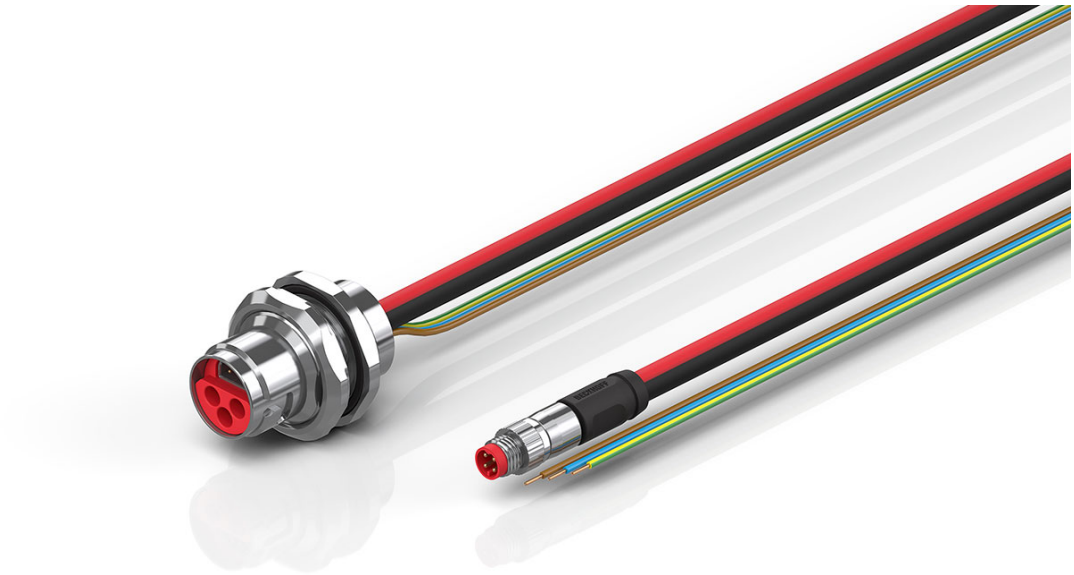
ZK7910-AJ00-0xxx | B17, ENP cable, PUR, 3 G 2.5 mm² + (1 x 4 x AWG22), drag-chain suitable, key 3 (user-defined voltage)

B17, flange rear assembly, straight, short, male+male, pins 2+PE+4, EtherCAT P-coded – M8, plug, straight, male, 4-pin, EtherCAT P-coded – open end, 3-wire



Plugs

Electrical data	Head A	Head B	Head C
Rated voltage	-	24 V DC (according to IEC 61076-2-104)	-
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	-	3 A at 40°C (according to IEC 61076-2-104)	-
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	-	yes	-
Shielding (Ethernet)	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	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	3-wire
Coding	EtherCAT P-coded	EtherCAT P-coded	-
Mechanical coding	key 3 (user-defined voltage)	-	-
Wire termination	crimp connection	-	-
Recommended torque, nut	-	0.4 Nm	-
Mating cycles	≥ 100	≥ 100	-
Way of locking	bayonet	screw	-
Weight	0.170 kg (0.375 lb)	-	-
Body color	-	black	-
Body material	-	TPU, UL 94	-
Flange housing material	GD-Zn, Ni	-	-
Coupling nut material	-	CuZn, Ni	-
Seal	NBR, FPM	FPM	-
Contact carrier color	-	red	-
Contact carrier material	PA 6, UL 94 V0	PA, UL 94	-
Contact carrier color (Ethernet)	red	-	-
Contact carrier color (power)	red	-	-
Contact plating	Au over Ni	Ni, Au gal.	-
Contact material	copper alloy	CuZn	-
Environmental data			
Shock resistance	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	-	-
UV resistance	-	yes	-
RoHS compliant	yes	yes	-

Ambient temperature (operation)	-30...+80°C, -22...+176°F	-30...+70°C, -22...+158°F	-
Protection rating	IP65/67 in screwed condition (according to IEC 60529)	IP67 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

Electrical data	
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)
Mechanical data	
Cable structure (Ethernet)	star quad
Conductor construction (power)	19 x 0.375 mm
Cross-section (power)	3 x 2.5 mm^2 (approx. AWG14)
Cross-section (Ethernet)	1 x 4 x 0.34 mm^2 (AWG22)
Outer cable diameter	6.5 mm ± 0.2 mm (0.2559" ± 0.0079")
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)
Conductor material (Ethernet)	tinned copper
Shielding	aluminum-clad foil, braiding of tinned copper wires, coupling
Optical covering factor of shielding (Ethernet)	≥ 85 %
Use	drag-chain suitable
Max. acceleration	3 m/s^2
Max. speed	3 m/s

Max. travel distance	4.5 m
Max. number of cycles	3 million
Jacket color	black (similar to RAL 9005) with red stripe (similar to RAL 3020)
Material jacket	PUR (polyurethane)
Wire color 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 20549 AWM I/II A/B 80°C 300 V MM/YY RoHS
Printing color	white
Environmental data	
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 or according to DIN VDE 0282 part 10
Flame-retardant	Horizontal flame test according to UL 1581 part 1090
Halogen-free	according to IEC 60754 or DIN VDE 0472 part 815

Attenuation

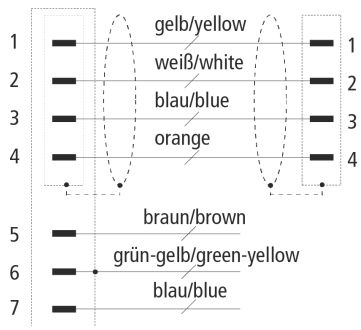
Max. insertion loss

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

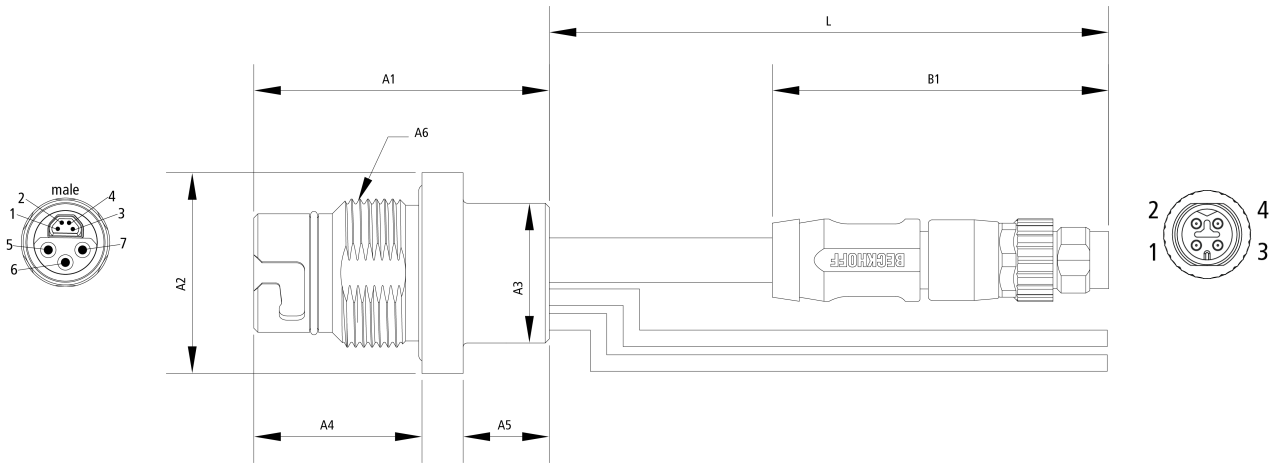
Min. near-end crosstalk attenuation

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

Pin assignment



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

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

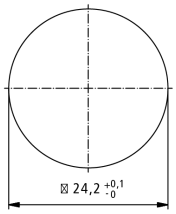
CE, UL

CE	yes

Installation dimensions

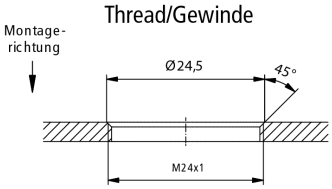
Hole/ Durchgangsloch

Panel cut out without twist protection/
Montageausschnitt ohne Verdrehsicherung

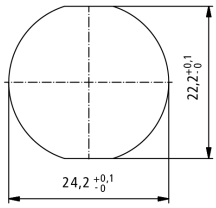


min. wall thickness 1.5 mm/
Min. Wandstärke 1,5 mm
max. wall thickness 5 mm/
Max. Wandtsärke 5 mm

Thread/Gewinde



Panel cut out with twist protection/
Montageausschnitt mit Verdrehsicherung



Ordering information	Length
ZK7910-AJ00-0xxx	–

Further length on request

Accessories	
ZS7200-B001	B17 protection cap, socket/flange, plastic, IP67, packaging unit = 10 pieces, including loss protection
ZS7200-B002	B17 protection cap, socket/flange, metal, IP67, packaging unit = 5 pieces, including loss protection
ZS7200-B009	B17 color coding flange for front/rear assembly, red, packaging unit = 10 pieces
ZS7200-B010	B17 color coding flange for front/rear assembly, yellow, packaging unit = 10 pieces
ZS7200-B011	B17 color coding flange for front/rear assembly, blue, packaging unit = 10 pieces
ZS7200-B012	B17 color coding flange for front/rear assembly, green, packaging unit = 10 pieces
ZS7200-B013	B17 color coding flange for front/rear assembly, orange, packaging unit = 10 pieces
ZS7200-B014	B17 color coding flange for front/rear assembly, gray, packaging unit = 10 pieces

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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