

# ZK7610-1800-0xxx | B17, ECP cable, PUR, 3 G 2.5 mm<sup>2</sup> + (1 x 4 x AWG22), drag chain suitable, key 2 (230 V AC)

B17, plug, straight, male+male, pins 2+PE+4, P-coded – open end

## Plugs

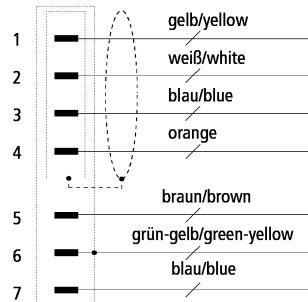
| Electrical data                   | Head A  | Head B   |
|-----------------------------------|---|----------|
| Rated voltage (Ethernet)          | 24 V DC   | -        |
| Rated current (Ethernet)          | 3 A at 40 °C  | -        |
| Rated voltage (power)             | 250 V AC/DC   | -        |
| Rated current (power)             | 21 A at 55 °C   | -        |
| Rated current (power)             | 21 A  | -        |
| Rated impulse voltage (power)     | 2.5 kV  | -        |
| Rated impulse voltage (Ethernet)  | 1.0 kV  | -        |
| Voltage proof (contact/contact)   | 1.5 kV (power - Ethernet), 3.31 kV AC (power), 1.0 kV AC (Ethernet)   | -        |
| Shielding (Ethernet)              | yes   | -        |
| Contact resistance                | < 10 mΩ (signal), < 5 mΩ (power)  | -        |
| Insulation resistance             | ≥ 100 MΩ (according to IEC 60512)   | -        |
| Mechanical data                   |   |          |
| Installation size                 | B17   | open end |
| Connector type                    | plug  | -        |
| Configuration                     | straight  | -        |
| Contact type                      | male+male   | -        |
| Number of positions (face)        | pins 2+PE+4   | -        |
| Coding                            | P-coded   | -        |
| Mechanical coding                 | key 2 (230 V AC)  | -        |
| Wire termination                  | crimp connection  | -        |
| Mating cycles                     | ≥ 100   | -        |
| Way of locking                    | bayonet   | -        |
| Weight per piece                  | 0.090 kg (0.198 lb)   | -        |
| Body colour                       | black   | -        |
| Body material                     | TPU, UL 94 HB   | -        |
| Coupling nut material             | GD-Zn, Ni   | -        |
| Seal                              | NBR   | -        |
| Contact carrier material          | PA, UL 94   | -        |
| Contact carrier colour (Ethernet) | red   | -        |
| Contact carrier colour (power)    | red   | -        |
| Contact plating                   | Au over Ni  | -        |
| Contact material                  | copper alloy  | -        |
| Environmental data                |   |          |
| Shock resistance                  | 50 g (490 m/s <sup>2</sup> ) conforms to IEC 60512-6c, 11 ms; 18 shocks per direction, 3 axes                 | -        |
| Vibration resistance              | 5 g (50 m/s <sup>2</sup> ) conforms to IEC 60512-6d, 10 Hz ... 500 Hz.; 10 cycles per axis; 6 h full duration | -        |
| RoHS compliant                    | yes   | -        |
| Ambient temperature (operation)   | -30...+80 °C, -22...+176 °F   | -        |
| Protection class                  | IP 65/67 in screwed condition (according to IEC 60529)  | -        |
| Pollution level                   | 3/2 (according to IEC 60664-1)  | -        |
| Approvals                         | UL 2237: File E484763   | -        |

## Cable

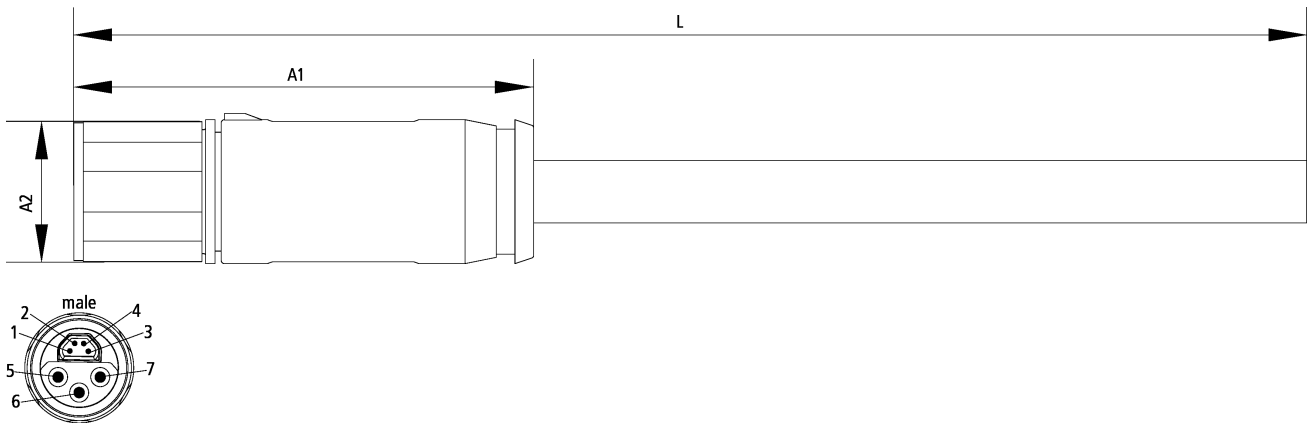
| Electrical data                                 |   |
|---|---|
| Operating voltage                               | ≤ 600 V   |
| Mutual capacitance wire/wire (Ethernet)         | nom. 55 nF/km   |
| Attenuation of shielding                        | ≥ 40 dB   |
| Insulation resistance                           | ≥ 200 MΩ*km   |
| Mutual capacitance                              | AWG 22: nom. 55 nF/km   |
| Wire resistance (power)                         | ≤ 8.3 Ω/km  |
| Wire resistance (Ethernet)                      | ≤ 58.0 Ω/km (20 °C)   |
| Characteristic impedance (Ethernet)             | 100 Ω ±10 Ω   |
| 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)   |
| Dielectric strength wire/wire (Ethernet)        | 2 kV ( 50 Hz, 1 min)  |
| Dielectric strength wire/shield (Ethernet)      | 2 kV ( 50 Hz, 1 min)  |
| Mechanical data                                 |   |
| Cable structure (Ethernet)                      | star quad   |
| Conductor construction (Ethernet)               | 7-strand  |
| Cross section (power)                           | 3 x 2.5 mm <sup>2</sup> (approx. AWG14)   |
| Cross section (Ethernet)                        | 1 x 4 x 0.34 mm <sup>2</sup> (AWG 22)   |
| Min. bending radius, moved                      | 7 x outer cable diameter  |
| Min. bending radius, fixed installation         | 4 x outer cable diameter  |
| Weight  | 135 kg/km (90.716 lb/1000 ft)   |
| Outer cable diameter                            | 11.1 mm ± 0.2 mm (0.4370" ± 0.0079")  |
| Conductor material (power)                      | copper bare   |
| Conductor material (Ethernet)                   | bare copper   |
| 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 <sup>2</sup>   |
| Max. speed                                      | 4 m/s   |
| Max. travel distance                            | 20 m (horizontal)   |
| Max. number of cycles                           | 3 million   |
| Wall thickness of wire insulation (power)       | 0.4 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                                | white, yellow, blue, orange power: brown, green/yellow, blue  |
| Wire insulation material                        | PO (Polyolefine)  |
| Printing on the jacket                          | XXXX Beckhoff Automation GmbH & Co. KG-Germany- EtherCAT-P 3G2,5 + (4xAWG22)/C E63216 AWM 21223 AWM I/II A/B 80°C 600V FT1 RoHS MM/JJ |
| Printing colour                                 | white   |
| Torsion angle in °/m                            | max. ± 30 °/m   |
| Environmental data                              |   |
| Operation temperature range, moved              | -20...+60 °C, -4...+140 °F  |
| Operation temperature range, fixed installation | -40...+80 °C, -40...+176 °F   |
| UV resistance                                   | yes   |
| Oil resistance                                  | according to DIN EN 60811-404   |
| Flame-retardant                                 | FT-1  |
| CFC-free  | yes   |
| Halogen-free                                    | yes   |
| 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 | 73.60 mm |
| A2 | 23.00 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
- B17 3-pin 1.5 mm<sup>2</sup> and B17 3 3-pin 2.5 mm<sup>2</sup> are not pin compatible

| Ordering information | Length |
|----------------------|--------|
| ZK7610-1800-0xxx     | –      |

| Accessories |   |
|-------------|---|
| ZS7200-B003 | B17 protection cap, plug, plastic, IP 67, packaging unit = 10 pieces          |
| ZS7200-B004 | B17 protection cap, plug, metal, IP 67, packaging unit = 5 pieces             |
| ZS7200-B005 | B17 colour coding connector/square flange, red, packaging unit = 10 pieces    |
| ZS7200-B006 | B17 colour coding connector/square flange, yellow, packaging unit = 10 pieces |
| ZS7200-B007 | B17 colour coding connector/square flange, blue, packaging unit = 10 pieces   |
| ZS7200-B008 | B17 colour coding connector/square flange, green, packaging unit = 10 pieces  |
| ZS7200-B015 | B17 colour coding connector/square flange, orange, packaging unit = 10 pieces |
| ZS7200-B016 | B17 colour coding connector/square flange, grey, packaging unit = 10 pieces   |
| ZB8802-0002 | assembly tool for B17 connector, AF22   |

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