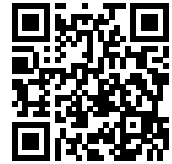
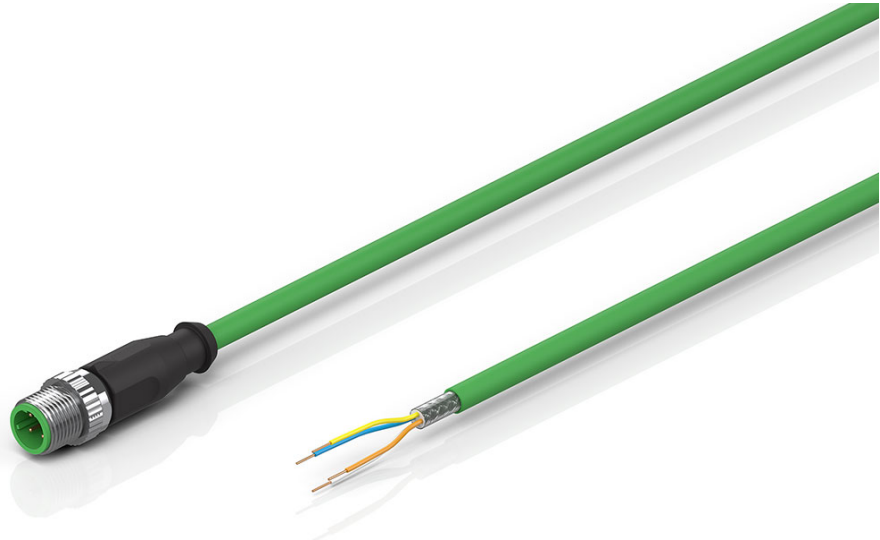


# ZK1090-6100-4xxx | EtherCAT cable, PUR, AWG26, drag-chain suitable



M12, plug, straight, male, 4-pin, D-coded – open end, 4-wire + shielding



## Plugs

Electrical data	Head A	Head B
Rated voltage	160 V (according to IEC 61076-2-101)	-
Rated current	4 A at 40°C (according to IEC 61076-2-101)	-
Rated impulse voltage	2.5 kV	-
Shielding	yes	-
Contact resistance	< 5 mΩ	-
Insulation resistance	≥ 10 GΩ (according to IEC 60512-2)	-
Mechanical data		
Installation size	M12	open end
Connector type	plug	-
Configuration	straight	-
Contact type	male	-
Number of positions (face)	4-pin	4-wire + shielding
Coding	D-coded	-
Recommended torque, nut	0.6 Nm	-

Mating cycles	≥ 100 (according to IEC 60512-9a)	-
Way of locking	screw	-
Body color	black	-
Body material	TPU, UL 94	-
Coupling nut material	CuZn, Ni	-
Seal	FPM	-
Contact carrier color	green	-
Contact carrier material	TPU GF, UL 94	-
Contact plating	Ni, Au gal.	-
Contact material	CuZn	-
<b>Environmental data</b>		
RoHS compliant	yes	-
Ambient temperature (operation)	-30...+80°C, -22...+176°F	-
Protection rating	IP65/67 in screwed condition (according to IEC 60529)	-
Pollution level	3/2 (according to IEC 60664-1)	-

## Cable

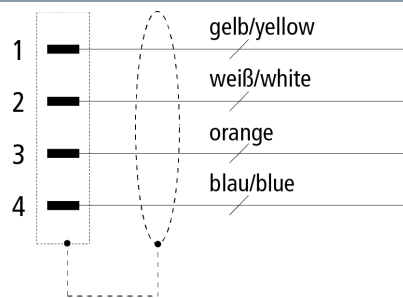
<b>Electrical data</b>		
Rated voltage	30 V (according to IEC 61076-2-101)	
Attenuation of shielding	≥ 43 dB	
Insulation resistance	≥ 150 MΩ/km	
Unbalanced capacitance to ground	3400 pF/km	
Mutual capacitance	51 pF/m at 1 kHz	
Characteristic impedance (Ethernet)	100 Ω ±15 Ω (100 MHz)	
Loop resistance (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)	5.55 ns/m	
Electrical parameters (Ethernet)	based on Cat.5	
Test voltage	700 V	
<b>Mechanical data</b>		
Cable structure (Ethernet)	star quad	
Conductor construction (Ethernet)	19 x 0.1 mm	
Cross-section (Ethernet)	1 x 4 x 0.14 mm <sup>2</sup> (AWG26)	

Outer cable diameter	5.4 mm ± 0.3 mm (0.213" ± 0.0118")
Min. bending radius, moved	20 x outer cable diameter
Min. bending radius, fixed installation	4 x outer cable diameter
Weight	40 kg/km (26.9 lb/1000 ft)
Conductor material (Ethernet)	copper, tinned
Shielding	braiding of tinned copper wires
Optical covering factor of shielding (Ethernet)	90 %
Use	drag-chain suitable
Max. acceleration	10 m/s <sup>2</sup>
Max. speed	15 m/s
Max. number of cycles	20 million (5 million with 14 x D, v = 5 m/s and a = 15 m/s <sup>2</sup> , min. 1 million with 9.5 x D, a = 1 m/s <sup>2</sup> , travel distance = 1 m)
Wall thickness of wire insulation (Ethernet)	0.25 mm
Jacket color	green
Material jacket	PUR (polyurethane)
Wire color code	yellow, orange, white, blue
Wire insulation material	PP (polypropylene)
Printing on the jacket	"sequential length in meters" Industrial Ethernet Cat5 trailing * E130266 "UL Recognized" UL AWM 20963 80 °C 30V * ZB9032 "month/year" " internal order number"
Printing color	black
<b>Environmental data</b>	
Operation temperature range, moved	-40...+80°C, -40...+176°F
Oil resistance	according to DIN EN 60811-404 (7x24 h/90 °C)
Acid, lye and solvent resistance	depends on medium, concentration, temperature and duration
CFC-free	yes
Halogen-free	yes
Silicone-free	yes
RoHS compliant	yes
CE	yes
UL	yes, UL E-file number: E130266
Approvals	UL-Style AWM 20963

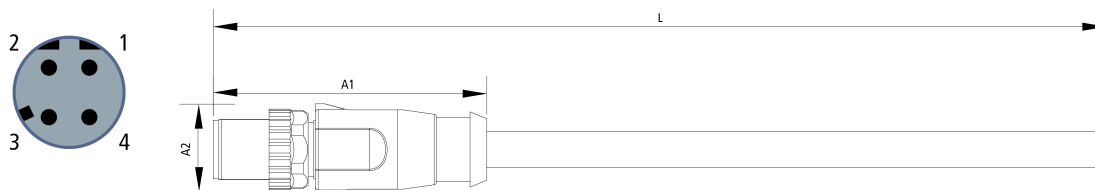
<b>Attenuation</b>	
Max. insertion loss	
Frequency [MHz]	1      4      10      16      20      31.25      62.5      100
[db/100 m]	3.1      6.5      9.9      12.3      13.8      17.7      25.6      33.0

[db/100 ft]	0.9	2	3	3.7	4.2	5.4	7.8	10.1
Min. near-end crosstalk attenuation								
Frequency [MHz]	1	4	10	16	20	31.25	62.5	100
[db/100 m]	62	53.0	47.0	44.0	42.0	40.0	35.0	32.0
[db/100 ft]	18.9	16.2	14.3	13.4	12.8	12.2	10.7	9.8

### Contact assembly



### Dimensions



A1 49.00 mm

A2 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

ZK1090-6100-4025	2.50 m
ZK1090-6100-4035	3.50 m
ZK1090-6100-4060	6.00 m
ZK1090-6100-4100	10.00 m
ZK1090-6100-4150	15.00 m
ZK1090-6100-4200	20.00 m
ZK1090-6100-4250	25.00 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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