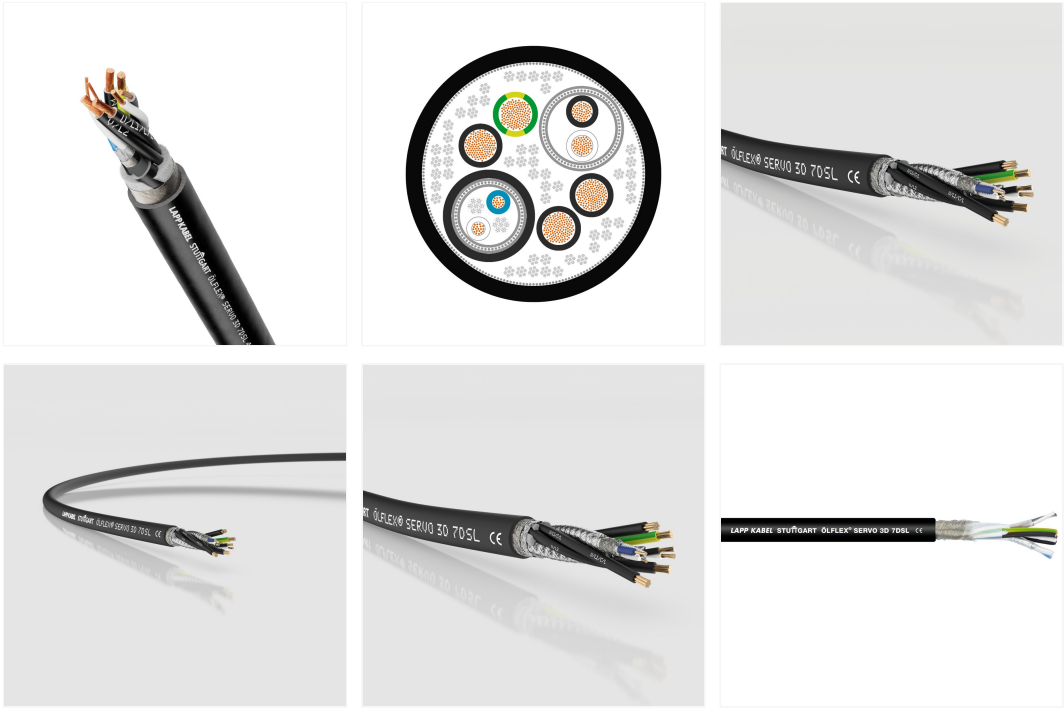
ÖLFLEX® SERVO 3D 7DSL 4G2,5+(2x1)+(2x22 A

Article No.: 1023353

Servo cable; 4G2,5+(2x1)+(2x22 AWG); U_0/U: 0,6/1 kV; PUR; Shielded; UL recognized; Torsion



Details

Benefits

- Space-saving and weight-saving hybrid cable for simultaneous power supply, signal and data transmission (one-cable technology).
- Operating voltage of 1000 V according to UL, permitted for North America.
- Compatible with one-cable technology interfaces such as HIPERFACE DSL® and SCS open link.
- Special conductor stranding allows simultaneous bending and twisting (torsion angle up to ± 180°/m).
- Allows space-saving installation without additional encoder cable for the transmission of feedback signals.
- Reduced connection costs due to less cabling work and quick installation of fewer components.

- Low-capacitance conductor insulation for long transmission paths.
- Ideal protection against electromagnetic interference due to wrapping made of tin-plated copper wires, adapted to torsional loads.
- Tried-and-tested cable, successfully tested for 5 million torsion cycles.
- UL/CSA certification according to technical data enables the product to be used on the North American market.

Application

- For connecting frequency converters and servo motors.
- The cable design allows flexible, continuously flexing use under torsional stress in industrial robots and handling devices.
- Especially for environments where electromagnetic compatibility (EMC) is required.
- Can be used in dry, wet and especially in harsh and oily environments.
- The PUR outer jacket withstands high mechanical stress.
- The PUR outer jacket is resistant to mineral oil-based lubricants and highly resistant to chemicals.
- Suitable for outdoor use.
- Flexible use at temperatures down to -40°C.

Notes

Photographs and graphics are not to scale and do not represent detailed images of the respective products.

If applicable, the prices are solid metal prices without additional charges and VAT. Sales only to business customers.

Unless specified otherwise, the product values shown are rated values at room temperature. You can receive additional values, such as tolerances, upon request if they are available and have been released for publication.

HIPERFACE DSL® is a registered trademark of SICK AG; ACURO®link and SCS open link are registered trademarks of Hengstler GmbH.

Remarks

When used in cable chains: please follow the T3 technical assembly guidelines

HIPERFACE DSL® is a registered trademark of Sick AG and is used for information and comparison purposes only.

Technical Data

General information

Brand	ÖLFLEX®
Product type	Servo cable
Copper index	1310.35 lb/10000 ft

Electrical parameters

Nominal voltage power cores	U_0/U: 0,6/1 kV AC rms according to IEC
Nominal voltage control conductors	U_0/U: 0,6/1 kV AC rms according to IEC
Nominal voltage signal pair	U_0/U: 300/300 V AC rms according to IEC
Nominal voltage	U_0/U: 0,6/1 kV AC rms according to IEC
Rated voltage	1000 V AC rms according to cRU AWM 1000 V AC rms according to UL AWM 600 V AC rms / DC according to cRU AWM 600 V AC rms / DC according to UL AWM
Test voltage conductor/conductor	4 kV
Test voltage conductor/shielding	2 kV
Power conductors test voltage	4 kV
Test voltage control conductors	4 kV
Current rating according to	VDE 0298-4 VDE 0891-1
Nominal characteristic impedance	110 Ω
Maximum transmission length	328.084 ft

Product design

Conductor count/size	4G2,5+(2x1)+(2x22 AWG)
Compatible drive/feedback system	SICK/HIPERFACE DSL®
Nominal cross section conductor (mm2)	2.5 mm²
Nominal cross section conductor (AWG)	14 AWG
Leading conductor cross-section	mm²
Conductor material	Bare Copper
Conductor design	IEC 60228 class 6: extra-fine wire
Including protective ground	Yes
Number of cores	4

Number of pairs	2
Type of pair shielding	Aluminum-laminated plastic foil Aluminum-steamed fleece Tin-plated copper braiding
Cable element 1	Power conductor: 4G2.5
Cable element 2	Control pair: 1x(2x1), Shielding: Tin-plated copper braiding
Cable element 3	Signal pair: 1x(2x22 AWG), Shielding: Tin-plated copper braiding and Aluminum-steamed fleece
Stranding type	Layered Stranding
Wrapping above stranding	PTFE Film
Shielded	Yes
Type of overall shielding	Wrapped with braided tin-plated copper wires
Nominal outer diameter	0.567 in
Cable form	Round
Core insulation base material	Polypropylene
Conductor insulation basic material, short form	PP
Basic material of outer jacket	Polyurethane
Base material of outer sheath, shortname	PUR
Outer jacket color	black
Colour outer sheath RAL code	RAL 9005
Core identification	Alphanumeric and colours

Product features

Application area	Torsion Cable chain Flexible
For permanent bending	Yes
Minimum bending radius, stationary	5 x outer diameter
Minimum bending radius in inch, fixed installation	2.835 in
Minimum bending radius, dynamic continuously flexing	10 x outer diameter

Minimum bending radius in inch, dynamic continuously flexing	5.669 in
Minimum bending radius, occasionally moved	10 x outer diameter
Minimum bending radius in mm, occasionally moved	5.669 in
Maximum bending cycles	5,000,000
Maximum travel distance	65.617 ft
Maximum speed sliding	16.404 ft/s
Maximum speed unsupported	32.808 ft/s
Maximum acceleration	98.425 ft/s²
Torsion	For +/- 180 °/m and min. -40 °C up to 5000000 Torsion cycles
Temperature, fixed installation	-50 °C to 80 °C max. conductor temperature according to IEC to 80 °C max. conductor temperature according to CSA AWM to 80 °C max. conductor temperature according to UL AWM
Temperature, occasionally moved	-40 °C to 80 °C max. conductor temperature according to IEC to 80 °C max. conductor temperature according to CSA AWM to 80 °C max. conductor temperature according to UL AWM
temperature, dynamic permanently moved	-40 °C to 80 °C max. conductor temperature according to IEC to 80 °C max. conductor temperature according to CSA AWM to 80 °C max. conductor temperature according to UL AWM
Flame-retardant	Yes
Flame retardance according to	IEC 60332-1-2 UL VW-1 CSA FT1
UV-resistant	Yes
UV-resistant according to	EN 50525-1 (cables with a black jacket are suitable for permanent outdoor use)
weather resistant	Yes
Ozone-resistant	Yes

ozone resistant according to	EN 50396, method B
Chemical resistant	Yes
Hydrolysis-resistant	Yes
Halogenfree	No
Oil resistant	Yes
Oil resistance according to	EN 50363-10-2
PWIS-free	No
Low capacitance	Yes
Low-adhesive jacket surface	Yes

Certifications and standards

CE marking	Yes
UL recognized	Yes
UL AWM certification	21223 according to UL 758 (e-file number: E63634) 10867 according to UL 758 (e-file number: E63634) 1887 according to UL 758 (e-file number: E63634)
UL listed	No
cUR recognized	Yes
cUR certification	AWM I A according to CSA C22.2 No. 210 (e-file number: E63634) AWM I B according to CSA C22.2 No. 210 (e-file number: E63634) AWM II B according to CSA C22.2 No. 210 (e-file number: E63634) AWM II A according to CSA C22.2 No. 210 (e-file number: E63634)
cUL listed	No
CSA certified	No
VDE certified	No

ÖLFLEX® SERVO 3D 7DSL

Article No.	Name	Conductor count/size	Compatible drive/feedback system	Nominal outer diameter	Copper index
1023353	ÖLFLEX® SERVO 3D 7DSL 4G2,5+(2x1)+(2x22 A	4G2,5+(2x1)+(2x22 AWG)	SICK/HIPERFACE DSL®	0.567 in	1310.35 lb/10000 ft

V1.1