



Product: [3131A](#)

ControlBus™, Coax RG6, #18 Sol BCCS, PO Ins, QUAD AL Shld, PVC Jkt, CMR

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Product Description

ControlBus™, Coax RG6 18AWG (Solid) Bare Copper Covered Steel, PO Insulation, Overall Duofoil®+ Aluminum Braid(60%)+Overall Duofoil®+Aluminum Braid(40%) Shield, PVC Outer Jacket, CMR

Technical Specifications

Product Overview

| | |
|------------------------|---|
| Suitable Applications: | harsh environment, factory automation, ControlNet™, Modbus II, Industrial Coax, Belden ControlNet cables provide maximum signal integrity and run length exceeding the high-speed, time-critical requirements necessary for ControlNet factory floor applications |
|------------------------|---|

Physical Characteristics (Overall)

Conductor

| AWG | Stranding | Material | Nominal Diameter | No. of Coax |
|-----|-----------|----------------------------------|------------------|-------------|
| 18 | Solid | BCCS - Bare Copper Covered Steel | 0.04 in | 1 |

Conductor Count: 1

Insulation

| Material | Nominal Diameter |
|--------------------------|------------------|
| PE - Polyethylene (Foam) | 0.18 in |

Table Notes: Gas Injected

| Outer Shield | | | | |
|--------------|-------|-------------------------------|---------------------|--------------|
| Type | Layer | Material | Material Trade Name | Coverage [%] |
| Tape | 1 | Tri-Laminate (Alum+Poly+Alum) | Duofoil® | 100% |
| Braid | 2 | Aluminum | | 60% |
| Tape | 3 | Tri-Laminate (Alum+Poly+Alum) | Duofoil® | 100% |
| Braid | 4 | Aluminum | | 40% |

| Outer Jacket | |
|--------------------------|------------------|
| Material | Nominal Diameter |
| PVC - Polyvinyl Chloride | 0.301 in |

Electrical Characteristics

| Conductor DCR | | |
|-----------------------|--------------------------|---------------------|
| Nominal Conductor DCR | Nominal Outer Shield DCR | Outer Conductor DCR |
| 28 Ohm/1000ft | 3.6 Ohm/1000ft | 3.6 Ohm/1000ft |

| Capacitance |
|--------------------------------------|
| Nom. Capacitance Conductor to Shield |
| 16.2 pF/ft |

| Inductance |
|--------------------|
| Nominal Inductance |
| 0.097 µH/ft |

Impedance

| Nominal Characteristic Impedance | Nominal Characteristic Tolerance |
|----------------------------------|----------------------------------|
| 120 Ohm | ± 3 Ohm |

High Frequency (Nominal/Typical)

| Frequency [MHz] | Nom. Insertion Loss |
|-----------------|---------------------|
| 1 MHz | 0.35 dB/100ft |
| 2 MHz | 0.38 dB/100ft |
| 5 MHz | 0.45 dB/100ft |
| 10 MHz | 0.59 dB/100ft |
| 20 MHz | 0.86 dB/100ft |
| 50 MHz | 1.37 dB/100ft |
| 100 MHz | 1.97 dB/100ft |
| 200 MHz | 2.82 dB/100ft |
| 300 MHz | 3.48 dB/100ft |
| 400 MHz | 4.04 dB/100ft |

Delay

| Nominal Delay | Nominal Velocity of Propagation (VP) [%] |
|---------------|--|
| 1.2 ns/ft | 82% |

Phase Delay Distortion

| f/B | %PDD/100M (5MB) |
|-----|-----------------|
| 0.5 | -1.03 |
| 1 | -0.3 |
| 1.5 | 0 |
| 2 | 0.2 |
| 2.5 | 0.4 |

High Frequency

| Frequency [MHz] | Min. SRL (Structural Return Loss) |
|-----------------|-----------------------------------|
| 1 MHz | 23 dB |
| 2 MHz | |
| 5 MHz | |
| 10 MHz | |
| 20 MHz | |
| 50 MHz | |
| 100 MHz | |
| 200 MHz | |
| 300 MHz | |
| 400 MHz | |

| | |
|------------------------------------|----------------------------------|
| Electrical Characteristics Notes: | Tilt 5 to 10 MHz: 0.53 dB/100 M |
| Other Electrical Characteristic 2: | Tilt 10 to 20 MHz: 0.89 dB/100 M |
| Other Electrical Characteristic 3: | SRL Min. 23dB (5MHz - 50MHz) |

Temperature Range

| | |
|------------------------------|----------------|
| UL Temp Rating: | 75°C |
| Operating Temperature Range: | -30°C To +75°C |

Mechanical Characteristics

| | |
|------------------------------|---------------|
| Bulk Cable Weight: | 33 lbs/1000ft |
| Max. Pull Tension: | 162 lbs |
| Min. Bend Radius/Minor Axis: | 3 in |

Standards

| | |
|-----------------------|---------------------------|
| NEC Articles: | Article 800 |
| NEC/(UL) Compliance: | CL2R, CMR |
| CEC/C(UL) Compliance: | CMG |
| CPR Euroclass: | Eca |
| IEEE Compliance: | 802.4 MAP, 802.7 Mini-MAP |

| | |
|----------|---|
| RG Type: | 6 |
|----------|---|

Applicable Environmental and Other Programs

| | |
|--|-------------------------------|
| EU Directive 2000/53/EC (ELV): | Yes |
| EU Directive 2003/11/EC (BFR): | Yes |
| EU Directive 2011/65/EU (RoHS 2): | Yes |
| EU Directive 2012/19/EU (WEEE): | Yes |
| EU Directive 2015/863/EU (RoHS 2 amendment): | Yes |
| EU Directive Compliance: | EU Directive 2003/11/EC (BFR) |
| EU CE Mark: | Yes |
| MII Order #39 (China RoHS): | Yes |

Flammability, LSOH, Toxicity Testing

| | |
|--------------------|--------------|
| UL Flammability: | UL1666 Riser |
| CSA Flammability: | FT4 |
| UL voltage rating: | 300 V RMS |

Plenum/Non-Plenum

| | |
|----------------|-------|
| Plenum (Y/N): | No |
| Plenum Number: | 3132A |

Related Part Numbers

Variants

| Item # | Color | Put-Up Type | Length | UPC |
|---------------|-----------|-------------|----------|--------------|
| 3131A F2V1000 | Gray, DEC | Reel | 1,000 ft | 612825142058 |

Product Notes

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|--------|---|
| Notes: | Sweep tested 5 to 400 MHz. Tap Marks Every 2.6 Meters to aid in users installation. |
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History

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| Update and Revision: | Revision Number: 0.452 Revision Date: 04-29-2024 |
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