

# ZK7210-1800-Axxx | B17, ENP cable, PUR, 3 G 2.5 mm<sup>2</sup> + (1 x 4 x AWG22), drag chain suitable, key 1 (24 V DC)

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

## Plugs

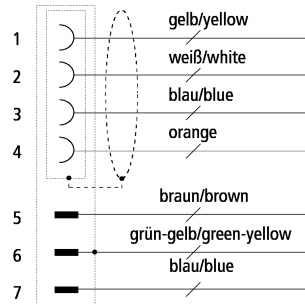
Electrical data	Head A	Head B
Rated voltage (Ethernet)	60 V DC	-
Rated current (Ethernet)	4 A at 40 °C	-
Rated voltage (power)	250 V AC/DC	-
Rated current (power)	21 A at 60 °C	-
Rated current (power)	21 A	-
Rated impulse voltage (power)	2.5 kV	-
Rated impulse voltage (Ethernet)	1.0 kV	-
Voltage proof (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+female	-
Number of positions (face)	pins 2+PE+4	-
Coding	EtherCAT-coded	-
Mechanical coding	key 1 (24 V DC)	-
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, FPM	-
Contact carrier material	PA 6, UL 94 V0	-
Contact carrier colour (Ethernet)	yellow	-
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

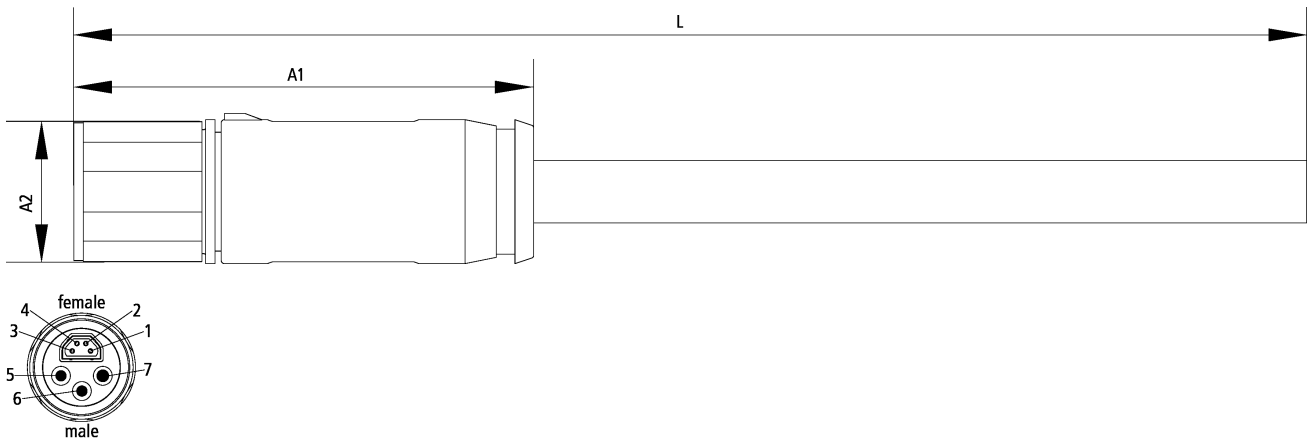
Electrical data	
Operating voltage	≤ 600 V
Mutual capacitance wire/wire (Ethernet)	nom. 55 nF/km
Attenuation of shielding	≥ 40 dB
Insulation resistance	≥ 200 MΩ*km
Mutual capacitance	AWG 22: nom. 55 nF/km
Wire resistance (power)	≤ 8.3 Ω/km
Wire resistance (Ethernet)	≤ 58.0 Ω/km (20 °C)
Characteristic impedance (Ethernet)	100 Ω ±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 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
Jacket colour	black (similar to RAL 9005) with yellow stripe (similar to RAL 1003)
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
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-pin 2.5 mm<sup>2</sup> are not pin compatible

Ordering information	Length
ZK7210-1800-Axxx	-

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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