

1868E

Networking Cables Datatwist® cable CAT 5E F/UTP PVC

2011-04-27 v8

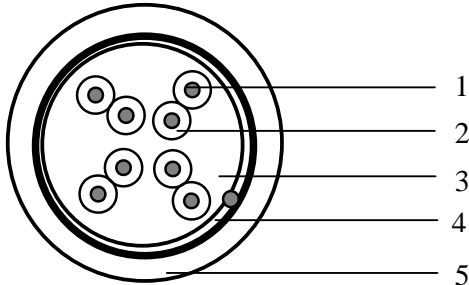
Applications

- Work area cable
- Support current and future Category 5e applications, such as:
1000Base-T (Gigabit Ethernet), 100 Base-T, 10 Base-T, FDDI, ATM

General standards

- International standard: ISO/IEC 11801 2nd edition (2002) and ISO/IEC 11801 Amendment 2 (2010)
- European standard: EN 50173-1 (2002) and EN 50173-1 Amendment 1 (2009)
- U.S. Standards: ANSI/TIA/EIA 568-B.2-1 (2002)

Construction & Dimensions



- | | |
|----------------------------------|---|
| 1. Conductor | |
| Material | Stranded bare copper ETP |
| Diameter | AWG 26 (7x AWG 34) |
| 2. Insulation | |
| Material | Polyethylene |
| Nominal diameter over insulation | 0.95 mm |
| 3. Cable core | |
| Pair | 2 twisted insulated conductors |
| Number of pairs | 4, all twisted together |
| Colour code pair 1 | Black / Blue & Blue |
| Colour code pair 2 | Black / Orange & Orange |
| Colour code pair 3 | Black / Green & Green |
| Colour code pair 4 | Black / Brown & Brown |
| 4. Foil shielding | |
| Material | Laminated Aluminium / Polyester |
| Position aluminium | Facing inside, in contact with drain wire |
| Drain wire material | Stranded tinned copper |
| Drain wire diameter | AWG 26 (7x AWG 34) |

5. Jacket

| | |
|---|-------------------------------------|
| Material | PVC |
| Diameter | 5.4 ± 0.3 mm |
| Colour | Grey (RAL 7032) and blue (RAL 5015) |
| Standard text: (+ length indication per meter): | |

| |
|--|
| BELDEN 1868E F/UTP CAT5e 4PR AWG26 ISO/IEC 11801 EN50173 100 OHM |
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Electrical characteristics

Reference standard: ISO/IEC 61156-6 edition 3.0 (2010)

| Low frequency and D.C. (at 20°C) | Specification | Unit |
|---|---------------|---------|
| D.C. resistance conductor | < 14.5 | Ω/100m |
| Resistance unbalance: within a pair / between pairs | < 2 / < 4 | % |
| Insulation resistance | ≥ 5000 | MΩ.km |
| Dielectric strength conductor-conductor and conductor-screen (2 sec.) | 2.5 | kV DC |
| Mutual capacitance | < 56 | nF/km |
| Capacitance unbalance pair to ground | < 1600 | pF/km |
| Nominal velocity of propagation (for information only) | > 0.6 | c |
| Delay skew (differential delay) | ≤ 40 | ns/100m |
| Transfer impedance according IEC 61156-5 | Grade 2 | |
| Coupling attenuation according IEC 61156-5 | Type II | |

High frequency (at 20°), reference standard: ISO/IEC61156-5

| TYPE | 1* | 4 | 10 | 16 | 20 | 31.25 | 62.5 | 100 | MHz |
|-----------------------|-------|-------|-------|-------|-------|-------|-------|-------|---------|
| Attenuation | 3.2 | 6.0 | 9.5 | 12.1 | 13.5 | 17.1 | 24.8 | 32.0 | dB/100m |
| NEXT | 65.3 | 56.3 | 50.3 | 47.2 | 45.8 | 42.9 | 38.4 | 35.3 | dB/100m |
| PS NEXT | 62.3 | 53.3 | 47.3 | 44.2 | 42.8 | 39.9 | 35.4 | 32.3 | dB/100m |
| ACR | 62.1 | 50.3 | 40.8 | 35.2 | 32.2 | 25.8 | 13.6 | 3.3 | dB/100m |
| PS ACR | 59.1 | 47.3 | 37.8 | 32.2 | 29.2 | 22.8 | 10.6 | 0.3 | dB/100m |
| ACR-F | 64.0 | 52.0 | 44.0 | 39.9 | 38.0 | 34.1 | 28.1 | 24.0 | dB/100m |
| PS ACR-F | 61.0 | 49.0 | 41.0 | 36.9 | 35.0 | 31.5 | 25.1 | 21.0 | dB/100m |
| Return Loss | 20.0 | 23.0 | 25.0 | 25.0 | 25.0 | 23.3 | 20.7 | 19.0 | dB/100m |
| TCI level 1 | 40.0 | 34.0 | 30.0 | 28.0 | 27.0 | 25.1 | 22.0 | 20.0 | dB/100m |
| EL TCTL | 35.0 | 23.0 | 15.0 | 10.9 | 9.0 | 5.5 | | | dB/100m |
| Impedance upper limit | 122.2 | 115.2 | 111.9 | 111.9 | 111.9 | 114.6 | 120.2 | 125.3 | Ω |
| Impedance lower limit | 81.8 | 86.8 | 89.4 | 89.4 | 89.4 | 87.2 | 83.2 | 79.8 | Ω |
| Propagation delay | 570 | 552 | 545 | 543 | 540 | 539 | 538 | 537 | ns/100m |

NOTE: Limits below 4MHz are for information only

Mechanical characteristics

| Low frequency and D.C. (at 20°C) | Specification | Unit |
|---|---------------|------|
| Elongation at break of the conductors | 8 | % |
| Minimum elongation at break of the insulation | ≥ 100 | % |
| Minimum elongation at break of the sheath | ≥ 100 | % |
| Tensile strength of sheath | < 9 | MPa |

Environmental and overall characteristics

| Low frequency and D.C. (at 20°C) | Specification | Unit |
|---|---------------|--------|
| Maximum operating voltage (for all temperatures cable is intended to be used) | 72 | V D.C. |
| Maximum continuous current per conductor (@25°C) | 1.5 | A |
| Temperature rating installation | 0 / 50 | °C |
| Temperature rating operation | - 30 / 60 | °C |
| Total cable weight | 31 | kg/km |
| Minimum bending radius (during operation and installation) | 21 / 42 | mm |
| Maximum pulling strength | 45 | N |
| Burning load | 395 | kJ/m |
| Fire performance according IEC 60332-1 | Pass | |



Belden declares this product to be in compliance with the environmental regulations EU RoHS (Directive 2002/95/EC, 27 January 2003); this is valid for all material produced after the RoHS compliant date for this product.

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