

1023275	DATA SHEET	
Valid from: 2024-09-13	ÖLFLEX® SERVO FD 7DSL	

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 and flame retardant.

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/mm² 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.

USE acc. to : Internal or external wiring.

USE acc. to : Cables for internal wiring or external interconnection with or without mechanical abuse.

Design

Design	acc. to	UL AWM Style 21209, UL 758 CSA C22.2 No. 210-15
Approvals		AWM: Style 21209 (File No. E63634) AWM I/II A/B (File No. E63634) EN 13501-6 and EN 50575 Classification of fire behaviour (article/dimension range see www.lappkabel.com/cpr)
Conductor		Extra fine wire strands of bare copper acc. to EN IEC 60228, Class 6 Signal pair: bare copper conductor (19-wires)
Core insulation		Polyolefin (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; white Signal pair: white; blue
Pairs	Control pair (optionally)	- Polyester tape wrapping - Braid of tinned copper wires - Polyester tape wrapping
	Signal pair	- Fleece tape wrapping - braid of tinned copper wires - Aluminium metallized tape - Jacket: PP, black
Assembly		4 power cores with signal pair and control pair (optional) stranded together with filler cords
Screen		braid of tinned copper wires, coverage = 85 % (nominal value)
Outer sheath		TPU, flame retardant colour: orange (similar RAL 2003)

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PD 0019/06_03.23EN

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Electrical properties

Nominal voltage	IEC/EN: Power and control cores, U_0/U : 0,6/1 kV Signal pair: max. 300 V
Rated voltage	UL/CSA: Power, control cores and signal pair: 1 kV
Test voltage	Power and control cores: 4 kV Signal pair: 3 kV
Characteristic impedance	Signal pair: 100 - 120 Ω (at 1MHz)
Transmission length	Signal pair: max. 100 m
Transfer impedance	max. 250 m Ω /m (at 30 MHz)

Mechanical and thermal properties

Min. bending radius	flexing: up from 7.5 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
Acceleration	max. 50 m/s ²
Speed (sliding):	max. 5 m/s resp. 300 m/min
Travel length	max. 20 m
Torsion	+/- 30 °/m
Temperature range	flexing (EN): -40 °C up to +90 °C max. conductor temp. flexing (UL/CSA): up to +90 °C max. conductor temp. fixed installation (EN): -50 °C up to +90 °C max. conductor temp. fixed installation (UL/CSA): up to +90 °C max. conductor temp.
Flammability	flame retardant acc. to IEC 60332-1-2 resp. EN 60332-1-2 UL: Vertical flame test VW-1 acc. to UL 1581 § 1080 CSA: FT1 acc. to CSA C22.2 No. 2556, § 9.3
Halogen-free	acc. to IEC 60754-1 resp. EN 60754-1
UV-resistance	acc. to EN 50618 EN 50620 EN ISO 4892-2, 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 resp. EN 60811, EN 50395, UL 1581
General requirements	These cables are conform to the EU-Directive 2014/35/EU (Low Voltage Directive) These cables (see www.lappkabel.com/cpr) are classified in accordance with the EU-Regulation no. 305/2011 (CPR).
Environmental information	These cables meet the substance-specific requirements of the EU Directive 2011/65/EU (RoHS).

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