



Part Number: 1700E

Cat 5e Cable, U/UTP, PVC, 4 Pair bonded, AWG 24, Indoor CPR Eca

Product Description

Cat.5e (350MHz), 4-Pair, U/UTP Unshielded, Premise Horizontal Cable, 24 AWG solid bare copper conductors, Polyethylene insulation, PVC jacket, RJ-45 compatible

Technical Specifications

Product Overview

| | |
|------------------------|---|
| Environmental Space: | Indoor - Euroclass Eca |
| Suitable Applications: | Horizontal and building backbone cable; Support current and future Category 5e applications, such as: 1000Base-T (Gigabit Ethernet), 100 Base-T, 10 Base-T, FDDI, ATM |

Physical Characteristics (Overall)

Conductor

| Element | AWG | Stranding | Material | No. of Pairs |
|------------------------|-----|-----------|------------------|--------------|
| Individual bonded pair | 24 | Solid | BC - Bare Copper | 4 |

| | |
|------------------------|--------|
| Conductor Count: | 8 |
| Total Number of Pairs: | 4 |
| Conductor Size: | 24 AWG |

Insulation

| Element | Type | Material | Nominal Diameter |
|------------------------|------------|--------------|------------------|
| Individual bonded pair | Dielectric | Polyethylene | 0.95 mm |

| | |
|--------------|-----|
| Bonded-Pair: | Yes |
|--------------|-----|

Color Chart

| Number | Color |
|--------|-----------------------|
| Pair 1 | White/Blue & Blue |
| Pair 2 | White/Green & Green |
| Pair 3 | White/Orange & Orange |
| Pair 4 | White/Brown & Brown |

Outer Jacket Material

| Material | Nominal Diameter | Diameter +/- Tolerance | Ripcord |
|--------------------------|------------------|------------------------|---------|
| PVC - Polyvinyl Chloride | 5.1 mm | 0.3 mm | Yes |

Construction and Dimensions

| | |
|---------------------------------------|-------|
| Min Elongation at Breakof Conductors: | 10 % |
| Min Elongation at Breakof Insulation: | 100 % |

Cabling

| Description | |
|-----------------------------------|-------|
| 4 bonded pairs twisted together | |
| Min Elongation at Breakof Jacket: | 100 % |
| Min Tensile Strength of Jacket: | 9 MPa |

Electrical Characteristics

Conductor DCR

| Max. Conductor DCR | Max DCR Unbalanced Between Pairs [%] | Max. DCR Unbalanced Within Pair [%] |
|--------------------|--------------------------------------|-------------------------------------|
| 95 Ohm/km | 4 % | 2 Ohm |

Capacitance

| Max. Capacitance Unbalance | Max. Mutual Capacitance |
|----------------------------|-------------------------|
| 1,600 pF/m | 56 pF/m |

Impedance

| Nominal Characteristic Impedance |
|----------------------------------|
| 100 Ohm |

Delay

| Max. Delay Skew | Min. Velocity of Propagation |
|-----------------|------------------------------|
| 40 ns/100m | 60 % |

High Freq

| Frequency [MHz] | Max. Insertion Loss (Attenuation) | Min. NEXT [dB] | Min. PSNEXT [dB] | Min. ACR [dB] | Min. PSACR [dB] | Min. ACRF (ELFEXT) [dB] | Min. PSACRF (PSELFEXT) [dB] | Min. RL (Return Loss) [dB] | Min. TCL [dB] | Min. ELTCTL [dB] |
|-----------------|-----------------------------------|----------------|------------------|---------------|-----------------|-------------------------|-----------------------------|----------------------------|---------------|------------------|
| 1 MHz | 2.1 dB/100m | 65.3 dB | 62.3 dB | 63.2 dB | 60.2 dB | 64 dB | 61 dB | 20 dB | 40 dB | 35 dB |
| 4 MHz | 4 dB/100m | 56.3 dB | 53.3 dB | 52.32 dB | 49.3 dB | 52 dB | 49 dB | 23 dB | 34 dB | 23 dB |
| 10 MHz | 6.3 dB/100m | 50.3 dB | 47.3 dB | 44 dB | 41 dB | 44 dB | 41 dB | 25 dB | 30 dB | 15 dB |
| 16 MHz | 8.0 dB/100m | 47.2 dB | 44.2 dB | 39.2 dB | 36.2 dB | 39.9 dB | 36.9 dB | 25 dB | 28 dB | 10.9 dB |
| 20 MHz | 9.0 dB/100m | 45.8 dB | 42.8 dB | 36.8 dB | 33.8 dB | 38.0 dB | 35.0 dB | 25 dB | 27 dB | 9 dB |
| 31.25 MHz | 11.4 dB/100m | 42.9 dB | 39.9 dB | 31.5 dB | 28.5 dB | 34.1 dB | 31.5 dB | 23.6 dB | 25.1 dB | 5.5 dB |
| 62.5 MHz | 16.5 dB/100m | 38.4 dB | 35.4 dB | 21.9 dB | 18.9 dB | 28.1 dB | 25.1 dB | 21.5 dB | 22 dB | |
| 100 MHz | 21.3 dB/100m | 35.3 dB | 32.3 dB | 14.0 dB | 11.0 dB | 24.0 dB | 21.0 dB | 20.1 dB | 20 dB | |
| 155 MHz | 27.2 dB/100m | 32.4 dB | 29.4 dB | 5.2 dB | 2.2 dB | 20.2 dB | 17.2 dB | 18.8 dB | | |
| 250 MHz | 35.8 dB/100m | 29.3 dB | 26.3 dB | | | 16.0 dB | 13.0 dB | 17.3 dB | | |
| 350 MHz | 43.5 dB/100m | 27.1 dB | 24.1 dB | | | 13.1 dB | 10.1 dB | 17.3 dB | | |

High Freq Table Note: Limits below 4MHz are for information only.

Segregation class according EN50174-2: a

Current

| Max. Recommended Current [A] |
|------------------------------|
| 1.5 A |

Voltage

| Voltage Rating [V] |
|--------------------|
| 72 V |

Temperature Range

| | |
|--------------------------|----------------|
| Installation Temp Range: | 0°C To +50°C |
| Operating Temp Range: | -30°C To +60°C |

Mechanical Characteristics

| | |
|--------------------------------------|----------|
| Bulk Cable Weight: | 30 kg/km |
| Max Recommended Pulling Tension: | 65 N |
| Min Bend Radius During Installation: | 40 mm |
| Min Bend Radius During Operation: | 20 mm |

Standards

| | |
|---------------------|--|
| ISO/IEC Compliance: | ISO/IEC 11801 Ed. 2.2:2002/A2:2010/C1:2011 |
| CPR Euroclass: | Eca |
| CENELEC Compliance: | EN 50173-1 Ed. 3:2011 |
| Data Category: | Category 5e |
| ANSI Compliance: | ANSI/TIA/EIA 568-C.2 (2009) |

Applicable Environmental and Other Programs

| | |
|---------------------------------------|------------|
| EU RoHS Compliance Date (yyyy-mm-dd): | 2004-01-01 |
|---------------------------------------|------------|

Flammability, LSOH, Toxicity Testing

| | |
|-----------------------|-------------|
| ISO/IEC Flammability: | IEC 60332-1 |
| Burning Load: | 335 kJ/m |

Part Number

Variants

| Item # | Color |
|--------------|-------|
| 1700E.011000 | Blue |
| 1700E.01305 | Blue |
| 1700E.01500 | Blue |
| 1700E.001000 | Gray |
| 1700E.00305 | Gray |
| 1700E.00500 | Gray |
| 1700E.00U305 | Gray |

| | |
|---------|---|
| Patent: | https://www.belden.com/resources/patents |
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History

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| Revision Number: | 8 |
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