pair (optionally) - Polyester tape wrapping - Braid of tinned copper wires - Polyester tape wrapping Signal pair - Textile fleece tape - Stranded tinned drain wire + tinned copper braiding - Aluminium metallized textile tape - Double polyester tape wrapping Stranding: - Soft fleece tape - Braid of tinned copper wires
Outer sheath	PUR, colour: orange (similar RAL 2003)

Electrical properties

Nominal voltage	IEC/VDE: Power and control cores: 0,6/1 kV; Signal pair: max. 300 V UL/CSA: Power and control cores: 1 kV; Signal pair: 300 V
Test voltage	Power and control cores: 4 kV Signal pair: 1 kV

Characteristic impedance	Signal pair: 100-120 Ω (1MHz)
Transfer impedance at 30 MHz	max. 250 mΩ/m

Mechanical and thermal properties

Min. bending radius	flexing: up from 7.5 x cable diameter fixed installation: 5 x cable 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
Acceleration	max. 50 m/s²
Max. Speed (sliding):	5 m/s resp. 300 m/min
Travel length	max. 20 m
Maximum length	100 m
Torsion	+/- 30°/m
Temperature range	flexing (VDE): -40 °C up to +90 °C max. conductor temp. flexing (UL): up to +80 °C max. conductor temp. fixed installation (VDE): -50 °C up to +90 °C max. conductor temp. fixed installation(UL): up to +80 °C max. conductor temp.
Flammability	flame retardant in acc. with IEC 60332-1-2 resp. VDE 0482-332-1-2 UL: VW-1, CSA: FT1
Halogen-free	acc. to VDE 0472 part 815
UV-resistance	acc. to EN ISO 4892-2-2006, method A (change of colour allowed)
Ozone resistance	acc. to EN 50396 resp. VDE 0473-396, method B
Oil resistance	acc. to EN 50363-10-2 resp. VDE 0207-363-10-2
MUD resistance	MUD resistant acc. to IEC 61892-4 Annex D
Tests	acc. to IEC 60811 resp. VDE 0473 part 811, VDE 0472, EN 50395, UL 1581
EU Directives	These cables are conform to the EU-Directive 2014/35/EU (Low Voltage Directive)