ZK1090-3333-6xxx | EtherCAT cable, PUR, 1x4xAWG22, capable of torsion

M8, plug, angled, male, 4-pin, A-coded – M8, plug, angled, male, 4-pin, A-coded



Plugs

Electrical data	Head A	Head B
Rated voltage	50 V AC/60 V DC (according to IEC 61076-2-104)	50 V AC/60 V DC (according to IEC 61076-2-104)
Rated current	4 A at 40°C (according to IEC 61076-2-104)	4 A at 40°C (according to IEC 61076-2-104)
Shielding	yes	yes
Insulation resistance	≥ 100 GΩ (according to IEC 60512)	≥ 100 GΩ (according to IEC 60512)
Mechanical data		
Installation size	M8	M8
Connector type	plug	plug
Configuration	angled	angled
Contact type	male	male
Number of positions (face)	4-pin	4-pin
Coding	A-coded	A-coded
Recommended torque, nut	0.4 Nm	0.4 Nm

Mating cycles	≥ 100	≥ 100
Way of locking	screw	screw
Weight	0.028 kg (0.0617 lb)	0.028 kg (0.0617 lb)
Body color	black	black
Body material	TPU, UL94	TPU, UL94
Coupling nut material	GD-Zn, Ni	GD-Zn, Ni
Seal	FPM	FPM
Contact carrier color	green	green
Contact carrier material	PA, UL 94	PA, UL 94
Contact plating	Ni, Au gal.	Ni, Au gal.
Contact material	CuZn	CuZn
Environmental data		
Special features	halogen-free, flame-resistant as per IEC 60332-1-2, oil-resistant as per DIN EN 60811-2-1	halogen-free, flame-resistant as per IEC 60332-1-2, oil-resistant as per DIN EN 60811-2-1
RoHS compliant	yes	yes
Ambient temperature (operation)	-30...+70°C, -22...+158°F	-30...+70°C, -22...+158°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)

Cable

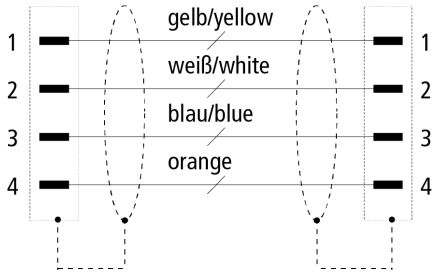
Electrical data	
Rated voltage	600 V
Insulation resistance	≥ 5GΩ * km
Mutual capacitance	48 nF/km
Characteristic impedance (Ethernet)	100 Ω ±15 Ω
Loop resistance (Ethernet)	≤ 115 Ω/km
Signal running time (Ethernet)	5.3 ns/m
Electrical parameters (Ethernet)	based on Cat.5
Test voltage	1500 V, 50 Hz, 1 min.
Mechanical data	
Cable structure (Ethernet)	star quad
Conductor construction (Ethernet)	19-strand
Cross-section (Ethernet)	1 x 4 x 0.34 mm² (AWG22)
Outer cable diameter	6.6 mm ± 0.2mm (0.259" ± 0.0079")
Min. bending radius, moved	10 x outer cable diameter

Min. bending radius, fixed installation	5 x outer cable diameter
Conductor material (Ethernet)	tinned copper
Shielding	two layers of conductive wrapping and braiding of special wires
Optical covering factor of shielding (Ethernet)	≥ 85 %
Use	suitable for torsion/robotic applications
Max. acceleration	20 m/s²
Max. speed	4 m/s
Max. travel distance	5 m
Max. number of cycles	1 million
Jacket color	green
Material jacket	PUR (polyurethane)
Material jacket, further characteristics of	halogen-free, flame-retardant, matt and low adhesion
Wire color code	yellow, orange, white, blue
Wire insulation material	PO (Polyolefine)
Printing on the jacket	XXXX Beckhoff Automation GmbH & Co. KG-Germany-ZB9021 EtherCAT Cat5e Torsion AWG22/19 E170315 cRUus> AWM21209 AWM I/II A/B 90°C 600V MM/YY CE
Printing color	black
Torsion angle in °/m	max. ± 180°/m
Torsion speed	36 cycle/min.
Number of torsion cycles	5 million
Load weight	20 N
Claimed torsion length	1 m
Environmental data	
Operation temperature range, moved	-30...+90°C, -22...+194°F
Operation temperature range, fixed installation	-40...+90°C, -40...+194°F
Oil resistance	according to DIN EN 60811-404 (7x24 h/90 °C)
Flame-retardant	VW-1 Flame Test UL 1581 section 1080 and IEC 60332-1-2
Halogen-free	according to IEC 60754 or DIN VDE 0472 part 815
UL	yes, UL E-file number: E170315

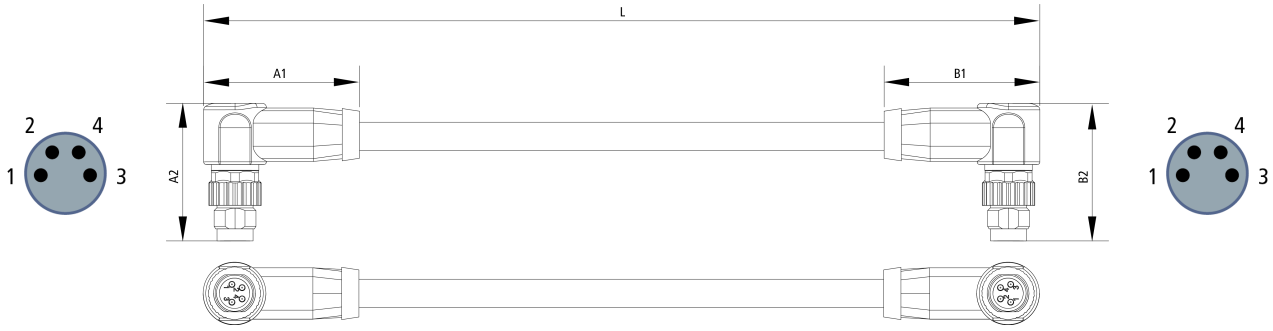
Attenuation								
Max. insertion loss								
Frequency [MHz]	**1**	**4**	**10**	**16**	**20**	**31.25**	**62.5**	**100**
[db/100 m]	-	4.9	7.8	9.9	11.1	14.1	62.5	26.4
[db/100 ft]	-	1.5	2.4	3	3.4	4.3	19.1	8
Min. near-end crosstalk attenuation								

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	29.80 mm
A2	26.30 mm
B1	29.80 mm
B2	26.30 mm

Notes

- Depending on the cable length (L), the following length tolerances apply:
  0 m...<0.2 m: ± 10 mm | 0.2...4.0 m: + 40 mm | ≥ 4.0 m: + 1%
- Illustrations similar
- Further cable length on request.

CE, UL	
CE	yes
UL	yes, UL E-file number: E480185

Ordering information	Length
ZK1090-3333-6002	0.20 m

ZK1090-3333-6040	4.00 m
ZK1090-3333-6050	5.00 m
ZK1090-3333-6065	6.50 m

Further length on request

Accessories	
ZB8801-0000	torque wrench for hexagonal plugs, adjustable
ZB8801-0001	torque cable key, M8/wrench size 9, for ZB8801-0000



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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