

## 7960A Multi-Conductor - Category 5e DataTuff® Quad Cables



For more Information  
please call

1-800-Belden1

**General Description:**

22 AWG Symmetric quad solid bare copper conductors, polyolefin insulation, FRPE bedding, industrial grade sunlight- and oil-resistant PVC jacket, rip cord. Sequential marking at two foot intervals. PROFINET Type A cable

**Usage (Overall)****Suitable Applications:**

Industrial Ethernet Cable, Harsh Environments, Category 5e, Profinet, 100BaseTX, CMX - Outdoor, PLTC Listed, Approved for Cable Tray Use in Class 1, Division 2, Hazardous Areas and Non-hazardous Areas, Cable Trays, Raceways, Conduit and Supported by Messenger Wires, Approved for Outdoor Usage

**Physical Characteristics (Overall)****Conductor****AWG:**

| # Conductors | AWG | Stranding | Conductor Material | Dia. (in.) |
|--------------|-----|-----------|--------------------|------------|
| 4            | 22  | Solid     | BC - Bare Copper   | 0.026      |

Total Number of Conductors:

4

**Insulation****Insulation Material:**

| Insulation Material | Dia. (in.) |
|---------------------|------------|
| PO - Polyolefin     | 0.059      |

**Inner Jacket****Inner Jacket Material:**

| Inner Jacket Material | Nom. Dia. (in.) |
|-----------------------|-----------------|
| FRPE                  | 0.164           |

**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 |                                | 85.000       |

**Outer Jacket****Outer Jacket Material:**

| Outer Jacket Material |
|-----------------------|
| Industrial Grade PVC  |

**Overall Cable**

Overall Nominal Diameter:

0.268 in.

**Pair****Pair Color Code Chart:**

| Number | Color  |
|--------|--------|
| 1      | White  |
| 2      | Blue   |
| 3      | Yellow |
| 4      | Orange |

**Mechanical Characteristics (Overall)**

Storage Temperature Range: -40°C To +80°C

Installation Temperature Range: -20°C To +60°C

Operating Temperature Range: -40°C To +80°C

Bulk Cable Weight: 40.700 lbs/1000 ft.

Max. Recommended Pulling Tension: 55 lbs.

Min. Bend Radius/Minor Axis: 2.560 in.

## 7960A Multi-Conductor - Category 5e DataTuff® Quad Cables

## Applicable Specifications and Agency Compliance (Overall)

## Applicable Standards &amp; Environmental Programs

|                                       |                             |
|---------------------------------------|-----------------------------|
| NEC(UL) Specification:                | CMG, CMX-Outdoor, ITC, PLTC |
| CEC/C(UL) Specification:              | CMG                         |
| AWM Specification:                    | UL Style 21047              |
| 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   |

## Flame Test

|                   |   |
|-------------------|---|
| UL Flame Test:    | UL1685 FT4/IEEE 1202 Vertical Tray Flame Test |
| C(UL) Flame Test: | FT4   |
| IEEE Flame Test:  | 1202  |

## Suitability

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

## Plenum/Non-Plenum

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

## Electrical Characteristics (Overall)

## Nom. Capacitance Conductor to Shield:

Capacitance (pF/ft)

15

|   |    |
|---|----|
| Maximum Capacitance Unbalance (pF/100 m): | 66 |
|---|----|

## Nominal Velocity of Propagation:

VP (%)

70

## Maximum Delay:

Delay (ns/100 m)

552.000

## Maximum Conductor DC Resistance:

DCR @ 20°C (Ohm/100 m)

5.700

## 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. ACR (dB) | Min RL (dB) |
|-------------|-----------------------------|----------------|---------------|-------------|
| 1           | 2.100                       | 65.3           | 63.2          | 23.000      |
| 4           | 4.000                       | 56.3           | 52.3          | 23.000      |
| 10          | 6.300                       | 50.3           | 43.9          | 25.000      |
| 16          | 8.000                       | 47.2           | 39.1          | 25.000      |
| 20          | 9.000                       | 45.8           | 35.2          | 25.000      |
| 31.25       | 11.400                      | 42.9           | 31.3          | 23.600      |

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|      |        |      |      |        |
|------|--------|------|------|--------|
| 62.5 | 16.500 | 38.4 | 21.6 | 21.500 |
| 100  | 21.300 | 35.3 | 17.1 | 20.100 |

Premise Cable Electrical Table 2:

| Freq. (MHz) | Input (Unfitted) Imp. (Ohms) | Fitted Impedance | Min. ACRF (dB) |
|-------------|------------------------------|------------------|----------------|
| 1           | 100 ± 20.2                   | 105 ± 10         | 64.0           |
| 4           | 100 ± 14.2                   | 100 ± 10         | 52.0           |
| 10          | 100 ± 11.3                   | 100 ± 10         | 44.0           |
| 16          | 100 ± 11.3                   | 100 ± 10         | 39.9           |
| 20          | 100 ± 11.3                   | 100 ± 10         | 38.0           |
| 31.25       | 100 ± 13.2                   | 100 ± 10         | 34.1           |
| 62.5        | 100 ± 16.9                   | 100 ± 10         | 28.1           |
| 100         | 100 ± 20.0                   | 100 ± 10         | 24.0           |

## Notes (Overall)

**Notes:** Operating temperatures are subject to length de-rating. Cable passes -40C Cold Bend per UL 1581. Limits below 4 MHz are for information only.

**Notes (Cont'd.):** T568A Plug Compatible Part Number: R301601 T568B Plug Compatible Part Number: R301602

## Put Ups and Colors:

| Item #        | Putup    | Ship Weight | Color           | Notes | Item Desc               |
|---------------|----------|-------------|-----------------|-------|-------------------------|
| 7960A 1SW1000 | 1,000 FT | 44.000 LB   | GREEN, RAL 6018 |       | PROFINET TYPE A CAT 5/E |
| 7960A 1SW2000 | 2,000 FT | 88.000 LB   | GREEN, RAL 6018 |       | PROFINET TYPE A CAT 5/E |

Revision Number: 0    Revision Date: 07-19-2016

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