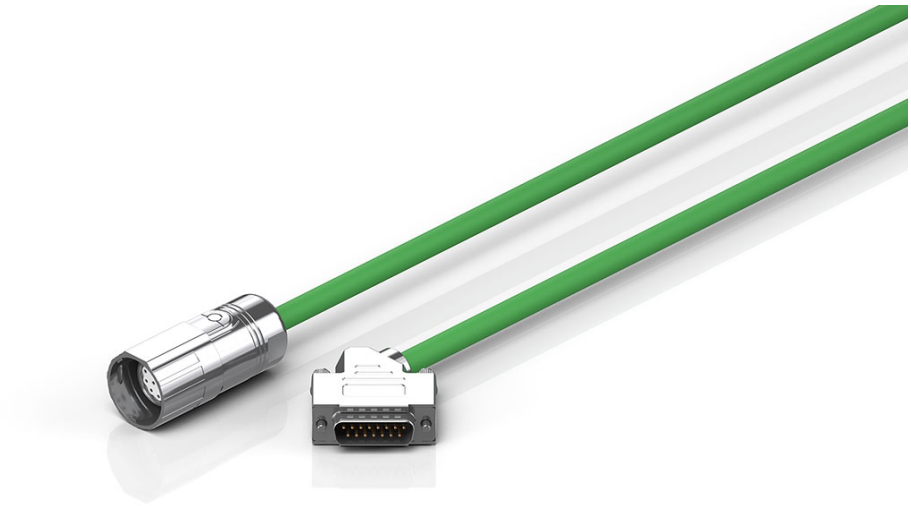
ZK4510-8020-xxxx | Encoder connection cable with M23 speedtec® plug, drag-chain suitable

M23, plug, straight, female, 17-pin – D-sub, socket, angled, male, 15-pin



Plugs

Electrical data	Head A	Head B
Rated voltage (signal/24V)	125 V AC/DC	-
Rated current (signal/24V)	7 A max.	-
Rated impulse voltage (signal/24V)	2.0 kV	-
Contact resistance	< 5 mΩ	-
Mechanical data		
Accessories type	Connectors	Connectors
Installation size	M23	D-sub
Connector type	plug	socket
Configuration	straight	angled
Contact type	female	male
Number of positions (face)	17-pin	15-pin
Wire termination	crimp connection	solder connection
Mating cycles	500	-
Way of locking	Speedtec®	screw

Weight	0.089 kg (0.1962 lb)	0.055 kg (0.1213 lb)
Body color	metal	metal
Body material	zinc diecast/nickel plated	zinc diecast/nickel plated
Seal	FKM	-
Clamp ring	brass/nickel plated	-
Contact carrier material	PBT, UL 94 V-0	-
Contact material	brass/gold plated	-
Environmental data		
Special features	Max. height for operation 2000 m	-
Ambient temperature (operation)	-20...+130°C, -4...+266°F	-40...+120°C, -40...+248°F
Protection rating	IP66/67 in screwed condition	IP20
Pollution level	3 (according to VDE 0110/EN61984 part 6.19.2.2)	-
Overvoltage category	3 (according to VDE 0110/EN61984 part 6.19.2.2)	-

Cable

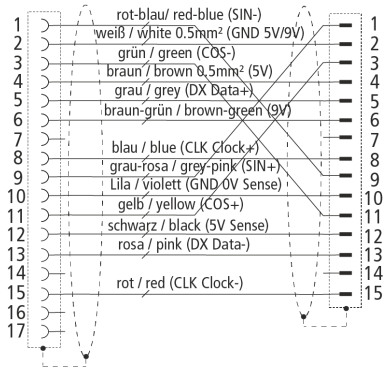
Electrical data	
Operating voltage	30 V
Insulation resistance	≥ 1 GΩ * km
Wire resistance	0.14 mm^2: ≤ 142.0 Ω/km, 0.5 mm^2: ≤ 40.1 Ω/km
Test voltage	1500 V (wire/wire and wire/screen)
Mechanical data	
Cross-section	7 x 2 x 0.14 mm^2 + 2 x 0.5 mm^2
Outer cable diameter	7.6 mm ± 0.3 mm (0.2992" ± 0.0118")
Min. bending radius, moved in drag-chain	50 mm
Min. bending radius, fixed installation	30 mm
Conductor material	copper, tinned
Optical covering factor of shielding	≥ 85%
Use	drag-chain suitable
Max. acceleration	60 m/s^2
Max. speed	10 m/s
Max. travel distance	20 m
Max. number of cycles	10 million
Jacket color	green
Material jacket	PUR (polyurethane)

Wire insulation material	PP (polypropylene)
Printing color	black
Torsion angle in °/m	max. ± 30 °/m
Max. tensile load, dynamic	20 N/mm²

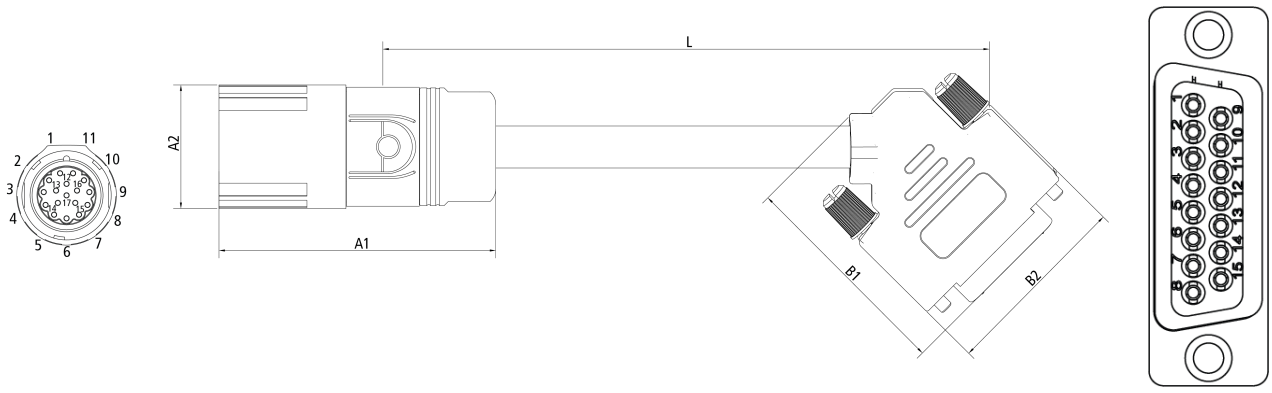
Environmental data

Operation temperature range, moved	-40...+80°C, -40...+176°F
Operation temperature range, fixed installation	-50...+80°C, -58...+176°F
Oil resistance	according to UL 1581
Flame-retardant	according to IEC 60332-1-2
Halogen-free	yes
Silicone-free	yes
RoHS compliant	yes
Approvals	UL-Style 20236 80°C 30V

Pin assignment



Dimensions



A1	59.00 mm
A2	26.00 mm
B1	40.00 mm

B2	41.00 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
ZK4510-8020-0020	2.00 m
ZK4510-8020-0030	3.00 m
ZK4510-8020-0040	4.00 m
ZK4510-8020-0050	5.00 m
ZK4510-8020-0060	6.00 m
ZK4510-8020-0070	7.00 m
ZK4510-8020-0080	8.00 m
ZK4510-8020-0090	9.00 m
ZK4510-8020-0100	10.00 m
ZK4510-8020-0110	11.00 m
ZK4510-8020-0120	12.00 m
ZK4510-8020-0130	13.00 m
ZK4510-8020-0140	14.00 m
ZK4510-8020-0150	15.00 m
ZK4510-8020-0180	18.00 m
ZK4510-8020-0200	20.00 m
ZK4510-8020-0220	22.00 m
ZK4510-8020-0250	25.00 m
ZK4510-8020-0300	30.00 m
ZK4510-8020-0350	35.00 m
ZK4510-8020-0370	37.00 m
ZK4510-8020-0380	38.00 m
ZK4510-8020-0400	40.00 m
ZK4510-8020-0410	41.00 m
ZK4510-8020-0420	42.00 m
ZK4510-8020-0520	52.00 m
ZK4510-8020-0700	70.00 m

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 10/2025

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.