

# 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 https://www.belden.com/resources/patents. |

### 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 and 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

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|---|---|
| Update and Revision: | Revision Number: 0.301 Revision Date: 02-16-2022 |

**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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