



ZB9024 | Industrial Ethernet/EtherCAT cable, shielded, PUR, 1 x 4 x AWG22, drag-chain suitable, CAT5, yellow

| Electrical data | |
|---|--|
| Rated voltage | 600 V |
| Operating voltage | ≤ 125 V (peak value, not for high voltage purposes) |
| Attenuation of shielding | ≥ 40 dB |
| Insulation resistance | ≥ 500 MΩ/km |
| Unbalanced capacitance to ground | 1600 pF/km |
| Mutual capacitance | 52 nF/km (1 kHz) |
| Characteristic impedance (Ethernet) | 100 Ω ± 15 Ω (100 MHz) |
| Loop resistance (Ethernet) | ≤ 115 Ω/km |
| Differential impedance (Ethernet) | 250 Ω/km |
| Unbalanced resistance (Ethernet) | 2 % |
| Dielectric strength wire/wire (Ethernet) | 1000 V DC/700 V AC |
| Dielectric strength wire/shield (Ethernet) | 1000 V DC/700 V AC |
| Signal running time (Ethernet) | 5.3 ns/m |
| Electrical parameters (Ethernet) | based on CAT 5 |
| Test voltage | ≥ 2000 V |
| Mechanical data | |
| Cable structure (Ethernet) | star quad |
| Conductor construction (Ethernet) | 7 x 0.25 mm |
| Cross section (Ethernet) | 1 x 4 x 0.34 mm ² (AWG 22) |
| Min. bending radius, moved | 7.5 x outer cable diameter |
| Min. bending radius, moved in drag chain | 15 x outer cable diameter |
| Min. bending radius, fixed installation | 5 x outer cable diameter |
| Weight | 61 kg/km (41 lb/1000 ft) |
| Outer cable diameter | 6.5 mm ± 0.2 mm (0.2559" ± 0.0079") |
| Conductor material (Ethernet) | copper, tinned |
| Shielding | aluminium-clad foil, braiding of tinned copper wires |
| Optical covering factor of shielding (Ethernet) | ≥ 85 % |

| | |
|---|--|
| Use | drag-chain suitable |
| Max. acceleration | 4 m/s ² |
| Max. speed | 4 m/s |
| Max. number of cycles | 3 million |
| Wall thickness of wire insulation (Ethernet) | 0.375 mm |
| Jacket colour | yellow |
| Material jacket | PUR (polyurethane) |
| Wire colour code | yellow, orange, white, blue |
| Wire insulation material | PP (polypropylene) |
| Printing on the jacket | BECKHOFF ZB9024 Industrial Ethernet / EtherCAT Trailing Cable * CAT5PLUS * 22AWG (SHIELDED) (UL) E119100 CMX 75°C VERIFIED (UL) CAT 5E PATCH CABLE FRNC * "length in meters" |
| Printing colour | black |
| Environmental data | |
| Operation temperature range, moved | -40...+70 °C, -40...+158 °F |
| Operation temperature range, fixed installation | -20...+60 °C, -4...+140 °F |
| UV resistance | yes |
| Oil resistance | according to DIN EN 60811-404 (7x24 h/90 °C) |
| Acid, lye and solvent resistance | depends on medium, concentration, temperature and duration |
| LABS-free | yes |
| Flame-retardant | yes |
| CFC-free | yes |
| Halogen-free | yes |
| Silicone-free | yes |
| RoHS compliant | yes |
| Approvals | UL-Style AWM 20963 |

| | | | | | | | | |
|--|----------|----------|-----------|-----------|-----------|--------------|-------------|------------|
| Attenuation | | | | | | | | |
| Max. insertion loss | | | | | | | | |
| Frequency [MHz] | 1 | 4 | 10 | 16 | 20 | 31.25 | 62.5 | 100 |
| [db/100 m] | 2.1 | 4.0 | 6.3 | 8.0 | 9.0 | 11.4 | 16.5 | 21.3 |
| [db/100 ft] | 0.6 | 1.2 | 1.9 | 2.4 | 2.7 | 3.5 | 5 | 6.5 |
| 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 |
| ZB9024 | sold by the metre |

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