



Product: [1303EPU](#)

CAT6A Category 6A Cable, 4 Pair, S/FTP, PVC PUR upjacketed

### Product Description

CAT6A Category 6A Cable, 4 Pair, S/FTP, PVC PUR upjacketed

### Technical Specifications

#### Product Overview

Suitable Applications: Field deployable CAT6a patch horizontal and building backbone cable; AVB, Dante, CobraNET, eSnake, Ethersound, Digital audio over Ethernet; Support current and future Category 6A and 6 applications, such as: 10GBase - T(10 Gigabit Ethernet), 1000 Base - T (Gigabit Ethernet), 100 Base - T, 10 Base - T, FDDI, ATM; Compatible connectors Belden R301601 000S1 (T568A) and R301602 000S1 (T568B)

#### Construction Details

##### Conductor

| Element                  | Size   | Stranding | Material         | Number of Pairs | Number of Element |
|--------------------------|--------|-----------|------------------|-----------------|-------------------|
| Individual Shielded Pair | 24 AWG | 7x32      | BC - Bare Copper | 4               | 8                 |

##### Insulation

| Element                  | Material                 | Nom. Insulation Diameter | Color Code   |
|--------------------------|--------------------------|--------------------------|--|
| Individual Shielded Pair | PE - Polyethylene (Foam) | 1.4 mm (0.055 in)        | White & Blue, White & Orange, White & Green, White & Brown |

##### Cable Core

| Description              |
|--------------------------|
| 4 pairs twisted together |

##### Inner Shield

| Element                  | Shield Type | Material                | Coverage |
|--------------------------|-------------|-------------------------|----------|
| Individual Shielded Pair | Tape        | Bi-Laminate (Alum+Poly) | 100%     |

Table Notes: Aluminum facing outside

##### Outer Shield

| Shield Type | Material           | Coverage | Drainwire Type   |
|-------------|--------------------|----------|------------------|
| Braid       | Tinned Copper (TC) | 80%      | 26 AWG (7x34) TC |

##### Outer Jacket

| Layer | Separator      | Material                 | Nom. Diameter    |
|-------|----------------|--------------------------|------------------|
| 1     |                | PVC - Polyvinyl Chloride | 7.2 mm (0.28 in) |
| 2     | non-Woven Tape | PUR - Polyurethane       | 8.7 mm (0.34 in) |

Table Notes: Matte Finish, Rugged Sheath

Overall Cable Diameter (Nominal): 8.7 mm (0.34 in)

#### Electrical Characteristics

##### Electricals

| Max. Conductor DCR | Max. Mutual Capacitance | Max. Capacitance Unbalance | Nom. Characteristic Impedance |
|--------------------|-------------------------|----------------------------|-------------------------------|
| 95 Ohm/km          | 56 pF/m (17 pF/ft)      | 160 pF/100m                | 100 Ohm                       |

##### Delay

| Max. Delay Skew | Nom. Velocity of Prop. |
|-----------------|------------------------|
| 25 ns/100m      | 77%                    |

#### High Frequency

| 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. PSANEXT [dB] | Min. PSAACRF [dB] | Min. TCL [dB] | Min. ELTCTL [dB] |
|-----------------|-----------------------------------|----------------|------------------|---------------|-----------------|-------------------------|-----------------------------|----------------------------|-------------------|-------------------|---------------|------------------|
| 1               | 2.5 dB/100m                       | 75.3           | 72.3             | 72.8          | 69.8            | 68                      | 65                          | 20                         | 67                | 67                | 40            | 35               |
| 4               | 4.6 dB/100m                       | 66.3           | 63.3             | 61.7          | 58.7            | 56                      | 53                          | 23                         | 67                | 66.2              | 34            | 23               |
| 10              | 7.1 dB/100m                       | 60.3           | 57.3             | 53.2          | 50.2            | 48                      | 45                          | 25                         | 67                | 58.2              | 30            | 15               |
| 16              | 9 dB/100m                         | 57.2           | 54.2             | 48.3          | 45.3            | 43.9                    | 40.9                        | 25                         | 67                | 54.1              | 28            | 10.9             |
| 31.2            | 12.6 dB/100m                      | 52.9           | 49.9             | 50.4          | 47.3            | 38.1                    | 35.1                        | 23.6                       | 67                | 48.3              | 25.1          | 5.1              |
| 62.5            | 18 dB/100m                        | 48.4           | 45.4             | 30.4          | 27.4            | 32.1                    | 9.1                         | 21.5                       | 65.6              | 42.3              | 22            |                  |
| 100             | 23 dB/100m                        | 45.3           | 42.3             | 22.3          | 19.3            | 28                      | 25                          | 20.1                       | 62.5              | 38.2              | 20            |                  |
| 125             | 25.8 dB/100m                      | 43.8           | 40.8             | 18            | 15              | 26.1                    | 23.1                        | 19.4                       | 61                | 36.3              | 19            |                  |
| 200             | 33.1 dB/100m                      | 40.8           | 37.8             | 7.7           | 4.7             | 22                      | 19                          | 18                         | 58                | 32.2              | 17            |                  |
| 250             | 37.3 dB/100m                      | 39.3           | 36.3             | 2             | -1              | 20                      | 17                          | 17.3                       | 56.5              | 30.2              | 16            |                  |
| 300             | 41.1 dB/100m                      | 38.1           | 35.1             | -3            | -6              | 18.5                    | 15.5                        | 17.3                       | 55.3              | 28.7              |               |                  |
| 500             | 54.3 dB/100m                      | 34.8           | 31.8             | -19.5         | -22.5           | 14                      | 11                          | 17.3                       | 52                | 24.2              |               |                  |

Table Notes: Reference standard: IEC 61156-6

#### Transfer Impedance

| Frequency | Max. Transfer Impedance |
|-----------|-------------------------|
| 1 Mhz     | Max. 50 mOhm/m          |
| 10 Mhz    | Max. 100 mOhm/m         |
| 30 Mhz    | Max. 200 mOhm/m         |
| 100 Mhz   | Max. 1000 mOhm/m        |

Transfer Impedance Class: Grade 2

Screening Class: Type Ib

Table Notes: Coupling Attenuation

#### Voltage

| Voltage Rating |
|----------------|
| 72 V DC        |

### Mechanical Characteristics

#### Temperature

| Operating      | Installation |
|----------------|--------------|
| -30°C to +60°C | 0°C To +50°C |

#### Trailing/Flexing Properties

| Motion           | Number of Cycles | Radius | Speed | Acceleration       | Traverse Length |
|------------------|------------------|--------|-------|--------------------|-----------------|
| Trailing/Bending | 2,000,000        | 80 mm  | 5 m/s | 5 m/s <sup>2</sup> | 5 m             |

Table Notes: Drag chain test

#### Bend Radius

| Stationary Min. | Installation Min. |
|-----------------|-------------------|
| 35 mm (1.4 in)  | 70 mm             |

Max. Pull Tension: 75 N (17 lbf)

Bulk Cable Weight: 83 kg/km

### Standards and Compliance

|                                  |   |
|----------------------------------|---|
| Environmental Suitability:       | Indoor/Outdoor  |
| Flammability / Reaction to Fire: | IEC 60332-1-2   |
| IEEE Compliance:                 | PoE: IEEE 802.3bt Type 1, Type 2, Type 3, Type 4      |
| Data Category:                   | Category 6A   |
| TIA/EIA Compliance:              | ANSI/TIA 568.2-D                                      |
| ISO/IEC Compliance:              | ISO/IEC 11801-1                                       |
| CENELEC Compliance:              | EN 50173-1, Segregation class according EN50174-2 = c |

|                                |            |
|--------------------------------|------------|
| European Directive Compliance: | EU CE Mark |
|--------------------------------|------------|

## Product Notes

|        |  |
|--------|--|
| Notes: | Electrical values are expected performance based on cable testing and representative performance within a typical Belden system. |
|--------|--|

## History

|                      |  |
|----------------------|--|
| Update and Revision: | Revision Number: 0.534 Revision Date: 03-15-2023 |
|----------------------|--|

## Part Numbers

### Variants

| Item #          | Color | Putup Type | Length   | UPC/EAN       |
|-----------------|-------|------------|----------|---------------|
| 1303EPU.00152   | Black | Reel       | 152 m    | 8719605000989 |
| 1303EPU.00305   | Black | Reel       | 305 m    | 8719605001009 |
| 1303EPU 010500  | Black | Reel       | 500 ft   | 612825381808  |
| 1303EPU.00500   | Black | Reel       | 500 m    | 8719605001016 |
| 1303EPU 0101000 | Black | Reel       | 1,000 ft | 612825381785  |
| 1303EPU.001500  | Black | Reel       | 1,500 m  | 8719605000972 |
| 1303EPU 0101640 | Black | Reel       | 1,640 ft | 612825381792  |
| 1303EPU.003000  | Black | Reel       | 3,000 m  | 8719605000996 |

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