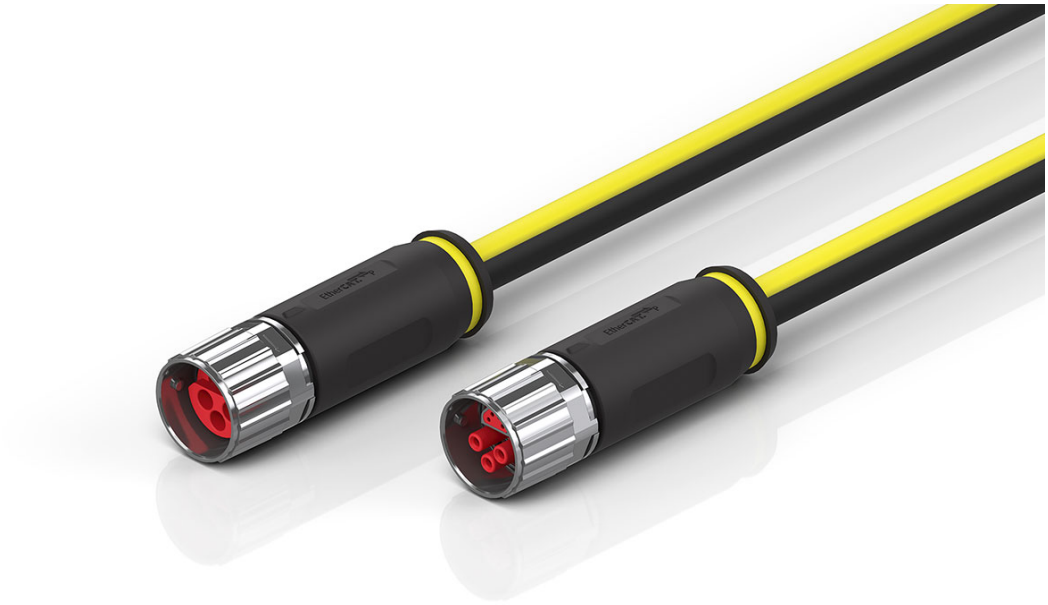
# ZK7210-1819-Axxx | B17, ENP cable, PUR, 3 G 2.5 mm² + (1 x 4 x AWG22), drag-chain suitable, key 1 (24 V DC)

## B17, plug, straight, male+female, pins 2+PE+4, EtherCAT-coded – B17, plug, straight, female+male, pins 2+PE+4, EtherCAT-coded



## Plugs

| Electrical data | Head A | Head B |
|---|---|---|
| Rated voltage (Ethernet) | 60 V DC | 60 V DC |
| Rated current (Ethernet) | 4 A at 40°C | 4 A at 40°C |
| Rated voltage (power) | 250 V AC/DC | 250 V AC/DC |
| Rated current (power) | 21 A at 60°C | 21 A at 60°C |
| Rated impulse voltage (power) | 2.5 kV | 2.5 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 | B17 | B17 |
| Connector type | plug | plug |
| Configuration | straight | straight |
| Contact type | male+female | female+male |
| Number of positions (face) | pins 2+PE+4 | pins 2+PE+4 |
| Coding | EtherCAT-coded | EtherCAT-coded |
| Mechanical coding | key 1 (24 V DC) | key 1 (24 V DC) |
| Wire termination | crimp connection | crimp connection |
| Mating cycles | ≥ 100 | ≥ 100 |
| Way of locking | bayonet | bayonet |
| Weight | 0.090 kg (0.1984 lb) | 0.090 kg (0.1984 lb) |
| Body color | black | black |
| Body material | TPU, UL 94 HB | TPU, UL 94 HB |
| Coupling nut material | GD-Zn, Ni | GD-Zn, Ni |
| Seal | NBR, FPM | NBR, FPM |
| Contact carrier material | PA 6, UL 94 V0 | PA 6, UL 94 V0 |
| Contact carrier color (Ethernet) | yellow | yellow |
| Contact carrier color (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...+80°C, -22...+176°F | -30...+80°C, -22...+176°F |
| Protection rating | IP65/67 in screwed condition (according to IEC 60529) | IP65/67 in screwed condition (according to IEC 60529) |
| Pollution level | 3/2 (according to IEC 60664-1) | 3/2 (according to IEC 60664-1) |
| Approvals | UL 2237: File E484763 | 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 ±5 Ω (100 MHz) (EN 50289-1-11) |
| 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 mm² (approx. AWG14) |
| Cross-section (Ethernet) | 1 x 4 x 0.34 mm² (AWG22) |
| Outer cable diameter | 11.1 mm ± 0.2 mm (0.4370" ± 0.0079") |
| 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) |
| Conductor material (power) | copper bare |
| Conductor material (Ethernet) | tinned copper |
| Shielding | braiding of tinned copper wires, metallized plastic fleece, aluminum-clad foil |
| Optical covering factor of shielding (Ethernet) | ≥ 85 % |
| Optical covering factor of shielding (total) | no |
| Use | drag-chain suitable |
| UL-Style | UL758 (AWM) Style 21223 (jacket) and Style 10492 (core) |
| Max. acceleration | 30 m/s² |
| Max. speed | 4 m/s |
| Max. travel distance | 20 m (horizontal) |
| Max. number of cycles | 3 million |
| Jacket color | black (similar to RAL 9005) with yellow stripe (similar to RAL 1003) |
| Material jacket | PUR (polyurethane) |
| Wire color 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 color | 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...+90°C, -40...+194°F |
| UV resistance | yes |
| Oil resistance | according to DIN EN 60811-404 |
| CFC-free | yes |
| Halogen-free | yes |
| Silicone-free | yes |
| Approvals | cRUus |

## Attenuation

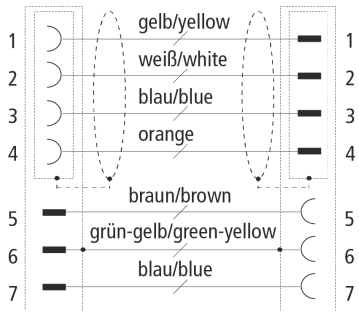
Max. insertion loss

| 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 |

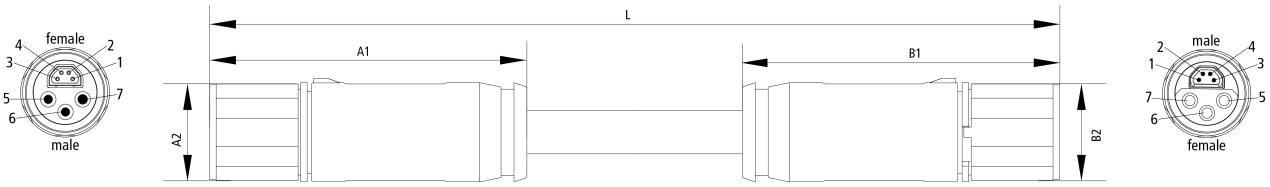
Min. near-end crosstalk attenuation

| 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 |

## Pin assignment




## Dimensions




| | |
|---|---|
| A1 | 73.60 mm |
| A2 | 23.00 mm |
| B1 | 73.60 mm |
| B2 | 23.00 mm |

### Mechanical coding

Mechanical keying uses defined keyways that only allow insertion and subsequent locking rotation when correctly aligned. For more information, please refer to the keying guide for correct use.

## 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 mm² and B17 3 3-pin 2.5 mm² are not pin compatible

| CE, UL | |
|---|---|
| CE | yes |

| Ordering information | Length |
|---|---|
| ZK7210-1819-A005 | 0.50 m |
| ZK7210-1819-A010 | 1.00 m |
| ZK7210-1819-A015 | 1.50 m |
| ZK7210-1819-A030 | 3.00 m |
| ZK7210-1819-A031 | 3.10 m |
| ZK7210-1819-A050 | 5.00 m |
| ZK7210-1819-A060 | 6.00 m |
| ZK7210-1819-A100 | 10.00 m |
| ZK7210-1819-A130 | 13.00 m |
| ZK7210-1819-A150 | 15.00 m |
| ZK7210-1819-A180 | 18.00 m |
| ZK7210-1819-A200 | 20.00 m |

| | |
|---|---|
| ZK7210-1819-A230 | 23.00 m |
| ZK7210-1819-A300 | 30.00 m |

Further length on request

| Accessories | |
|---|---|
| ZS7200-B003 | B17 protection cap, plug, plastic, IP67, packaging unit = 10 pieces, including loss protection |
| ZS7200-B004 | B17 protection cap, plug, metal, IP67, packaging unit = 5 pieces, including loss protection |
| ZS7200-B005 | B17 color coding connector/square flange, red, packaging unit = 10 pieces |
| ZS7200-B006 | B17 color coding connector/square flange, yellow, packaging unit = 10 pieces |
| ZS7200-B007 | B17 color coding connector/square flange, blue, packaging unit = 10 pieces |
| ZS7200-B008 | B17 color coding connector/square flange, green, packaging unit = 10 pieces |
| ZS7200-B015 | B17 color coding connector/square flange, orange, packaging unit = 10 pieces |
| ZS7200-B016 | B17 color coding connector/square flange, gray, packaging unit = 10 pieces |
| ZB8802-0002 | assembly tool for B17 connector, AF22 |
| ZB8805-0001 | Flange/Panel feed-through for B17 pre-assembled, for fixing the connector, plastic, including screws, washers and lock nuts |



Products marked with a crossed-out wheeled bin shall not be discarded with the normal waste stream. The device is considered as waste electrical and electronic equipment. The national regulations for the disposal of waste electrical and electronic equipment must be observed.

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