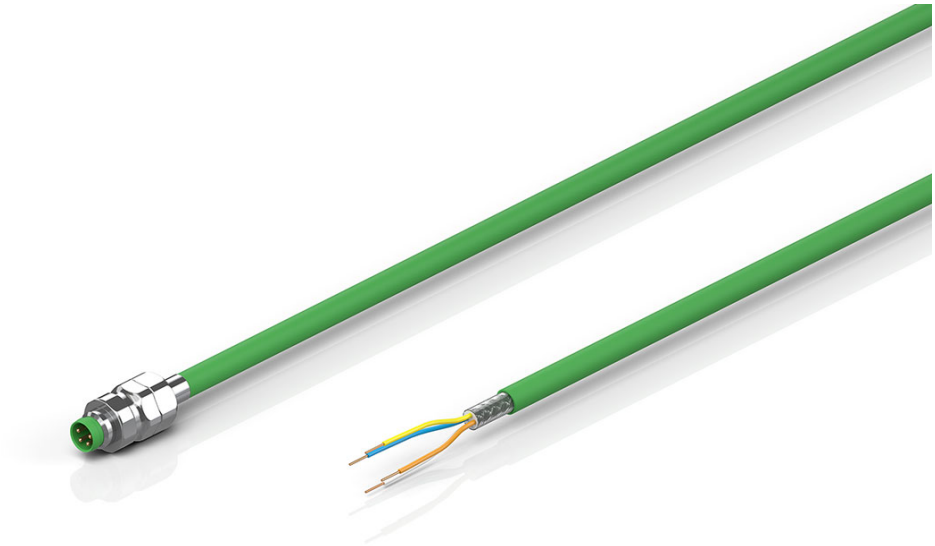
ZK1090-3100-7xxx | EtherCAT cable, IP67, hygienic design, PVC, AWG26, fixed installation

M8, plug, straight, male, 4-pin, A-coded – open end, 4-wire + strand and shielding



Plugs

Electrical data	Head A	Head B
Rated voltage	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)	-
Shielding	yes	-
Contact resistance	< 5 mΩ	-
Insulation resistance	≥ 100 GΩ (according to IEC 60512)	-
Mechanical data		
Installation size	M8	open end
Connector type	plug	-
Configuration	straight	-
Contact type	male	-
Number of positions (face)	4-pin	4-wire + strand and shielding
Coding	A-coded	-

Recommended torque, nut	0.4 Nm	-
Mating cycles	≥ 250	-
Way of locking	screw	-
Weight	0.028 kg (0.0617 lb)	-
Body color	metal	-
Body material	1.4404 (stainless steel)	-
Coupling nut material	1.4404 (stainless steel)	-
Seal	elastomers	-
Contact carrier color	green	-
Contact carrier material	thermoplastic	-
Contact plating	Au over Ni	-
Contact material	CuZn	-
Environmental data		
Special features	halogen-free, flame-resistant as per IEC 60332-1-2, oil-resistant as per DIN EN 60811-2-1	-
RoHS compliant	yes	-
Ambient temperature (operation)	-40...+85°C, -40...+185°F	-
Protection rating	IP67 in screwed condition (according to IEC 60529)	-
Pollution level	3/2 (according to IEC 60664-1)	-

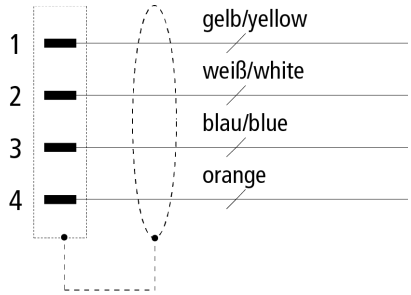
Cable

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 mm² (AWG26)
Outer cable diameter	4.9 mm ± 0.2 mm (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	no
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

Pin assignment



Dimensions



A1	28.0 mm
A2	Ø 12.0 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.

Ordering information	Length
ZK1090-3100-7010	1.00 m
ZK1090-3100-7020	2.00 m
ZK1090-3100-7030	3.00 m
ZK1090-3100-7050	5.00 m
ZK1090-3100-7100	10.00 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.

Beckhoff®, ATRO®, EtherCAT®, EtherCAT G®, EtherCAT G10®, EtherCAT P®, MX-System®, Safety over EtherCAT®, TC/BSD®, TwinCAT®, TwinCAT/BSD®, TwinSAFE®, XFC®, XPlanar® and XTS® are registered trademarks of and licensed by Beckhoff Automation GmbH. Other designations used in this publication may be trademarks whose use by third parties for their own purposes could violate the rights of the owners.

© Beckhoff Automation GmbH & Co. KG 03/2026

The information provided in this brochure contains merely general descriptions or characteristics of performance which in case of actual application do not always apply as described or which may change as a result of further development of the products. An obligation to provide the respective characteristics shall only exist if expressively agreed in the terms of contract.