



**Product:** [74004NH](#)

DataTuff® 7, 4PR #23 Sol BC, PO ins, S/FTP, LSNH Jkt, AWM 20851, Dca

**Product Description**

DataTuff® 7, 4 Pair AWG 23 Bare Copper - Solid, Polyethylene insulation, S/FTP - Overall Braid / Individual Foil shielding, LSZH / FRNC jacket , AWM 20851

**Technical Specifications**

**Product Overview**

|                        |                                                                                                                                                                            |
|------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Suitable Applications: | harsh environment, IIoT, factory or process automation, video, audio, data communication, etc.                                                                             |
| Patent:                | This product has one or more applicable patents. More information on patents can be found at <a href="https://www.belden.com/patents">https://www.belden.com/patents</a> . |

**Construction Details**

Conductor

| Element                  | Size   | Stranding | Material         | Number of Pairs | Number of Element |
|--------------------------|--------|-----------|------------------|-----------------|-------------------|
| Individual Shielded Pair | 23 AWG | Solid     | BC - Bare Copper | 4               | 8                 |

Insulation

| Element                  | Material                 | Nom. Insulation Diameter | Color Code                                                 |
|--------------------------|--------------------------|--------------------------|------------------------------------------------------------|
| Individual Shielded Pair | PE - Polyethylene (Foam) | 1.45 mm (0.0571 in)      | White & Blue, White & Orange, White & Green, White & Brown |

Cable Core

| Description                   |
|-------------------------------|
| 4 pairs twisted to cable core |

Inner Shield

| Element                  | Shield Type | Material                | Coverage |
|--------------------------|-------------|-------------------------|----------|
| Individual Shielded Pair | Tape        | Bi-Laminate (Alum+Poly) | 100%     |

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

Outer Shield

| Shield Type | Material           | Coverage |
|-------------|--------------------|----------|
| Braid       | Tinned Copper (TC) | 65%      |

Outer Jacket

| Material                                        | Nom. Diameter  |
|-------------------------------------------------|----------------|
| LSZH - Low Smoke Zero Halogen (Flame Retardant) | 8 mm (0.31 in) |

|                                   |                |
|-----------------------------------|----------------|
| Overall Cable Diameter (Nominal): | 8 mm (0.31 in) |
|-----------------------------------|----------------|

**Electrical Characteristics**

Electricals

| Max. Conductor DCR | Max. Mutual Capacitance | Max. Capacitance Unbalance | Nom. Characteristic Impedance |
|--------------------|-------------------------|----------------------------|-------------------------------|
| 75 Ohm/km          | 56 pF/m (17 pF/ft)      | 160 pF/100m                | 100 Ohm                       |

Delay

| Max. Delay Skew | Nom. Velocity of Prop. |
|-----------------|------------------------|
| 40 ns/100m      | 78%                    |

High Frequency

| 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] |
|-----------------|-----------------------------------|----------------|------------------|---------------|-----------------|-------------------------|-----------------------------|----------------------------|
| 1               | 2 dB/100m                         | 78             | 75               | 73            | 70              | 78                      | 75                          | 20                         |
| 4               | 3.7 dB/100m                       | 78             | 75               | 74.3          | 71.3            | 78                      | 75                          | 23                         |
| 10              | 5.9 dB/100m                       | 78             | 75               | 72.1          | 69.1            | 75.3                    | 72.3                        | 25                         |
| 16              | 7.4 dB/100m                       | 78             | 75               | 70.6          | 67.6            | 71.2                    | 68.2                        | 25                         |
| 31.2            | 10.4 dB/100m                      | 78             | 75               | 67.6          | 64.6            | 65.4                    | 62.4                        | 23.6                       |
| 62.5            | 14.9 dB/100m                      | 75.5           | 72.5             | 60.6          | 57.6            | 59.4                    | 56.4                        | 21.5                       |
| 100             | 19 dB/100m                        | 72.4           | 69.4             | 53.4          | 50.4            | 55.3                    | 52.3                        | 20.1                       |
| 125             | 21.4 dB/100m                      | 70.9           | 67.9             | 49.6          | 46.6            | 53.4                    | 50.4                        | 19.4                       |
| 200             | 27.5 dB/100m                      | 67.9           | 64.9             | 40.4          | 37.4            | 49.3                    | 46.3                        | 15                         |
| 250             | 31 dB/100m                        | 66.4           | 63.4             | 35.5          | 32.5            | 47.3                    | 44.3                        | 17.3                       |
| 300             | 34.2 dB/100m                      | 65.2           | 62.2             | 31.1          | 28.1            | 45.8                    | 42.8                        | 17.3                       |
| 600             | 50.1 dB/100m                      | 60.7           | 57.7             | 10.6          | 7.6             | 39.7                    | 36.7                        | 17.3                       |
| 1000            | 66.9 dB/100m                      | 57.4           | 54.4             |               |                 | 35.3                    | 32.3                        | 15.1                       |

|              |                                                                                                                            |
|--------------|----------------------------------------------------------------------------------------------------------------------------|
| Table Notes: | Limits below 4 MHz are for information only.; Values at 1000 MHz are for information only. Reference standard: IEC 61156-5 |
|--------------|----------------------------------------------------------------------------------------------------------------------------|

Transfer Impedance

| Frequency | Max. Transfer Impedance |
|-----------|-------------------------|
| 1 MHz     | Max. 5 mOhm/m           |
| 10 MHz    | Max. 5 mOhm/m           |
| 30 MHz    | Max. 30 mOhm/m          |
| 100 MHz   | 100 mOhm/m              |

|                           |                      |
|---------------------------|----------------------|
| Transfer Impedance Class: | Grade 1              |
| Screening Class:          | Type Ib              |
| Table Notes:              | Coupling Attenuation |

Voltage

| UL Voltage Rating | Voltage Rating |
|-------------------|----------------|
| 30 V RMS          | 125 V (non UL) |

Mechanical Characteristics

Temperature

| Operating      | Installation   | Storage        |
|----------------|----------------|----------------|
| -40°C to +80°C | -15°C To +60°C | -40°C to +80°C |

Bend Radius

| Stationary Min. | Installation Min. |
|-----------------|-------------------|
| 40 mm (1.6 in)  | 80 mm             |

|                    |               |
|--------------------|---------------|
| Max. Pull Tension: | 80 N (18 lbf) |
|--------------------|---------------|

Standards and Compliance

|                                  |                                                                                                                                                                                                              |
|----------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Environmental Suitability:       | Indoor - Euroclass Dca, Sunlight Resistance, Oil Resistance                                                                                                                                                  |
| Flammability / Reaction to Fire: | IEC 60332-1-2, IEC 60332-3-24, EN 50266-2-4                                                                                                                                                                  |
| CPR Compliance:                  | CPR Euroclass: Dca-s1,d1,a1; CPR UKCA Class: Dca-s1,d1,a1                                                                                                                                                    |
| AWM Compliance:                  | AWM 20851                                                                                                                                                                                                    |
| IEEE Compliance:                 | PoE: IEEE 802.3bt Type 1, Type 2, Type 3, Type 4                                                                                                                                                             |
| Data Category:                   | Category 7                                                                                                                                                                                                   |
| TIA/EIA Compliance:              | ANSI/TIA 568.2-D                                                                                                                                                                                             |
| ISO/IEC Compliance:              | ISO/IEC 11801-1, IEC 61034-2 - Smoke Density Min Transmittance = 60%                                                                                                                                         |
| CENELEC Compliance:              | EN 50173-1, Segregation class according EN50174-2 = d                                                                                                                                                        |
| European Halogen Free Standards: | IEC 62821-1 Halogen Free Compliance = Yes, IEC 60754-1 - Halogen Amount = Zero, IEC 60754-2 - Halogen Acid Gas Amount - Max. Conductivity = 2.5 µS/mm, IEC 60754-2 - Halogen Acid Gas Amount - Min. pH = 4.3 |
| European Directive Compliance:   | EU CE Mark                                                                                                                                                                                                   |
| UK Regulation Compliance:        | UKCA Mark                                                                                                                                                                                                    |

History

|                      |                                                  |
|----------------------|--------------------------------------------------|
| Update and Revision: | Revision Number: 0.309 Revision Date: 11-09-2022 |
|----------------------|--------------------------------------------------|

Variants

| Item #         | Color          | Putup Type | Length  | EAN           |
|----------------|----------------|------------|---------|---------------|
| 74004NH.01B100 | Black          | Flat Box   | 100 m   | 8719605013217 |
| 74004NH.01305  | Black          | Reel       | 305 m   | 8719605013194 |
| 74004NH.01500  | Black          | Reel       | 500 m   | 8719605013200 |
| 74004NH.011000 | Black          | Reel       | 1,000 m | 8719605013187 |
| 74004NH.031000 | Blue           | Reel       | 1,000 m | 8719605160478 |
| 74004NH.02500  | Gray, RAL 7032 | Reel       | 500 m   | 8719605130006 |
| 74004NH.041000 | Green          | Reel       | 1,000 m | 8719605196767 |
| 74004NH.051000 | Orange         | Reel       | 1,000 m | 8719605196774 |

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