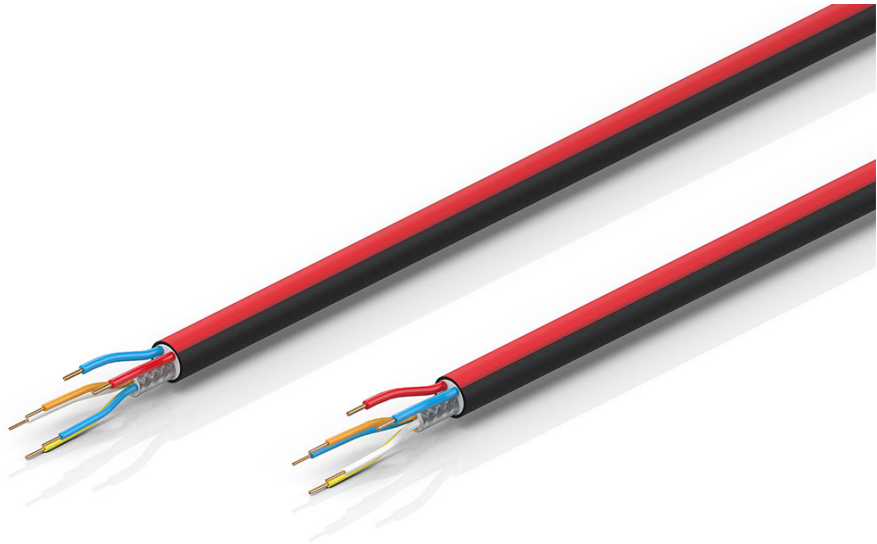
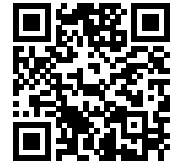


**ZB7100-xxxx | EtherCAT P cable, no overall shield,  
PUR, drag-chain suitable, 2 x 0.75 mm<sup>2</sup> + (1 x 4 x  
AWG22), black with red stripe, OD = 9.0 mm  
(±0.2 mm)**



Electrical data	
Operating voltage	≤ 1000 V AC
Attenuation of shielding	0,01 - 4 MHz ≤ 20 mΩ/m 10 MHz ≤ 50 mΩ/m 30 MHz ≤ 150 mΩ/m
Insulation resistance	≥ 500 MΩ * km (DIN EN 50395)
Mutual capacitance	AWG 22: 50 ± 15 pF/m at 800 Hz according to EN 50289-1-5
Wire resistance (power)	≤ 26.0 Ω/km (DIN EN 50395)
Wire resistance (Ethernet)	≤ 55.0 Ω/km (DIN EN 50395)
Characteristic impedance (Ethernet)	100 Ω ± 5 Ω (100 MHz) (EN 50289-1-11)
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 (Ethernet)	2 kV ( 50 Hz, 1 min)
Dielectric strength wire/shield (Ethernet)	2 kV ( 50 Hz, 1 min)
Mechanical data	
Cable structure (Ethernet)	star quad
Conductor construction (Ethernet)	7-strand

Cross-section (power)	2 x 0.75 mm <sup>2</sup> (approx. AWG18)
Cross-section (Ethernet)	1 x 4 x 0.34 mm <sup>2</sup> (AWG22)
Outer cable diameter	9.0 mm ± 0.2 mm (0.3543" ± 0.0079")
Min. bending radius, moved	7 x outer cable diameter
Min. bending radius, fixed installation	4 x outer cable diameter
Weight	110 kg/km (73.9 lb/1000 ft)
Conductor material (power)	copper bare, Class 6 according to DIN EN 60228
Conductor material (Ethernet)	bare copper
Shielding	braiding of tinned copper wires, metallized plastic fleece, aluminum-clad foil
Optical covering factor of shielding (Ethernet)	≥ 85 %
Optical covering factor of shielding (total)	no
Use	drag-chain suitable
UL-Style	UL758 (AWM) Style 21223 (jacket) and Style 10492 (core)
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	3 million
Wall thickness of wire insulation (power)	0.4 mm
Wall thickness of wire insulation (Ethernet)	0.38 mm
Jacket color	black (similar to RAL 9005) with red stripe (similar to RAL 3020)
Material jacket	PUR (polyurethane)
Wire color code	white, yellow, blue, orange power: red, blue
Wire insulation material	PP (polypropylene)
Printing on the jacket	"length in meters" Beckhoff Automation GmbH & Co. KG - Germany - EtherCATp 2 x x0,75 + (4xAWG22)/C E-number cRUus AWM21223 AWM   /     A/B 80 °C 1000V FT1 XX/YY RoHS production month/production year
Printing color	white
Torsion angle in °/m	max. ± 30 °/m
<b>Environmental data</b>	
Operation temperature range, moved	-30...+80°C, -22...+176°F, in drag-chain applications: -20...+60°C, -4...+140°F
Operation temperature range, fixed installation	-40...+80°C, -40...+176°F
UV resistance	yes
Oil resistance	according to DIN EN 60811-404

Flame-retardant	according to IEC 60332-1-2
CFC-free	yes
Halogen-free	DIN VDE 0472 part 815
Silicone-free	yes
Approvals	cRUus

Attenuation								
Max. insertion loss								
Frequency [MHz]	1	4	10	16	20	31.25	62.5	100
[db/100 m]	≤ 2.5	≤ 5.0	≤ 8.0	≤ 10.0	≤ 11.5	≤ 14.5	≤ 20.0	≤ 27.0
[db/100 ft]	≤ 0.8	≤ 1.5	≤ 2.4	≤ 3	≤ 3.5	≤ 4.4	≤ 6.1	≤ 8.2
Min. near-end crosstalk attenuation								
Frequency [MHz]	1	4	10	16	20	31.25	62.5	100
[db/100 m]	≥ 80	≥ 76.0	≥ 70.0	≥ 65.0	≥ 63.0	≥ 60.0	≥ 55.0	≥ 50.0
[db/100 ft]	≥ 24.4	≥ 23.2	≥ 21.3	≥ 19.8	≥ 19.2	≥ 18.3	≥ 16.8	≥ 15.2

## Notes

- The following length tolerances apply: 2-3%
- Illustrations similar

Ordering information	Length
ZB7100-0050	5.00 m
ZB7100-0100	10.00 m
ZB7100-0250	25.00 m
ZB7100-0500	50.00 m
ZB7100-1000	100 m
ZB7100-R001	250 m
ZB7100-R002	500 m
ZB7100-R003	1000 m



Products marked with a crossed-out wheeled bin shall not be discarded with the normal waste stream. The device is considered as waste electrical and electronic equipment. The national regulations for the disposal of waste electrical and electronic equipment must be observed.

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