



Product: [10GX33](#) 

10GX Category 6A Enhanced Cable, 4 Bonded-Pairs, U/UTP, CMP

Product Description

10GX Category 6A Enhanced Premise Horizontal Cable (625MHz), 4 Bonded-Pairs, 23 AWG Solid Bare Copper Conductors, U/UTP, Plenum-CMP, Flamarrest® PVC-LS Jacket

Technical Specifications

Product Overview

| | |
|------------------------|--|
| Suitable Applications: | Premise Horizontal Cable, Ethernet up to 10GBASE-T, HDBaseT, PoE++, PoE+, PoE |
| Patent: | This product has one or more applicable patents. More information on patents can be found at https://www.belden.com/resources/patents . |

Construction Details

Conductor

| AWG | Stranding | Material | Number of Pairs |
|-----|-----------|------------------|-----------------|
| 23 | Solid | BC - Bare Copper | 4 |

Insulation

| Material | Color Code |
|--------------------------------------|--|
| FEP - Fluorinated Ethylene Propylene | White/Blue Stripe & Blue, White/Orange Stripe & Orange, White/Green Stripe & Green, White/Brown Stripe & Brown |
| Bonded-Pair: | Yes |

Outer Jacket Material

| Separator Material | Material | Material Trade Name | Nom. Diameter | Ripcord |
|--|--------------------------|---------------------|---------------|---------|
| Double H Cross-Web (Patented RoundFlex®) | PVC - Polyvinyl Chloride | Flamarrest® | 0.295 in | Yes |

Electrical Characteristics

Electricals

| Max. Conductor DCR | Max. DCR Unbalance | Max. DCR Unbalanced Between Pairs [%] | Max. Capacitance Unbalance | Nom. Mutual Capacitance |
|--------------------|--------------------|---------------------------------------|----------------------------|-------------------------|
| 7.5 Ohm/1000ft | 3% | 5% | 90 pF/100m | 17 pF/ft |

Delay

| Frequency [MHz] | Max. Delay | Max. Delay Skew | Nom. Velocity of Propagation (VP) [%] |
|-----------------|---------------|-----------------|---------------------------------------|
| 100 MHz | 537.6 ns/100m | 30 ns/100m | 68% |

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] | Max./Min. Input Impedance (unFitted) | Max./Min. Fitted Impedance | Min. PSANEXT | Min. PSAACRF | Min. TCL [dB] | Min. ELTCTL [dB] |
|-----------------|-----------------------------------|----------------|------------------|---------------|-----------------|-------------------------|-----------------------------|----------------------------|--------------------------------------|----------------------------|--------------|--------------|---------------|------------------|
| 1 MHz | 2.1 dB/100m | 75.3 dB | 73.3 dB | 73.3 dB | 71.3 dB | 70.8 dB | 68.8 dB | 20.0 dB | 100 ± 15 Ohm | 100 ± 15 Ohm | 67.0 dB | 67.0 dB | 48.0 dB | 43.0 dB |
| 4 MHz | 3.8 dB/100m | 66.3 dB | 64.3 dB | 62.5 dB | 60.5 dB | 58.8 dB | 56.8 dB | 23.0 dB | 100 ± 15 Ohm | 100 ± 10.4 Ohm | 67.0 dB | 67.0 dB | 48.0 dB | 41.0 dB |
| 8 MHz | 5.3 dB/100m | 61.8 dB | 59.8 dB | 56.4 dB | 54.4 dB | 52.7 dB | 50.7 dB | 24.5 dB | 100 ± 15 Ohm | 100 ± 8 Ohm | 67.0 dB | 61.1 dB | 48.0 dB | 24.9 dB |
| 10 MHz | 5.9 dB/100m | 60.3 dB | 58.3 dB | 54.4 dB | 52.4 dB | 50.8 dB | 48.8 dB | 25.0 dB | 100 ± 15 Ohm | 100 ± 7.3 Ohm | 67.0 dB | 59.2 dB | 48.0 dB | 23.0 dB |
| 16 MHz | 7.5 dB/100m | 57.2 dB | 55.2 dB | 49.8 dB | 47.8 dB | 46.7 dB | 44.7 dB | 25.0 dB | 100 ± 15 Ohm | 100 ± 5.7 Ohm | 67.0 dB | 55.1 dB | 46.0 dB | 18.9 dB |

| | | | | | | | | | | | | | | |
|-----------|--------------|---------|---------|---------|---------|---------|---------|---------|--------------|-------------|---------|---------|---------|---------|
| 20 MHz | 8.4 dB/100m | 55.8 dB | 53.8 dB | 47.4 dB | 45.4 dB | 44.8 dB | 42.8 dB | 25.0 dB | 100 ± 15 Ohm | 100 ± 5 Ohm | 67.0 dB | 53.2 dB | 45.0 dB | 17.0 dB |
| 25 MHz | 9.4 dB/100m | 54.3 dB | 52.3 dB | 45.0 dB | 43.0 dB | 42.8 dB | 40.8 dB | 25.0 dB | 100 ± 15 Ohm | 100 ± 5 Ohm | 67.0 dB | 51.2 dB | 44.0 dB | 15.0 dB |
| 31.25 MHz | 10.5 dB/100m | 52.9 dB | 50.9 dB | 42.4 dB | 40.4 dB | 40.9 dB | 38.9 dB | 25.0 dB | 100 ± 15 Ohm | 100 ± 5 Ohm | 67.0 dB | 49.3 dB | 43.1 dB | |
| 62.5 MHz | 15.0 dB/100m | 48.4 dB | 46.4 dB | 33.4 dB | 31.4 dB | 34.9 dB | 32.9 dB | 25.0 dB | 100 ± 15 Ohm | 100 ± 5 Ohm | 66.6 dB | 43.3 dB | 40.0 dB | |
| 100 MHz | 19.1 dB/100m | 45.3 dB | 43.3 dB | 26.2 dB | 24.2 dB | 30.8 dB | 28.8 dB | 25.0 dB | 100 ± 15 Ohm | 100 ± 5 Ohm | 63.5 dB | 39.2 dB | 38.0 dB | |
| 200 MHz | 27.6 dB/100m | 40.8 dB | 38.8 dB | 13.2 dB | 11.2 dB | 24.8 dB | 22.8 dB | 21.0 dB | 100 ± 22 Ohm | 100 ± 5 Ohm | 59.0 dB | 33.2 dB | 35.0 dB | |
| 250 MHz | 31.1 dB/100m | 39.3 dB | 37.3 dB | 8.3 dB | 6.3 dB | 22.8 dB | 20.8 dB | 20.5 dB | 100 ± 32 Ohm | 100 ± 5 Ohm | 57.5 dB | 31.2 dB | 34.0 dB | |
| 300 MHz | 34.3 dB/100m | 38.1 dB | 36.1 dB | 3.9 dB | 1.9 dB | 21.3 dB | 19.3 dB | 20.1 dB | 100 ± 32 Ohm | 100 ± 5 Ohm | 56.3 dB | 29.7 dB | 33.2 dB | |
| 350 MHz | 37.2 dB/100m | 37.1 dB | 35.1 dB | | | 19.9 dB | 17.9 dB | 19.8 dB | 100 ± 32 Ohm | 100 ± 5 Ohm | 55.3 dB | 28.3 dB | 32.6 dB | |
| 400 MHz | 40.1 dB/100m | 36.3 dB | 34.3 dB | | | 18.8 dB | 16.8 dB | 19.5 dB | 100 ± 32 Ohm | 100 ± 5 Ohm | 54.5 dB | 27.2 dB | 32.0 dB | |
| 450 MHz | 42.7 dB/100m | 35.5 dB | 33.5 dB | | | 17.7 dB | 15.7 dB | 18.9 dB | 100 ± 32 Ohm | 100 ± 5 Ohm | 53.7 dB | 26.1 dB | 31.5 dB | |
| 500 MHz | 45.3 dB/100m | 34.8 dB | 32.8 dB | | | 16.8 dB | 14.8 dB | 18.4 dB | 100 ± 32 Ohm | 100 ± 5 Ohm | 53.0 dB | 25.2 dB | 31.0 dB | |
| 550 MHz | 47.7 dB/100m | 34.2 dB | 32.2 dB | | | 16.0 dB | 14.0 dB | 18.0 dB | 100 ± 32 Ohm | 100 ± 5 Ohm | 52.4 dB | 24.4 dB | | |
| 600 MHz | 50.1 dB/100m | 33.6 dB | 31.6 dB | | | 15.2 dB | 13.2 dB | 17.6 dB | 100 ± 32 Ohm | 100 ± 5 Ohm | 51.8 dB | 23.6 dB | | |
| 625 MHz | 51.2 dB/100m | 33.4 dB | 31.4 dB | | | 14.9 dB | 12.9 dB | 17.4 dB | 100 ± 32 Ohm | 100 ± 5 Ohm | 51.6 dB | 23.3 dB | | |
| 750 MHz | 56.7 dB/100m | 32.2 dB | 30.2 dB | | | 13.3 dB | 11.3 dB | 16.5 dB | | | 50.4 dB | 21.7 dB | | |
| 860 MHz | 61.2 dB/100m | 31.3 dB | 29.3 dB | | | 12.1 dB | 10.1 dB | 15.8 dB | | | 49.5 dB | 20.5 dB | | |

Voltage

| |
|---------------------------|
| UL Voltage Rating |
| 300 V (CMP), 300 V (CL3P) |

Mechanical Characteristics

Temperature

| UL Rating | Operating | Installation | Storage |
|-----------|----------------|--------------|----------------|
| 105°C | -20°C To +75°C | 0°C To +50°C | -20°C To +75°C |

Bend Radius

| Stationary Min. | Installation Min. |
|-----------------|-------------------|
| 0.6 in | 3.0 in |

| | |
|--------------------|---------------|
| Max. Pull Tension: | 40 lbs |
| Bulk Cable Weight: | 43 lbs/1000ft |

Standards and Compliance

| | |
|---------------------------------|--|
| Environmental Suitability: | Plenum, Indoor |
| Sustainability: | Product Lens™, Environmental Product Declaration (EPD) Available |
| Flammability / Fire Resistance: | NFPA 262, UL 910 (Plenum), FT6, FT6, IEC 60332-1-2 |
| NEC / UL Compliance: | 800, CMP;CMP-LP (0.6A);CL3P-LP (0.6A) |
| CEC / C(UL) Compliance: | CMP |
| ICEA Compliance: | S-116-732-2013 |
| IEEE Compliance: | IEEE 802.3bt Type 1, Type 2, Type 3, Type 4 |
| NEMA Compliance: | ANSI/NEMA WC-66 |
| Data Category: | Category 6A |
| TIA/EIA Compliance: | ANSI/TIA-568.2-D Category 6A |
| Cenelec Compliance: | Segregation class according EN50174-2=a |
| CPR Euroclass: | Eca |
| European Directive Compliance: | EU CE Mark, EU Directive 2015/863/EU, EU Directive 2011/65/EU (ROHS II), EU Directive 2012/19/EU (WEEE), REACH: 2020-01-16 |
| APAC Compliance: | China RoHS II (GB/T 26572-2011) |
| Other Standard Compliance(s): | Verified Channel/Category 6A |

Part Number

Non-Plenum Number: 10GX32

Variants

| Item # | Color | Putup Type | Length | UPC |
|----------------|--------|------------|----------|--------------|
| 10GX33 D151000 | Blue | Reel | 1,000 ft | 612825102335 |
| 10GX33 0081000 | Gray | Reel | 1,000 ft | 612825102359 |
| 10GX33 0091000 | White | Reel | 1,000 ft | 612825102366 |
| 10GX33 0041000 | Yellow | Reel | 1,000 ft | 612825102342 |

Product Notes

Notes: Electrical values are expected performance based on cable testing and representative performance within a typical Belden system. Values above 625 MHz are for Engineering Information Only. 0.295" Cable Dimension per TIA 6@1 Equivalent Diameter. Print Includes Descending Footage/Meter Markings from Max. Put-Up Length to 0.

History

Update and Revision: Revision Number: 0.424 Revision Date: 09-30-2020

© 2020 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.