

ZK7825-3031-0xxx | B40, ECP cable, PUR, 5 G 16.0 mm² + (1 x 4 x AWG22), drag chain suitable, key 2 (400 V AC)

B40, plug, straight, male+male, pins 4+PE+4, P-coded – B40, plug, straight, female+ female, pins 4+PE+4, P-coded

Plugs

| Electrical data | Head A | Head B |
|----------------------------------|---|---|
| Rated voltage (Ethernet) | 24 V DC | 24 V DC |
| Rated current (Ethernet) | 3 A at 40 °C | 3 A at 40 °C |
| Rated voltage (power) | 630 V AC / 850 V DC, 600V AC / DC (UL) | 630 V AC / 850 V DC, 600V AC / DC (UL) |
| Rated current (power) | 66 A at 50 °C | 66 A at 50 °C |
| Rated current (power) | 66 A | 66 A |
| Rated impulse voltage (power) | 6.0 kV | 6.0 kV |
| Rated impulse voltage (Ethernet) | 1.0 kV | 1.0 kV |
| Voltage proof (contact/contact) | 1.5 kV (power - Ethernet), 3.31 kV AC (power), 1.0 kV AC (Ethernet) | 1.5 kV (power - Ethernet), 3.31 kV AC (power), 1.0 kV AC (Ethernet) |
| Shielding (Ethernet) | yes | yes |
| Contact resistance | < 10 mΩ (signal), < 5 mΩ (power) | < 10 mΩ (signal), < 5 mΩ (power) |
| Insulation resistance | ≥ 100 MΩ (according to IEC 60512) | ≥ 100 MΩ (according to IEC 60512) |
| Mechanical data | | |
| Installation size | B40 | B40 |
| Connector type | plug | plug |
| Configuration | straight | straight |
| Contact type | male+male | female+ female |
| Number of positions (face) | pins 4+PE+4 | pins 4+PE+4 |
| Coding | P-coded | P-coded |
| Mechanical coding | key 2 (400 V AC) | key 2 (400 V AC) |
| Wire termination | crimp connection | crimp connection |
| Mating cycles | ≥ 100 | ≥ 100 |
| Way of locking | bayonet | bayonet |
| Weight per piece | 0.520 kg (1.146 lb) | 0.520 kg (1.146 lb) |
| Body colour | black | black |
| Body material | PA6, UL94 V0 | PA6, UL94 V0 |
| Coupling nut material | GD-Zn, Ni | GD-Zn, Ni |
| Seal | NBR | NBR |

| | | |
|-----------------------------------|--|--|
| Contact carrier material | PA, UL 94 | PA, UL 94 |
| Contact carrier colour (Ethernet) | red | red |
| Contact carrier colour (power) | red | red |
| Contact plating | Au over Ni | Au over Ni |
| Contact material | copper alloy | copper alloy |
| Environmental data | | |
| Shock resistance | 50 g (490 m/s ²) conforms to IEC 60512-6c, 11 ms; 18 shocks per direction, 3 axes | 50 g (490 m/s ²) conforms to IEC 60512-6c, 11 ms; 18 shocks per direction, 3 axes |
| Vibration resistance | 5 g (50 m/s ²) conforms to IEC 60512-6d, 10 Hz. ... 500 Hz.; 10 cycles per axis; 6 h full duration | 5 g (50 m/s ²) conforms to IEC 60512-6d, 10 Hz. ... 500 Hz.; 10 cycles per axis; 6 h full duration |
| RoHS compliant | yes | yes |
| Ambient temperature (operation) | -30...+90 °C, -22...+194 °F | -30...+90 °C, -22...+194 °F |
| Protection class | IP 65/67 in screwed condition (according to IEC 60529) | IP 65/67 in screwed condition (according to IEC 60529) |
| Pollution level | 3/2 (according to IEC 60664-1) | 3/2 (according to IEC 60664-1) |

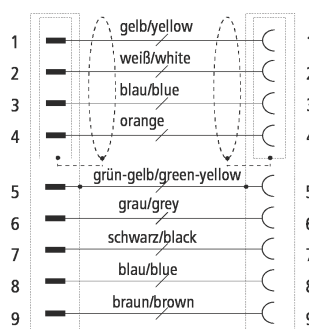
Cable

| | |
|---|---|
| Electrical data | |
| Mutual capacitance wire/wire (Ethernet) | 50 ±15 pF/m at 800 Hz (EN 50289-1-5) |
| Attenuation of shielding | ≥ 65 dB (30...100 MHz) |
| Insulation resistance | ≥ 500 MΩ * km (DIN EN 50395) |
| Wire resistance (power) | ≤ 1.21 Ω/km |
| Wire resistance (Ethernet) | ≤ 58.0 Ω/km according to DIN EN 50395 |
| Characteristic impedance (Ethernet) | 100 Ω ±15 Ω (100 MHz) |
| Dielectric strength wire/wire (power) | 4 kV 50 Hz 5 min. (DIN VDE 0472 T.509C) |
| Dielectric strength wire/shield (power) | 4 kV 50 Hz 5 min. (DIN VDE 0472 T.509C) |
| Mechanical data | |
| Cable structure (Ethernet) | star quad |
| Conductor construction (Ethernet) | 7-strand |
| Cross section (power) | 5 x 16.0 mm ² (approx. AWG5) |
| Cross section (Ethernet) | 1 x 4 x 0.34 mm ² (AWG 22) |
| Min. bending radius, moved | 7 x outer cable diameter |
| Min. bending radius, fixed installation | 4 x outer cable diameter |
| Weight | 1100 kg/km (739.1 lb/1000 ft) |
| Outer cable diameter | 24.0 mm ± 0.5 mm (0.9448" ± 0.01969") |
| Conductor material (power) | copper bare, Class 6 according to DIN EN 60228 |
| Conductor material (Ethernet) | copper, tinned |
| Shielding | braiding of tinned copper wires, metallised plastic fleece, aluminium-clad foil |
| Optical covering factor of shielding (Ethernet) | ≥ 85 % |
| Optical covering factor of shielding (total) | no |
| Use | drag-chain suitable |
| UL-Style Conductor | UL758 (AWM) Style 21223 (jacket) and Style 10492 (core) |
| Max. acceleration | 30 m/s ² by 5 m travel distance 15 m/s ² by 10 m travel distance 5 m/s ² by 20 m travel distance |
| Max. speed | 4 m/s |
| Max. travel distance | 20 m (horizontal) 5 m (vertical) |
| Max. number of cycles | 5 million |
| Wall thickness of wire insulation (power) | 0.65 mm |
| Wall thickness of wire insulation (Ethernet) | 0.4 mm |
| Jacket colour | black (similar to RAL 9005) with red stripe (similar to RAL 3020) |
| Material jacket | PUR (polyurethane) |
| Wire colour code | Ethernet: white, yellow, blue, orange Power: red, blue, grey, black, green/yellow |
| Wire insulation material | PP (polypropylene) |
| Printing on the jacket | 00000M Beckhoff Automation GmbH & Co. KG - Germany -ZB7400 +90°C 5 G 16 + (4xAWG22)/C E170315 cRUus AWM Style 21223 AWM I/II A/B 80°C 1000V FT1 |
| Printing colour | white |

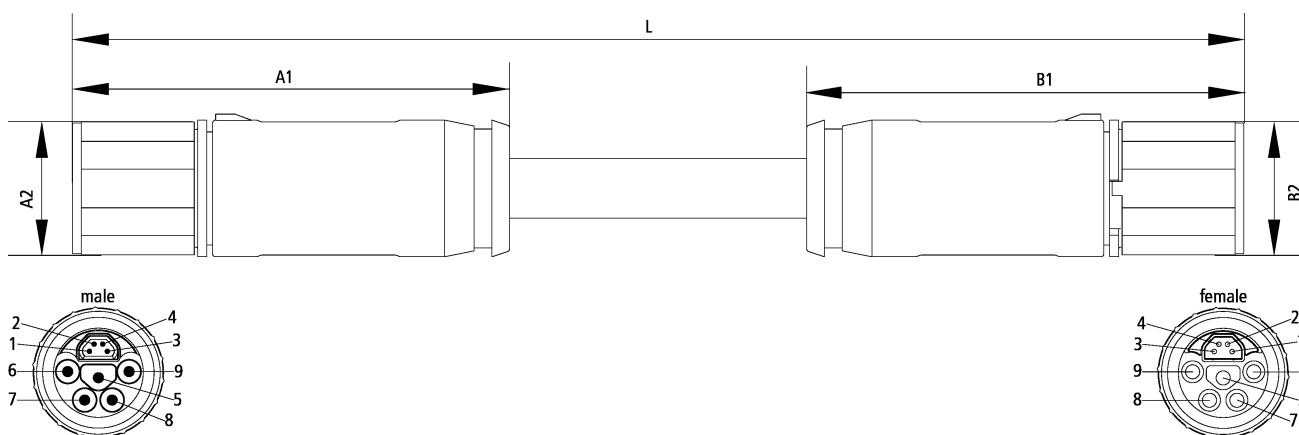
| | |
|---|---|
| Torsion angle in °/m | max. ± 30 °/m |
| Environmental data | |
| Operation temperature range, moved | -30...+90 °C, -22...+194 °F; in drag-chain with mechanical strain: -20...+60 °C, -4...+140 °F |
| Operation temperature range, fixed installation | -40...+90 °C, -40...+194 °F |
| UV resistance | yes |
| Oil resistance | according to DIN EN 60811-404 |
| Flame-retardant | according to IEC 60332-1-2 |
| CFC-free | yes |
| Halogen-free | DIN VDE 0472 part 815 |
| Silicone-free | yes |
| Approvals | cRUus |

| | | | | | | | | |
|--|------|------|------|------|------|-------|------|------|
| Attenuation | | | | | | | | |
| Max. insertion loss | | | | | | | | |
| Frequency [MHz] | 1 | 4 | 10 | 16 | 20 | 31.25 | 62.5 | 100 |
| [db/100 m] | 2.3 | 4.2 | 6.8 | 8.6 | 9.7 | 12.3 | 18.0 | 23.6 |
| [db/100 ft] | 0.7 | 1.3 | 2.1 | 2.6 | 3 | 3.7 | 5.5 | 7.2 |
| Min. near-end crosstalk attenuation | | | | | | | | |
| Frequency [MHz] | 1 | 4 | 10 | 16 | 20 | 31.25 | 62.5 | 100 |
| [db/100 m] | 80 | 76.0 | 70.0 | 65.0 | 63.0 | 60.0 | 55.0 | 50.0 |
| [db/100 ft] | 24.4 | 23.2 | 21.3 | 19.8 | 19.2 | 18.3 | 16.8 | 15.2 |

Contact assembly



Dimensions



| | |
|----|-----------|
| A1 | 131.50 mm |
| A2 | 47.00 mm |
| B1 | 131.50 mm |
| B2 | 47.00 mm |

Notes

- Depending on the cable length (L), the following length tolerances apply:

0 m...3.0 m: + 100 mm | 3.0...10.0 m: ± 100 mm | ≥ 10.0 m: ± 2 %

- Illustrations similar

- Further cable length on request. The last three digits of the ordering information is the cable length in decimeters, e.g. ZKxxxx-xxxx-x020 = cable length 2.00 m

| Ordering information | Length |
|----------------------|--------|
| ZK7825-3031-0xxx | – |

| Accessories | |
|-------------|---|
| ZS7400-B003 | B40 protection cap, plug, plastic, IP 67, packaging unit = 10 pieces |
| ZS7400-B004 | B40 protection cap, plug, metal, IP 67, packaging unit = 5 pieces |
| ZS7400-B005 | B40 colour coding connector/square flange, red, packaging unit = 10 pieces |
| ZS7400-B006 | B40 colour coding connector/square flange, yellow, packaging unit = 10 pieces |
| ZS7400-B007 | B40 colour coding connector/square flange, blue, packaging unit = 10 pieces |
| ZS7400-B008 | B40 colour coding connector/square flange, green, packaging unit = 10 pieces |
| ZS7400-B015 | B40 colour coding connector/square flange, orange, packaging unit = 10 pieces |
| ZS7400-B016 | B40 colour coding connector/square flange, grey, packaging unit = 10 pieces |

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