ZK4501-8064-xxxx | Motor extension cable 2.5 mm² with M23 speedtec® plug, torsionable

M23, plug, straight, female, Power: 3+PE, Signal: 5 – M23, socket, straight, male, Power: 3+PE, Signal: 5



Plugs

Electrical data	Head A	Head B
Rated voltage (power)	630 V AC/DC	630 V AC/DC
Rated voltage (signal/24V)	250 V AC/DC	250 V AC/DC
Rated current (power)	30 A max.	30 A max.
Rated current (signal/24V)	7 A max.	7 A max.
Rated impulse voltage (power)	6.0 kV	6.0 kV
Rated impulse voltage (signal/24V)	2.5 kV	2.5 kV
Contact resistance	< 5 mΩ (signal), < 3 mΩ (power)	< 5 mΩ (signal), < 3 mΩ (power)
Mechanical data		
Accessories type	Connectors	Connectors
Installation size	M23	M23
Connector type	plug	socket
Configuration	straight	straight
Contact type	female	male

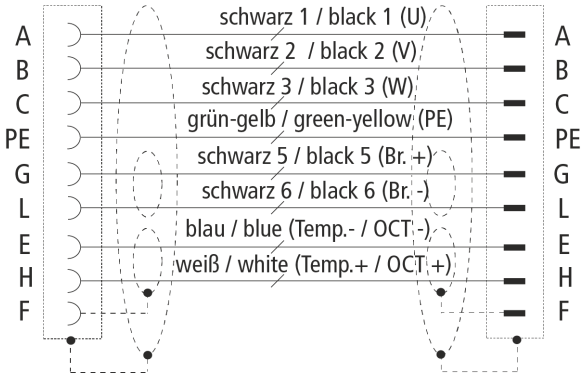
Number of positions (face)	Power: 3+PE, Signal: 5	Power: 3+PE, Signal: 5
Wire termination	crimp connection	crimp connection
Mating cycles	500	500
Way of locking	Speedtec®	Speedtec®
Weight per piece	0.143 kg (0.3153 lb)	0.120 kg (0.2646 lb)
Body color	metal	metal
Body material	zinc diecast/nickel plated	zinc diecast/nickel plated
Seal	FKM	FKM
Clamp ring	brass/nickel plated	brass/nickel plated
Contact carrier material	PA 6.6 mod., UL 94 V-0	PA 6.6 mod., UL 94 V-0
Contact material	brass/gold plated	brass/gold plated
Environmental data		
Special features	Max. height for operation 2000 m	Max. height for operation 2000 m Delivery with crimp contacts 5 x 1 mm², 4 x 2 mm²
Ambient temperature (operation)	-20...+130°C, -4...+266°F	-20...+130°C, -4...+266°F
Protection rating	IP66/67 in screwed condition	IP66/67 in screwed condition
Pollution level	3 (according to VDE 0110/EN61984 part 6.19.2.2)	3 (according to VDE 0110/EN61984 part 6.19.2.2)
UL	yes, UL E-file number: E247738	-
Overvoltage category	3 (according to VDE 0110/EN61984 part 6.19.2.2)	3 (according to VDE 0110/EN61984 part 6.19.2.2)

Cable

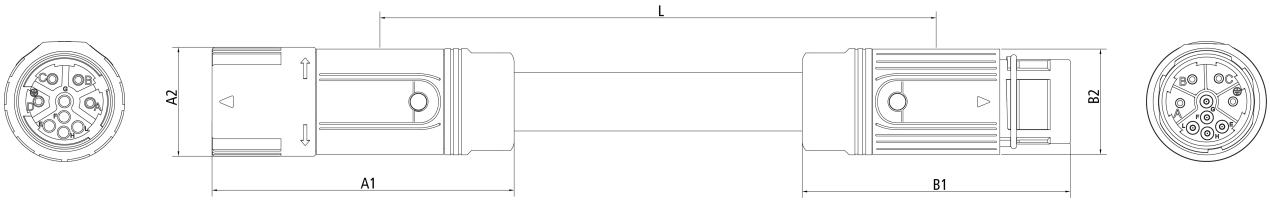
Electrical data	
Operating voltage	max. 1000 V AC (UL), Uo/U 600/1000 V (VDE)
Insulation resistance	≥ 500 MΩ * km (DIN EN 50395)
Mutual capacitance	Signal: 45 ± 15 pF/m (at 800 Hz according to EN 50289-1-5)
Wire resistance (power)	≤ 7.98 Ω/km (DIN EN 50395)
Wire resistance (signal/24V)	≤ 55.0 Ω/km (DIN EN 50395)
Wire resistance (brake)	≤ 19.5 Ω/km (DIN EN 50395)
Characteristic impedance	Signal: 110 Ω ± 10 Ω (10 MHz) acc. to EN50289-1-11
Dielectric strength wire/wire (power)	4 kV 50 Hz 5 min. (DIN VDE 0472 T.509C)
Dielectric strength wire/shield (power)	4 kV 50 Hz 5 min. (DIN VDE 0472 T.509C)
Mechanical data	
Cross-section (power)	2.50 mm² (approx. AWG14)
Cross-section (signal)	AWG22 (approx. 0.34 mm²)
Cross-section (brake)	1.00 mm² (approx. AWG18)

Outer cable diameter	15.2 mm ± 0.3 mm (0.5984" ± 0.0118")
Min. bending radius, moved in drag-chain	12 x outer cable diameter
Min. bending radius, fixed installation	5 x outer cable diameter
Conductor material	copper bare
Optical covering factor of shielding	≥ 90%
Use	suitable for torsion/robotic application
Max. acceleration	30 m/s² by 5 m travel distance 15 m/s² by 10 m travel distance 5 m/s² by 20 m travel distance
Max. speed	4 m/s
Max. travel distance	20 m (horizontal) 5 m (vertical)
Max. number of cycles	2 million
Jacket color	orange
Material jacket	TPU (thermoplastic polyurethane)
Wire insulation material	PP (polypropylene)
Printing color	black
Torsion angle in °/m	max. ± 180°/m
Max. tensile load, dynamic	20 N/mm²
Max. tensile load, static	50 N/mm²
Environmental data	
Operation temperature range, moved	-30...+80°C, -22...+176°F; in drag-chain with mechanical strain: -20...+60°C, -4...+140°F
Operation temperature range, fixed installation	-40...+80°C, -40...+176°F
Oil resistance	according to DIN EN 60811-404
Flame-retardant	according to IEC 60332-1-2
CFC-free	yes
Halogen-free	according to DIN VDE 0472 part 815
Silicone-free	yes
RoHS compliant	yes
Approvals	UL758 (AWM) Style 21223 (jacket) and Style 10492 (core)

Contact assembly	



Dimensions



A1	79.00 mm
A2	28.00 mm
B1	70.00 mm
B2	20.00 mm

Notes

- Depending on the cable length (L), the following length tolerances apply: ± 2-3%
- Illustrations similar
- The last three digits of the ordering information is the cable length in decimeters, e.g. ZK4xxx-xxxx-x020 = cable length 2.00 m

Attention: Not suitable for operation with TwinSAFE SBC/SBT. For TwinSAFE functions SBC/SBT, the cable -2xxx must be used.

Ordering information	Length
ZK4501-8064-xxxx	xxxx = cable length in decimeters
xxxx = 0050	example for 5 m length
	sold by the meter, admissible total cable length see documentation of Servo Drive

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 08/2025

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.