ZK2020-3162-6xxx | Power cable, PUR, 4 x 0.5 mm², torsion suitable

M8, plug, straight, male, 4-pin, A-coded – M12, socket, straight, female, 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)	250 V (according to IEC 61076-2-101)
Rated current	4 A at 40°C (leaning on IEC 61076-2-104)	4 A at 40°C (according to IEC 61076-2-101)
Rated impulse voltage	-	1.5 kV
Shielding	no	no
Contact resistance	-	< 10 mΩ
Insulation resistance	≥ 10 GΩ (according to IEC 60512-2)	≥ 100 MΩ (according to IEC 60512)
Mechanical data		
Installation size	M8	M12
Connector type	plug	socket
Configuration	straight	straight
Contact type	male	female
Number of positions (face)	4-pin	4-pin

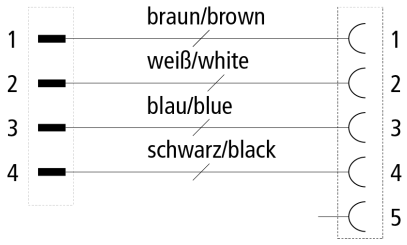
Coding	A-coded	A-coded
Recommended torque, nut	0.4 Nm	0.6 Nm
Mating cycles	≥ 100 (according to IEC 60512-9a)	≥ 100 (according to IEC 60512-9a)
Way of locking	screw	screw
Weight	0.028 kg (0.0617 lb)	-
Body color	black	black
Body material	TPU, UL94	TPU, UL 94
Coupling nut material	CuZn, Ni	GD-Zn, Ni
Seal	FPM	FPM
Contact carrier color	red	red
Contact carrier material	TPU GF, UL 94	PA 6, UL 94 V0
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...+80°C, -22...+176°F	-30...+85°C, -22...+185°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

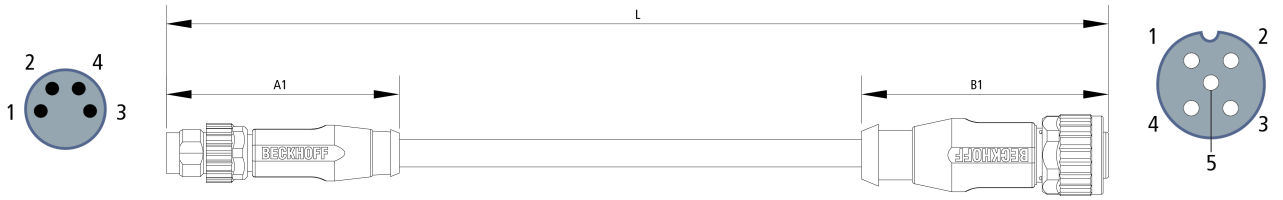
Electrical data	
Rated voltage	300 V
Insulation resistance	≥ 500 MΩ/km
Wire resistance (signal/24V)	ca. 39 Ω/km
Test voltage	≥ 2000 V
Mechanical data	
Conductor construction (signal/24V)	28 x 0.15 mm, conductor class 6 according to DIN VDE 0295
Cross-section	4 x 0.5 mm² (AWG20)
Outer cable diameter	6.0 mm ± 0.2 mm ("0.23622 ± 0.0079")
Min. bending radius, moved	7.5 x outer cable diameter
Min. bending radius, fixed installation	4 x outer cable diameter
Weight	53.6 kg/km (36.02 lb/1000 ft)
Conductor material (signal/24V)	copper bare

Shielding	no
Use	suitable for torsion/robotic applications and drag-chain suitable
Max. acceleration	5 m/s²
Max. speed	3.3 m/s
Max. travel distance	100 m
Max. number of cycles	10 million
Wall thickness of wire insulation (signal/24V)	0.42 mm
Jacket color	black
Material jacket	PUR (polyurethane)
Material jacket, further characteristics of	weld-spatter resistant, low adhesion
Wire color code	white, blue, black, brown
Wire insulation material	TPE (thermoplastic elastomer)
Printing on the jacket	XXXXm Beckhoff Automation GmbH & Co. KG -Germany-Sensor ZB9052 - 4x0,5mm² E170315 cRUus AWM STYLE 20233 AWM I/II A/B 80°C 300V FT1 MM/YY CE RoHS
Printing color	white
Torsion angle in °/m	max. ± 360°/m
Torsion speed	15 cycle/min.
Number of torsion cycles	10 million
Claimed torsion length	2 m
Environmental data	
Operation temperature range, moved	-30°C... +105°C, -22°F...+221°F, UL: up to +80°C (+176°F)
Operation temperature range, fixed installation	-40...+105°C, -40...+221°F
Oil resistance	very good oil and chemical resistance
LABS-free	yes
Flame-retardant	according to IEC 60332-1
Halogen-free	yes
Silicone-free	yes
UL	yes, UL E-file number: E170315

Pin assignment



Dimensions



A1	39.60 mm
A2	Ø 10.1 mm
B1	44.00 mm
B2	Ø 14.50 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.

Ordering information	Length
ZK2020-3162-6050	5.00 m
ZK2020-3162-6100	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
ZB8801-0002	torque cable key, M12/wrench size 13, for ZB8801-0000
ZB8803-0001	Flange/Panel feed-through for M8 pre-assembled, for fixing the connector, plastic, including screws, washers and lock nuts
ZB8803-0003	Flange/Panel feed-through for M12 pre-assembled, for fixing the connector, plastic, including screws, washers and lock nuts



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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