



Part Number: 10GXE00

10GX Cat 6A+ Cable, F/UTP, LSZH, 4 Pair, AWG 23, Indoor CPR Eca

Product Description

Category 6A (625MHz), 4-Pair, F/UTP-Foil shielded, Premise Horizontal Cable, 23 AWG Solid Bare Copper Conductors, Polyethylene Insulation, Beldfoil® shield, AWG 26 solid tinned copper drainwire, LSZH Jacket, CPR Euroclass Eca

Technical Specifications

Product Overview

| | |
|------------------------|--|
| Environmental Space: | Indoor - Euroclass Eca |
| 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 |

Physical Characteristics (Overall)

Conductor

| Element | AWG | Stranding | Material | No. of Pairs |
|-----------------|-----|-----------|------------------|--------------|
| Individual pair | 23 | Solid | BC - Bare Copper | 4 |

| | |
|------------------------|--------|
| Conductor Count: | 8 |
| Total Number of Pairs: | 4 |
| Conductor Size: | 23 AWG |

Insulation

| Element | Type | Material | Nominal Diameter |
|-----------------|------------|--------------|------------------|
| Individual pair | Dielectric | Polyethylene | 1.18 mm |

| | |
|--------------|----|
| Bonded-Pair: | No |
|--------------|----|

Color Chart

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

Outer Shield Material

| Type | Material | Coverage [%] | Drainwire Material | Drainwire AWG | Drainwire Position |
|------|--------------------|--------------|---------------------|---------------|-----------------------|
| Tape | Aluminum/Polyester | 100 % | Solid tinned copper | 26 | outside aluminum foil |

| | |
|--------------------------|-------------------------|
| Outer Shield Table Note: | Aluminum facing outside |
|--------------------------|-------------------------|

Outer Jacket Material

| Material | Nominal Diameter | Diameter +/- Tolerance | Ripcord |
|-------------|------------------|------------------------|---------|
| LSZH / FRNC | 7.2 mm | 0.3 mm | Yes |

Construction and Dimensions

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

Cabling

| Description |
|-------------|
|-------------|

4 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 % |

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 |
|-----------------|------------------------------|
| 45 ns/100m | 67 % |

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. PSANEXT | Min. PSAACRF | Min. TCL [dB] | Min. ELTCTL [dB] |
|-----------------|-----------------------------------|----------------|------------------|---------------|-----------------|-------------------------|-----------------------------|----------------------------|--------------|--------------|---------------|------------------|
| 1 MHz | 2.1 dB/100m | 75.3 dB | 72.3 dB | 73.2 dB | 70.2 dB | 68 dB | 65 dB | 20 dB | 67 dB | 67 dB | 40 dB | 35 dB |
| 4 MHz | 3.8 dB/100m | 66.3 dB | 63.3 dB | 62.5 dB | 59.5 dB | 56 dB | 53 dB | 23 dB | 67 dB | 66.2 dB | 34 dB | 23 dB |
| 10 MHz | 5.9 dB/100m | 60.3 dB | 57.3 dB | 54.4 dB | 51.4 dB | 48 dB | 45 dB | 25 dB | 67 dB | 58.2 dB | 30 dB | 15 dB |
| 16 MHz | 7.5 dB/100m | 57.2 dB | 54.2 dB | 49.8 dB | 46.8 dB | 43.9 dB | 40.9 dB | 25 dB | 67 dB | 54.1 dB | 28 dB | 10.9 dB |
| 31.2 MHz | 10.5 dB/100m | 52.9 dB | 49.9 dB | 42.4 dB | 39.4 dB | 38.1 dB | 35.1 dB | 23.6 dB | 67 dB | 48.3 dB | 25.1 dB | 5.1 dB |
| 62.5 MHz | 15 dB/100m | 48.4 dB | 45.4 dB | 33.4 dB | 30.4 dB | 32.1 dB | 29.1 dB | 21.5 dB | 65.6 dB | 42.3 dB | 22 dB | |
| 100 MHz | 19.1 dB/100m | 45.3 dB | 42.3 dB | 26.2 dB | 23.2 dB | 28 dB | 25 dB | 20.1 dB | 62.5 dB | 38.2 dB | 20 dB | |
| 125 MHz | 21.5 dB/100m | 43.8 dB | 40.8 dB | 22.3 dB | 19.3 dB | 26.1 dB | 23.1 dB | 19.4 dB | 61 dB | 36.3 dB | 19 dB | |
| 200 MHz | 27.6 dB/100m | 40.8 dB | 37.8 dB | 13.2 dB | 10.2 dB | 22 dB | 19 dB | 18 dB | 58 dB | 32.2 dB | 17 dB | |
| 250 MHz | 31.1 dB/100m | 39.3 dB | 36.3 dB | 8.3 dB | 5.3 dB | 20 dB | 17 dB | 17.3 dB | 56.5 dB | 30.2 dB | 16 dB | |
| 300 MHz | 34.3 dB/100m | 38.1 dB | 35.1 dB | 3.9 dB | 0.9 dB | 18.5 dB | 15.5 dB | 17.3 dB | 55.3 dB | 28.7 dB | | |
| 500 MHz | 45.3 dB/100m | 34.8 dB | 31.8 dB | -10.4 dB | -13.4 dB | 14 dB | 11 dB | 17.3 dB | 52 dB | 24.2 dB | | |
| 625 MHz | 51.2 dB/100m | 33.4 dB | 30.4 dB | -17.8 dB | -20.8 dB | 12.1 dB | 9.1 dB | 17.3 dB | 50.6 dB | 22.3 dB | | |

High Freq Table Note: Limits below 4MHz and at 625MHz are for information only.

Coupling Attenuation Class: Type II

Segregation class according EN50174-2: c

Transfer Impedance

| Frequency [MHz] | Description | Transfer Impedance |
|-----------------|-------------|--------------------|
| 1 Mhz | Grade 2 | Max. 50 mOhm/m |
| 10 Mhz | | Max. 100 mOhm/m |
| 30 Mhz | | Max. 200 mOhm/m |
| 100 Mhz | | Max. 1000 mOhm/m |

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: | 50 kg/km |
| Max Recommended Pulling Tension: | 80 N |
| Min Bend Radius During Installation: | 58 mm |
| Min Bend Radius During Operation: | 29 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 6A |
| ANSI Compliance: | ANSI/TIA 568.2-D (2018) |
| IEEE Specification: | PoE: IEEE 802.3bt Type 1, Type 2, Type 3, Type 4 |

Applicable Environmental and Other Programs

| | |
|---------------------------------------|------------|
| EU RoHS Compliance Date (yyyy-mm-dd): | 2013-01-08 |
|---------------------------------------|------------|

Flammability, LSOH, Toxicity Testing

| | |
|--|---------------|
| ISO/IEC Flammability: | IEC 60332-1-2 |
| Burning Load: | 745 kJ/m |
| Amount of Halogen acc. to IEC 60754-1 & EN50267-1: | Zero |

Part Number

Variants

| Item # | Color | Length |
|---------------|--------|--------|
| 10GXE00.10500 | Black | 500 m |
| 10GXE00.06500 | Blue | 500 m |
| 10GXE00.06100 | Blue | 100 m |
| 10GXE00.K6500 | Blue | 500 m |
| 10GXE00.08500 | Gray | 500 m |
| 10GXE00.08100 | Gray | 100 m |
| 10GXE00.08305 | Gray | 305 m |
| 10GXE00.03500 | Orange | 500 m |
| 10GXE00.07500 | Purple | 500 m |
| 10GXE00.K7500 | Purple | 500 m |
| 10GXE00.04500 | Yellow | 500 m |

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

History

| | |
|----------------------|--|
| Update and Revision: | Revision Number: 0.231 Revision Date: 05-23-2019 |
|----------------------|--|

© 2019 Belden, Inc

All Rights Reserved.

Although Belden makes every reasonable effort to ensure their accuracy at the time of this publication, information and specifications described here in are subject to error or omission and to change without notice, and the listing of such information and specifications does not ensure product availability.

Belden provides the information and specifications herein on an "ASIS" basis, with no representations or warranties, whether express, statutory or implied. In no event will Belden be liable for any damages (including consequential, indirect, incidental, special, punitive, or exemplary damages) whatsoever, even if Belden has been advised of the possibility of such damages, whether in an action under contract, negligence or any other theory, arising out of or in connection with the use, or inability to use, the information or specifications described herein.

All sales of Belden products are subject to Belden's standard terms and conditions of sale.

Belden believes this product to be in compliance with all applicable environmental programs as listed in the data sheet. The information provided is correct to the best of Belden's knowledge, information and belief at the date of its publication. This information is designed only as a general guide for the safe handling, storage, and any other operation of the product itself or the one that it becomes a part of. The Product Disclosure is not to be considered a warranty or quality specification. Regulatory information is for guidance purposes only. Product users are responsible for determining the applicability of legislation and regulations based on their individual usage of the product.