



**Product:** [10GXV02](#)

DNV GL, Shipboard, 10GX Cat 6A+ Cable, S/FTP, LSZH, 4 Pair, AWG 23, Indoor

## Product Description

DNV GL, Shipboard, Category 6A (625MHz), 4-Pair, S/FTP shielded, Premise Horizontal Cable, 23 AWG Solid Bare Copper conductors, Foam Polyolefin insulation, each pair with Beldfoil® shield, tinned copper braid shield (30%), 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 |
| Patent:                | This product has one or more applicable patents. More information on patents can be found at <a href="https://www.belden.com/resources/patents">https://www.belden.com/resources/patents</a> .               |

### Physical Characteristics (Overall)

#### Conductor

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

|                        |   |
|------------------------|---|
| Conductor Count:       | 8 |
| Total Number of Pairs: | 4 |

#### Insulation

| Type       | Material               | Nominal Diameter |
|------------|------------------------|------------------|
| Dielectric | PO - Polyolefin (Foam) | 1.32 mm          |

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

#### Color Chart

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

#### Inner Shield Material

| Type | Material                | Coverage [%] |
|------|-------------------------|--------------|
| Tape | Bi-Laminate (Alum+Poly) | 100%         |

|              |                         |
|--------------|-------------------------|
| Table Notes: | Aluminum facing outside |
|--------------|-------------------------|

#### Outer Shield Material

| Type  | Material           | Min. Coverage [%] |
|-------|--------------------|-------------------|
| Braid | Tinned Copper (TC) | 30%               |

#### Outer Jacket Material

| Material  | Nominal Diameter | Diameter +/- Tolerance | Ripcord |
|---|------------------|------------------------|---------|
| LSZH - Low Smoke Zero Halogen (Flame Retardant) | 7.6 mm           | 0.3 mm                 | Yes     |

### Construction and Dimensions

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

|                                       |       |
|---------------------------------------|-------|
| Min Elongation at Breakof Insulation: | 100 % |
| 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 |
|-----------------|
| 45 ns/100m      |

### 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      |               |                  |

|  |   |
|--|---|
| Table Notes:                           | Limits below 4 MHz and at 625 MHz are for information only. Reference standard: IEC 61156-5 |
| General Electrical Parameters Notes:   | Reference standard: ISO/IEC 61156-5   |
| Coupling Attenuation Class:            | Type Ib   |
| Segregation class according EN50174-2: | d   |

### 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 Amps per Conductor       |

### 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:                   | 52 kg/km |
| Max. Pull Tension:                   | 85 N     |
| Min Bend Radius During Installation: | 58 mm    |
| Min Bend Radius During Operation:    | 29 mm    |

## Standards

|                                       |  |
|---------------------------------------|--|
| IEC Compliance:                       | ISO/IEC 11801-1                                  |
| CENELEC Compliance:                   | EN 50173-1                                       |
| Data Category:                        | Category 6A                                      |
| ANSI Compliance:                      | ANSI/TIA 568.2-D (2018)                          |
| IEEE Compliance:                      | PoE: IEEE 802.3bt Type 1, Type 2, Type 3, Type 4 |
| Third Party Performance Verification: | DNV GL certification                             |

## Applicable Environmental and Other Programs

|                                       |            |
|---------------------------------------|------------|
| Environmental Space:                  | Indoor     |
| EU RoHS Compliance Date (yyyy-mm-dd): | 2014-09-29 |

## Flammability, LS0H, Toxicity Testing

|  |               |
|--|---------------|
| IEC Flammability:  | IEC 60332-1-2 |
| Burning Load:  | 500 kJ/m      |
| IEC 60754-1 (EN50267-1)- Halogen Amount:                                     | Zero          |
| IEC 60754-2 (EN50267-2)- Halogen Acid Gas Amount - Max. Conductivity:        | 2.5 µS/mm     |
| IEC 60754-2 (EN50267-2)- Halogen Acid Gas Amount - Min. pH:                  | 4.3           |
| IEC 61034-2 (EN 61034-2) (VDE 0482-1034) - Smoke Density Min. Transmittance: | 60%           |

## Part Number

### Variants

| Item #        | Color | Putup Type | Length | EAN           |
|---------------|-------|------------|--------|---------------|
| 10GXV02.06500 | Blue  | Reel       | 500 m  | 8719605180469 |

## 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: 0.54 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.