

0027950	DATA SHEET	
Valid from: 23.08.2018	ÖLFLEX® SERVO FD 796 CP	

Application

ÖLFLEX® SERVO FD 796 CP 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 designed for use in high-dynamic applications with acceleration up to 50 m/s² 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.

ÖLFLEX® SERVO FD 796 CP 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 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.

The screening braid protects against interference from electrical fields, the data pairs resp. triplet are additionally screened.

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.

Use acc. to CSA: PUR sheathed cable for external interconnection without mechanical load conditions.

Design

Design	according to UL AWM Style 20234 and based on EN 50525-2-21 resp. VDE 0285-525-2-21
Approvals	UL AWM 758, Style 20234 (File No. E63634) cRUus AWM I A/B II A/B (File No. E63634) CSA AWM I/II A < VDE-REG 8591 >
Conductor	extra fine wire strands of bare copper acc. to IEC 60228 resp. VDE 0295, Class 6
Core insulation	Polypropylen- based compound
Core identification	<p>Power cores: Black cores with white alphanumeric labelling U/L1/C/L+; V/L2; W/L3/D/L-; GN/YE ground conductor</p> <p>Control cores: with 1 control pair: white, black white, brown for following art.: 0027925, 0027926, 0027927, 0027981, 0027982, 0027983, 0027984</p> <p>with 2 control pairs: black cores with white numbers 5-8 acc. to EN 50334 (VDE 0293-334) control pairs with different conductor cross-section: 1 mm²: black cores with white numbers 5-6 1.5 mm²: black cores with white numbers 7-8</p> <p>Triplet: black cores with white numbers 1-3 acc. to EN 50334 (VDE 0293-334)</p>
Pair shield/triplet shield	with 1 control pair: Braid of tinned copper wires, coverage = 85% (nominal value) with 2 control pairs + triplet: Aluminium-laminated foil, drain wire, braid of tinned copper wires, coverage = 85% (nominal value)

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Cable make-up	4 power conductors (optionally with 1 resp. 2 control pairs, triplet) stranded together with filler cords
Screen	braid of tinned copper wires, coverage = 85% (nominal value)
Outer sheath	Polyurethane-compound TMPU acc. to EN 50363-10-2 resp. VDE 0207-363-10-2 UL AWM 758, CSA AWM C22.2 No.210-15 colour: Orange, similar RAL 2003

Electrical properties

Nominal voltage	VDE U ₀ / U: 600/1000 V UL/CSA: 1000 V
Test voltage	core / core: 4000 V AC core / screen: 4000 V AC Pairscreen, tripletscreen / overall screen: 500 V AC
Transfer impedance at 30 MHz	max. 250 mΩ/m

Mechanical and thermal properties

Min. bending radius	flexing ≤ 16 mm ² : up from 7.5 x cable diameter flexing ≥ 25 mm ² : up from 10 x cable diameter fixed installation: 4 x cable diameter
Temperature range	flexing (VDE): -40 °C up to +90 °C max. conductor temp. flexing (UL/CSA): up to +80 °C max. conductor temp. fixed installation (VDE): -50 °C up to +90 °C max. conductor temp. fixed installation(UL/CSA): up to +80 °C max. conductor temp.
Flammability	flame retardant in acc. with IEC 60332-1-2 resp. VDE 0482-332-1-2 UL: Vertical flame test VW-1 CSA: FT1
Halogen-free	acc. to VDE 0472 part 815
UV-resistance	acc. to EN 50618 resp. VDE 0283-618 acc. to EN 50620 resp. VDE 0285-620 acc. to EN ISO 4892-2-2013, 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, EN 50396, UL 1581 and CSA C22.2
EU Directives	These cables are conform to the EU-Directive 2014/35/EU (Low Voltage Directive)

Dynamic performance

Pulling force (Dynamic):	≤ 20 N/mm ²
Pulling force (Static):	≤ 50 N/mm ²

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Max. Acceleration: see Table A

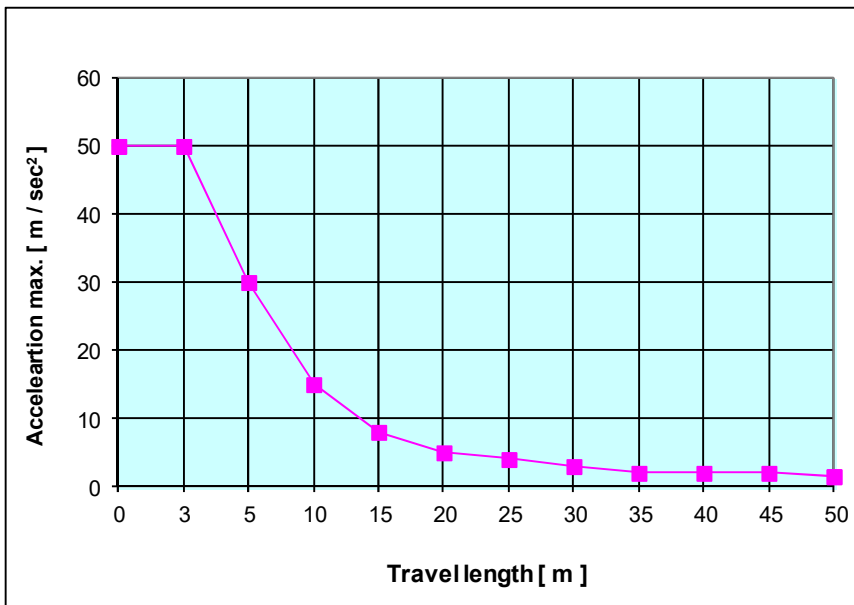
Max. Speed (sliding): 5 m/s resp. 300 m/min

Max. Length (horizontal): see Table A (typically 50 m, max. 100 m)

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

Max. Torsion load: +/- 30° /m

Table A 1.0 mm² - 16 mm²



travel length	acceleration
[m]	[m / sec ²]
0	50
3	50
5	30
10	15
15	8
20	5
25	4
30	3
35	2
40	2
45	2
50	1.5
100	1.0