



Product: [1685ENH](#)

Category 6A Cable, 4 Pair, F/FTP, LSZH Indoor CPR Dca

Product Description

Category 6A Premise Horizontal Cable (500MHz), 4-Pair, 23 AWG Solid Bare Copper conductors, F/FTP, Foam Polyethylene insulation, each pair with Beldfoil® shield, AWG 26 solid tinned copper drainwire, overall Beldfoil® shield, LSZH jacket

Technical Specifications

Product Overview

| | |
|------------------------|--|
| Suitable Applications: | Horizontal and building backbone cable; Support current and future Category 6A and 6 applications, such as: 10GBase-T (10 Gigabit Ethernet), 1000Base-T (Gigabit Ethernet), 100 Base-T, 10 Base-T, FDDI, ATM |
|------------------------|--|

Construction Details

Conductor

| Element | Size | Stranding | Material | No. of Pairs | No. of Elements |
|--------------------------|--------|-----------|------------------|--------------|-----------------|
| Individual Shielded Pair | 23 AWG | Solid | BC - Bare Copper | 4 | 8 |

Insulation

| Element | Material | Nom. Insulation Diameter | Color Code |
|--------------------------|--------------------------|--------------------------|--|
| Individual Shielded Pair | PE - Polyethylene (Foam) | 1.32 mm (0.0520 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 |
|-------------|-------------------------|----------|-------------------|
| Tape | Bi-Laminate (Alum+Poly) | 100% | 26 AWG (Solid) TC |

| | |
|--------------|--|
| Table Notes: | Aluminum facing inside. Drainwire between inner and outer foil |
|--------------|--|

Outer Jacket

| Material | Nom. Diameter | Ripcord |
|---|------------------|---------|
| LSZH - Low Smoke Zero Halogen (Flame Retardant) | 7.1 mm (0.28 in) | Yes |

| | |
|-----------------------------------|------------------|
| Overall Cable Diameter (Nominal): | 7.1 mm (0.28 in) |
|-----------------------------------|------------------|

Electrical Characteristics

Electricals

| Max. Conductor DCR | Max. Mutual Capacitance | Max. Capacitance Unbalance | Nom. Characteristic Impedance |
|---------------------------|-------------------------|----------------------------|-------------------------------|
| 95 Ohm/km (29 Ohm/1000ft) | 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 | 2.1 dB/100m | 75.3 | 72.3 | 73.2 | 70.2 | 68 | 65 | 20 | 67 | 67 | 40 | 35 |
| 4 | 3.8 dB/100m | 66.3 | 63.3 | 62.5 | 59.5 | 56 | 53 | 23 | 67 | 66.2 | 34 | 23 |
| 10 | 5.9 dB/100m | 60.3 | 57.3 | 54.4 | 51.4 | 48 | 45 | 25 | 67 | 58.2 | 30 | 15 |
| 16 | 7.5 dB/100m | 57.2 | 54.2 | 49.8 | 46.8 | 43.9 | 40.9 | 25 | 67 | 54.1 | 28 | 10.9 |
| 31.2 | 10.5 dB/100m | 52.9 | 49.9 | 42.4 | 39.4 | 38.1 | 35.1 | 23.6 | 67 | 48.3 | 25.1 | 5.1 |
| 62.5 | 15 dB/100m | 48.4 | 45.4 | 33.4 | 30.4 | 32.1 | 29.1 | 21.5 | 65.6 | 42.3 | 22 | |
| 100 | 19.1 dB/100m | 45.3 | 42.3 | 26.2 | 23.2 | 28 | 25 | 20.1 | 62.5 | 38.2 | 20 | |
| 125 | 21.5 dB/100m | 43.8 | 40.8 | 22.3 | 19.3 | 26.1 | 23.1 | 19.4 | 61 | 36.3 | 19 | |
| 200 | 27.6 dB/100m | 40.8 | 37.8 | 13.2 | 10.2 | 22 | 19 | 18 | 58 | 32.2 | 17 | |
| 250 | 31.1 dB/100m | 39.3 | 36.3 | 8.3 | 5.3 | 20 | 17 | 17.3 | 56.5 | 30.2 | 16 | |
| 300 | 34.3 dB/100m | 38.1 | 35.1 | 3.9 | 0.9 | 18.5 | 15.5 | 17.3 | 55.3 | 28.7 | | |
| 500 | 45.3 dB/100m | 34.8 | 31.8 | -10.4 | -13.4 | 14 | 11 | 17.3 | 52 | 24.2 | | |

Table Notes: Limits below 4 MHz and at 625 MHz are for information only. Reference standard: IEC 61156-5

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 |

Bend Radius

| Stationary Min. | Installation Min. |
|-----------------|-------------------|
| 29 mm (1.1 in) | 57 mm (2.2 in) |

Max. Pull Tension: 79 N (18 lbf)

Bulk Cable Weight: 48 kg/km (32 lbs/1000ft)

Standards and Compliance

| | |
|----------------------------------|--|
| Environmental Suitability: | Indoor - Euroclass Dca |
| Flammability / Reaction to Fire: | IEC 60332-1-2 |
| CPR Compliance: | CPR Euroclass: Dca-s2,d2,a1; CPR UKCA Class: Dca-s2,d2,a1 |
| 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, IEC 61034-2 - Smoke Density Min Transmittance = 60% |
| GENELEC Compliance: | EN 50173-1, Segregation class according EN50174-2 = c |
| European Halogen Free Standards: | IEC 62821-1 Halogen Free Compliance = Yes, IEC 60754-1 - Halogen Amount = Zero, IEC 60754-2 - Halogen Acid Gas Amount - Max. Conductivity = 2.5 μS/mm, IEC 60754-2 - Halogen Acid Gas Amount - Min. pH = 4.3 |
| European Directive Compliance: | EU CE Mark |
| UK Regulation Compliance: | UKCA 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: 0.467 Revision Date: 01-17-2024

Part Numbers

Variants

| Item # | Color | Putup Type | Length | EAN |
|-----------------|----------------|------------|---------|---------------|
| 1685ENH 006305M | Blue | Reel | 305 m | |
| 1685ENH 006500M | Blue | Reel | 500 m | |
| 1685ENH 008305M | Gray | Reel | 305 m | |
| 1685ENH 008500M | Gray | Reel | 500 m | |
| 1685ENH.00500 | Gray, RAL 7032 | Reel | 500 m | 8719605003256 |
| 1685ENH.00600 | Gray, RAL 7032 | Reel | 600 m | 8719605003263 |
| 1685ENH.001000 | Gray, RAL 7032 | Reel | 1,000 m | 8719605003249 |
| 1685ENH 007305M | Purple | Reel | 305 m | |
| 1685ENH.03500 | Purple | Reel | 500 m | 8719605003287 |
| 1685ENH 007500M | Purple | Reel | 500 m | |
| 1685ENH.031000 | Purple | Reel | 1,000 m | 8719605003270 |
| 1685ENH 009305M | White | Reel | 305 m | |
| 1685ENH 009500M | White | Reel | 500 m | |
| 1685ENH 004305M | Yellow | Reel | 305 m | |
| 1685ENH.04500 | Yellow | Reel | 500 m | 8719605167781 |
| 1685ENH 004500M | Yellow | Reel | 500 m | |

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