

ZK1090-6161-3xxx | EtherCAT cable, PVC, AWG26, fixed installation



M12, plug, straight, male, 4-pin, D-coded – M12, plug, straight, male, 4-pin, D-coded



Plugs

Electrical data	Head A	Head B
Rated voltage	160 V (according to IEC 61076-2-101)	160 V (according to IEC 61076-2-101)
Rated current	4 A at 40°C (according to IEC 61076-2-101)	4 A at 40°C (according to IEC 61076-2-101)
Rated impulse voltage	2.5 kV	2.5 kV
Shielding	yes	yes
Contact resistance	< 5 mΩ	< 5 mΩ
Insulation resistance	≥ 10 GΩ (according to IEC 60512-2)	≥ 10 GΩ (according to IEC 60512-2)
Mechanical data		
Installation size	M12	M12
Connector type	plug	plug
Configuration	straight	straight
Contact type	male	male
Number of positions (face)	4-pin	4-pin
Coding	D-coded	D-coded

Recommended torque, nut	0.6 Nm	0.6 Nm
Mating cycles	≥ 100 (according to IEC 60512-9a)	≥ 100 (according to IEC 60512-9a)
Way of locking	screw	screw
Body color	black	black
Body material	TPU, UL 94	TPU, UL 94
Coupling nut material	CuZn, Ni	CuZn, Ni
Seal	FPM	FPM
Contact carrier color	green	green
Contact carrier material	TPU GF, UL 94	TPU GF, UL 94
Contact plating	Ni, Au gal.	Ni, Au gal.
Contact material	CuZn	CuZn
Environmental data		
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)

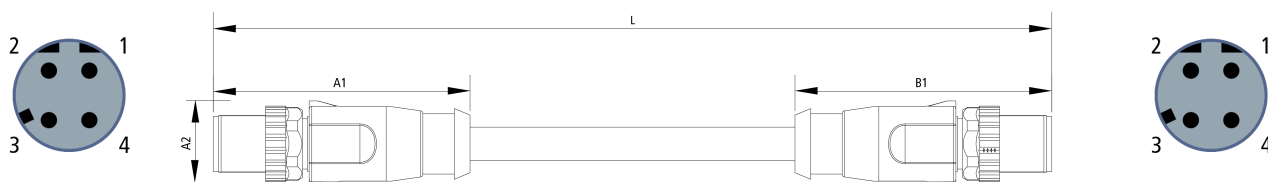
Cable

Electrical data		
Rated voltage	max. 300 V (not for high voltage purposes)	
Attenuation of shielding	≥ 43 dB	
Insulation resistance	≥ 500 MΩ/km	
Unbalanced capacitance to ground	1600 pF/km	
Mutual capacitance	52 nF/km	
Characteristic impedance (Ethernet)	100 Ω ±5 Ω (100 MHz) (EN 50289-1-11)	
Loop resistance (Ethernet)	280 Ω/km	
Unbalanced resistance (Ethernet)	2 %	
Dielectric strength wire/wire (Ethernet)	2000 V	
Dielectric strength wire/shield (Ethernet)	2000 V	
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 (Ethernet)	7 x 0.167	

Cross-section (Ethernet)	1 x 4 x 0.14 mm ² (AWG26)
Outer cable diameter	4.9 mm ± 0.2mm (0.193" ± 0.0079")
Min. bending radius, moved	7 x outer cable diameter
Min. bending radius, fixed installation	5 x outer cable diameter
Weight	33 kg/km (22.2 lb/1000ft)
Conductor material (Ethernet)	bare copper
Shielding	aluminum-clad foil, braiding of tinned copper wires
Optical covering factor of shielding (Ethernet)	≥ 80 %
Use	fixed installation
Wall thickness of wire insulation (Ethernet)	0.25 mm
Jacket color	green
Material jacket	PVC (polyvinyl chloride)
Wire color code	yellow, orange, white, blue
Wire insulation material	PE (polyethylene)
Printing on the jacket	"sequential length in metres" Industrial Ethernet Cat5 flex *E130266 AWM STYLE 2464 80 °C 300 V* ZB9030 "month/year" "internal order number"
Printing color	black
Environmental data	
Operation temperature range, fixed installation	-40...+80°C, -40...+176°F
Flame-retardant	according to IEC 60332-1-2
Halogen-free	DIN VDE 0472 part 815
UL	yes, UL E-file number: E130266

Attenuation								
Max. insertion loss								
Frequency [MHz]	1	4	10	16	20	31.25	62.5	100
[db/100 m]	3.2	6.0	9.5	12.1	13.6	17.1	24.8	32.0
[db/100 ft]	1	1.8	2.9	3.7	4.1	5.2	7.6	9.8
Min. near-end crosstalk attenuation								
Frequency [MHz]	1	4	10	16	20	31.25	62.5	100
[db/100 m]	65.3	56.3	50.3	47.2	45.8	42.9	38.4	35.3
[db/100 ft]	19.9	17.2	15.3	14.4	14	13.1	11.7	10.8

Dimensions								
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A1	49.00 mm
A2	Ø14.50 mm
B1	49.00 mm
B2	Ø14.50 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
ZK1090-6161-3010	1.00 m
ZK1090-6161-3020	2.00 m
ZK1090-6161-3030	3.00 m
ZK1090-6161-3045	4.50 m
ZK1090-6161-3050	5.00 m
ZK1090-6161-3060	6.00 m
ZK1090-6161-3070	7.00 m
ZK1090-6161-3080	8.00 m
ZK1090-6161-3100	10.00 m
ZK1090-6161-3150	15.00 m

Accessories	
ZB8801-0000	torque wrench for hexagonal plugs, adjustable

ZB8801-0002

torque cable key, M12/wrench size 13, for ZB8801-0000

ZB8803-0003

Flange/Panel feed-through for M12 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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