

## 7910A Composite - Composite Data, Audio, Video, Security and Control Cable



For more Information  
please call

1-800-Belden1



### General Description:

Composite - (1) Cat 5e 4-bonded-pair 24 AWG unshielded plus (1) Series 6 Coax with Duobond Plus® Bonded Tri-shield, polyolefin insulation on the pairs; Gas-injected FPE insulation on the coax, F-R PVC jackets, overall F-R PVC jacket.

### Usage (Overall)

Suitable Applications:

HDTV, DBS, CATV, CCTV, Multimedia, Voice, Video, Data, High Speed Internet, Networked Computing, Distributed Video, Distributed Audio, Security Monitoring, Energy Monitoring

### Coax

#### Physical Characteristics

##### Conductor

AWG:

| # Coax | AWG | Stranding | Conductor Material | Dia. (in.) |
|--------|-----|-----------|--------------------|------------|
| 1      | 18  | Solid     | BC - Bare Copper   | 0.040      |

##### Insulation

Insulation Material:

| Insulation Material                  | Dia. (in.) |
|--------------------------------------|------------|
| Gas-injected FPE - Foam Polyethylene | 0.180      |

##### Inner Shield

Inner Shield Material:

| Layer # | Inner Shield Trade Name | Type  | Inner Shield Material                               | % Coverage (%) |
|---------|-------------------------|-------|-----------------------------------------------------|----------------|
| 1       | Bonded Duofoil®         | Tape  | Bonded Aluminum Foil-Polyester Tape-Aluminum Foil   | 100            |
| 2       |                         | Braid | AL - Aluminum                                       | 77             |
| 3       |                         | Tape  | Bonded Aluminum Foil-Polyester Tape w/Shorting Fold | 100            |

##### Inner Jacket

Inner Jacket Material:

| Inner Jacket Material    | Nom. Dia. (in.) |
|--------------------------|-----------------|
| PVC - Polyvinyl Chloride | 0.275           |

##### Outer Jacket

Outer Jacket Color Code Chart:

| Color |
|-------|
| Black |

##### Overall Diameter

Overall Nominal Diameter:

0.275 in.

### Electrical Characteristics

Nom. Characteristic Impedance:

| Impedance (Ohm) |
|-----------------|
| 75              |

Nom. Inductance:

| Inductance (µH/ft) |
|--------------------|
| 0.097              |

Nom. Capacitance Conductor to Shield:

| Capacitance (pF/ft) |
|---------------------|
| 16.200              |

Nominal Velocity of Propagation:

| VP (%) |
|--------|
| 83.000 |

Nominal Delay:

| Delay (ns/ft) |
|---------------|
| 1.200         |

Nom. Conductor DC Resistance:

| DCR @ 20°C (Ohm/1000 ft) |
|--------------------------|
|--------------------------|

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6.400

## Nom. Inner Shield DC Resistance:

DCR @ 20°C (Ohm/1000 ft)

4.600

## Minimum Structural Return Loss:

| Start Freq. (MHz) | Stop Freq. (MHz) | Min. SRL (dB) |
|-------------------|------------------|---------------|
| 5.000             | 1000.000         | 20.000        |
| 1000.000          | 2250.000         | 15.000        |
| 2250.000          | 3000.000         | 10.000        |

## Nom. Attenuation:

| Freq. (MHz) | Attenuation (dB/100 ft.) |
|-------------|--------------------------|
| 5.000       | 0.500                    |
| 55.000      | 1.400                    |
| 211.000     | 2.600                    |
| 500.000     | 4.100                    |
| 750.000     | 5.100                    |
| 862.000     | 5.500                    |
| 1000.000    | 6.000                    |
| 1450.000    | 7.800                    |
| 1800.000    | 8.600                    |
| 2250.000    | 9.800                    |
| 3000.000    | 11.300                   |

## Max. Attenuation:

| Freq. (MHz) | Attenuation (dB/100 ft.) |
|-------------|--------------------------|
| 5.000       | 0.670                    |
| 55.000      | 1.600                    |
| 211.000     | 2.870                    |
| 500.000     | 4.480                    |
| 750.000     | 5.590                    |
| 862.000     | 5.980                    |
| 1000.000    | 6.540                    |
| 1450.000    | 8.000                    |
| 1800.000    | 8.800                    |
| 2250.000    | 10.000                   |
| 3000.000    | 11.900                   |

## Max. Operating Voltage - UL:

350 V RMS

## Shield Effectiveness:

| Start Frequency (MHz) | Stop Frequency (MHz) | Shield Effectiveness (dB) |
|-----------------------|----------------------|---------------------------|
| 5.000                 | 50.000               | 105.000                   |
| 50.000                | 1000.000             | 125.000                   |

## Twisted Pair

## Physical Characteristics

## Conductor

## AWG:

| # Pairs | AWG | Stranding | Conductor Material | Dia. (in.) |
|---------|-----|-----------|--------------------|------------|
| 4       | 24  | Solid     | BC - Bare Copper   | 0.020      |

## Insulation

## Insulation Material:

| Insulation Material | Dia. (in.) |
|---------------------|------------|
| PO - Polyolefin     | 0.035      |

## Twisted Pair Color Code Chart:

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

## Outer Jacket

## Outer Jacket Material:

| Outer Jacket Material    |
|--------------------------|
| PVC - Polyvinyl Chloride |

## Outer Jacket Color Code Chart:

| Color |
|-------|
| Blue  |

## 7910A Composite - Composite Data, Audio, Video, Security and Control Cable

## Overall Diameter

Overall Nominal Diameter: 0.200 in.

## Electrical Characteristics

Nom. Mutual Capacitance:

Capacitance (pF/ft)

15.000

Nominal Velocity of Propagation:

VP (%)

70.000

Nom. Conductor DC Resistance:

DCR @ 20°C (Ohm/1000 ft)

9.380

Max. Operating Voltage - UL:

Voltage

300 V RMS

Other Electrical Characteristic 1:

Third party verified to TIA/EIA-568-B.2, Category 5e.

Premise Cable Electrical Table 1:

| Freq. (MHz) | Max. Attenuation (dB/100 m) | Min. PSNEXT (dB) | Min. PSACR (dB) | Min RL (dB) |
|-------------|-----------------------------|------------------|-----------------|-------------|
| 1.0         | 2.000                       | 62.3             | 60              | 20.000      |
| 4.0         | 4.100                       | 53.3             | 49              | 23.000      |
| 8.0         | 5.800                       | 48.8             | 43              | 24.500      |
| 10.0        | 6.500                       | 47.3             | 41              | 25.000      |
| 16.0        | 8.200                       | 44.3             | 36              | 25.000      |
| 20.0        | 9.300                       | 42.8             | 34              | 25.000      |
| 25.0        | 10.400                      | 41.3             | 31              | 24.300      |
| 31.25       | 11.700                      | 39.9             | 28              | 23.600      |
| 62.5        | 17.000                      | 35.4             | 19              | 21.500      |
| 100         | 22.000                      | 32.3             | 11              | 20.100      |

Premise Cable Electrical Table 2:

| Freq. (MHz) | Input (Unfitted) Imp. (Ohms) | Min. PSELFEXT (dB) |
|-------------|------------------------------|--------------------|
| 1.0         | 100 +/- 15%                  | 60.8               |
| 4.0         | 100 +/- 15%                  | 48.7               |
| 8.0         | 100 +/- 15%                  | 42.7               |
| 10.0        | 100 +/- 15%                  | 40.8               |
| 16.0        | 100 +/- 15%                  | 36.7               |
| 20.0        | 100 +/- 15%                  | 34.7               |
| 25.0        | 100 +/- 15%                  | 32.8               |
| 31.25       | 100 +/- 15%                  | 30.9               |
| 62.5        | 100 +/- 15%                  | 24.8               |
| 100         | 100 +/- 15%                  | 20.8               |

## Physical Characteristics (Overall)

## Outer Shield

Outer Shield Material:

Outer Shield Material

Unshielded

## Outer Jacket

Outer Jacket Material:

Outer Jacket Material

F-R PVC - flame Retardant Polyvinyl Chloride

Outer Jacket Ripcord: Yes

## Overall Cable

Overall Nominal Diameter: 0.335 in.

## Mechanical Characteristics (Overall)

Operating Temperature Range: -20°C To +75°C

Bulk Cable Weight: 78.000 lbs/1000 ft.

Max. Recommended Pulling Tension: 131.000 lbs.

Min. Bend Radius/Minor Axis: 3.500 in.

## 7910A Composite - Composite Data, Audio, Video, Security and Control Cable

## Applicable Specifications and Agency Compliance (Overall)

## Applicable Standards &amp; Environmental Programs

|                                       |                                   |
|---------------------------------------|-----------------------------------|
| NEC(UL) Specification:                | CMR                               |
| CEC/C(UL) Specification:              | CMG                               |
| EU Directive 2011/65/EU (ROHS II):    | Yes                               |
| Other Standards:                      | ISO/IE 11801, Category 5          |
| EU CE Mark:                           | 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:         | ANSI/TIA/EIA-568-B.2, Category 5e |
| Other Specification:                  | NEMA WC-63.1, Category 5e         |

## Flame Test

|                   |              |
|-------------------|--------------|
| UL Flame Test:    | UL1666 Riser |
| C(UL) Flame Test: | FT4          |

## Plenum/Non-Plenum

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

## Notes (Overall)

**Notes:** Overall jacket sequentially marked.

## Put Ups and Colors:

| Item #        | Putup    | Ship Weight | Color      | Notes | Item Desc                  |
|---------------|----------|-------------|------------|-------|----------------------------|
| 7910A N3U1000 | 1,000 FT | 91.000 LB   | GREEN, MIL | C     | PARA COMPOSITE CABLE FRPVC |
| 7910A N3U500  | 500 FT   | 48.500 LB   | GREEN, MIL | C     | PARA COMPOSITE CABLE FRPVC |

## Notes:

C = CRATE REEL PUT-UP.

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### Офис по работе с юридическими лицами:

105318, г.Москва, ул.Щербаковская д.3, офис 1107, 1118, ДЦ «Щербаковский»

Телефон: +7 495 668-12-70 (многоканальный)

Факс: +7 495 668-12-70 (доб.304)

E-mail: [info@moschip.ru](mailto:info@moschip.ru)

Skype отдела продаж:

moschip.ru

moschip.ru\_4

moschip.ru\_6

moschip.ru\_9