1133500	DATA SHEET	LAPP
valid from: 2022-04-13	ÖLFLEX® SERVO 2XSLCH-JB	

Application

ÖLFLEX® SERVO 2XSLCH-JB are double-shielded low-capacitance supply cables of flexible design, with halogen-free outer sheath and XLPE core insulation. They are ideal for frequency converters operated three-phase motors of small, medium and large size. The cables are suitable for use in dry and damp rooms. Permanent outdoor use is possible if the indicated temperature range is observed. At room temperature they are largely resistant to acids, alkalis and certain oils. They are suitable for occasional flexible use and fixed installation under normal mechanical stress.
The version with earth-symmetrical construction (3+3) has a split protective conductor with a reduced overall cross-section. This concentric conductor arrangement avoids to a large extent the high-frequency motor bearing currents which can lead to motor bearing damage, especially at high frequencies and long motor cables. This design also improves the electromagnetic compatibility (EMC) of the entire drive system. In addition, the low-capacitance cable design compared to PVC-insulated cables means that the frequency converter is subject to significantly lower capacitive reactive power losses.

Design

Design	based on DIN VDE 0276-603 / HD 603 S1 + A3 and DIN 57250-1 resp. VDE 0250-1
Certification	EN 13501-6 and EN 50575 Classification of fire behaviour (article/dimension range see www.lappkabel.com/cpr)
Conductor	fine wire strands of bare copper, acc. to IEC 60228 resp. EN 60228, class 5
Insulation	XLPE
Core identification code	acc. to VDE 0293-308 resp. HD 308 S2
Stranding	4 cores: twisted together in one layer 3+3 cores: twisted concentrically, protective conductor divided into three, positioned in the interstices
Screen	double screening with aluminium-coated plastic foil (metal-side outwards) and braid of tinned copper wires, braid coverage min. 70 % (nominal value)
Outer sheath	Halogen free compound flexible at low temperatures, UV-resistant, flame retardant colour: black

Electrical properties at 20 °C

Specific volume resistivity	> 20 G Ω x cm
Transfer impedance	≤ 250 Ω / km at 30 MHz
Nominal voltage	600/1000 V
Test voltage	C/C: 4000 V C/S: 4000 V

Mechanical and thermal properties

Minimum bending radius	occasional flexing: 15 x outer diameter fixed installation: 4 x outer diameter
Temperature range	occasional flexing: -15 °C up to +90 °C max. conductor temperature fixed installation: -40 °C up to +90 °C max. conductor temperature
Flammability	flame retardant acc. to IEC 60332-1-2 resp. EN 60332-1-2 flame propagation acc. to IEC 60332-3-24 resp. EN 60332-3-24 (Cat. C) or IEC 60332-3-25 resp. EN 60332-3-25 (Cat. D)
Halogen free	acc. to IEC 60754-1; EN 60754-1
Corrosivity of gases	acc. to IEC 60754-2; EN 60754-2
Smoke density	acc. to IEC 61034-2; EN 61034-2
Toxicity	acc. to EN 50264-1 acc. to EN 50305; EN 50306-1
Weather and UV resistance	acc. to EN 50620 acc. to EN ISO 4892-2, method A (change of colour allowed) acc. to EN 50525-1 cable with black sheath are suitable for permanent outdoor use

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Tests	acc. to IEC 60811, EN 50395, EN 50396
General requirements	These cables are conform to the EU-Directive 2014/35 EU (Low Voltage Directive). A part of 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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Part number	Dimension	Conductor design: max. wire Ø [mm]	Core identification code	Copper braid: wire Ø [mm]	Copper braid: nom. cross section [mm²]	Outer Ø (nominal) [mm]	Current ratings at 30°C [A]	Inductance per core at 800 Hz [µH/km]	Capacitance core/core at 800 Hz [nF/km]	Capacitance core/screen at 800 Hz [nF/km]	Transfer impedance at 1 MHz [Ω/km]	Transfer impedance at 10 MHz [Ω/km]	Transfer impedance at 30 MHz [Ω/km]
1133500	4G1.5	0.26	GNYE, BN, BK, GY	0.21	2.5	10.9	23	366	70	110	-	-	240
1133501	4G2.5	0.26	GNYE, BN, BK, GY	0.21	4	12.1	32	340	80	130	18	175	210
1133502	4G4	0.31	GNYE, BN, BK, GY	0.21	4	14.1	42	339	90	150	11	95	210
1133503	4G6	0.31	GNYE, BN, BK, GY	0.21	6	15.6	54	321	90	150	6	50	150
1133504	4G10	0.41	GNYE, BN, BK, GY	0.26	6	18.0	75	301	120	200	7	60	180
1133505	4G16	0.41	GNYE, BN, BK, GY	0.26	6	20.9	100	285	140	230	9	80	190
1133506	4G25	0.41	GNYE, BN, BK, GY	0.26	16	26.0	127	280	140	240	4	32	95
1133507	4G35	0.41	GNYE, BN, BK, GY	0.31	16	29.6	158	271	150	260	3	26	85
1133508	4G50	0.41	GNYE, BN, BK, GY	0.31	16	32.8	192	270	190	320	2	13	40
1133509	4G70	0.41	GNYE, BN, BK, GY	0.31	16	38.0	246	262	190	320	2	18	45
1133510	4G95	0.41	GNYE, BN, BK, GY	0.31	25	42.5	298	261	250	410	2	18	45
1133511	4G120	0.41	GNYE, BN, BK, GY	0.31	25	47.0	346	256	260	430	2	18	45
1133512	4G150	0.41	GNYE, BN, BK, GY	0.41	35	52.9	399	256	270	450	2	18	45
1133513	4G185	0.41	GNYE, BN, BK, GY	0.41	35	57.6	456	255	280	470	2	18	45
1133514	3X1.5+3G0.25	0.26	3xGNYE, BN, BK, GY	0.21	2.5	10.9	23	366	70	110	-	-	240
1133515	3X2.5+3G0.5	0.26	3xGNYE, BN, BK, GY	0.21	4	12.0	32	340	80	130	18	175	210
1133516	3X4+3G0.75	0.31	3xGNYE, BN, BK, GY	0.21	6	13.5	42	339	90	150	11	95	210
1133517	3X6+3G1.0	0.31	3xGNYE, BN, BK, GY	0.21	6	14.7	54	321	90	150	6	50	150
1133518	3X10+3G1.5	0.41	3xGNYE, BN, BK, GY	0.26	6	16.7	75	301	120	200	7	60	180
1133519	3X16+3G2.5	0.41	3xGNYE, BN, BK, GY	0.26	10	20.2	100	285	140	230	9	80	190
1133520	3X25+3G4	0.41	3xGNYE, BN, BK, GY	0.26	10	23.4	127	280	140	240	4	32	95
1133521	3X35+3G6	0.41	3xGNYE, BN, BK, GY	0.31	16	26.7	158	271	150	260	3	26	85
1133522	3X50+3G10	0.41	3xGNYE, BN, BK, GY	0.31	16	30.9	192	270	190	320	2	13	40
1133523	3X70+3G10	0.41	3xGNYE, BN, BK, GY	0.31	16	34.4	246	262	190	320	2	18	45
1133524	3X95+3G16	0.41	3xGNYE, BN, BK, GY	0.31	16	38.3	298	261	250	410	2	18	45
1133525	3X120+3G16	0.41	3xGNYE, BN, BK, GY	0.31	25	42.3	346	256	260	430	2	18	45
1133526	3X150+3G25	0.41	3xGNYE, BN, BK, GY	0.41	25	47.5	399	256	270	450	2	18	45
1133527	3X185+3G35	0.41	3xGNYE, BN, BK, GY	0.41	35	51.9	456	255	280	470	2	18	45
1133528	3X240+3G50	0.41	3xGNYE, BN, BK, GY	0.41	35	59.0	538	254	290	480	2	18	45

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