

**ZB7307-xxxx | EtherCAT P cable, with total screen, PUR, drag chain suitable, (3G2.5 mm<sup>2</sup> + 2 x 2.5 mm<sup>2</sup> + (1 x 4 x AWG22)), black with red stripe, OD = 12.5 (±0.4 mm)**



| Electrical data                            |   |
|--|---|
| Operating voltage                          | ≤ 1000 V AC   |
| Mutual capacitance wire/wire (Ethernet)    | nom. 55 nF/km   |
| Attenuation of shielding                   | ≥ 40 dB (30...100 MHz)  |
| Insulation resistance                      | ≥ 500 MΩ * km (DIN EN 50395)  |
| Mutual capacitance                         | AWG 22: nom. 55 nF/km   |
| Wire resistance (power)                    | 2.5 mm <sup>2</sup> : ≤ 8.3 Ω/km, 1.5 mm <sup>2</sup> : ≤ 14.0 Ω/km |
| Wire resistance (Ethernet)                 | ≤ 58.0 Ω/km according to DIN EN 50395                               |
| Characteristic impedance (Ethernet)        | 100 Ω ±5 Ω (100 MHz)  |
| Dielectric strength wire/wire (power)      | 4 kV 50 Hz 1 min.   |
| Dielectric strength wire/shield (power)    | 4 kV 50 Hz 1 min.   |
| Dielectric strength wire/wire (Ethernet)   | 4 kV 50 Hz 1 min.   |
| Dielectric strength wire/shield (Ethernet) | 4 kV 50 Hz 1 min.   |
| Test voltage                               | 4000 V, 50 Hz, 1 min. (wire/wire and wire/screen)                   |
| Mechanical data                            |   |
| Cable structure (Ethernet)                 | star quad   |

|   |  |
|---|--|
| Conductor construction (Ethernet)               | 7-strand   |
| Cross-section (power)                           | 3 x 2.5 mm <sup>2</sup> (approx. AWG14) + 2 x 1.5 mm <sup>2</sup> (approx. AWG16)  |
| Cross-section (Ethernet)                        | 1 x 4 x 0.34 mm <sup>2</sup> (AWG 22)  |
| Min. bending radius, moved                      | 7 x outer cable diameter   |
| Min. bending radius, fixed installation         | 4 x outer cable diameter   |
| Weight  | 250 kg/km (167.5 lb/1000 ft)   |
| Outer cable diameter                            | 12.5 mm ± 0.3 mm (0.492" ± 0.0118")  |
| Conductor material (power)                      | copper bare  |
| 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)    | ≥ 85 %   |
| Use   | drag-chain suitable  |
| Max. acceleration                               | 30 m/s <sup>2</sup>  |
| Max. speed                                      | 4 m/s  |
| Max. travel distance                            | 20 m   |
| Max. number of cycles                           | 5 million  |
| Wall thickness of wire insulation (power)       | 0.45 mm  |
| Jacket color                                    | black (similar to RAL 9005) with red stripe (similar to RAL 3020)  |
| Material jacket                                 | PUR (polyurethane)   |
| Wire color code                                 | yellow, orange, white, blue (Ethernet), black, red (1.5 mm <sup>2</sup> ), green/yellow, brown, blue (2.5 mm <sup>2</sup> )  |
| Wire insulation material                        | PO (Polyolefine)   |
| Printing on the jacket                          | xxxx m Beckhoff Automation GmbH & Co. KG - Germany - EtherCAT P ZB7307 3 G 2,5 + 2 x 1,5 + (4xAWG22)/C E63216 c us AWM 21223 AWM I/II A/B 80°C 600V FT1 RoHS MM/JJ (MM/JJ= month of production/year of production) outer diameter: (12.5 ± 0.4) mm |
| Printing color                                  | white  |
| Torsion angle in °/m                            | max. ± 30 °/m  |
| <b>Environmental data</b>                       |  |
| Operation temperature range, moved              | -20...+60 °C, -4...+140 °F   |
| Operation temperature range, fixed installation | -40...+90 °C, -40...+194 °F  |
| UV resistance                                   | yes  |
| Oil resistance                                  | yes  |
| Acid, lye and solvent resistance                | depends on medium, concentration, temperature and duration   |
| Special features                                | with total screen  |
| LABS-free                                       | yes  |

|                 |                                 |
|-----------------|---------------------------------|
| Flame-retardant | according to UL 758 (cUL-FT1)   |
| Halogen-free    | yes                             |
| Silicone-free   | yes                             |
| Approvals       | cULus AWM Style 21223 80°C 600V |

| Attenuation                         |      |      |      |      |      |       |      |      |
|-------------------------------------|------|------|------|------|------|-------|------|------|
| Max. insertion loss                 |      |      |      |      |      |       |      |      |
| Frequency [MHz]                     | 1    | 4    | 10   | 16   | 20   | 31.25 | 62.5 | 100  |
| [db/100 m]                          | -    | 4.2  | 6.8  | 8.6  | 9.7  | 12.3  | 18.0 | 23.6 |
| [db/100 ft]                         | -    | 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]                          | 65.3 | 56.3 | 50.3 | 47.2 | 45.8 | 42.9  | 38.4 | 35.3 |
| [db/100 ft]                         | 19.9 | 17.2 | 15.3 | 14.4 | 14   | 13.1  | 11.7 | 10.8 |

## Notes

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

| Ordering information | Length            |
|----------------------|-------------------|
| ZB7307-xxxx          | sold by the meter |

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