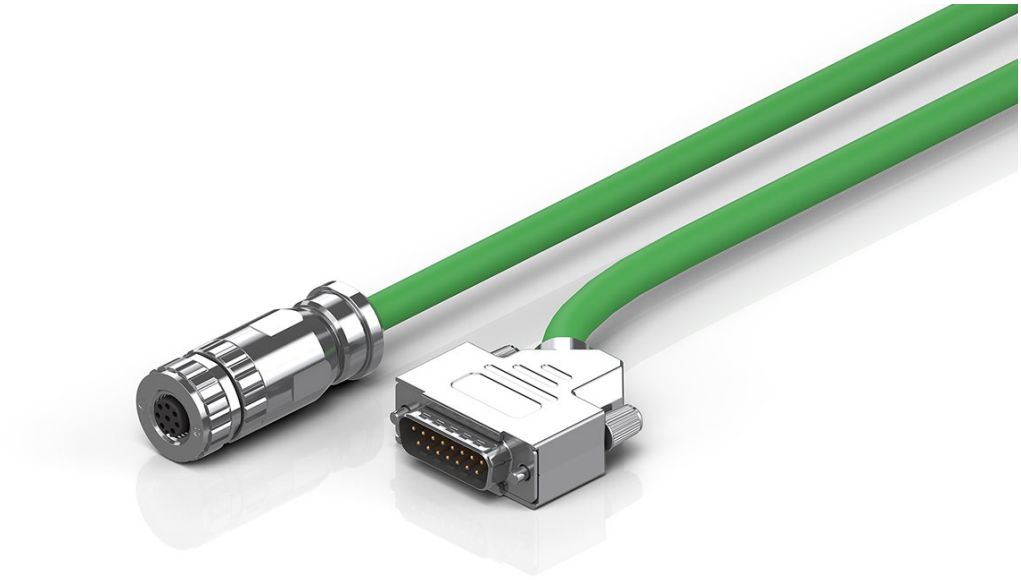
ZK4810-0020-xxxx | Encoder cable, EnDat® 2.2, shielded, M12 plug,

D-sub, socket, angled, male, 15-pin – M12, socket, straight, female, 8-pin, A-coded



Plugs

Electrical data	Head A	Head B
Rated voltage	-	30 V (according to IEC 61076-2-101)
Rated current	-	2 A at 40°C (according to IEC 61076-2-101)
Shielding	-	yes
Insulation resistance	-	≥ 100 MΩ (according to IEC 60512)
Mechanical data		
Accessories type	Connectors	Connectors
Installation size	D-sub	M12
Connector type	socket	socket
Configuration	angled	straight
Contact type	male	female
Number of positions (face)	15-pin	8-pin
Coding	-	A-coded
Wire termination	solder connection	screw connection

Recommended torque, nut	-	0.6 Nm
Mating cycles	-	≥ 100 (according to IEC 60512-9a)
Way of locking	screw	screw
Weight	0.055 kg (0.1213 lb)	0.046 kg (0.1014 lb)
Body color	metal	metal
Body material	zinc diecast/nickel plated	GD-Zn, Ni
Coupling nut material	-	GD-Zn, Ni
Seal	-	elastomers
O-ring	-	NBR
Contact carrier color	-	black
Contact carrier material	-	PA, UL 94
Contact plating	-	Ni, Au gal.
Contact material	-	CuZn
Max. wire cross-section	-	AWG20 (0.5 mm^2)
Max. cable outer diameter	-	4.0...8 mm
Environmental data		
RoHS compliant	-	yes
Ambient temperature (operation)	-40...+120°C, -40...+248°F	-30...+85°C, -22...+185°F
Protection rating	IP20	IP65/67 in screwed condition (according to IEC 60529)
Pollution level	-	3/2 (according to IEC 60664-1)
UL	-	yes, UL E-file number: E331608

Cable

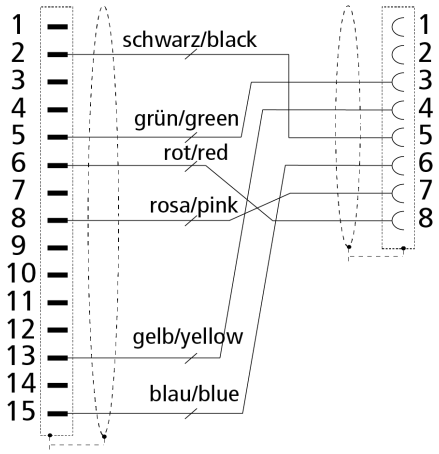
Electrical data	
Operating voltage	30 V
Insulation resistance	≥ 1 GΩ * km
Wire resistance	0.20 mm^2: ≤ 95.0 Ω/km, 0.38 mm^2: ≤ 55.0 Ω/km
Test voltage	500 V (wire/wire and wire/screen)
Mechanical data	
Cross-section	2 x 2 x 0.20 mm^2 + 1 x 2 x 0.38 mm^2
Outer cable diameter	6.95 ± 0.15 mm
Min. bending radius, moved in drag-chain	70 mm
Min. bending radius, fixed installation	35 mm
Weight	63 kg/km (42.330 lb/1000 ft)
Conductor material	copper, tinned

Optical covering factor of shielding	≥ 85%
Use	drag-chain suitable
Max. acceleration	30 m/s²
Max. speed	5 m/s
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	IEC 60332-1-2, UL/CSA FT1, UL VW1
CFC-free	yes
Halogen-free	yes
Silicone-free	yes
RoHS compliant	yes
Approvals	UL-Style 20236 80°C 30V

Pin assignment



Dimensions



A1	40.00 mm
A2	41.00 mm
B1	approx. 54 mm
B2	Ø 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

Ordering information	Length
ZK4810-0020-0005	0.50 m
ZK4810-0020-0010	1.00 m
ZK4810-0020-0020	2.00 m
ZK4810-0020-0030	3.00 m
ZK4810-0020-0050	5.00 m
ZK4810-0020-0060	6.00 m
ZK4810-0020-0070	7.00 m
ZK4810-0020-0080	8.00 m
ZK4810-0020-0100	10.00 m
ZK4810-0020-0120	12.00 m
ZK4810-0020-0140	14.00 m
ZK4810-0020-0150	15.00 m
ZK4810-0020-0300	30.00 m
ZK4810-0020-0350	35.00 m

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