



Product: [121872A](#)

DataTuff® 6, 4 Bonded-Pr #23 Sol BC, PO Ins, PVC Jkt, AIA Armor, PVC Jkt, CMG CM

Request Sample

Product Description

Industrial Ethernet Cat 6, 4 Bonded-Pair 23AWG (Solid) Bare Copper, PO Insulation, PVC Inner Jacket, Aluminum Interlock Armor, PVC Outer Jacket, CMG CM

Technical Specifications

Product Overview

|                        |                                                                                                                                                           |
|------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| Suitable Applications: | harsh environment, IIoT, factory or process automation, IP cameras and devices, data communication, etc. exposure to rodent, crush, or cut through force, |
|------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|

Physical Characteristics (Overall)

Conductor

| AWG | Stranding | Material         | Nominal Diameter | No. of Pairs |
|-----|-----------|------------------|------------------|--------------|
| 23  | Solid     | BC - Bare Copper | 0.022 in         | 4            |

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

Insulation

| Material   | Nominal Diameter | Nominal Wall Thickness |
|------------|------------------|------------------------|
| Polyolefin | 0.038 in         | 0.009 in               |

|              |     |
|--------------|-----|
| Bonded-Pair: | Yes |
|--------------|-----|

Color Chart

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

Inner Jacket Material

| Material                 | Nominal Diameter |
|--------------------------|------------------|
| PVC - Polyvinyl Chloride | .365 x .165 in   |

Outer Shield Material

| Material  |
|-----------|
| No Shield |

Outer Jacket Material

| Material                 | Nominal Diameter | Nominal Wall Thickness |
|--------------------------|------------------|------------------------|
| PVC - Polyvinyl Chloride | 0.725 in         | 0.05 in                |

Construction and Dimensions

Armor

| Type of Armor | Material | Diameter over Armoring |
|---------------|----------|------------------------|
| Interlocked   | Aluminum | 0.625 in               |

Electrical Characteristics

Conductor DCR

| Max. Conductor DCR | Max. DCR Unbalance |
|--------------------|--------------------|
| 90 Ohm/km          | 3 %                |

Capacitance

| Max. Capacitance Unbalance | Nom.Mutual Capacitance |
|----------------------------|------------------------|
| 49.2 pF/ft                 | 17 pF/ft               |

Delay

| Max. Delay  | Max. Delay Skew | Nominal Velocity of Propagation (VP) [%] |
|-------------|-----------------|------------------------------------------|
| 510 ns/100m | 25 ns/100m      | 70 %                                     |

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 |
|-----------------|-----------------------------------|----------------|------------------|---------------|-----------------|-------------------------|-----------------------------|----------------------------|--------------------------------------|----------------------------|
| 1 MHz           | 1.9 dB/100m                       | 74.3 dB        | 72.3 dB          | 72.4 dB       | 70.4 dB         | 67.8 dB                 | 64.8 dB                     | 20 dB                      | 100 ± 12 Ohm                         | 100 ± 15 Ohm               |
| 4 MHz           | 3.7 dB/100m                       | 65.3 dB        | 63.3 dB          | 61.6 dB       | 59.6 dB         | 55.7 dB                 | 52.7 dB                     | 23 dB                      | 100 ± 12 Ohm                         | 100 ± 15                   |
| 8 MHz           | 5.3 dB/100m                       | 60.3 dB        | 58.8 dB          | 55.5 dB       | 53.5 dB         | 49.7 dB                 | 46.7 dB                     | 24.5 dB                    | 100 ± 12 Ohm                         | 100 ± 15                   |
| 10 MHz          | 5.9 dB/100m                       | 59.3 dB        | 57.3 dB          | 53.4 dB       | 51.4 dB         | 47.8 dB                 | 44.8 dB                     | 25 dB                      | 100 ± 12 Ohm                         | 100 ± 15                   |
| 16 MHz          | 7.5 dB/100m                       | 56.3 dB        | 54.3 dB          | 48.7 dB       | 46.7 dB         | 43.7 dB                 | 40.7 dB                     | 25 dB                      | 100 ± 12 Ohm                         | 100 ± 8                    |
| 20 MHz          | 8.4 dB/100m                       | 54.8 dB        | 52.8 dB          | 46.4 dB       | 44.4 dB         | 41.7 dB                 | 38.7 dB                     | 25 dB                      | 100 ± 12 Ohm                         | 100 ± 8                    |
| 25 MHz          | 9.5 dB/100m                       | 53.4 dB        | 51.4 dB          | 43.9 dB       | 41.9 dB         | 39.8 dB                 | 36.8 dB                     | 24.3 dB                    | 100 ± 15 Ohm                         | 100 ± 8                    |
| 31.25 MHz       | 10.6 dB/100m                      | 51.9 dB        | 49.9 dB          | 41.2 dB       | 39.2 dB         | 37.9 dB                 | 34.9 dB                     | 23.6 dB                    | 100 ± 15 Ohm                         | 100 ± 8                    |
| 62.5 MHz        | 15.4 dB/100m                      | 47.4 dB        | 45.4 dB          | 32 dB         | 30 dB           | 31.8 dB                 | 28.8 dB                     | 21.5 dB                    | 100 ± 15 Ohm                         | 100 ± 8                    |
| 100 MHz         | 19.8 dB/100m                      | 44.3 dB        | 42.3 dB          | 24.5 dB       | 22.5 dB         | 27.8 dB                 | 24.8 dB                     | 21 dB                      | 100 ± 15 Ohm                         |                            |
| 155 MHz         | 25.1 dB/100m                      | 41.5 dB        | 39.5 dB          | 16.3 dB       | 14.3 dB         | 23.9 dB                 | 20.9 dB                     | 21 dB                      | 100 ± 15 Ohm                         |                            |
| 200 MHz         | 29 dB/100m                        | 39.9 dB        | 37.9 dB          | 10.8 dB       | 10 dB           | 21.7 dB                 | 18.7 dB                     | 21 dB                      | 100 ± 15 Ohm                         |                            |
| 250 MHz         | 32.8 dB/100m                      | 38.3 dB        | 36.3 dB          | 5.5 dB        | 3.5 dB          | 19.8 dB                 | 16.8 dB                     | 18 dB                      | 100 ± 20 Ohm                         |                            |
| 300 MHz         | 35.2 dB/100m                      | 37.2 dB        | 34.2 dB          | 0.7 dB        | 0 dB            | 18.2 dB                 | 15.2 dB                     | 18 dB                      | 100 ± 20 Ohm                         |                            |
| 310 MHz         | 37.1 dB/100m                      | 36.9 dB        | 34.9 dB          | 0 dB          |                 | 17.9 dB                 | 14.9 dB                     | 18 dB                      | 100 ± 20 Ohm                         |                            |
| 350 MHz         | 39.8 dB/100m                      | 36.2 dB        | 34.2 dB          |               |                 | 16.9 dB                 | 13.9 dB                     | 17 dB                      | 100 ± 22 Ohm                         |                            |
| 400 MHz         | 43 dB/100m                        | 35.3 dB        | 33.3 dB          |               |                 | 15.7 dB                 | 12.7 dB                     | 14 dB                      | 100 ± 32 Ohm                         |                            |
| 500 MHz         | 49 dB/100m                        | 33.8 dB        | 31.8 dB          |               |                 | 13.8 dB                 | 10.8 dB                     | 14 dB                      | 100 ± 32 Ohm                         |                            |

Voltage

| UL Voltage Rating |
|-------------------|
| 300 V RMS         |

Temperature Range

|                          |                |
|--------------------------|----------------|
| Installation Temp Range: | -25°C To +75°C |
| UL Temp Rating:          | 60°C           |
| Storage Temp Range:      | -40°C To +85°C |
| Operating Temp Range:    | -40°C To +75°C |

Mechanical Characteristics

|                                  |                |
|----------------------------------|----------------|
| Bulk Cable Weight:               | 154 lbs/1000ft |
| Max Recommended Pulling Tension: | 200 lbs        |
| Min Bend Radius/Minor Axis:      | 8.25 in        |

Standards

|                               |                                                 |
|-------------------------------|-------------------------------------------------|
| NEC/(UL) Specification:       | CM, UL 444                                      |
| CEC/C(UL) Specification:      | CMG, HL                                         |
| CPR Euroclass:                | Eca                                             |
| Data Category:                | Category 6                                      |
| Telecommunications Standards: | Category 6 - TIA 568.C.2, ISO/IEC 11801 Class E |

Applicable Environmental and Other Programs

|                                |     |
|--------------------------------|-----|
| EU Directive 2000/53/EC (ELV): | Yes |
| EU Directive 2003/11/EC (BFR): | Yes |

|                                       |                               |
|---------------------------------------|-------------------------------|
| EU Directive 2011/65/EU (ROHS II):    | Yes                           |
| EU Directive 2012/19/EU (WEEE):       | Yes                           |
| EU Directive 2015/863/EU:             | Yes                           |
| EU Directive Compliance:              | EU Directive 2003/11/EC (BFR) |
| EU RoHS Compliance Date (yyyy-mm-dd): | 2004-01-04                    |
| MII Order #39 (China RoHS):           | Yes                           |

Suitability

|                                    |     |
|------------------------------------|-----|
| Suitability - Oil Resistance:      | Yes |
| Suitability - Sunlight Resistance: | Yes |

Flammability, LSOH, Toxicity Testing

|                       |                   |
|-----------------------|-------------------|
| UL Flammability:      | UL1685 UL Loading |
| CSA Flammability:     | FT4               |
| ISO/IEC Flammability: | IEC 60332-1-2     |
| UL voltage rating:    | 300 V RMS         |

Plenum/Non-Plenum

|               |    |
|---------------|----|
| Plenum (Y/N): | No |
|---------------|----|

Part Number

Variants

| Item #          | Color        | Putup Type | Length   | UPC          |
|-----------------|--------------|------------|----------|--------------|
| 121872A 0101000 | Black        | Reel       | 1,000 ft | 612825109037 |
| 121872A J221000 | Blue, Strong | Reel       | 1,000 ft | 612825109013 |
| 121872A 0081000 | Gray         | Reel       | 1,000 ft | 612825109020 |

|           |                                                                                                                  |
|-----------|------------------------------------------------------------------------------------------------------------------|
| Footnote: | C - CRATE REEL PUT-UP.                                                                                           |
| Footnote: | Z - FINAL PUT-UP MAY VARY (= OR -) 10% FOR SPOOLS OR REELS AND (+ OR -) 5% FOR UNREEL CARTONS FROM LENGTH SHOWN. |
| Patent:   | <a href="https://www.belden.com/resources/patents">https://www.belden.com/resources/patents</a>                  |

Product Notes

|        |                                                                                                                                                                                       |
|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Notes: | US Patent #'s 5606151; 5734126; 5821467 **Values above 350 MHz are information only. Operating temperatures are subject to length de-rating. Cable passes -40C Cold Bend per UL 1581. |
|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

History

|                      |                                                  |
|----------------------|--------------------------------------------------|
| Update and Revision: | Revision Number: 0.334 Revision Date: 04-28-2020 |
|----------------------|--------------------------------------------------|

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