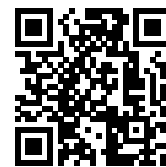
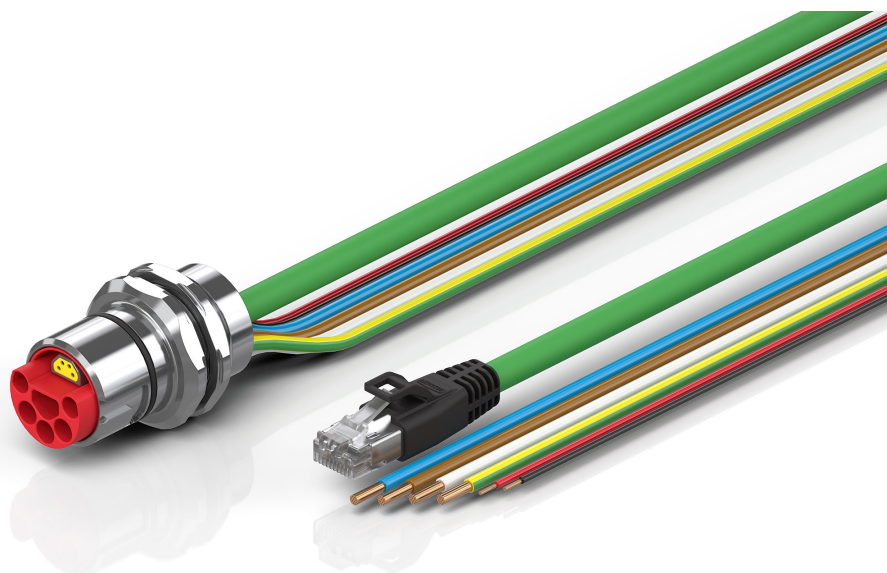


# ZK7321-BD00-Axxx | B23, ENP cable, PUR, 4 G 4.0 mm<sup>2</sup> + 2 x 2.5 mm<sup>2</sup> + (1 x 4 x AWG22), drag chain suitable, key 1 (user-defined voltage)



B23, flange front assembly, straight, short, male+female, pins 3+PE+2+4, EtherCAT-coded – RJ45, plug, straight, male, 4-pin – open end, 6-wire



## Plugs

Electrical data	Head A	Head B	Head C
Rated voltage	-	150 V	-
Rated voltage (Ethernet)	60 V DC	-	-
Rated current (Ethernet)	4 A at 40 °C	-	-
Rated voltage (power)	630 V AC / 850 V DC, 600V AC / DC (UL)	-	-
Rated current (power)	22 A + 25 A at 40 °C	-	-
Rated current	-	1.5 A	-
Rated impulse voltage (power)	6.0 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)	≥ 10 GΩ (according to IEC 60512-2)	-
<b>Mechanical data</b>			
Installation size	B23	RJ45	open end
Connector type	flange front assembly	plug	-
Configuration	straight, short	straight	-
Contact type	male+female	male	-
Number of positions (face)	pins 3+PE+2+4	4-pin	6-wire
Coding	EtherCAT-coded	-	-
Mechanical coding	key 1 (user-defined voltage)	-	-
Wire termination	crimp connection	-	-
Mating cycles	≥ 100	≥ 750	-
Way of locking	bayonet	-	-
Weight per piece	0.200 kg (0.441 lb)	-	-
Body color	-	black	-
Body material	-	TPU, UL 94 HB	-
Flange housing material	GD-Zn, Ni	-	-
Seal	NBR	-	-
Contact carrier material	PA, UL 94	PC UL 94 V-0	-
Contact carrier color (Ethernet)	yellow	-	-
Contact carrier color (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	-	-
RoHS compliant	yes	yes	-
Ambient temperature (operation)	-30...+80 °C, -22...+176 °F	-40...+70 °C, -40...+158 °F	-
Protection rating	IP65/67 in screwed condition (according to IEC 60529)	IP20	-
Pollution level	3/2 (according to IEC 60664-1)	-	-

Approvals

UL 2237: File E484763

-

-

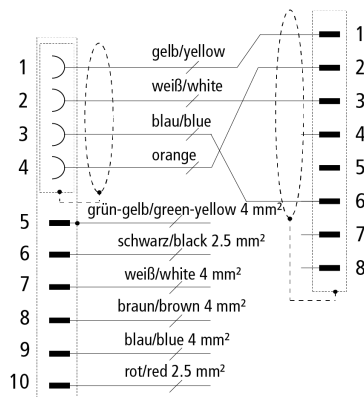
## Cable

Electrical data	
Rated voltage (Ethernet)	max. 300 V (peak value, not for high voltage purposes)
Rated voltage (power)	600 V
Attenuation of shielding	≥ 40 dB
Insulation resistance	≥ 500 MΩ/km
Unbalanced capacitance to ground	1600 pF/km
Mutual capacitance	52 nF/km (1 kHz)
Characteristic impedance (Ethernet)	100 Ω ±15 Ω (100 MHz)
Loop resistance (Ethernet)	≤ 115 Ω/km
Differential impedance (Ethernet)	250 Ω/km
Unbalanced resistance (Ethernet)	2 %
Dielectric strength wire/wire (Ethernet)	1000 V DC/700 V AC
Dielectric strength wire/shield (Ethernet)	1000 V DC/700 V AC
Signal running time (Ethernet)	5.3 ns/m
Electrical parameters (Ethernet)	based on Cat.5
Test voltage	≥ 2000 V
Mechanical data	
Cable structure (Ethernet)	star quad
Conductor construction (power)	19 x 0.30 mm
Conductor construction (Ethernet)	7 x 0.25 mm
Cross-section (power)	4 x 4.0 mm <sup>2</sup> (approx. AWG12) + 2 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	7.5 x outer cable diameter
Min. bending radius, fixed installation	5 x outer cable diameter
Outer cable diameter	6.5 mm ± 0.2 mm (0.2559" ± 0.0079")
Conductor material (Ethernet)	copper, tinned
Shielding	aluminum-clad foil, braiding of tinned copper wires
Optical covering factor of shielding (Ethernet)	≥ 85 %
Use	drag-chain suitable
Max. acceleration	4 m/s <sup>2</sup>
Max. speed	4 m/s
Max. number of cycles	3 million

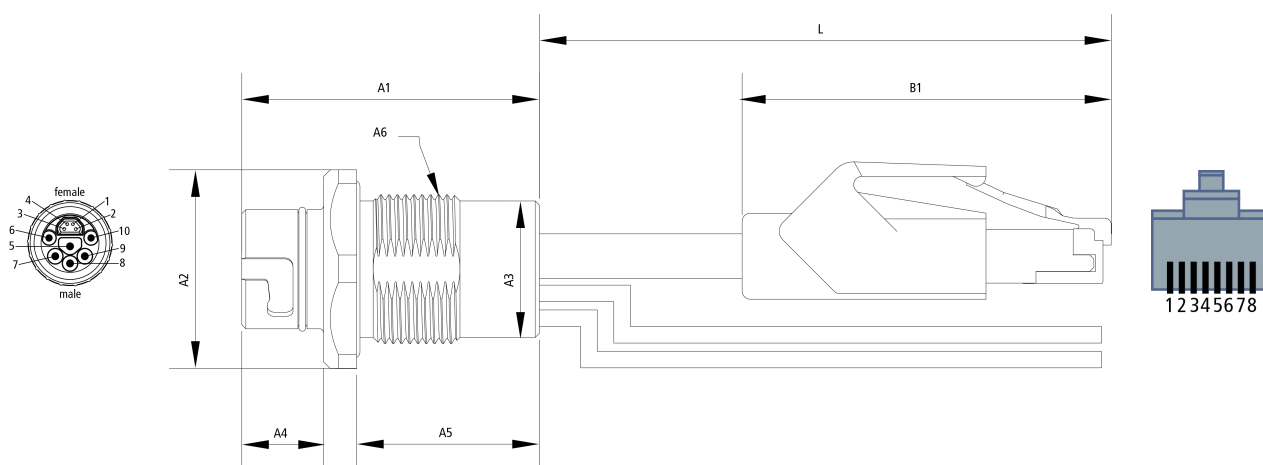
Wall thickness of wire insulation (Ethernet)	0.375 mm
Jacket color	green
Material jacket	PUR (polyurethane)
Wire color code	yellow, orange, white, blue (Ethernet), black, red (2.5 mm <sup>2</sup> ), white, green/yellow, brown, blue (4.0 mm <sup>2</sup> )
Wire insulation material	PP polypropylene (Ethernet), PPE polyphenyl ether (Power)
Printing on the jacket	BECKHOFF ZB9020 Industrial Ethernet / EtherCAT Trailing Cable * CAT5PLUS * 22AWG (SHIELDED) (UL) E119100 CMX 75°C VERIFIED (UL) CAT 5E PATCH CABLE FRNC *"length in meters"
Printing color	black
<b>Environmental data</b>	
Operation temperature range, moved	-40...+70 °C, -40...+158 °F
Operation temperature range, fixed installation	-20...+60 °C, -4...+140 °F
UV resistance	yes
Oil resistance	according to DIN EN 60811-2-1
Acid, lye and solvent resistance	depends on medium, concentration, temperature and duration
LABS-free	yes
Flame-retardant	yes
CFC-free	yes
Halogen-free	yes
Silicone-free	yes
Approvals	UL-Style AWM 20963

<b>Attenuation</b>	
Max. insertion loss	
Frequency [MHz]	<b>1      4      10      16      20      31.25      62.5      100</b>
[db/100 m]	2.1    4.0    6.3    8.0    9.0    11.4    16.5    21.3
[db/100 ft]	0.6    1.2    1.9    2.4    2.7    3.5    5       6.5
Min. near-end crosstalk attenuation	
Frequency [MHz]	<b>1      4      10      16      20      31.25      62.5      100</b>
[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

<b>Contact assembly</b>
-------------------------



## Dimensions



A1	47.50 mm
A2	30.00 mm
A3	23.80 mm
A4	25.40 mm
A5	17.10 mm
A6	M25
B1	43.80 mm

## Notes

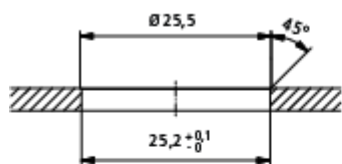
- Depending on the cable length (L), the following length tolerances apply:  
0 m...3.0 m: + 100 mm | 3.0...10.0 m: ± 100 mm | ≥ 10.0 m: ± 2 %
- Illustrations similar
- Delivery with counter nut
- Further cable length on request. The last three digits of the ordering information is the cable length in decimeters, e.g. ZKxxxx-xxxx-x020 = cable length 2.00 m

CE, UL

CE	yes
UL	yes UL2237, UL E-file number: E484763

### Installation dimensions

#### Hole/ Durchgangsloch

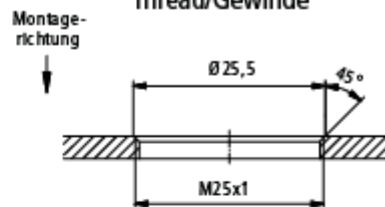


Panel cut out without twist protection/  
Montageausschnitt ohne  
Verdrehsicherung

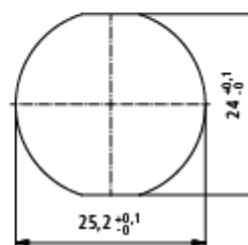


min. wall thickness 1 mm/  
Min. Wandstärke 1 mm  
max. wall thickness 5 mm/  
Max. Wandstärke 5 mm

#### Thread/Gewinde



Panel cut out with twist protection/  
Montageausschnitt mit  
Verdrehsicherung



### Ordering information

#### Length

ZK7321-BD00-A005	0.50 m
ZK7321-BD00-A010	1.00 m

### Accessories

ZS7300-B003	B23 protection cap, plug, plastic, IP67, packaging unit = 10 pieces
ZS7300-B004	B23 protection cap, plug, metal, IP67, packaging unit = 5 pieces
ZS7300-B009	B23 color coding flange for front/rear assembly, red, packaging unit = 10 pieces
ZS7300-B010	B23 color coding flange for front/rear assembly, yellow, packaging unit = 10 pieces
ZS7300-B011	B23 color coding flange for front/rear assembly, blue, packaging unit = 10 pieces
ZS7300-B012	B23 color coding flange for front/rear assembly, green, packaging unit = 10 pieces
ZS7300-B013	B23 color coding flange for front/rear assembly, orange, packaging unit = 10 pieces
ZS7300-B014	B23 color coding flange for front/rear assembly, gray, packaging unit = 10 pieces



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