ZK4500-8063-xxxx | Motor connection cable 1.5 mm² with M23 speedtec® plug, torsionable

M23, plug, straight, female, Power: 3+PE, Signal: 5 – Pitch dimension 7.62 mm, plug, angled, female, 4-pin – Pitch dimension 3.50 mm, plug, straight, female, 5-pin



Plugs

Electrical data	Head A	Head B	Head D
Rated voltage (power)	630 V AC/DC	1000 V AC/DC (according to IEC 60664–1, IEC 61984), 600 V (accordig to UL 1059)	-
Rated voltage (signal/24V)	250 V AC/DC	-	320 V (according to IEC 60664–1, IEC 61984), 300 V (accordig to UL 1059)
Rated current (power)	30 A max.	41 A at 40°C (according to IEC 60664–1, IEC 61984), 40.5 A at 40°C (according to UL 1059)	-
Rated current (signal/24V)	7 A max.	-	10 A at 40°C (according to IEC 60664–1, IEC 61984), 10 A at 40°C (according to UL 1059)
Rated impulse voltage (power)	6.0 kV	8.0 kV	-
Rated impulse voltage (signal/24V)	2.5 kV	-	2.5 kV

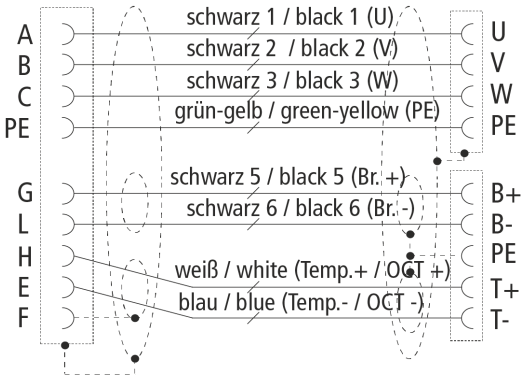
Contact resistance	< 5 mΩ (signal), < 3 mΩ (power)	4.5 mΩ	< 5 mΩ
Insulation resistance	-	≥ 100 MΩ (according to IEC 60512)	≥ 100 MΩ (according to IEC 60512)
Insulation group	-	II	IIIa
Mechanical data			
Accessories type	Connectors	Connectors	Connectors
Installation size	M23	Pitch dimension 7.62 mm	Pitch dimension 3.50 mm
Connector type	plug	plug	plug
Configuration	straight	angled	straight
Contact type	female	female	female
Number of positions (face)	Power: 3+PE, Signal: 5	4-pin	5-pin
Wire termination	crimp connection	Clamping yoke connection	Clamping yoke connection
Recommended torque, screw termination	-	0.5...0.6 Nm	0.2...0.25 Nm
Recommended torque, screw flange	-	0.6 Nm	0.15...0.2 Nm
Mating cycles	500	25	25
Way of locking	Speedtec®	screw	screw
Weight	0.143 kg (0.3153 lb)	0.052 kg (0.1146 lb)	0.004 kg (0.0088 lb)
Body color	metal	black, similar to RAL 9011	black, similar to RAL 9011
Body material	zinc diecast/nickel plated	PA GF, UL 94 V-0	PBT, UL 94 V-0
Seal	FKM	-	-
Clamp ring	brass/nickel plated	-	-
Contact carrier material	PA 6.6 mod., UL 94 V-0	PA GF, UL 94 V-0	PBT, UL 94 V-0
Contact material	brass/gold plated	copper alloy	copper alloy
Max. wire cross-section	-	AWG24...AWG8 (0.2 mm^2... 10 mm^2)	AWG28...AWG14 (0.2 mm^2... 1.5 mm^2)
Environmental data			
Special features	Max. height for operation 2000 m	-	-
Ambient temperature (operation)	-20...+130°C, -4...+266°F	-50...+125°C, -58...+257°F	-50...+100°C, -58...+212°F
Protection rating	IP66/67 in screwed condition	IP20	IP20
Pollution level	3 (according to VDE 0110/EN61984 part 6.19.2.2)	3	3
UL	yes, UL E-file number: E247738	yes, UL E-file number: E60693	yes, UL E-file number: E60693
Overvoltage category	3 (according to VDE 0110/EN61984 part 6.19.2.2)	3	3

Cable

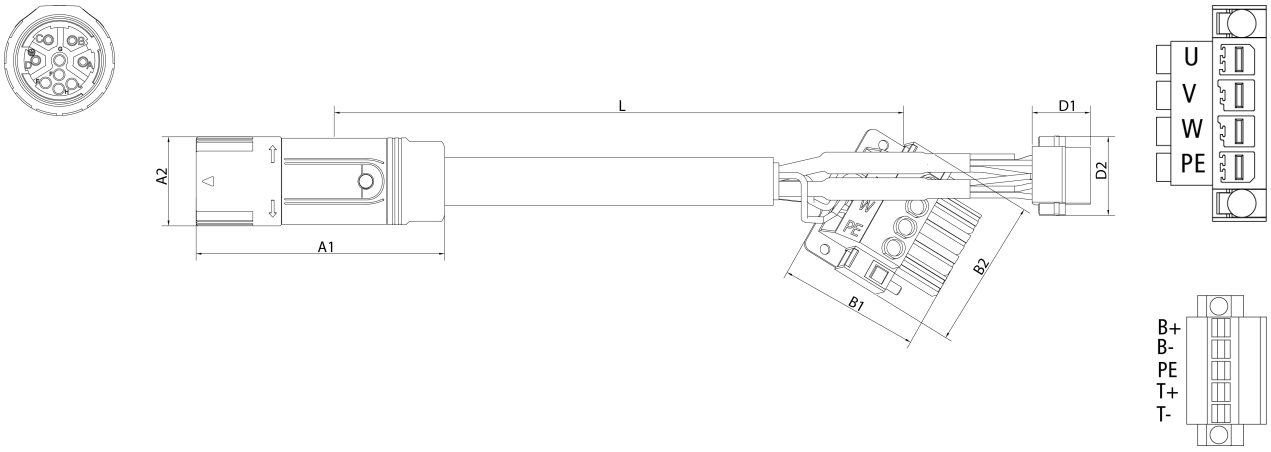
Electrical data	
Operating voltage	max. 1000 V AC (UL), Uo/U 600/1000 V (VDE)
Insulation resistance	≥ 500 MΩ * km (DIN EN 50395)
Mutual capacitance	Signal: 45 ± 15 pF/m (at 800 Hz according to EN 50289-1-5)
Wire resistance (power)	≤ 13.3 Ω/km (DIN EN 50395)
Wire resistance (signal/24V)	≤ 55.0 Ω/km (DIN EN 50395)
Wire resistance (brake)	≤ 26.0 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)	1.50 mm^2 (approx. AWG16)
Cross-section (signal)	AWG22 (approx. 0.34 mm^2)
Cross-section (brake)	0.75 mm^2 (AWG18)
Outer cable diameter	13.6 mm ± 0.3 mm (0.5354" ± 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/s^2 by 5 m travel distance 15 m/s^2 by 10 m travel distance 5 m/s^2 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/mm^2
Max. tensile load, static	50 N/mm^2
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
UL	yes, UL E-file number: E170315
Approvals	UL758 (AWM) Style 21223 (jacket) and Style 10492 (core)

Pin assignment



Dimensions



A1	79.00 mm
A2	28.00 mm
B1	45.00 mm
B2	45.00 mm

D1	19.00 mm
D2	25.00 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

Ordering information	Length
ZK4500-8063-0020	2.00 m
ZK4500-8063-0030	3.00 m
ZK4500-8063-0036	3.60 m
ZK4500-8063-0050	5.00 m
ZK4500-8063-0070	7.00 m
ZK4500-8063-0100	10.00 m
ZK4500-8063-0120	12.00 m
ZK4500-8063-0150	15.00 m
ZK4500-8063-0160	16.00 m
ZK4500-8063-0170	17.00 m
ZK4500-8063-0200	20.00 m
ZK4500-8063-0210	21.00 m
ZK4500-8063-0250	25.00 m
ZK4500-8063-0300	30.00 m
ZK4500-8063-0400	40.00 m
ZK4500-8063-0500	50.00 m
ZK4500-8063-0750	75.00 m
ZK4500-8063-1000	100 m

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