



Product: [10GX52F](#)

10GX Category 6A Enhanced Cable, 4 Pairs, F/UTP, CMR



Product Description

10GX Category 6A Enhanced Premise Horizontal Cable (625MHz), 4 Pair, 23 AWG Solid Bare Copper Conductors, F/UTP - Foil Shielded, Riser-CMR, PVC Jacket

Technical Specifications

Product Overview

| | |
|------------------------|--|
| Suitable Applications: | Premise Horizontal Cable, Ethernet up to 10GBASE-T, Wi-Fi 6, Wi-Fi 5, Surveillance, HDBaseT, PoE++, PoE+, PoE, Noisy Environments |
| Patent: | This product has one or more applicable patents. More information on patents can be found at https://www.belden.com/patents . |

Construction Details

Conductor

| Size | Stranding | Material | No. of Pairs |
|--------|-----------|------------------|--------------|
| 23 AWG | Solid | BC - Bare Copper | 4 |

Insulation

| Material | Color Code |
|-----------------|--|
| PO - Polyolefin | White & Blue, White & Orange, White & Green, White & Brown |

Outer Shield

| Shield Type | Material | Coverage | Drainwire Type |
|-------------|-------------------------|----------|------------------|
| Tape | Bi-Laminate (Alum+Poly) | 100% | 26 AWG (7x34) TC |

Outer Jacket

| Separator | Material | Nom. Diameter | Ripcord |
|--------------------------------------|--------------------------|--------------------|---------|
| Center Member (Patented EquiSpline®) | PVC - Polyvinyl Chloride | 0.275 in (6.99 mm) | Yes |

| | |
|-----------------------------------|--------------------|
| Overall Cable Diameter (Nominal): | 0.275 in (6.99 mm) |
|-----------------------------------|--------------------|

Electrical Characteristics

Electricals

| Max. Conductor DCR | Max. Capacitance Unbalance |
|---------------------------|----------------------------|
| 82 Ohm/km (25 Ohm/1000ft) | 90 pF/100m |

Delay

| Frequency | Max. Delay | Max. Delay Skew | Nom. Velocity of Prop. |
|-----------|---------------|-----------------|------------------------|
| 100 MHz | 537.6 ns/100m | 45 ns/100m | 64% |

High Frequency

| Frequency [MHz] | Max. Insertion Loss (Attenuation) | Min. PSNEXT [dB] | Min. PSACR [dB] | Min. PSACRF (PSELFEXT) [dB] | Min. RL (Return Loss) [dB] | Max./Min. Input Impedance (unFitted) [Ohm] | Max./Min. Fitted Impedance [Ohm] | Min. PSANEXT [dB] | Min. PSAACRF [dB] | Min. TCL [dB] | Min. ELTCTL [dB] |
|-----------------|-----------------------------------|------------------|-----------------|-----------------------------|----------------------------|--|----------------------------------|-------------------|-------------------|---------------|------------------|
| 1 | 2.1 dB/100m | 73.3 | 71.2 | 68.8 | 20.0 | 100 ± 15 | 105 ± 10 | 77.0 | 77.0 | 40.0 | 35.0 |
| 4 | 3.8 dB/100m | 64.3 | 60.5 | 56.8 | 23.0 | 100 ± 15 | 100 ± 15 | 77.0 | 76.2 | 40.0 | 23.0 |
| 8 | 5.3 dB/100m | 59.8 | 54.4 | 50.7 | 24.5 | 100 ± 15 | 100 ± 15 | 77.0 | 70.1 | 40.0 | 16.9 |
| 10 | 5.9 dB/100m | 58.3 | 52.4 | 48.8 | 25.0 | 100 ± 15 | 100 ± 15 | 77.0 | 68.2 | 40.0 | 15.0 |

| | | | | | | | | | | | |
|-------|--------------|------|------|------|------|----------|----------|------|------|------|------|
| 16 | 7.5 dB/100m | 55.2 | 47.8 | 44.7 | 25.0 | 100 ± 15 | 100 ± 15 | 77.0 | 64.1 | 38.0 | 10.9 |
| 20 | 8.4 dB/100m | 53.8 | 45.4 | 42.8 | 25.0 | 100 ± 15 | 100 ± 15 | 77.0 | 62.2 | 37.0 | 9.0 |
| 25 | 9.4 dB/100m | 52.3 | 43.0 | 40.8 | 24.3 | 100 ± 15 | 100 ± 15 | 77.0 | 60.2 | 36.0 | 7.0 |
| 31.25 | 10.5 dB/100m | 50.9 | 40.4 | 38.9 | 23.6 | 100 ± 15 | 100 ± 10 | 77.0 | 58.3 | 35.1 | |
| 62.5 | 15.0 dB/100m | 46.4 | 31.4 | 32.9 | 21.5 | 100 ± 15 | 100 ± 10 | 77.0 | 52.3 | 32.0 | |
| 100 | 19.1 dB/100m | 43.3 | 24.2 | 28.8 | 20.1 | 100 ± 15 | 100 ± 10 | 72.5 | 48.2 | 30.0 | |
| 200 | 27.6 dB/100m | 38.8 | 11.2 | 22.8 | 18.0 | 100 ± 22 | 100 ± 10 | 68.5 | 42.2 | 27.0 | |
| 250 | 31.1 dB/100m | 37.3 | 6.3 | 20.8 | 17.3 | 100 ± 32 | 100 ± 10 | 66.5 | 40.2 | 26.0 | |
| 300 | 34.3 dB/100m | 36.1 | 1.9 | 19.3 | 16.8 | 100 ± 32 | 100 ± 10 | 65.3 | 38.7 | 25.2 | |
| 350 | 37.2 dB/100m | 35.1 | | 17.9 | 16.3 | 100 ± 32 | 100 ± 10 | 64.3 | 37.3 | 24.6 | |
| 400 | 40.1 dB/100m | 34.3 | | 16.8 | 15.9 | 100 ± 32 | 100 ± 10 | 63.5 | 36.2 | 24.0 | |
| 450 | 42.7 dB/100m | 33.5 | | 15.7 | 15.5 | 100 ± 32 | 100 ± 10 | 62.7 | 35.1 | 23.5 | |
| 500 | 45.3 dB/100m | 32.8 | | 14.8 | 15.2 | 100 ± 32 | 100 ± 10 | 62.0 | 34.2 | 23.0 | |
| 550 | 47.7 dB/100m | 32.2 | | 14.0 | 14.9 | 100 ± 32 | 100 ± 10 | 62.4 | 34.4 | | |
| 600 | 50.1 dB/100m | 31.6 | | 13.2 | 14.7 | 100 ± 32 | 100 ± 10 | 61.8 | 33.6 | | |
| 625 | 51.2 dB/100m | 31.4 | | 12.9 | 14.5 | 100 ± 32 | 100 ± 10 | 61.6 | 33.3 | | |
| 750 | 56.7 dB/100m | 30.2 | | 11.3 | 14.0 | 100 ± 32 | 100 ± 10 | 60.4 | 31.7 | | |
| 860 | 61.2 dB/100m | 29.3 | | 10.1 | 13.6 | 100 ± 32 | 100 ± 10 | 59.5 | 30.5 | | |

Voltage

| |
|---------------------------|
| UL Voltage Rating |
| 300 V (CMR), 300 V (CL3R) |

Mechanical Characteristics

Temperature

| UL Temperature | Operating | Installation | Storage |
|----------------|----------------|--------------|----------------|
| 90°C | -20°C To +75°C | 0°C To +50°C | -20°C To +75°C |

Bend Radius

| Stationary Min. | Installation Min. |
|-------------------|-------------------|
| 2.25 in (57.2 mm) | 2.75 in (69.9 mm) |

| | |
|--------------------|----------------|
| Max. Pull Tension: | 25 lbs (11 kg) |
| Bulk Cable Weight: | 41 lbs/1000ft |

Standards and Compliance

| | |
|----------------------------------|---|
| Environmental Suitability: | Riser, Indoor |
| Sustainability: | Product Lens™, Environmental Product Declaration (EPD) Available |
| Flammability / Reaction to Fire: | UL 1666 Riser, FT4, IEC 60332-1-2 |
| CPR Compliance: | CPR Euroclass: Eca; CPR UKCA Class: Eca |
| NEC / UL Compliance: | Article 800, CMR, CMR-LP (0.6A), CL3R-LP (0.6A) |
| CEC / C(UL) Compliance: | CMR |
| ICEA Compliance: | S-116-732 |
| 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 |
| ISO/IEC Compliance: | ISO/IEC 11801-1, IEC 61156-5 |
| European Directive Compliance: | EU CE Mark, EU Directive 2015/863/EU (RoHS 2 amendment), REACH, EU Directive 2011/65/EU (RoHS 2), EU Directive 2012/19/EU (WEEE), REACH: 2020-01-16 |
| UK Regulation Compliance: | UKCA Mark |
| APAC Compliance: | China RoHS II (GB/T 26572-2011) |
| Plenum Number: | 10GX53F |

Product Notes

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| 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. Print Includes Descending Footage/Meter Markings from Max. Put-Up Length to 0. |
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History

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| Update and Revision: | Revision Number: 0.433 Revision Date: 12-12-2023 |
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Part Numbers

Variants

| Item # | Color | UPC |
|-----------------|--------|--------------|
| 10GX52F 0101000 | Black | 612825003939 |
| 10GX52F 0061000 | Blue | 612825003908 |
| 10GX52F 0081000 | Gray | 612825003915 |
| 10GX52F 0021000 | Red | 612825003885 |
| 10GX52F 0091000 | White | 612825003922 |
| 10GX52F 0041000 | Yellow | 612825003892 |

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