

# JZ-500 HMH-C / OZ-500 HMH-C

highly flame-retardant, EMC-preferred type



HELUKABEL® JZ-500 HMH-C 4G2,5 QMM / 11746 300/500 V halogen-free CE

## TECHNICAL DATA

Control and connection cable in alignment with DIN VDE 0285-525-2-51 / DIN EN 50525-2-51, DIN VDE 0285-525-3-11 / DIN EN 50525-3-11

|                          |                                                 |
|--------------------------|-------------------------------------------------|
| Temperature range        | flexible -25°C to +70°C<br>fixed -40°C to +70°C |
| Nominal voltage          | AC U <sub>0</sub> /U 300/500 V                  |
| Test voltage core/core   | 4000 V                                          |
| Test voltage core/screen | 2000 V                                          |
| Coupling resistance      | at 30 MHz, approx. 250 Ohm/km                   |
| Minimum bending radius   | flexible 12.5x Outer-Ø<br>fixed 4x Outer-Ø      |

## CABLE STRUCTURE

- Copper wire bare, finely stranded acc. to DIN VDE 0295 Class 5 / IEC 60228 Class 5
- Core insulation: halogen-free polymer acc. to DIN VDE 0207-363-7 / DIN EN 50363-7 (compound type T16)
- Core identification acc. to DIN VDE 0293-334, black cores with consecutive labeling in white digits
- Protective conductor: starting with 3 cores, G = with protective conductor GN-YE (JZ), x = without protective conductor (OZ)
- Cores stranded in layers with optimal lay lengths
- Foil wrapping
- Screen: braided screen of tinned copper wires, approx. coverage 85%
- Outer sheath: halogen-free polymer acc. to DIN VDE 0207-363-8 / DIN EN 50363-8 (compound type TM7)
- Sheath colour: grey (RAL 7001)
- Length marking: in metres

## PROPERTIES

- largely resistant to: oil

| Part no. | No. cores x cross-sec. mm² | AWG, approx. | Outer Ø mm, approx. | Cu factor per km | Weight kg/km, approx. |
|----------|----------------------------|--------------|---------------------|------------------|-----------------------|
| 11656    | 2 x 0.5                    | 20           | 5.6                 | 35.0             | 46.0                  |
| 11657    | 3 G 0.5                    | 20           | 5.9                 | 42.0             | 56.0                  |
| 11342    | 3 x 0.5                    | 20           | 5.9                 | 42.0             | 56.0                  |
| 11658    | 4 G 0.5                    | 20           | 6.3                 | 47.0             | 62.0                  |
| 11343    | 4 x 0.5                    | 20           | 6.3                 | 47.0             | 62.0                  |
| 11659    | 5 G 0.5                    | 20           | 6.8                 | 56.0             | 75.0                  |
| 11660    | 7 G 0.5                    | 20           | 7.3                 | 69.0             | 98.0                  |
| 11017510 | 8 x 0.5                    | 20           | 8.0                 | 80.0             | 115.0                 |
| 11663    | 12 G 0.5                   | 20           | 9.7                 | 108.0            | 158.0                 |
| 11665    | 18 G 0.5                   | 20           | 11.3                | 145.0            | 216.0                 |
| 11667    | 25 G 0.5                   | 20           | 13.4                | 240.0            | 315.0                 |
| 11678    | 2 x 0.75                   | 19           | 6.1                 | 40.0             | 60.0                  |
| 11679    | 3 G 0.75                   | 19           | 6.4                 | 52.0             | 68.0                  |
| 11344    | 3 x 0.75                   | 19           | 6.4                 | 52.0             | 68.0                  |
| 11680    | 4 G 0.75                   | 19           | 6.9                 | 60.0             | 78.0                  |

- halogen-free
- the materials used during manufacturing are cadmium-free, contain no silicone and are free from substances harmful to the wetting properties of lacquers

## TESTS

- halogen-free acc. to DIN VDE 0482-754-1 / DIN EN 60754-1 / IEC 60754-1
- corrosiveness of combustion gases acc. to DIN VDE 0482-754-2 / DIN EN 60754-2 / IEC 60754-2
- flame-retardant acc. to DIN VDE 0482-332-1-2 / DIN EN 60332-1-2 / IEC 60332-1-2
- bundle fire test acc. to DIN VDE 0482-332-3-24 / DIN EN 60332-3-24 / IEC 60332-3-24
- smoke density acc. to DIN VDE 0482-1034-1+2 / DIN EN 61034-1+2 / IEC 61034-1+2
- certifications and approvals: EAC

## APPLICATION

Control and connection cable in tool machinery, conveyor belts, production lines, plant construction, in air-conditioning devices, in metallurgical, steel and rolling mills. For fixed installation and flexible applications with occasional, not constantly recurring free movement without forced motion, without tensile stress and for medium mechanical stress. The cable is suitable for use in dry, damp and wet locations and on plaster. The high degree of screening assures an interference-free transmission of signals and pulses. EMC= Electromagnetic Compatibility; in order to optimise EMC properties, we recommend a double-sided and allround large contact area of the copper braiding.

## NOTES

- the conductor is metrically (mm²) constructed, AWG numbers are approximated, and are for reference only
- cleanroom qualification tested on analog types; please note "cleanroom qualification" in your order

| Part no. | No. cores x cross-sec. mm² | AWG, approx. | Outer Ø mm, approx. | Cu factor per km | Weight kg/km, approx. |
|----------|----------------------------|--------------|---------------------|------------------|-----------------------|
| 11345    | 4 x 0.75                   | 19           | 6.9                 | 60.0             | 78.0                  |
| 11681    | 5 G 0.75                   | 19           | 7.5                 | 71.0             | 95.0                  |
| 11346    | 5 x 0.75                   | 19           | 7.5                 | 71.0             | 95.0                  |
| 11682    | 7 G 0.75                   | 19           | 8.3                 | 91.0             | 130.0                 |
| 11347    | 7 x 0.75                   | 19           | 8.3                 | 91.0             | 130.0                 |
| 11685    | 12 G 0.75                  | 19           | 10.9                | 142.0            | 203.0                 |
| 11687    | 18 G 0.75                  | 19           | 12.8                | 212.0            | 290.0                 |
| 11689    | 25 G 0.75                  | 19           | 15.1                | 281.0            | 413.0                 |
| 11700    | 2 x 1                      | 18           | 6.4                 | 50.0             | 66.0                  |
| 11701    | 3 G 1                      | 18           | 6.8                 | 60.0             | 80.0                  |
| 11348    | 3 x 1                      | 18           | 6.8                 | 60.0             | 80.0                  |
| 11702    | 4 G 1                      | 18           | 7.3                 | 71.0             | 100.0                 |
| 11349    | 4 x 1                      | 18           | 7.3                 | 71.0             | 100.0                 |
| 11703    | 5 G 1                      | 18           | 8.1                 | 88.0             | 130.0                 |
| 11704    | 7 G 1                      | 18           | 8.7                 | 111.0            | 160.0                 |

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| Part no. | No. cores x cross-sec. mm² | AWG, approx. | Outer Ø mm, approx. | Cu factor per km | Weight kg/km, approx. | Part no. | No. cores x cross-sec. mm² | AWG, approx. | Outer Ø mm, approx. | Cu factor per km | Weight kg/km, approx. |
|----------|----------------------------|--------------|---------------------|------------------|-----------------------|----------|----------------------------|--------------|---------------------|------------------|-----------------------|
| 11707    | 12 G 1                     | 18           | 11.6                | 184.0            | 260.0                 | 11785    | 7 G 6                      | 10           | 17.0                | 505.0            | 670.0                 |
| 11709    | 18 G 1                     | 18           | 13.7                | 260.0            | 382.0                 | 11786    | 2 x 10                     | 8            | 14.6                | 255.0            | 420.0                 |
| 11711    | 25 G 1                     | 18           | 16.2                | 349.0            | 540.0                 | 11787    | 3 G 10                     | 8            | 15.7                | 350.0            | 495.0                 |
| 11722    | 2 x 1.5                    | 16           | 7.0                 | 63.0             | 88.0                  | 11788    | 4 G 10                     | 8            | 17.4                | 535.0            | 785.0                 |
| 11723    | 3 G 1.5                    | 16           | 7.4                 | 80.0             | 100.0                 | 11789    | 5 G 10                     | 8            | 19.3                | 592.0            | 855.0                 |
| 11350    | 3 x 1.5                    | 16           | 7.4                 | 80.0             | 100.0                 | 11790    | 7 G 10                     | 8            | 21.2                | 810.0            | 1308.0                |
| 11724    | 4 G 1.5                    | 16           | 8.2                 | 97.0             | 125.0                 | 11793    | 4 G 16                     | 6            | 20.4                | 740.0            | 882.0                 |
| 11725    | 5 G 1.5                    | 16           | 8.9                 | 119.0            | 158.0                 | 11794    | 5 G 16                     | 6            | 22.4                | 895.0            | 1293.0                |
| 11726    | 7 G 1.5                    | 16           | 9.8                 | 147.0            | 210.0                 | 11812    | 7 G 16                     | 6            | 24.8                | 1282.0           | 2149.0                |
| 11729    | 12 G 1.5                   | 16           | 13.2                | 267.0            | 340.0                 | 11795    | 3 G 25                     | 4            | 22.3                | 1070.0           | 1432.0                |
| 11731    | 18 G 1.5                   | 16           | 15.6                | 374.0            | 480.0                 | 11796    | 4 G 25                     | 4            | 24.9                | 1140.0           | 1911.0                |
| 11733    | 25 G 1.5                   | 16           | 18.2                | 526.0            | 702.0                 | 11797    | 5 G 25                     | 4            | 27.8                | 1380.0           | 2414.0                |
| 11744    | 2 x 2.5                    | 14           | 8.4                 | 96.0             | 132.0                 | 11798    | 3 G 35                     | 2            | 26.2                | 1240.0           | 1914.0                |
| 11745    | 3 G 2.5                    | 14           | 8.9                 | 144.0            | 168.0                 | 11799    | 4 G 35                     | 2            | 29.1                | 1576.0           | 2542.0                |
| 11746    | 4 G 2.5                    | 14           | 9.9                 | 148.0            | 195.0                 | 11800    | 5 G 35                     | 2            | 32.1                | 1930.0           | 3180.0                |
| 11747    | 5 G 2.5                    | 14           | 10.9                | 181.0            | 222.0                 | 11801    | 3 G 50                     | 1            | 30.5                | 1675.0           | 3080.0                |
| 11748    | 7 G 2.5                    | 14           | 11.8                | 255.0            | 345.0                 | 11802    | 4 G 50                     | 1            | 34.5                | 2155.0           | 3550.0                |
| 11751    | 12 G 2.5                   | 14           | 16.1                | 441.0            | 572.0                 | 11803    | 5 G 50                     | 1            | 38.3                | 2794.0           | 4753.0                |
| 11766    | 2 x 4                      | 12           | 9.8                 | 120.0            | 184.0                 | 11804    | 3 G 70                     | 2/0          | 36.0                | 2288.0           | 3840.0                |
| 11768    | 3 G 4                      | 12           | 10.4                | 174.0            | 238.0                 | 11805    | 4 G 70                     | 2/0          | 40.1                | 3120.0           | 4939.0                |
| 11769    | 4 G 4                      | 12           | 11.5                | 230.0            | 305.0                 | 11806    | 5 G 70                     | 2/0          | 44.3                | 3705.0           | 6572.0                |
| 11770    | 5 G 4                      | 12           | 12.7                | 273.0            | 388.0                 | 11807    | 3 G 95                     | 3/0          | 40.9                | 3010.0           | 5651.0                |
| 11771    | 7 G 4                      | 12           | 14.2                | 316.0            | 504.0                 | 11808    | 4 G 95                     | 3/0          | 45.6                | 4043.0           | 6690.0                |
| 11781    | 2 x 6                      | 10           | 11.6                | 173.0            | 270.0                 | 11809    | 5 G 95                     | 3/0          | 50.3                | 5026.0           | 8370.0                |
| 11782    | 3 G 6                      | 10           | 12.5                | 240.0            | 328.0                 | 11810    | 3 G 120                    | 4/0          | 45.4                | 3812.0           | 6342.0                |
| 11783    | 4 G 6                      | 10           | 14.1                | 305.0            | 416.0                 | 11811    | 4 G 120                    | 4/0          | 50.0                | 5069.0           | 8453.0                |
| 11784    | 5 G 6                      | 10           | 15.5                | 439.0            | 510.0                 | 11813    | 4 G 185                    | 350 kcmil    | 62.5                | 8040.0           | 10800.0               |