

|                           |                                |                                                                                     |
|---------------------------|--------------------------------|-------------------------------------------------------------------------------------|
| 1 133500                  | <b>DATA SHEET</b>              |  |
| valid from:<br>2022-04-13 | <b>ÖLFLEX® SERVO 2XSLCH-JB</b> |                                                                                     |

**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<br>DIN 57250-1 resp. VDE 0250-1                                                                                 |
| Certification            | EN 13501-6 and EN 50575<br>Classification of fire behaviour<br>(article/dimension range see <a href="http://www.lappkabel.com/cpr">www.lappkabel.com/cpr</a> ) |
| 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:<br>twisted together in one layer<br>3+3 cores:<br>twisted concentrically, protective conductor divided into three,<br>positioned in the interstices   |
| Screen                   | double screening with aluminium-coated plastic foil (metal-side outwards)<br>and braid of tinned copper wires, braid coverage min. 70 % (nominal value)        |
| Outer sheath             | Halogen free compound<br>flexible at low temperatures, UV-resistant, flame retardant<br>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<br>C/S: 4000 V |

**Mechanical and thermal properties**

|                           |                                                                                                                                                                                        |
|---------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Minimum bending radius    | occasional flexing: 15 x outer diameter<br>fixed installation: 4 x outer diameter                                                                                                      |
| Temperature range         | occasional flexing: -15 °C up to +90 °C max. conductor temperature<br>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<br>flame propagation acc. to<br>IEC 60332-3-24 resp. EN 60332-3-24 (Cat. C) or<br>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<br>acc. to EN 50305; EN 50306-1                                                                                                                                     |
| Weather and UV resistance | acc. to EN 50620<br>acc. to EN ISO 4892-2, method A (change of colour allowed)<br>acc. to EN 50525-1 cable with black sheath are suitable<br>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 <a href="http://www.lappkabel.com/cpr">www.lappkabel.com/cpr</a> ) 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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| 1133500                   | DATA SHEET              |  |
| valid from:<br>2022-04-13 | ÖLFLEX® SERVO 2XSLCH-JB |                                                                                     |

| Part number | Dimension    | Conductor design:<br>max. wire Ø<br><br>[mm] | Core identification code | Copper braid: wire Ø<br><br>[mm] | Copper braid:<br>nom. cross section<br><br>[mm²] | Outer Ø (nominal)<br><br>[mm] | Current ratings<br>at 30°C<br><br>[A] | Inductance per core<br>at 800 Hz<br><br>[µH/km] | Capacitance core/core<br>at 800 Hz<br><br>[nF/km] | Capacitance core/screen<br>at 800 Hz<br><br>[nF/km] | Transfer impedance<br>at 1 MHz<br><br>[Ω/km] | Transfer impedance<br>at 10 MHz<br><br>[Ω/km] | Transfer impedance<br>at 30 MHz<br><br>[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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