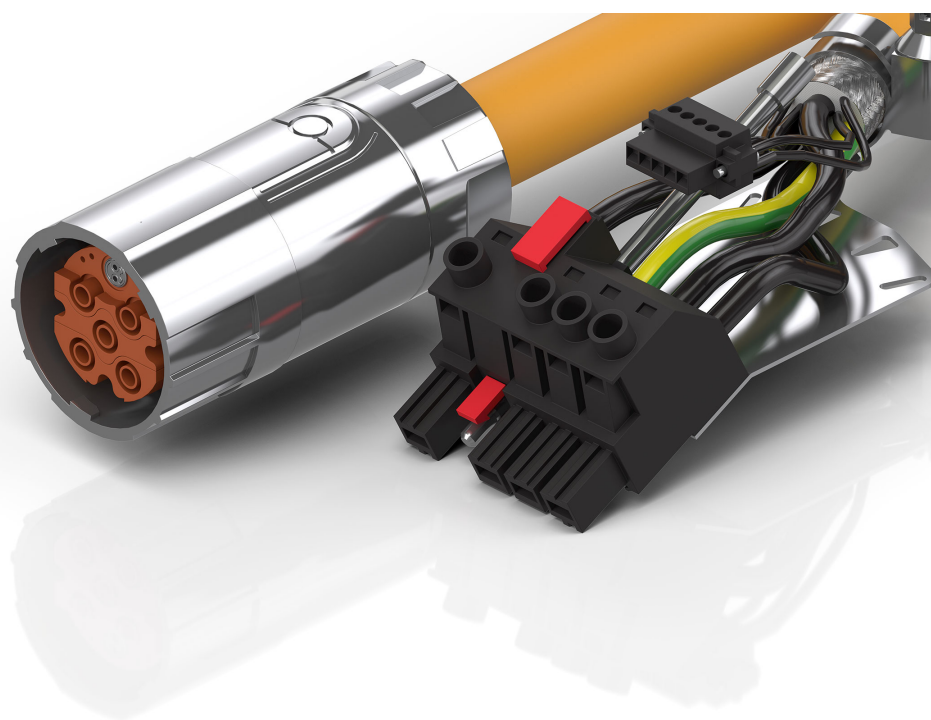


# ZK4500-8027-xxxx | Motor connection cable 10 mm<sup>2</sup> with M40 speedtec® plug, drag-chain suitable



M40, plug, straight, female, Power: 4+PE, Signal: 4 – plug, angled, female, 4-pin – plug, straight, female, 5-pin



## Plugs

Electrical data	Head A	Head B	Head C
Rated voltage (power)	630 V AC / 850 V DC	1000 V AC/DC (according to IEC 60664-1, IEC 61984), 600 V (according to UL 1059)	-
Rated voltage (signal/24V)	150 V AC/DC	-	320 V (according to IEC 60664-1, IEC 61984), 300 V (according to UL 1059)
Rated current (power)	70 A max.	70,6 A at 40 °C (according to IEC 60664-1, IEC 61984), 60 A at 40 °C (according to UL 1059)	-
Rated current (signal/24V)	7 A max.	-	14.5 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), < 1 mΩ (power)	4.5 mΩ	< 5 mΩ
Insulation resistance	-	≥ 100 MΩ (according to IEC 60512)	≥ 100 MΩ (according to IEC 60512)
Insulation group	-	I	IIIa
<b>Mechanical data</b>			
Accessories type	Connector/cable	Connector/cable	Connector/cable
Installation size	M40	-	-
Connector type	plug	plug	plug
Configuration	straight	angled	straight
Contact type	female	female	female
Number of positions (face)	Power: 4+PE, Signal: 4	4-pin	5-pin
Wire termination	crimp connection	Clamping yoke connection	Clamping yoke connection
Recommended torque, screw termination	-	1.2...1.5 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®	flange and screw	screw
Weight per piece	0.450 kg (0.9921 lb)	0.057 kg (0.1257 lb)	0.004 kg (0.0088 lb)
Body colour	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	zinc diecast/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	-	AWG22...AWG4	AWG28...AWG14
<b>Environmental data</b>			
Special features	Max. height for operation 2000 m	-	-
Ambient temperature (operation)	-20...+130 °C, -4...+266 °F	-50...+130 °C, -58...+266 °F	-50...+100 °C, -58...+212 °F
Protection class	IP 66/67 in screwed condition	IP 20	IP 20
Pollution level	3 (according to VDE 0110/EN61984 part 6.19.2.2)	3	3
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), U <sub>0</sub> /U 600/1000 V (VDE)
Insulation resistance	≥ 500 MΩ * km (DIN EN 50395)
Mutual capacitance	Signal: 45 ± 15 pF/m, Power: 90 pF/m (at 800 Hz according to EN 50289-1-5)
Wire resistance (power)	≤ 1.91 Ω/km (DIN EN 50395)
Wire resistance (signal/24V)	≤ 55.0 Ω/km (DIN EN 50395)
Wire resistance (brake)	≤ 13.3 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)
Dielectric strength wire/wire (signal/24V)	3 kV 50 Hz 1 min. (DIN VDE 0472 T.509C)
Dielectric strength wire/shield (signal/24V)	3 kV 50 Hz 1 min. (DIN VDE 0472 T.509C)
Mechanical data	
Cross section (power)	10 mm <sup>2</sup> (approx. AWG8)
Cross section (signal)	AWG22 (approx. 0.34 mm <sup>2</sup> )
Cross section (brake)	1.50 mm <sup>2</sup> (approx. AWG16)
Min. bending radius, moved in drag chain	10 x outer cable diameter
Min. bending radius, fixed installation	5 x outer cable diameter
Weight	760 kg/km (510.644 lb/1000 ft)
Outer cable diameter	20.9 mm ± 0.5 mm (0.8228" ± 0.0197")
Conductor material	Copper bare
Optical covering factor of shielding	≥ 85%
Use	drag-chain suitable
Max. acceleration	30 m/s <sup>2</sup> by 5 m travel distance 15 m/s <sup>2</sup> by 10 m travel distance 5 m/s <sup>2</sup> by 20 m travel distance
Max. speed	4 m/s
Max. travel distance	20 m (horizontal) 5 m (vertical)
Max. number of cycles	5 million
Jacket colour	orange
Material jacket	TPU (thermoplastic polyurethane)
Wire insulation material	PP (polypropylene)
Printing colour	black
Torsion angle in °/m	max. ± 30 °/m
Max. tensile load, dynamic	20 N/mm <sup>2</sup>

Max. tensile load, static 50 N/mm<sup>2</sup>

### Environmental data

Operation temperature range, moved -20...+80 °C, -4...+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, HD22.10 appendix A

Flame-retardant according to IEC 60332-1-2 UL758 cable flame test

CFC-free yes

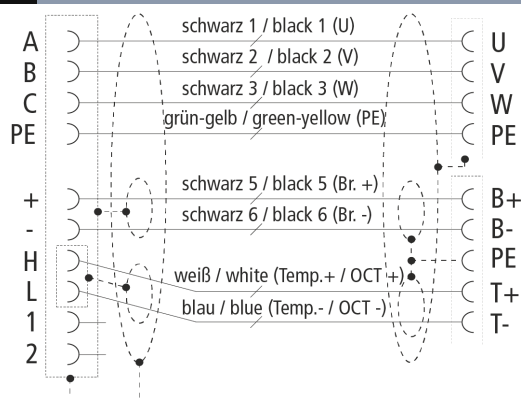
Halogen-free according to DIN VDE 0472 Teil 815

Silicone-free yes

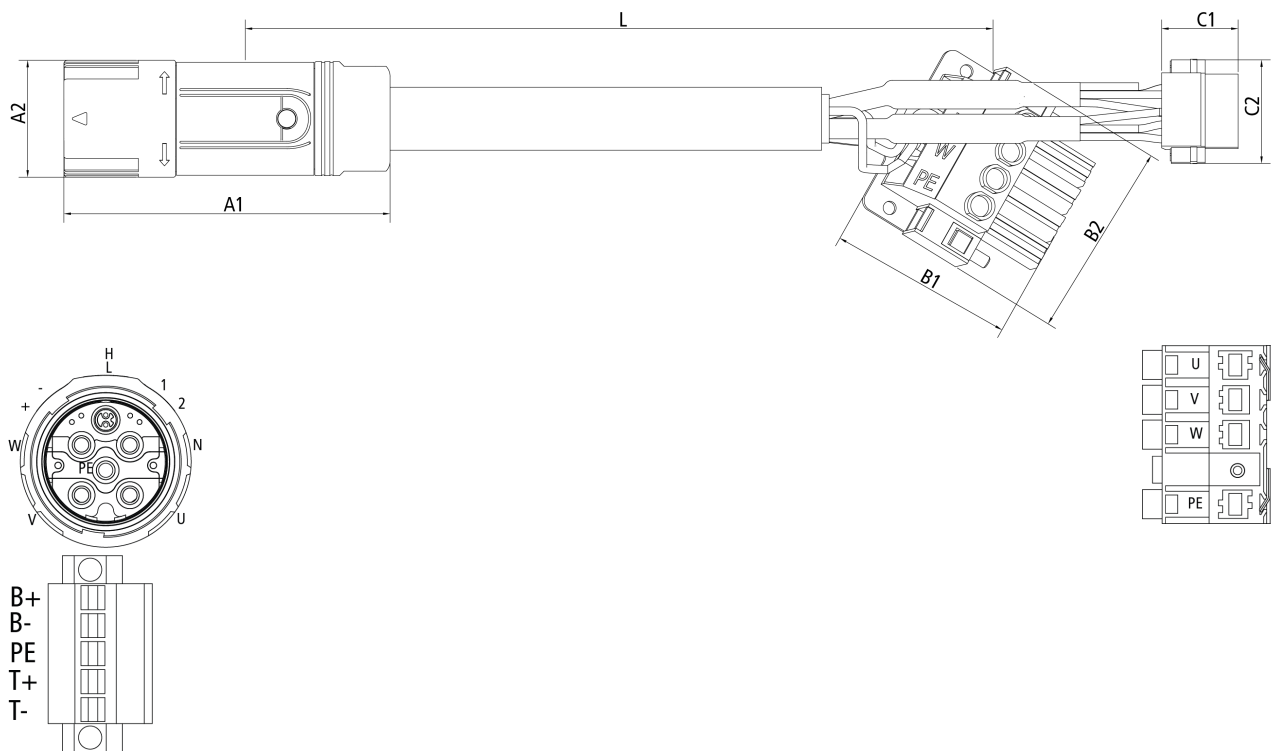
RoHS compliant yes

Approvals UL758 (AWM) Style 21223 (jacket) and Style 10492 (core)

### Contact assembly



### Dimensions



A1	100.00 mm
A2	46.00 mm
B1	137.00 mm
B2	52.00 mm
C1	19.00 mm
C2	25.00 mm

## Notes

- Depending on the cable length (L), the following length tolerances apply:  $\pm 2\text{-}3\%$
- 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
ZK4500-8027-xxxx	xxxx = cable length in decimetres
xxxx = 0050	example for 5 m length
	sold by the metre, admissible total cable length see documentation of Servo Drive

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