ÖLFLEX® SERVO FD 796 CP

DB 0027950
valid from: 27.11.2015

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 among others designed for use in dry, damp and wet conditions. Outdoor use: They may only be installed considering the indicated temperature range.
ÖLFLEX® SERVO FD 796 CP cables are increased oil resistant and at room temperature widely resistant to acids and caustic solutions. The outer sheath is resistant to high mechanical load, particularly to abrasion and scouring, is cut resistant, microbe-proof and hydrolysis resistant. Usage on cable drums or pulleys or under a tensile strain of more than 15 N/mm² conductor cross-section is not allowed. The screen is a protection against electrical interference, the data pairs 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 0285-2-21
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.-No. 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	power conductors: black with white alphanumeric labelling U/L1/C/L+; V/L2; W/L3/D/L-; GN/YE ground conductor signal pairs: 1 pair: WH; BK 2 pairs: BK with WH numbers 5-8 acc. to VDE 0293-334 signal pairs with different conductor cross-section: 1 mm²: BK with WH numbers 5-6 1.5 mm²: BK with WH numbers 7-8
Pair shield	with 1 signal pair: Braid of tinned copper wires, coverage = 85% (nominal value) with 2 signal pairs: Aluminium-laminated foil, drain wire, braid of tinned copper wires, coverage = 85% (nominal value)
Cable make-up	4 power conductors (optionally with 1 resp. 2 signal pairs) 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

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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/overal screen: 500 V AC
Transfer impedance at 30 MHz	max. 250 mΩ/m

Mechanical and thermal properties

Min. bending radius	flexing ≤ 16 mm²: 7.5 x cable diameter flexing ≥ 25 mm²: 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): -40 °C up to +80 °C max. conductor temp. fixed installation (VDE): -50 °C up to +90 °C max. conductor temp. fixed installation(UL/CSA): -50 °C 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
Oil resistance	acc. to EN 50363-10-2 resp. VDE 0207-363-10-2
MUD	MUD resistant acc. to IEC 61892-4 Annex D
UV resistance	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
Halogen-free	acc. to VDE 0472 part 815
Tests	acc. to IEC 60811 resp. VDE 0473 part 811, VDE 0472, EN 50395, EN 50396, UL 1581and CSA C22.2
EU Directives	These cables are conform to the EU-Directives 2014/35/EC (Low Voltage Directive) and 2011/65/EU (RoHS, Restriction of the use of certain hazardous substances).

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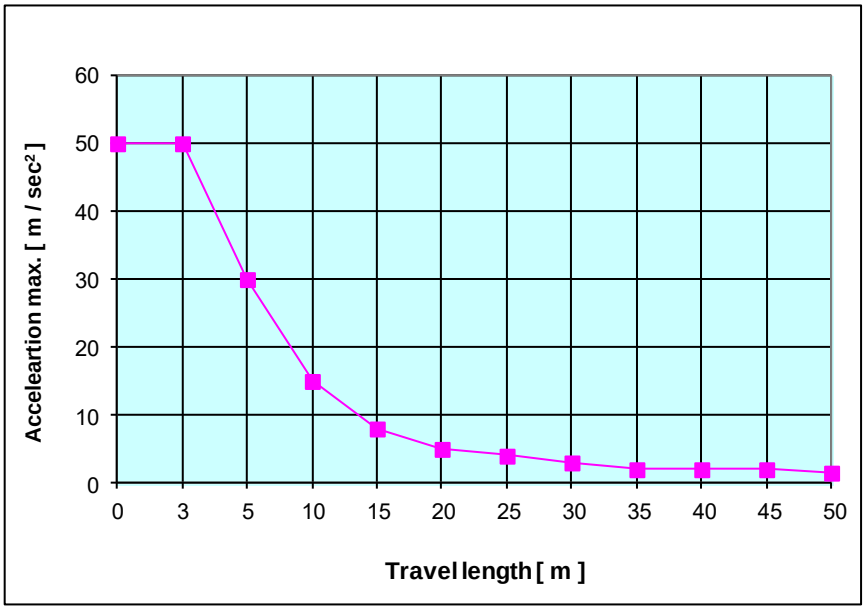
Dynamic perfomance

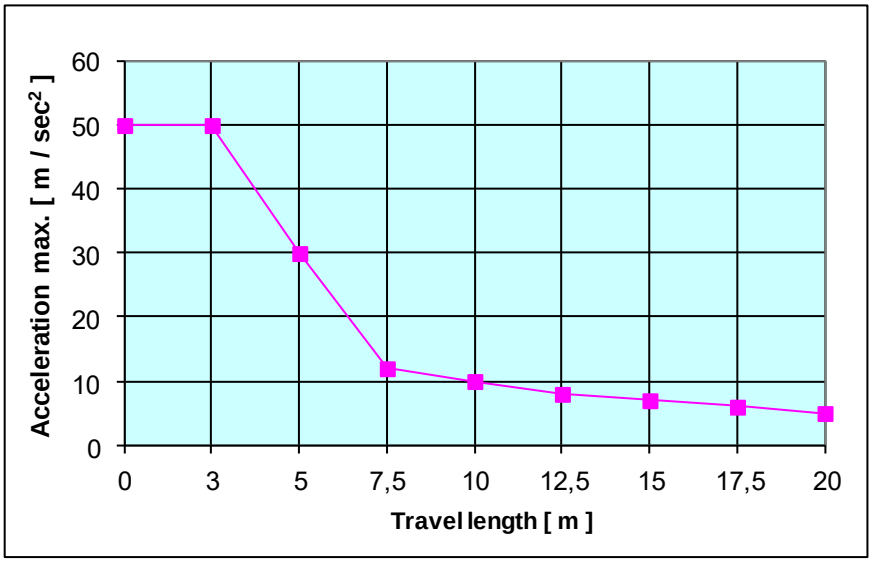
Pulling force (Dynamic):	≤ 20 N/mm²
Pulling force (Static):	≤ 50 N/mm²
Max. Acceleration:	see Table A and B
Max. Speed:	5 m/s resp. 300 m/min
Max. Length (horizontal)	see Table A and B (typically 50 m, max. 100 m)
Max. Torsion load:	+/- 30° /m
Bendings:	10.000.000

Table A 1.0 mm² - 16 mm²



travel lenght	acceleration
[m]	[m / sec²]
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

Table B 25 mm² - 50 mm²



travel lenght	acceleration
[m]	[m / sec²]
0	50
3	50
5	30
7.5	12
10	10
12.5	8
15	7
17.5	6
20	5