

ZK7A30-3431-Bxxx | B23, ENP cable, PUR, 3 G 4 mm² + 2 x 1.5 mm² + (1 x 4 x AWG26), fixed installation, key 3 (user-defined voltage), XTS



B23, socket, straight, male+female, pins 4+PE+4, EtherCAT-coded – B23, plug, straight, female+male, pins 4+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)	630 V AC / 850 V DC, 600V AC / DC (UL)	630 V AC / 850 V DC, 600V AC / DC (UL)
Rated current (power)	28 A at 45 °C	28 A at 45 °C
Rated impulse voltage (power)	6.0 kV	6.0 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	B23	B23
Connector type	socket	plug
Configuration	straight	straight
Contact type	male+female	female+male
Number of positions (face)	pins 4+PE+4	pins 4+PE+4
Coding	EtherCAT-coded	EtherCAT-coded
Mechanical coding	key 3 (user-defined voltage)	key 3 (user-defined voltage)
Wire termination	crimp connection	crimp connection
Mating cycles	≥ 100	≥ 100
Way of locking	bayonet	bayonet
Weight per piece	-	0.100 kg (0.220 lb)
Body color	black	black
Body material	TPU, UL94	TPU, UL 94 HB
Coupling nut material	GD-Zn, Ni	GD-Zn, Ni
Seal	NBR	NBR, FPM
Contact carrier material	PA, UL 94	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	≤ 300 V	
Insulation resistance	≥ 500 MΩ * km (DIN EN 50395)	
Wire resistance (power)	≤ 5.1 Ω/km	

Wire resistance (signal/24V)	≤ 14 Ω/km
Wire resistance (Ethernet)	≤ 145.0 Ω/km
Dielectric strength wire/wire (Ethernet)	2.5 kV (50 Hz, 1 min)
Dielectric strength wire/shield (Ethernet)	2 kV (50 Hz, 1 min)
Mechanical data	
Cable structure	S/FTP
Cable structure (Ethernet)	star quad
Conductor construction (Ethernet)	7-strand
Cross-section (power)	3 x 4.0 mm ² (approx. AWG12)
Cross-section (signal)	2 x 1.5 mm ² (approx. AWG16)
Cross-section (Ethernet)	1 x 4 x 0.14 mm ² (AWG26)
Outer cable diameter	10.9 mm ± 0.4 mm (0.429" ± 0.0157")
Min. bending radius, moved	15 x outer cable diameter
Min. bending radius, fixed installation	7 x outer cable diameter
Weight	215 kg/km (144.45 lb/1000 ft)
Conductor material (power)	copper bare
Conductor material (signal/24V)	copper bare
Conductor material (Ethernet)	bare 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	fixed installation
Max. acceleration	5 m/s ²
Max. speed	1.5 m/s
Max. travel distance	2 m
Max. number of cycles	0.1 million
Jacket color	black (similar to RAL 9005) with yellow stripe (similar to RAL 1003)
Material jacket	PUR (polyurethane)
Wire color code	Ethernet: white, yellow, blue, orange Power (4.0 mm ²): brown, blue, yellow/green Signal (1.5 mm ²): red, black
Wire insulation material	PO (Polyolefine)
Printing on the jacket	xxxxM Beckhoff Automation GmbH & Co. KG - Germany -Industrial Ethernet / EtherCAT ZB7308 3 G 4 + 2 x 1,5 + (4xAWG26)/C E63216 (cULus) AWM 20233 AWM I/II A/B 80°C 300V FT1 RoHS MM/YY
Printing color	white
Environmental data	
Operation temperature range, moved	-25...+80°C, -13...+176°F

UV resistance	yes
LABS-free	yes
Halogen-free	yes
Silicone-free	yes
Approvals	cULus AWM Style 20233

Attenuation

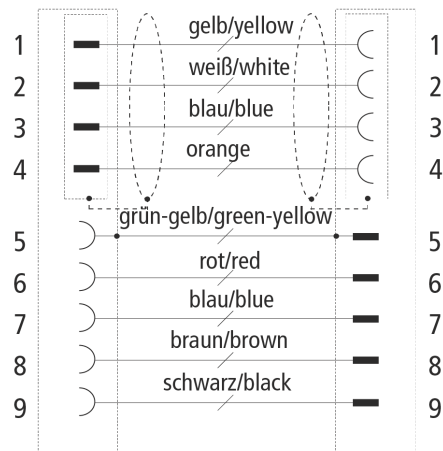
Max. insertion loss

Frequency [MHz]	1	4	10	16	20	31.25	62.5	100
[db/100 m]	-	-	13.5	-	-	22.0	28.0	34.0
[db/100 ft]	-	-	4.1	-	-	6.7	8.5	10.4

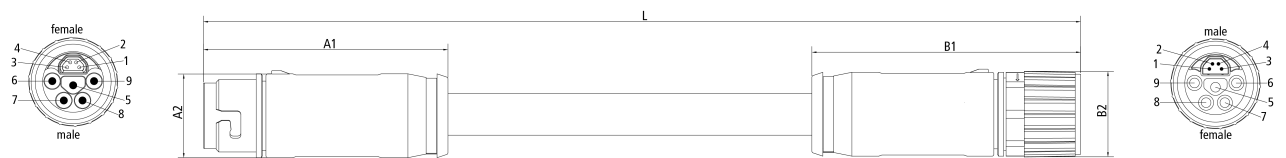
Min. near-end crosstalk attenuation

Frequency [MHz]	1	4	10	16	20	31.25	62.5	100
[db/100 m]	-	-	45.0	-	-	43.0	38.0	35.0
[db/100 ft]	-	-	13.7	-	-	13.1	11.6	10.7

Contact assembly



Dimensions



B1	93.60 mm
B2	28.50 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
- cable for xts motor modules with a maximum of 100 000 alternating bending cycles

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

Ordering information	Length
ZK7A30-3431-B030	3.00 m
ZK7A30-3431-B050	5.00 m
ZK7A30-3431-B080	8.00 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-B005	B23 color coding connector/square flange, red, packaging unit = 10 pieces
ZS7300-B006	B23 color coding connector/square flange, yellow, packaging unit = 10 pieces
ZS7300-B007	B23 color coding connector/square flange, blue, packaging unit = 10 pieces
ZS7300-B008	B23 color coding connector/square flange, green, packaging unit = 10 pieces
ZS7300-B015	B23 color coding connector/square flange, orange, packaging unit = 10 pieces
ZS7300-B016	B23 color coding connector/square flange, gray, packaging unit = 10 pieces
ZB8802-0003	assembly tool for B23 connector, AF27
ZB8805-0002	Flange/Panel feed-through for B23 pre-assembled, for fixing the connector, plastic



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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