



## ZK7210-AJ00-0xxx | B17, ECP cable, PUR, 3 G 2.5 mm<sup>2</sup> + (1 x 4 x AWG22), drag chain suitable, key 1 (24 V DC)

B17, flange rear assembly, straight, short, male+male, pins 2+PE+4, P-coded – M8 EtherCAT-P-coded + 3 x open end, plug, straight, male, 4-pin, 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)	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	yes
Contact resistance	< 10 mΩ (signal), < 5 mΩ (power)	-
Insulation resistance	≥ 100 MΩ (according to IEC 60512)	≥ 100 GΩ (according to IEC 60512)
Mechanical data		
Installation size	B17	M8 EtherCAT-P-coded + 3 x open end
Connector type	flange rear assembly	plug
Configuration	straight, short	straight
Contact type	male+male	male
Number of positions (face)	pins 2+PE+4	4-pin
Coding	P-coded	P-coded
Mechanical coding	key 1 (24 V DC)	-
Wire termination	crimp connection	crimp connection
Recommended torque, nut	-	0.4 Nm
Mating cycles	≥ 100	≥ 100
Way of locking	bayonet	screw
Weight per piece	0.170 kg (0.375 lb)	-
Body colour	-	black
Body material	-	TPU, UL 94

Flange housing material	GD-Zn, Ni	-
Coupling nut material	-	CuZn, Ni
Seal	NBR, FPM	FPM
Contact carrier colour	-	red
Contact carrier material	PA 6, UL 94 V0	PA, UL 94
Contact carrier colour (Ethernet)	red	-
Contact carrier colour (power)	red	-
Contact plating	Au over Ni	Ni, Au gal.
Contact material	copper alloy	CuZn
<b>Environmental data</b>		
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	-
UV resistance	-	yes
RoHS compliant	yes	yes
Ambient temperature (operation)	-30...+80 °C, -22...+176 °F	-30...+70 °C, -22...+158 °F
Protection class	IP 65/67 in screwed condition (according to IEC 60529)	IP 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	-

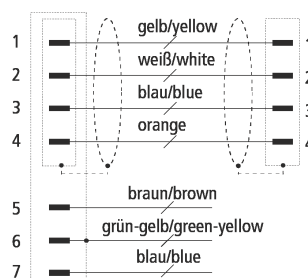
## Cable

<b>Electrical data</b>	
Rated voltage (Ethernet)	max. 300 V (peak value, not for high voltage purposes)
Rated voltage (power)	300 V
Operating voltage	≤ 125 V (peak value, not for high voltage purposes)
Attenuation of shielding	≥ 65 dB (30...100 MHz)
Insulation resistance	≥ 5GΩ * km
Unbalanced capacitance to ground	≤ 2000 pF/km
Mutual capacitance	48 nF/km
Characteristic impedance (Ethernet)	100 Ω ±15 Ω
Loop resistance	≤ 110.8 Ω/km
Signal running time (Ethernet)	5.3 ns/m
Electrical parameters (Ethernet)	CAT 5e, according to EN 50288-2-2
Test voltage	1000 V, 50 Hz, 1 min. (wire/wire and wire/screen)
<b>Mechanical data</b>	
Cable structure (Ethernet)	star quad
Conductor construction (power)	19 x 0.375 mm
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	8 x outer cable diameter
Min. bending radius, fixed installation	5 x outer cable diameter
Weight	72 kg/km (48.38 lb/1000 ft)
Outer cable diameter	6.5 mm ± 0.2 mm (0.2559" ± 0.0079")
Conductor material (Ethernet)	copper, tinned
Shielding	aluminium-clad foil, braiding of tinned copper wires, coupling
Optical covering factor of shielding (Ethernet)	≥ 85 %
Use	drag-chain suitable
Max. acceleration	3 m/s <sup>2</sup>
Max. speed	3 m/s
Max. travel distance	4.5 m
Max. number of cycles	3 million
Jacket colour	black (similar to RAL 9005) with red stripe (similar to RAL 3020)
Material jacket	PUR (polyurethane)
Wire colour code	yellow, orange, white, blue (Ethernet) green/yellow, blue, brown (Power)
Wire insulation material	PP polypropylene (Ethernet), PPE polyphenyl ether (Power)
Printing on the jacket	Beckhoff Automation GmbH & Co. KG - Germany - EtherCATp Cat5e AWG22/7 E170315 AWM 21198 AWM I/II A/B 80°C 300 V
Printing colour	white
<b>Environmental data</b>	

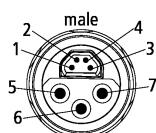
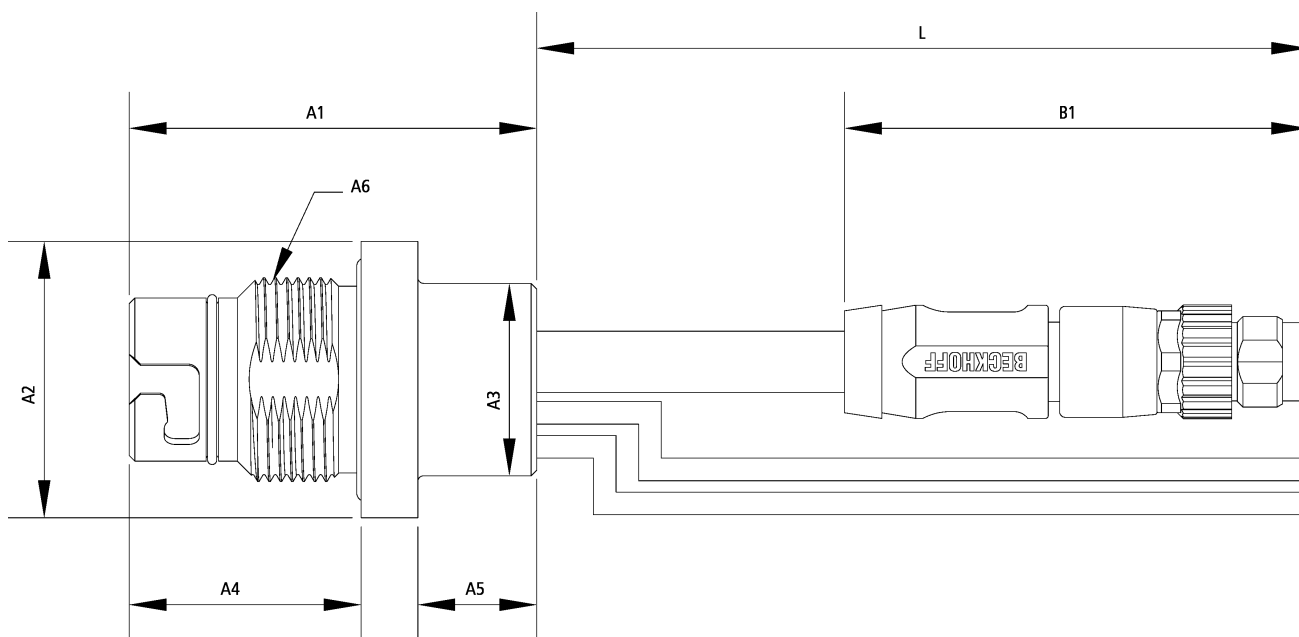
Operation temperature range, moved	-30...+70 °C, -22...+158 °F
Operation temperature range, fixed installation	-40...+80 °C, -40...+176 °F
UV resistance	good
Oil resistance	according to IEC 60811-2-1 respectively according to DIN VDE 0282 part 10
Flame-retardant	Horizontal flame test according to UL 1581 part 1090
Halogen-free	according to IEC 60754 respectively DIN VDE 0472 part 815

Attenuation								
Max. insertion loss								
Frequency [MHz]	1	4	10	16	20	31.25	62.5	100
[db/100 m]	-	4.9	7.8	9.9	11.1	14.1	20.4	26.4
[db/100 ft]	-	1.5	2.4	3	3.4	4.3	6.2	8
Min. near-end crosstalk attenuation								
Frequency [MHz]	1	4	10	16	20	31.25	62.5	100
[db/100 m]	-	56.3	50.3	47.2	45.8	42.9	38.4	35.3
[db/100 ft]	-	17.2	15.3	14.4	14	13.1	11.7	10.8

### Contact assembly



### Dimensions



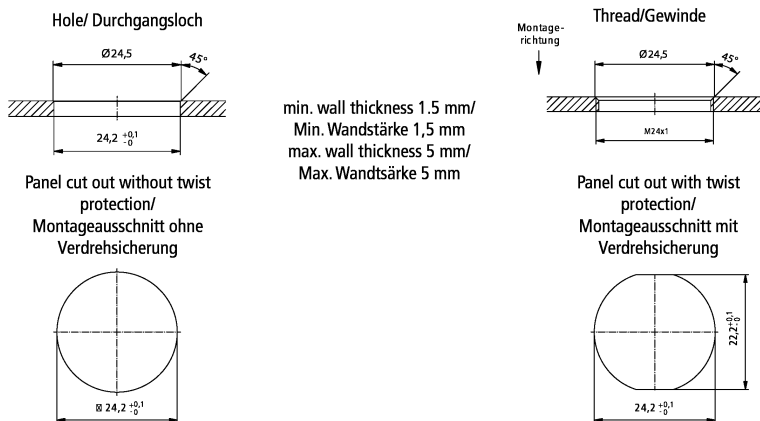
A1	38.00 mm
A2	30.40 mm
A3	21.00 mm

A4	25.00 mm
A5	8.00 mm
A6	M24
B1	41.00 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
- Delivery with counter nut
- 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

### Installation dimensions



Ordering information	Length
ZK7210-AJ00-0005	0.50 m
ZK7210-AJ00-0010	1.00 m

Accessories	
ZS7200-B001	B17 protection cap, socket/flange, plastic, IP 67, packaging unit = 10 pieces
ZS7200-B002	B17 protection cap, socket/flange, metal, IP 67, packaging unit = 5 pieces
ZS7200-B009	B17 colour coding flange for front/rear assembly, red, packaging unit = 10 pieces
ZS7200-B010	B17 colour coding flange for front/rear assembly, yellow, packaging unit = 10 pieces
ZS7200-B011	B17 colour coding flange for front/rear assembly, blue, packaging unit = 10 pieces
ZS7200-B012	B17 colour coding flange for front/rear assembly, green, packaging unit = 10 pieces
ZS7200-B013	B17 colour coding flange for front/rear assembly, orange, packaging unit = 10 pieces
ZS7200-B014	B17 colour coding flange for front/rear assembly, grey, packaging unit = 10 pieces

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