

Belden® Introduces Home Automation Cables with Verified Category 5e Performance

NP 173

Creating the “Intelligent Home” of today also means keeping tomorrow’s requirements in mind. That’s why HomeChoice™ composite cables for home automation are UL verified to assure Category 5e standards.

For More Information:

Belden Electronics Division
Technical Support:

1-800-BELDEN-1 or
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www.belden.com

Today, homeowners are demanding greater connectivity throughout their homes for television and entertainment services, security systems, home computer networks, phone services, and more. The challenge is to not only provide for these services, but to help assure that the structured cabling products installed today will also accommodate changing requirements in the future.

For this reason, Belden has introduced HomeChoice™ composite cable products that are verified to Category 5e standards. HomeChoice cables allow builders and contractors to provide homeowners with the high-tech cabling solutions that meet today’s needs and pave the way for a future of total connectivity and control of lighting, home comfort systems, appliances, and more.

The Intelligent Home

Belden’s new HomeChoice line of structured cabling products allows a wide range of services to be provided through the home easily and cost effectively. Through a single composite cable, any room in the home can be wired for computer multimedia and networking, cable and direct broadcast satellite (DBS) television, telephone services, security and energy management systems, and more.

Category 5e UL Verified

Similar structured cabling products contain individual data cables that may have been tested to Category 5e standards. But the cables’ electrical characteristics may change when they are combined in a composite design, which can compromise performance to below Category 5e standards.

In contrast, Belden’s HomeChoice product line offers solutions in which the finished product is third-party verified by UL (Underwriters Laboratories) to assure Category 5e performance requirements are met.

Unique Cable Components

Belden is a world leader in cable quality and innovation. Our cables are used for voice, video, and data at such high-tech and challenging venues as Staples Center in Los Angeles, San Francisco’s Pac Bell Park, and the 2000 Sydney Summer Games—plus thousands of broadcast facilities, state-of-the-art office buildings, business campuses, and industrial facilities around the globe.

Belden coaxial Series 6 (RG6) cables are certified to 2.25 GHz and feature solid copper conductors and Duobond Plus® shields. Duobond Plus is a Belden innovation that features a three-shield construction consisting of a Duobond® II foil tape, an 80 percent braid, and an outer layer of foil with a unique shorting fold that is bonded to the coax jacket. The combination offers superior

high frequency shielding when compared with traditional quad shields and can be stripped easily in one step, reducing installation time. Standard Series 6 (RG6) connectors may be used for termination.

DataTwist data cables feature Belden’s unique and patented bonded pair design that yields a number of performance advantages over standard UTP cable, including the ability to operate at higher frequencies and improvements in attenuation, power sum NEXT, ACR headroom, and return loss.






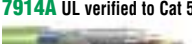
HomeChoice’s fiber component is a multimode, 62.5 Micron LANLite® distribution fiber optic cable.

Available Now From Belden



Belden’s HomeChoice line includes four UL verified Category 5e composite cables with various coax and fiber constructions available. The line also features two structured cabling products that offer quad shield coax and unbonded data cables that meet Category 5 standards.


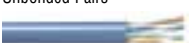
All HomeChoice products feature flame-retardant green PVC jackets and a 10-year product warranty. Continuous sequential footage markings at two-foot intervals on the composite cable and one-foot intervals on the data component are printed to eliminate guesswork and waste. A ripcord under the jacket makes removal quick and easy. Custom configurations are available upon request.


Product Information:

| Part Number (UL NEC, C(UL) CEC Type) | Component Cables (see below) | Descriptions and Standards (Technical Specifications Below) | Jacket Color & Type Nominal OD (In.) | Standard Lengths (Ft.) |
|--|---|--|--|------------------------------|
| 7910A UL verified to Cat 5e  UL CMR, C(UL) CMG FT4 | One Series 6 coaxial cable Duobond Plus® One Cat 5e 4 pair bonded UTP cable | Series 6 (solid copper conductor) Duobond Plus (Bonded Tri-shield) + 80% Braid, swept to 2.25 GHz UTP verified (UL) to Category 5e 24 AWG solid bare copper, polyolefin insulation | Green Flame-retardant PVC .335" x .535" | 1000 500 |
| 7876A UL verified to Cat 5e  UL CMR, C(UL) CMG FT4 | Two Series 6 coaxial cables Duobond Plus Two Cat 5e 4 pair bonded UTP cable | Series 6 (solid copper conductor) Duobond Plus (Bonded Tri-shield) + 80% Braid, swept to 2.25 GHz UTP verified (UL) to Category 5e 24 AWG solid bare copper, polyolefin insulation | Green Flame-retardant PVC .610" | 1000 500 |
| 7877A UL verified to Cat 5e  UL CMR, C(UL) CMG FT4 | Two Series 6 coaxial cables Duobond Plus One Cat 5e 4 pair bonded UTP cable | Series 6 (solid copper conductor) Duobond Plus (Bonded Tri-shield) + 80% Braid, swept to 2.25 GHz UTP verified (UL) to Category 5e 24 AWG solid bare copper, polyolefin insulation | Green Flame-retardant PVC .610" | 1000 500 |
| 7878A UL verified to Cat 5e  UL CMR OF, C(UL) CMG OF FT4 | Two Series 6 coaxial cables Duobond Plus Two Cat 5e 4 pair bonded UTP cables One 2-fiber LANLite® Distribution Cable | Series 6 (solid copper conductor) Duobond Plus (Bonded Tri-shield) + 80% Braid, swept to 2.25 GHz UTP verified (UL) to Category 5e 24 AWG solid bare copper, polyolefin insulation Gigabit ethernet-grade fiber 62.5/125/900 micron tight buffered fiber | Green Flame-retardant PVC .635" | 1000 500 |
| 7913A UL verified to Cat 5  UL CMR, C(UL) CMG FT4 | Two Series 6 coaxial cables Duobond® IV Quad Shield Two Cat 5 4 pair UTP cables | Series 6 (solid copper conductor) Duobond IV Quad Shield swept to 2.25 GHz UTP verified (UL) to Category 5 24 AWG solid bare copper, polyolefin insulation | Light Green Flame-retardant PVC .660" | 1000 500 |
| 7914A UL verified to Cat 5  UL CMR OF, C(UL) CMG OF FT4 | Two Series 6 coaxial cables Duobond IV Quad Shield Two Cat 5e 4 pair bonded UTP cables One 2-fiber LANLite Distribution Cable | Series 6 (solid copper conductor) Duobond IV Quad Shield, swept to 2.25 GHz UTP verified (UL) to Category 5 24 AWG solid bare copper, polyolefin insulation Gigabit ethernet-grade fiber 62.5/125/90 micron tight buffered fiber | Light Green Flame-retardant PVC .660" | 1000 500 |

All composite cable jackets sequentially marked at 2-foot intervals and Data component marked at 1-foot intervals. Other configurations available upon request.

| Coax Component Description Part No. UL NEC, C(UL) CEC Type | AWG (stranding) [Dia. in Inches] Nom. DCR | Insulation & Nominal Core OD | | Nominal OD | | No. of Shields & Material Nom. DCR | Nom. Imp. (Ohms) | Nom. Vel. of Prop. | Nom. Capacitance | | MHz | Nom. Attenuation | | |
|--|---|---------------------------------|------|---------------|------|---|------------------------|--------------------------|---------------------|------|--|---------------------|-----|-----|
| | | Inch | mm | Inch | mm | | | | pF/Ft | pF/m | | | | |
| 7915A Series 6, Duobond Plus with shorting fold  UL CATV, CM; C(UL) CM | 18 (solid) .040" bare copper 6.4Ω/M' 21.0Ω/km | Gas Injected FPE | | .275 | 6.99 | Duobond Plus +80% aluminum braid 4.6Ω/M' 15.1Ω/km | 75 | 83% | 16.2 | 53.1 | 5 | 0.5 | | |
| | | .180 | 4.57 | | | | | | | | 55 | 1.4 | | |
| | | | | | | | | | | | Black or White PVC Jacket Sweep tested 5 MHz to 2.25 GHz, 15 dB Min. | | 211 | 2.6 |
| | | | | | | | | | | | 500 | 4.1 | | |
| 7916A Series 6 Duobond IV Quad Shield  UL CATV, CM; C(UL) CM | 18 (solid) .040" bare copper 6.4Ω/M' 21.0Ω/km | Gas Injected FPE | | .298 | 7.57 | Duobond IV Quad Shield 4.8Ω/M' 15.7Ω/km | 75 | 83% | 16.2 | 53.1 | 750 | 5.1 | | |
| | | .180 | 4.57 | | | | | | | | 862 | 5.5 | | |
| | | | | | | | | | | | 1000 | 6.0 | | |
| | | | | | | | | | | | 1450 | 7.9 | | |
| 1800 | 8.4 | | | | | | | | | | | | | |
| 2250 | 10.1 | | | | | | | | | | | | | |

| UTP Component Description/ Part No. UL NEC, C(UL) CEC Type | No. of Pairs | Insulation Thickness | | Nominal OD | | Max. DCR (Ohms/ 100m) | Max. DCR Unbal% | Max. Cap Unbal% (pF/100m) | Freq. (MHz) | Min. Psum ACR (dB/100m) | Min. Psum ELFEXT (dB/100m) | Max. Atten. (dB/100m) | Min. Psum NEXT (dB) | Input Imp. (Ohms) | Min. RL (dB) |
|---|--------------------|-------------------------|------|---------------|------|-----------------------------|--------------------|---------------------------------|----------------|-------------------------------|----------------------------------|--------------------------|---------------------------|----------------------|--------------------|
| | | Inch | mm | Inch | mm | | | | | | | | | | |
| 1700A DataTwist® 350, Exceeds Cat 5e, Bonded-Pairs  UL CM, C(UL) CM | 4 | .009 | .229 | .200 | 5.08 | 9.0 | 3 | 66 | 1.0 | 63.3 | 60.8 | 2.0 | 65.3 | 100±12% | 20.0 |
| | | | | | | | | | 10.0 | 43.9 | 40.8 | 6.4 | 50.3 | 100±12% | 25.0 |
| | | | | | | | | | 16.0 | 39.1 | 36.7 | 8.1 | 47.3 | 100±12% | 25.0 |
| | | | | | | | | | 31.25 | 33.3 | 30.9 | 11.6 | 42.9 | 100±15% | 23.6 |
| | | | | | | | | | 62.5 | 21.6 | 24.8 | 16.8 | 38.4 | 100±15% | 21.5 |
| | | | | | | | | | 100 | 17.1 | 20.8 | 21.7 | 35.3 | 100±15% | 20.1 |
| | | | | | | | | | 200 | 3.0 | 15.0 | 32.0 | 30.8 | 100±18% | 19.0 |
| | | | | | | | | | 225 | >0.0 | — | 34.3 | 30.0 | 100±20% | 18.0 |
| | | | | | | | | | 250 | — | — | 36.4 | 29.3 | 100±20% | 18.0 |
| | | | | | | | | | 350 | — | — | 44.3 | 27.2 | 100±22% | 17.0 |
| 1583A DataTwist 5e, Cat 5e, Unbonded Pairs  UL CM, C(UL) CM | 4 | .009 | .229 | .214 | 5.44 | 9.38 | 3 | 330 | 1.0 | 60 | 60.8 | 2.0 | 62.3 | 100±15% | 20.0 |
| | | | | | | | | | 10.0 | 41 | 40.8 | 6.5 | 47.3 | 100±15% | 25.0 |
| | | | | | | | | | 16.0 | 36 | 36.7 | 8.2 | 44.3 | 100±15% | 25.0 |
| | | | | | | | | | 31.25 | 28 | 30.9 | 11.7 | 39.9 | 100±15% | 23.6 |
| | | | | | | | | | 62.5 | 19 | 24.8 | 17.0 | 35.4 | 100±15% | 21.5 |
| | | | | | | | | | 100 | 11 | 20.8 | 22.0 | 32.3 | 100±15% | 20.1 |
| | | | | | | | | | 200 | 1 | 15.0 | 32.4 | 27.8 | 100±25% | 15.0 |

| Fiber Component Part No. UL NEC, C(UL) CEC Type | No. of Fibers | Outer Diameter | | Weight | | Installation Tensile | | Long Term Tensile | | Maximum Attenuation | | Minimum Bandwidth | |
|--|------------------|----------------|-----|---------------|-------|----------------------|-----|-------------------|-----|---------------------|-----------|-------------------|------------|
| | | Inch | mm | Lbs./1000 Ft. | Kg/Km | Lbs. | N | Lbs. | N | @850nm | @1300nm | @850nm | @1300nm |
| PTD6002  UL OFNR, C(UL) OFNR | 2 | .175 | 4.4 | 12 | 16.4 | 180 | 800 | 45 | 200 | 3.5 dB/km | 1.0 dB/km | 220 MHz-km | 600 MHz-km |
| 62.5/125/900 Micron (Core/Clad/Coating) Riser | | | | | | | | | | | | | |

Relative Shielding Effectiveness Comparison

| Typical dB Isolation* | Duobond Plus (80% Braid) | Quad Shield (60%/40% braids) |
|-----------------------|--------------------------|------------------------------|
| 5 to 50 MHz | 105 | 105 |
| 50 to 1000 MHz | 125 | 115 |

