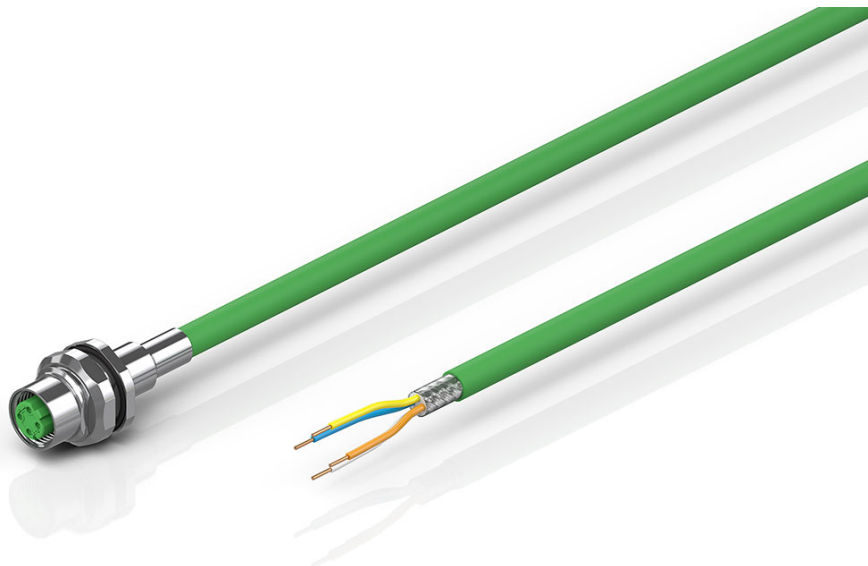


ZK1090-6600-0xxx | EtherCAT cable, PUR, AWG22, drag-chain suitable



M12, flange, straight, female, 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)	-
Shielding	yes	-
Insulation resistance	≥ 100 MΩ (according to IEC 60512)	-
Mechanical data		
Installation size	M12	open end
Connector type	flange	-
Configuration	straight	-
Contact type	female	-
Number of positions (face)	4-pin	4-wire + shielding
Coding	D-coded	-
Recommended torque, nut	1...1.2 Nm	-
Mating cycles	≥ 100 (according to IEC 60512-9a)	-
Way of locking	screw	-

Body color	metal	-
Body material	CuZn, Ni	-
Coupling nut material	CuZn, Ni	-
Seal	FPM	-
Contact carrier color	green	-
Contact carrier material	PBT GF, UL 94	-
Contact plating	Ni, Au gal.	-
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)	-30...+70°C, -22...+158°F	-
Protection rating	IP65/67 in screwed condition (according to IEC 60529)	-
Pollution level	3/2 (according to IEC 60664-1)	-

Cable

Electrical data		
Rated voltage	600 V	
Operating voltage	≤ 125 V (peak value, not for high voltage purposes)	
Attenuation of shielding	≥ 40 dB	
Insulation resistance	≥ 500 MΩ/km	
Unbalanced capacitance to ground	1600 pF/km	
Mutual capacitance	52 nF/km (1 kHz)	
Characteristic impedance (Ethernet)	100 Ω ±15 Ω (100 MHz)	
Loop resistance (Ethernet)	≤ 115 Ω/km	
Differential impedance (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)	5.3 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 0.25 mm
Cross-section (Ethernet)	1 x 4 x 0.34 mm ² (AWG22)
Outer cable diameter	6.5 mm ± 0.2 mm (0.2559" ± 0.0079")
Min. bending radius, moved	8 x outer cable diameter
Min. bending radius, moved in drag-chain	15 x outer cable diameter
Min. bending radius, fixed installation	5 x outer cable diameter
Weight	61 kg/km (41.0 lb/1000 ft)
Conductor material (Ethernet)	copper, tinned
Shielding	aluminum-clad foil, braiding of tinned copper wires
Optical covering factor of shielding (Ethernet)	≥ 85 %
Use	drag-chain suitable
Max. acceleration	4 m/s ²
Max. speed	4 m/s
Max. travel distance	4.5 m
Max. number of cycles	3 million
Wall thickness of wire insulation (Ethernet)	0.375 mm
Jacket color	green
Material jacket	PUR (polyurethane)
Wire color code	yellow, orange, white, blue
Wire insulation material	PP (polypropylene)
Printing on the jacket	BECKHOFF ZB9020 Industrial Ethernet / EtherCAT Trailing Cable * CAT5PLUS * 22AWG (SHIELDED) (UL) E119100 CMX 75°C VERIFIED (UL) CAT 5E PATCH CABLE FRNC **length in meters"
Printing color	black
Torsion angle in °/m	max. ± 30 °/m
Environmental data	
Operation temperature range, moved	-30...+80°C, -22...+176°F
Operation temperature range, fixed installation	-40...+80°C, -40...+176°F
UV resistance	yes
Oil resistance	according to DIN EN 60811-404 (7x24 h/90 °C)
Acid, lye and solvent resistance	depends on medium, concentration, temperature and duration
LABS-free	yes
Flame-retardant	VW-1 Flame Test UL 1581 section 1080 and IEC 60332-1-2
CFC-free	yes
Halogen-free	yes

Silicone-free	yes
RoHS compliant	yes
UL	yes, UL E-file number: E119100
Approvals	UL, CMX according to UL 444

Attenuation								
Max. insertion loss								
Frequency [MHz]	1	4	10	16	20	31.25	62.5	100
[db/100 m]	2.1	4.0	6.3	8.0	9.0	11.4	16.5	21.3
[db/100 ft]	0.6	1.2	1.9	2.4	2.7	3.5	5	6.5
Min. near-end crosstalk attenuation								
Frequency [MHz]	1	4	10	16	20	31.25	62.5	100
[db/100 m]	80	76.0	70.0	65.0	63.0	60.0	55.0	50.0
[db/100 ft]	24.4	23.2	21.3	19.8	19.2	18.3	16.8	15.2

Contact assembly	

Dimensions	
A1	43.00 mm
A2	M12 inner diameter, M16 outer diameter

Notes

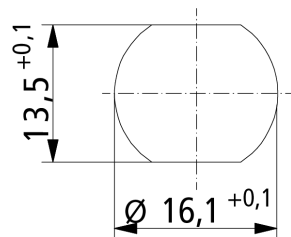
- Depending on the cable length (L), the following length tolerances apply:
0 m...<0.2 m: ± 10 mm | 0.2...4.0 m: + 40 mm | ≥ 4.0 m: + 1%

- Illustrations similar
- Further cable length on request.

CE, UL

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

Installation dimensions



Ordering information

Ordering information	Length
ZK1090-6600-0005	0.50 m
ZK1090-6600-0010	1.00 m
ZK1090-6600-0020	2.00 m
ZK1090-6600-0050	5.00 m
ZK1090-6600-0100	10.00 m
ZK1090-6600-0300	30.00 m

Accessories

ZB8801-0000	torque wrench for hexagonal plugs, adjustable
ZB8801-0002	torque cable key, M12/wrench size 13, 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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