



ZB7401-xxxx | EtherCAT/Ethernet cable, no complete shield, PUR, drag-chain suitable, 5 G 16 mm² + (1 x 4 x AWG22), black with yellow stripe, OD = 24.0 mm (±0.2 mm)

Electrical data	
Mutual capacitance wire/wire (Ethernet)	50 ±15 pF/m at 800 Hz (EN 50289-1-5)
Attenuation of shielding	≥ 65 dB (30...100 MHz)
Insulation resistance	≥ 500 MΩ * km (DIN EN 50395)
Wire resistance (power)	≤ 1.21 Ω/km
Wire resistance (Ethernet)	≤ 58.0 Ω/km according to DIN EN 50395
Characteristic impedance (Ethernet)	100 Ω ±15 Ω (100 MHz)
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	
Cable structure (Ethernet)	star quad
Conductor construction (Ethernet)	7-strand
Cross section (power)	5 x 16.0 mm ² (approx. AWG5)
Cross section (Ethernet)	1 x 4 x 0.34 mm ² (AWG 22)
Min. bending radius, moved	7 x outer cable diameter
Min. bending radius, fixed installation	4 x outer cable diameter
Weight	1100 kg/km (739.1 lb/1000 ft)
Outer cable diameter	24.0 mm ± 0.5 mm (0.9448" ± 0.01969")
Conductor material (power)	copper bare, Class 6 according to DIN EN 60228
Conductor material (Ethernet)	copper, tinned
Shielding	braiding of tinned copper wires, metallised plastic fleece, aluminium-clad foil
Optical covering factor of shielding (Ethernet)	≥ 85 %
Optical covering factor of shielding (total)	no
Use	drag-chain suitable

UL-Style Conductor	UL758 (AWM) Style 21223 (jacket) and Style 10492 (core)
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	5 million
Wall thickness of wire insulation (power)	0.65 mm
Wall thickness of wire insulation (Ethernet)	0.4 mm
Jacket colour	black (similar to RAL 9005) with yellow stripe (similar to RAL 1003)
Material jacket	PUR (polyurethane)
Wire colour code	Ethernet: white, yellow, blue, orange Power: red, blue, grey, black, green/yellow
Wire insulation material	PP (polypropylene)
Printing on the jacket	00000M Beckhoff Automation GmbH & Co. KG - Germany - Industrial Ethernet / EtherCAT ZB7401 +90°C 5 G 16 + (4xAWG22)/C E170315 cRUus AWM Style 21223 AWM I/II A/B 80°C 1000V FT1
Printing colour	white
Torsion angle in °/m	max. ± 30 °/m

Environmental data	
Operation temperature range, moved	-30...+90 °C, -22...+194 °F; in drag-chain with mechanical strain: -20...+60 °C, -4...+140 °F
Operation temperature range, fixed installation	-40...+90 °C, -40...+194 °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]	2.3	4.2	6.8	8.6	9.7	12.3	18.0	23.6
[db/100 ft]	0.7	1.3	2.1	2.6	3	3.7	5.5	7.2
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
ZB7400-0050	5.00 m
ZB7400-0100	10.00 m
ZB7400-R001	25.00 m
ZB7400-R002	50.00 m
ZB7400-R003	100 m
ZB7400-R004	250 m
ZB7400-R005	500 m

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