

## 7921A Multi-Conductor - Category 5e DataTuff® Twisted Pair Cable



For more Information  
please call

1-800-Belden1



### General Description:

24 AWG Bonded-Pairs solid bare copper conductors, polyolefin insulation, overall Beldfoil® (100%coverage) plus tinned copper braid shield (70% coverage), drain wire, industrial grade sunlight- and oil-resistant PVC jacket. Seq. marking at 2 ft. intervals

### Usage (Overall)

**Suitable Applications:** Industrial Ethernet, Harsh Environments, Category 5e, Gigabit Ethernet, 100BaseTX, 100BaseVG ANYLAN, 155ATM, 622ATM, NTSC/PAL Component or Composite Video, AES/EBU Digital Audio, AES51, RS-422, Noisy Environments, CMX - Outdoor, EtherNet/IP™

### Physical Characteristics (Overall)

#### Conductor

AWG:

| # Pairs | AWG | Stranding | Conductor Material |
|---------|-----|-----------|--------------------|
| 4       | 24  | Solid     | BC - Bare Copper   |

**Total Number of Conductors:** 8

#### Insulation

Insulation Material:

| Insulation Material | Wall Thickness (in.) | Dia. (in.) |
|---------------------|----------------------|------------|
| PO - Polyolefin     | 0.012                | 0.046      |

#### Outer Shield

Outer Shield Material:

| Layer # | Outer Shield Trade Name | Type  | Outer Shield Material        | Coverage (%) |
|---------|-------------------------|-------|------------------------------|--------------|
| 1       | Beldfoil®               | Tape  | Aluminum Foil-Polyester Tape | 100.000      |
| 2       |                         | Braid | TC - Tinned Copper           | 70.000       |

Outer Shield Drain Wire AWG:

| AWG | Stranding | Drain Wire Conductor Material |
|-----|-----------|-------------------------------|
| 26  | Solid     | TC - Tinned Copper            |

#### Outer Jacket

Outer Jacket Material:

| Outer Jacket Material                     | Nom. Wall Thickness (in.) |
|---|---------------------------|
| Industrial Grade PVC - Polyvinyl Chloride | 0.030                     |

#### Overall Cable

**Overall Nominal Diameter:** 0.330 in.

#### Pair

Pair Color Code Chart:

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

### Mechanical Characteristics (Overall)

|  |                 |
|--|-----------------|
| <b>Storage Temperature Range:</b>        | -40°C To +80°C  |
| <b>Installation Temperature Range:</b>   | -25°C To +75°C  |
| <b>Operating Temperature Range:</b>      | -40°C To +75°C  |
| <b>Bulk Cable Weight:</b>                | 50 lbs/1000 ft. |
| <b>Max. Recommended Pulling Tension:</b> | 75 lbs.         |
| <b>Min. Bend Radius/Minor Axis:</b>      | 1.320 in.       |

## 7921A Multi-Conductor - Category 5e DataTuff® Twisted Pair Cable

### Applicable Specifications and Agency Compliance (Overall)

#### Applicable Standards & Environmental Programs

|                                       |  |
|---------------------------------------|--|
| NEC(UL) Specification:                | CMR, CMX-Outdoor                                 |
| CEC/C(UL) Specification:              | CMR  |
| EU Directive 2011/65/EU (ROHS II):    | Yes  |
| EU Directive 2000/53/EC (ELV):        | Yes  |
| EU Directive 2002/95/EC (RoHS):       | Yes  |
| EU RoHS Compliance Date (mm/dd/yyyy): | 01/01/2004                                       |
| EU Directive 2002/96/EC (WEEE):       | Yes  |
| EU Directive 2003/11/EC (BFR):        | Yes  |
| CA Prop 65 (CJ for Wire & Cable):     | Yes  |
| MII Order #39 (China RoHS):           | Yes  |
| Telecommunications Standards:         | Category 5e - TIA 568.C.2                        |
| Other Specification:                  | NEMA WC-63.1 Category 5e, EtherNet/IP™ Compliant |

#### Applicable Patents:

|                  |
|------------------|
| Country          |
| www.belden.com/p |

#### Flame Test

|                  |                       |
|------------------|-----------------------|
| UL Flame Test:   | UL1666 Vertical Riser |
| CSA Flame Test:  | FT4                   |
| IEEE Flame Test: | 1202                  |

#### Suitability

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

#### Plenum/Non-Plenum

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

### Electrical Characteristics (Overall)

#### Nom. Mutual Capacitance:

|                     |
|---------------------|
| Capacitance (pF/ft) |
| 15                  |

|   |     |
|---|-----|
| Maximum Capacitance Unbalance (pF/100 m): | 150 |
|---|-----|

#### Nominal Velocity of Propagation:

|        |
|--------|
| VP (%) |
| 70     |

#### Maximum Delay:

|                  |
|------------------|
| Delay (ns/100 m) |
| 538 @ 100MHz     |

#### Max. Delay Skew:

|                       |
|-----------------------|
| Delay Skew (ns/100 m) |
| 45                    |

#### Maximum Conductor DC Resistance:

|                        |
|------------------------|
| DCR @ 20°C (Ohm/100 m) |
| 9.38                   |

#### Max. Operating Voltage - UL:

|           |
|-----------|
| Voltage   |
| 300 V RMS |

#### Maximum DCR Unbalanced:

|                          |
|--------------------------|
| DCR Unbalance @ 20°C (%) |
| 3                        |

### Electrical Characteristics-Premise (Overall)

#### Premise Cable Electrical Table 1:

| Freq. (MHz) | Max. Attenuation (dB/100 m) | Min. NEXT (dB) | Min. PSNEXT (dB) | Min. ACR (dB) | Min. PSACR (dB) | Min RL (dB) | Min. SRL (dB) |
|-------------|-----------------------------|----------------|------------------|---------------|-----------------|-------------|---------------|
| 1           | 2.0                         | 65.3           | 62.3             | 63.0          | 60.0            | 20.0        | 20.0          |

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|       |      |      |      |      |      |      |      |
|-------|------|------|------|------|------|------|------|
| 4     | 4.1  | 56.3 | 53.3 | 51.0 | 49.0 | 23.6 | 23.6 |
| 8     | 5.8  | 51.8 | 48.8 | 46.0 | 43.0 | 25.4 | 25.4 |
| 10    | 6.5  | 50.3 | 47.3 | 43.0 | 41.0 | 26.0 | 26.0 |
| 16    | 8.2  | 47.3 | 44.3 | 39.0 | 36.0 | 26.0 | 26.0 |
| 20    | 9.3  | 45.8 | 42.8 | 36.5 | 33.5 | 26.0 | 26.0 |
| 25    | 10.4 | 44.3 | 41.3 | 33.9 | 30.9 | 25.5 | 25.5 |
| 31.25 | 11.7 | 42.9 | 39.9 | 31.0 | 28.0 | 25.0 | 25.0 |
| 62.5  | 17.0 | 38.4 | 35.4 | 22.0 | 19.0 | 23.5 | 23.5 |
| 100   | 22.0 | 35.3 | 32.3 | 14.0 | 11.0 | 22.5 | 22.5 |

Premise Cable Electrical Table 2:

| Freq. (MHz) | Input (Unfitted) Imp. (Ohms) | Fitted Impedance | Min. ELFEXT (dB) | Min. PSELFEXT (dB) |
|-------------|------------------------------|------------------|------------------|--------------------|
| 1           | 100 ± 15                     | 95-110           | 63.8             | 60.8               |
| 4           | 100 ± 15                     | 95-110           | 51.7             | 48.7               |
| 8           | 100 ± 15                     | 95-107           | 45.7             | 42.7               |
| 10          | 100 ± 15                     | 95-107           | 43.8             | 40.8               |
| 16          | 100 ± 15                     | 95-107           | 39.7             | 36.7               |
| 20          | 100 ± 15                     | 95-107           | 37.7             | 34.7               |
| 25          | 100 ± 15                     | 95-107           | 35.8             | 32.8               |
| 31.25       | 100 ± 15                     | 95-107           | 33.9             | 30.9               |
| 62.5        | 100 ± 15                     | 95-107           | 27.8             | 24.8               |
| 100         | 100 ± 15                     | 95-107           | 23.8             | 20.8               |

### Notes (Overall)

**Notes:** US Patent #'s 5606151; 5734126. EtherNet/IP is a trademark of ControlNet International, Ltd. under license by Open DeviceNet Vendor Association, Inc. Operating temperatures are subject to length de-rating. Cable passes -40C Cold Bend per UL 1581.

### Put Ups and Colors:

| Item #        | Putup    | Ship Weight | Color       | Notes | Item Desc          |
|---------------|----------|-------------|-------------|-------|--------------------|
| 7921A 0021000 | 1,000 FT | 54.000 LB   | RED         | C     | 4 PR #24 PP SH PVC |
| 7921A 0061000 | 1,000 FT | 21.000 LB   | BLUE, LIGHT | C     | 4 PR #24 PP SH PVC |
| 7921A 0101000 | 1,000 FT | 54.000 LB   | BLACK       | C     | 4 PR #24 PP SH PVC |
| 7921A 0102000 | 2,000 FT | 106.000 LB  | BLACK       | C     | 4 PR #24 PP SH PVC |
| 7921A 1NH1000 | 1,000 FT | 54.000 LB   | TEAL 1NH    | C     | 4 PR #24 PP SH PVC |

**Notes:**  
C = CRATE REEL PUT-UP.

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