

ÖLFLEX® SERVO 2YSLCY-JB
DB 0036425
 valid from: 21.10.2015

Application

ÖLFLEX® SERVO 2YSLCY-JB, ÖLFLEX® SERVO 2YSLCYK-JB and ÖLFLEX® SERVO 2YSLC-JB BK are double shielded low capacitance cables of flexible design, with PVC sheath and PE core insulation. They are suitable for frequency converters operated by three-phase current motors. The cables are designed for use in dry, humid or wet conditions. They are suitable for free, non-continuously recurring movements without tensile load or compulsory guidance and also for fixed installation. At room temperature they are widely resistant to acids, alkali-resistant and resistant to certain oils.

Having a concentric conductor array design, the cable possesses a split ground wire with reduced total cross section. This concentric design avoids all cable-relevant parts from high frequency discharge currents, which may damage motor bearings especially at high frequencies and long cable lengths. This design also improves EMC noise situation of the whole drive system. Additionally, due to the design the frequency converter system is burdened with lower capacitive reactive power compared to PVC insulated cables.

Version Type "a" (2YSLCY-JB): with transparent PVC-outer sheath for indoor use

Version Type "b" (2YSLCYK-JB): with black UV resistance PVC-outer sheath, flexible at low temperatures, for outdoor use

Version Type "c" (2YSLCY-JB BK): with black UV resistance PVC-outer sheath for outdoor use

Application range:

Connection cable between frequency converter and motor, paper industry, chemical industry, heavy industry

Design

| | |
|---------------------|--|
| Design | based on DIN VDE 0276-603 / HD 603 S1 + A3 DIN 57250-1 resp. VDE 0250-1 |
| Conductor | fine wire strands of bare copper, acc. to IEC 60228 resp. VDE 0295, Class 5 |
| Core insulation | PE compound acc. to DIN EN 50290-2-23 resp. VDE 0819-103, table 1, column L/MD |
| Core identification | coloured in acc. to DIN VDE 0293-308 resp. HD 308 S2 |
| Stranding | Type "a", 2YSLCY-JB: 4 conductors twisted together in one layer Type "b", 2YSLCYK-JB: 3+3 cores twisted concentrically, protective conductor divided into three positioned in the gusset Type "c", 2YSLCY-JB BK: 4 conductors twisted together in one layer |
| Screening | double screening with aluminium-coated plastic foil (metal-side outwards) and braid of tinned copper wires, braid coverage min. 70% (nominal value) |
| Outer sheath | Type "a", 2YSLCY: PVC sheath TM2 acc. to EN 50363-4-1 resp. VDE 0207-363-4-1 colour: transparent Type "b", 2YSLCYK: PVC sheath, acc. to EN 50363-4-1 resp. VDE 0207-363-4-1, UV resistant, cold flexible, outdoor and direct burial use colour: black, similar RAL 9005 Type "c", 2YSLCY-BK: PVC sheath TM2 acc. to EN 50363-4-1 resp. VDE 0207-363-4-1 UV resistant, outdoor and direct burial use, colour: black, similar RAL 9005 |



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Electrical properties

| | | |
|--------------------------------|------------------------|--------------------------|
| Nominal voltage | U_0/U | 600 / 1000 V |
| Test voltage | Core/Core, Core/Screen | 4000 V AC |
| Specific insulation resistance | | > 20 G Ω x cm |
| Surface transfer impedance | at 30 MHz | \leq 250 Ω / km |

Mechanical and thermal properties

| | | |
|---------------------|--|--|
| Min. bending radius | occasional flexing: fixed installation: | 15 x outer diameter 4 x outer diameter |
| Temperature range | Type "a", 2YSLCY: occasional flexing fixed installation | -5 °C up to +70 °C max. conductor temperature -40 °C up to +70 °C max. conductor temperature |
| | Type "b", 2YSLCYK: gelegentlich bewegt fest verlegt | -15 °C bis +70 °C max. conductor temperature -40 °C bis +70 °C max. conductor temperature |
| | Type "c", 2YSLCY-JB BK: occasional flexing: fixed installation | -5 °C up to +70 °C max. conductor temperature -40 °C up to +70 °C max. conductor temperature |
| Flammability | | flame retardant acc. to IEC 60332-1-2 resp. VDE 0482-332-1-2 |
| UV-resistance | Type „b“ and „c“ | EN 50525-1 resp. VDE 0285-525-1, cables with black sheath are suitable for a permanent outdoor use, acc. to EN 4892-2-2006, method A (change of colour allowed) |
| Tests | | acc. to IEC 60811 resp. VDE 0473, VDE 0472, EN 50395, EN50396 |
| EU-Directives | | This cable is conform to the EU-Directives 2014/35/EU (Low Voltage Directive) and 2011/65/EU (RoHS, Restriction of the use of certain hazardous substances). |

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U.I. Lapp GmbH
Schulze-Delitzsch Straße 25
D 70565 Stuttgart

Date 05.12.2014

Table of Technical datas
ÖLFLEX® SERVO 2YSLCY-JB

U0/U 0,6/1kV

| Cables type short name | U. I. Lapp Part Number | Number of cores and mm² per conductor | Conductor design: approx. number of wires x nominal diameter | Coreidentcode HD 308 S2 resp. VDE 0293-308 | Speciality: PVC-jacket, YK = low temp rating & outdoor use | Copper braid: wire diameter (max) in mm | Copper braid: nominal cross section (min) in mm² | Outer-diameter (nominal) in mm | Ampacity per Conductor at env. temp of 30°C in A | Inductance* per conductor in mH/km | Capacitance* core/core in uF/km | Capacitance* core/copper braid in uF/km | Transfer Impedance | | |
|------------------------|------------------------|---------------------------------------|--|--|--|---|--|--------------------------------|--|------------------------------------|---------------------------------|---|--------------------|------------------|------------------|
| | | | | | | | | | | | | | 1 MHz in Ohm/km | 10 MHz in Ohm/km | 30 MHz in Ohm/km |
| ZYSLCY-JB | 0036425 | 4G1.5 | 29x0.25 | GNYE, BN, BK, GY | Y, transparent | 0.21 | 2.5 | 11.4 | 18 | 0.366 | 0.07 | 0.11 | - | - | 240 |
| ZYSLCY-JB | 0036426 | 4G2.5 | 50x0.25 | GNYE, BN, BK, GY | Y, transparent | 0.21 | 4 | 12.4 | 26 | 0.340 | 0.08 | 0.13 | 18 | 175 | 210 |
| ZYSLCY-JB | 0036427 | 4G4 | 54x0.3 | GNYE, BN, BK, GY | Y, transparent | 0.21 | 4 | 15.6 | 34 | 0.339 | 0.09 | 0.15 | 11 | 95 | 210 |
| ZYSLCY-JB | 0036428 | 4G6 | 82x0.3 | GNYE, BN, BK, GY | Y, transparent | 0.21 | 6 | 17.0 | 44 | 0.321 | 0.09 | 0.15 | 6 | 50 | 150 |
| ZYSLCY-JB | 0036429 | 4G10 | 78x0.4 | GNYE, BN, BK, GY | Y, transparent | 0.26 | 6 | 19.6 | 61 | 0.301 | 0.12 | 0.20 | 7 | 60 | 180 |
| ZYSLCY-JB | 0036430 | 4G16 | 126x0.4 | GNYE, BN, BK, GY | Y, transparent | 0.26 | 6 | 22.1 | 82 | 0.285 | 0.14 | 0.23 | 9 | 80 | 190 |
| ZYSLCY-JB | 0036431 | 4G25 | 196x0.4 | GNYE, BN, BK, GY | Y, transparent | 0.26 | 16 | 26.3 | 108 | 0.280 | 0.14 | 0.24 | 4 | 32 | 95 |
| ZYSLCY-JB | 0036432 | 4G35 | 276x0.4 | GNYE, BN, BK, GY | Y, transparent | 0.31 | 16 | 29.5 | 135 | 0.271 | 0.15 | 0.26 | 3 | 26 | 85 |
| ZYSLCY-JB | 0036433 | 4G50 | 396x0.4 | GNYE, BN, BK, GY | Y, transparent | 0.31 | 16 | 35.8 | 168 | 0.270 | 0.19 | 0.32 | 2 | 13 | 40 |
| ZYSLCY-JB | 0036434 | 4G70 | 532x0.4 | GNYE, BN, BK, GY | Y, transparent | 0.31 | 16 | 40.3 | 207 | 0.262 | 0.19 | 0.32 | 2 | 18 | 45 |
| ZYSLCY-JB | 0036435 | 4G95 | 722x0.4 | GNYE, BN, BK, GY | Y, transparent | 0.31 | 25 | 46.5 | 250 | 0.261 | 0.25 | 0.41 | 2 | 18 | 45 |
| ZYSLCY-JB | 0036436 | 4G120 | 931x0.4 | GNYE, BN, BK, GY | Y, transparent | 0.31 | 25 | 53.2 | 292 | 0.256 | 0.11 | 0.18 | 2 | 18 | 45 |
| ZYSLCY-JB | 0036437 | 4G150 | 1160x0.4 | GNYE, BN, BK, GY | Y, transparent | 0.41 | 35 | 57.3 | 335 | 0.256 | 0.11 | 0.18 | 2 | 18 | 45 |
| ZYSLCY-JB | 0036438 | 4G185 | 1420x0.4 | GNYE, BN, BK, GY | Y, transparent | 0.41 | 35 | 62.3 | 382 | 0.255 | 0.11 | 0.18 | 2 | 18 | 45 |
| ZYSLCY-JB | 0036452 | 4G240 | 1924x0.4 | GNYE, BN, BK, GY | Y, transparent | 0.41 | 35 | 72.3 | 453 | 0.254 | 0.11 | 0.18 | 2 | 18 | 45 |
| ZYSLCYK-JB | 0036439 | 3X1.5+3G0.25 | 29x0.25 | 3xGNGE, BN, BK, GY | YK, black | 0.21 | 2.5 | 11.4 | 18 | 0.366 | 0.07 | 0.11 | - | - | 240 |
| ZYSLCYK-JB | 0036440 | 3X2.5+3G0.5 | 50x0.25 | 3xGNGE, BN, BK, GY | YK, black | 0.21 | 4 | 12.2 | 26 | 0.340 | 0.08 | 0.13 | 18 | 175 | 210 |
| ZYSLCYK-JB | 0036441 | 3X4+3G0.75 | 54x0.3 | 3xGNGE, BN, BK, GY | YK, black | 0.21 | 4 | 14.4 | 34 | 0.339 | 0.09 | 0.15 | 11 | 95 | 210 |
| ZYSLCYK-JB | 0036442 | 3X6+3G1.0 | 82x0.3 | 3xGNGE, BN, BK, GY | YK, black | 0.21 | 6 | 15.7 | 44 | 0.321 | 0.09 | 0.15 | 6 | 50 | 150 |
| ZYSLCYK-JB | 0036443 | 3X10+3G1.5 | 78x0.4 | 3xGNGE, BN, BK, GY | YK, black | 0.26 | 6 | 18.0 | 61 | 0.301 | 0.12 | 0.20 | 7 | 60 | 180 |
| ZYSLCYK-JB | 0036444 | 3X16+3G2.5 | 126x0.4 | 3xGNGE, BN, BK, GY | YK, black | 0.26 | 10 | 20.2 | 82 | 0.285 | 0.14 | 0.23 | 9 | 80 | 190 |
| ZYSLCYK-JB | 0036445 | 3X25+3G4 | 196x0.4 | 3xGNGE, BN, BK, GY | YK, black | 0.26 | 10 | 23.8 | 108 | 0.280 | 0.14 | 0.24 | 4 | 32 | 95 |
| ZYSLCYK-JB | 0036446 | 3X35+3G6 | 276x0.4 | 3xGNGE, BN, BK, GY | YK, black | 0.31 | 16 | 26.9 | 135 | 0.271 | 0.15 | 0.26 | 3 | 26 | 85 |
| ZYSLCYK-JB | 0036447 | 3X50+3G10 | 396x0.4 | 3xGNGE, BN, BK, GY | YK, black | 0.31 | 16 | 32.6 | 168 | 0.270 | 0.19 | 0.32 | 2 | 13 | 40 |
| ZYSLCYK-JB | 0036448 | 3X70+3G10 | 532x0.4 | 3xGNGE, BN, BK, GY | YK, black | 0.31 | 16 | 36.4 | 207 | 0.262 | 0.19 | 0.32 | 2 | 18 | 45 |
| ZYSLCYK-JB | 0036449 | 3X95+3G16 | 722x0.4 | 3xGNGE, BN, BK, GY | YK, black | 0.31 | 16 | 42.0 | 250 | 0.261 | 0.25 | 0.41 | 2 | 18 | 45 |
| ZYSLCYK-JB | 0036450 | 3X120+3G16 | 931x0.4 | 3xGNGE, BN, BK, GY | YK, black | 0.31 | 25 | 47.8 | 292 | 0.256 | 0.11 | 0.18 | 2 | 18 | 45 |
| ZYSLCYK-JB | 0036451 | 3X150+3G25 | 1160x0.4 | 3xGNGE, BN, BK, GY | YK, black | 0.41 | 25 | 51.6 | 335 | 0.256 | 0.11 | 0.18 | 2 | 18 | 45 |
| ZYSLCYK-JB | 0036479 | 3X185+3G35 | 1420x0.4 | 3xGNGE, BN, BK, GY | YK, black | 0.41 | 35 | 56.5 | 382 | 0.255 | 0.11 | 0.18 | 2 | 18 | 45 |
| ZYSLCYK-JB | 0036453 | 3X240+3G50 | 1924x0.4 | 3xGNGE, BN, BK, GY | YK, black | 0.41 | 35 | 65.1 | 453 | 0.254 | 0.11 | 0.18 | 2 | 18 | 45 |
| ZYSLCY-JB BK | 1136450 | 4G1.5 | 29x0.25 | GNYE, BN, BK, GY | Y, black | 0.21 | 2.5 | 11.4 | 18 | 0.366 | 0.07 | 0.11 | - | - | 240 |
| ZYSLCY-JB BK | 1136451 | 4G2.5 | 50x0.25 | GNYE, BN, BK, GY | Y, black | 0.21 | 4 | 12.4 | 26 | 0.340 | 0.08 | 0.13 | 18 | 175 | 210 |
| ZYSLCY-JB BK | 1136452 | 4G4 | 54x0.3 | GNYE, BN, BK, GY | Y, black | 0.21 | 4 | 15.6 | 34 | 0.339 | 0.09 | 0.15 | 11 | 95 | 210 |
| ZYSLCY-JB BK | 1136453 | 4G6 | 82x0.3 | GNYE, BN, BK, GY | Y, black | 0.21 | 6 | 17.0 | 44 | 0.321 | 0.09 | 0.15 | 6 | 50 | 150 |
| ZYSLCY-JB BK | 1136454 | 4G10 | 78x0.4 | GNYE, BN, BK, GY | Y, black | 0.26 | 6 | 19.6 | 61 | 0.301 | 0.12 | 0.20 | 7 | 60 | 180 |
| ZYSLCY-JB BK | 1136455 | 4G16 | 126x0.4 | GNYE, BN, BK, GY | Y, black | 0.26 | 6 | 22.1 | 82 | 0.285 | 0.14 | 0.23 | 9 | 80 | 190 |
| ZYSLCY-JB BK | 1136456 | 4G25 | 196x0.4 | GNYE, BN, BK, GY | Y, black | 0.26 | 16 | 26.3 | 108 | 0.280 | 0.14 | 0.24 | 4 | 32 | 95 |
| ZYSLCY-JB BK | 1136457 | 4G35 | 276x0.4 | GNYE, BN, BK, GY | Y, black | 0.31 | 16 | 29.5 | 135 | 0.271 | 0.15 | 0.26 | 3 | 26 | 85 |
| ZYSLCY-JB BK | 1136458 | 4G50 | 396x0.4 | GNYE, BN, BK, GY | Y, black | 0.31 | 16 | 35.8 | 168 | 0.270 | 0.19 | 0.32 | 2 | 13 | 40 |
| ZYSLCY-JB BK | 1136459 | 4G70 | 532x0.4 | GNYE, BN, BK, GY | Y, black | 0.31 | 16 | 40.3 | 207 | 0.262 | 0.19 | 0.32 | 2 | 18 | 45 |
| ZYSLCY-JB BK | 1136460 | 4G95 | 722x0.4 | GNYE, BN, BK, GY | Y, black | 0.31 | 25 | 46.5 | 250 | 0.261 | 0.25 | 0.41 | 2 | 18 | 45 |
| ZYSLCY-JB BK | 1136461 | 4G120 | 931x0.4 | GNYE, BN, BK, GY | Y, black | 0.31 | 25 | 53.2 | 292 | 0.256 | 0.11 | 0.18 | 2 | 18 | 45 |
| ZYSLCY-JB BK | 1136462 | 4G150 | 1160x0.4 | GNYE, BN, BK, GY | Y, black | 0.41 | 35 | 57.3 | 335 | 0.256 | 0.11 | 0.18 | 2 | 18 | 45 |
| ZYSLCY-JB BK | 1136463 | 4G185 | 1420x0.4 | GNYE, BN, BK, GY | Y, black | 0.41 | 35 | 62.3 | 382 | 0.255 | 0.11 | 0.18 | 2 | 18 | 45 |
| ZYSLCY-JB BK | 1136464 | 4G240 | 1924x0.4 | GNYE, BN, BK, GY | Y, black | 0.41 | 35 | 72.3 | 453 | 0.254 | 0.11 | 0.18 | 2 | 18 | 45 |

*Recommended values at 800 Hz

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