

## 3612 Multi-Conductor - Enhanced Category 6 Nonbonded-Pair Cable



For more Information  
please call

1-800-Belden1



### General Description:

CAT6+ (400MHz), 4-Pair, U/UTP-Unshielded, Riser-CMR, Premise Horizontal Cable, 23 AWG Solid Bare Copper Conductors, Polyolefin Insulation, Patented X-Spline, Ripcord, PVC jacket

### Usage (Overall)

**Suitable Applications:** Premise Horizontal Cable, Gigabit Ethernet, POE, POE+, 100BaseTX, 100BaseVG ANYLAN, 155ATM, 622ATM, NTSC/PAL Component or Composite Video, AES/EBU Digital Audio, AES51, RS-422, Noisy Environments

### Physical Characteristics (Overall)

#### Conductor

AWG:

| # Pairs | AWG | Stranding | Conductor Material |
|---------|-----|-----------|--------------------|
| 4       | 23  | Solid     | BC - Bare Copper   |

**Total Number of Conductors:** 8

#### Insulation

Insulation Material:

| Insulation Material |
|---------------------|
| Polyolefin          |

#### Outer Shield

Outer Shield Material:

| Outer Shield Material |
|-----------------------|
| Unshielded            |

#### Outer Jacket

Outer Jacket Material:

| Outer Jacket Material | Nom. Wall Thickness (in.) |
|-----------------------|---------------------------|
| PVC                   | 0.017                     |

Outer Jacket Diameter:

| Nom. Dia. (in.) |
|-----------------|
| 0.231           |

**Outer Jacket Ripcord:** Yes

#### Overall Cable

**Overall Cabling Separator Material:** Patented X-Spline Center Member

**Overall Nominal Diameter:** 0.231 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)

**Storage Temperature Range:** -30°C To +75°C

**Installation Temperature Range:** +5°C To +50°C

**Operating Temperature Range:** 0°C To +75°C

**UL Temperature Rating:** 75°C

**Bulk Cable Weight:** 28 lbs/1000 ft.

**Max. Recommended Pulling Tension:** 45 lbs.

**Min. Bend Radius/Minor Axis:** 0.750 in.

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Min. Bend/Installation: 2.250 in.

### Applicable Specifications and Agency Compliance (Overall)

#### Applicable Standards & Environmental Programs

|                                       |                                     |
|---------------------------------------|-------------------------------------|
| NEC/(UL) Specification:               | CMR                                 |
| CEC/C(UL) Specification:              | CMR                                 |
| EU Directive 2011/65/EU (ROHS II):    | Yes                                 |
| Other Standards:                      | ISO/IEC 11801 ed 2.1 (2008) Class E |
| 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): | 04/03/2009                          |
| 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 6 - TIA 568.C.2            |

#### Applicable Patents:

Country  
www.belden.com/p

#### Flame Test

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

#### Suitability

|                        |     |
|------------------------|-----|
| Suitability - Indoor:  | Yes |
| Suitability - Outdoor: | No  |
| Suitability - Aerial:  | No  |
| Suitability - Burial:  | No  |
| Sunlight Resistance:   | No  |

#### Plenum/Non-Plenum

|                |      |
|----------------|------|
| Plenum (Y/N):  | No   |
| Plenum Number: | 3613 |

### Electrical Characteristics (Overall)

#### Nom. Mutual Capacitance:

Capacitance (pF/ft)  
15.5

Maximum Capacitance Unbalance (pF/100 m): 330

#### Nominal Velocity of Propagation:

VP (%)  
70.000

#### Maximum Delay:

| Freq. (MHz) | Delay (ns/100 m) |
|-------------|------------------|
| 100.000     | 537.600          |

#### Typical Delay Skew:

Delay Skew (ns/ft)  
35.000

#### Maximum Conductor DC Resistance:

DCR @ 20°C (Ohm/100 m)  
7.700

#### Max. Operating Voltage - UL:

Voltage  
300 V RMS

#### Maximum DCR Unbalanced:

DCR Unbalance @ 20°C (%)  
3.000

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### 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) |
|-------------|-----------------------------|----------------|------------------|---------------|-----------------|-------------|
| 0.772       | 1.800                       | 81.0           | 81.0             | 79.2          | 79.2            |             |
| 1           | 2.000                       | 79.3           | 79.3             | 77.3          | 77.3            | 20.000      |
| 4           | 3.700                       | 70.3           | 70.3             | 66.6          | 66.6            | 23.000      |
| 8           | 5.200                       | 65.8           | 65.8             | 60.6          | 60.6            | 24.500      |
| 10          | 5.800                       | 64.3           | 64.3             | 58.5          | 58.5            | 25.000      |
| 16          | 7.400                       | 61.2           | 61.2             | 53.9          | 53.9            | 25.000      |
| 20          | 8.300                       | 59.8           | 59.8             | 51.5          | 51.5            | 25.000      |
| 25          | 9.300                       | 58.3           | 58.3             | 49.1          | 49.1            | 24.300      |
| 31.25       | 10.400                      | 56.9           | 56.9             | 46.5          | 46.5            | 23.600      |
| 62.5        | 15.000                      | 52.4           | 52.4             | 37.4          | 37.4            | 21.500      |
| 100         | 19.300                      | 49.3           | 49.3             | 30.0          | 30.0            | 20.800      |
| 155         | 24.600                      | 46.5           | 46.5             | 21.8          | 21.8            | 19.500      |
| 200         | 28.300                      | 44.8           | 44.8             | 16.5          | 16.5            | 18.700      |
| 250         | 32.100                      | 43.3           | 43.3             | 11.2          | 11.2            | 18.000      |
| 300         | 35.600                      | 42.1           | 42.1             | 6.5           | 6.5             | 17.500      |
| 350         | 38.900                      | 41.1           | 40.1             | 2.3           | 2.3             | 17.000      |
| 400         | 42.000                      | 38.3           | 38.3             | -3.7          | -3.7            | 16.600      |
| 450         | 45.000                      | 37.5           | 37.5             |               |                 | 16.200      |
| 500         | 47.900                      | 36.8           | 36.8             |               |                 | 15.900      |
| 550         | 50.600                      | 36.2           | 36.2             |               |                 | 15.600      |
| 600         | 53.300                      | 35.6           | 35.6             |               |                 | 15.400      |
| 650         | 55.900                      | 35.1           | 35.1             |               |                 | 15.100      |

Premise Cable Electrical Table 2:

| Freq. (MHz) | Input (Unfitted) Imp. (Ohms) | Min. ACRF (dB) | Min. PSACRF (dB) |
|-------------|------------------------------|----------------|------------------|
| .772        |                              | 75.0           | 73.0             |
| 1           | 100 ± 15                     | 72.8           | 70.8             |
| 4           | 100 ± 15                     | 60.8           | 58.8             |
| 8           | 100 ± 15                     | 54.7           | 52.7             |
| 10          | 100 ± 15                     | 52.8           | 50.8             |
| 16          | 100 ± 15                     | 48.7           | 46.7             |
| 20          | 100 ± 15                     | 46.8           | 44.8             |
| 25          | 100 ± 15                     | 44.8           | 42.8             |
| 31.25       | 100 ± 15                     | 42.9           | 40.9             |
| 62.5        | 100 ± 15                     | 36.9           | 34.9             |
| 100         | 100 ± 15                     | 32.8           | 30.8             |
| 155         | 100 ± 22                     | 28.9           | 26.9             |
| 200         | 100 ± 22                     | 26.8           | 24.8             |
| 250         | 100 ± 32                     | 24.8           | 22.8             |
| 300         | 100 ± 32                     | 23.3           | 21.3             |
| 350         | 100 ± 32                     | 21.9           | 19.9             |
| 400         | 100 ± 32                     | 20.8           | 18.8             |
| 450         | 100 ± 32                     | 19.7           | 17.7             |
| 500         | 100 ± 32                     | 18.8           | 16.8             |
| 550         | 100 ± 32                     | 18.0           | 16.0             |
| 600         | 100 ± 32                     | 17.2           | 15.2             |
| 650         | 100 ± 32                     | 16.5           | 14.5             |

Premise Cable Electrical Table 4:

| Frequency (MHz) | Min. TCL (dB) | Min. ELTCTL (dB) |
|-----------------|---------------|------------------|
| 0.772           | 40.000        | 37.200           |
| 1.000           | 40.000        | 35.000           |
| 4.000           | 40.000        | 23.000           |
| 8.000           | 40.000        | 16.900           |
| 10.000          | 40.000        | 15.000           |
| 16.000          | 38.000        | 10.900           |
| 20.000          | 37.000        | 9.000            |
| 25.000          | 36.000        | 7.000            |
| 31.250          | 35.100        |                  |
| 62.500          | 32.000        |                  |
| 100.000         | 30.000        |                  |
| 155.000         | 28.100        |                  |
| 200.000         | 27.000        |                  |
| 250.000         | 26.000        |                  |

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### Notes (Overall)

**Notes:** Jacket sequentially marked at 2 ft/1m. intervals. Third party verified to ANSI/TIA-568-C.2 Category 6. Values above 400 MHz are for engineering information only.

### Put Ups and Colors:

| Item #        | Putup    | Ship Weight | Color       | Notes | Item Desc                |
|---------------|----------|-------------|-------------|-------|--------------------------|
| 3612 003A1000 | 1,000 FT | 29.000 LB   | ORANGE      | C     | CAT6E 4PR U/UTP CMR RIB  |
| 3612 003U1000 | 1,000 FT | 27.000 LB   | ORANGE      |       | CAT6E 4PR U/UTP CMR BOX  |
| 3612 004A1000 | 1,000 FT | 29.000 LB   | YELLOW      | C     | CAT6E 4PR U/UTP CMR RIB  |
| 3612 004U1000 | 1,000 FT | 27.000 LB   | YELLOW      |       | CAT6E 4PR U/UTP CMR BOX  |
| 3612 0041000  | 1,000 FT | 27.000 LB   | YELLOW      | C     | CAT6E 4PR U/UTP CMR REEL |
| 3612 0042500  | 2,500 FT | 67.500 LB   | YELLOW      |       | CAT6E 4PR U/UTP CMR REEL |
| 3612 005A1000 | 1,000 FT | 29.000 LB   | GREEN, DARK | C     | CAT6E 4PR U/UTP CMR RIB  |
| 3612 005U1000 | 1,000 FT | 27.000 LB   | GREEN, DARK |       | CAT6E 4PR U/UTP CMR BOX  |
| 3612 0051000  | 1,000 FT | 27.000 LB   | GREEN, DARK | C     | CAT6E 4PR U/UTP CMR REEL |
| 3612 006A1000 | 1,000 FT | 29.000 LB   | BLUE, LIGHT | C     | CAT6E 4PR U/UTP CMR RIB  |
| 3612 006U1000 | 1,000 FT | 27.000 LB   | BLUE, LIGHT |       | CAT6E 4PR U/UTP CMR BOX  |
| 3612 0061000  | 1,000 FT | 27.000 LB   | BLUE, LIGHT | C     | CAT6E 4PR U/UTP CMR REEL |
| 3612 0062500  | 2,500 FT | 67.500 LB   | BLUE, LIGHT |       | CAT6E 4PR U/UTP CMR REEL |
| 3612 007A1000 | 1,000 FT | 29.000 LB   | VIOLET      | C     | CAT6E 4PR U/UTP CMR RIB  |
| 3612 007U1000 | 1,000 FT | 27.000 LB   | VIOLET      |       | CAT6E 4PR U/UTP CMR BOX  |
| 3612 008A1000 | 1,000 FT | 29.000 LB   | GRAY        | C     | CAT6E 4PR U/UTP CMR RIB  |
| 3612 008U1000 | 1,000 FT | 27.000 LB   | GRAY        |       | CAT6E 4PR U/UTP CMR BOX  |
| 3612 0081000  | 1,000 FT | 27.000 LB   | GRAY        | C     | CAT6E 4PR U/UTP CMR REEL |
| 3612 009A1000 | 1,000 FT | 29.000 LB   | WHITE       | C     | CAT6E 4PR U/UTP CMR RIB  |
| 3612 009U1000 | 1,000 FT | 27.000 LB   | WHITE       |       | CAT6E 4PR U/UTP CMR BOX  |
| 3612 0091000  | 1,000 FT | 27.000 LB   | WHITE       | C     | CAT6E 4PR U/UTP CMR REEL |
| 3612 0092500  | 2,500 FT | 67.500 LB   | WHITE       |       | CAT6E 4PR U/UTP CMR REEL |
| 3612 010A1000 | 1,000 FT | 29.000 LB   | BLACK       | C     | CAT6E 4PR U/UTP CMR RIB  |
| 3612 010U1000 | 1,000 FT | 27.000 LB   | BLACK       |       | CAT6E 4PR U/UTP CMR BOX  |
| 3612 0101000  | 1,000 FT | 27.000 LB   | BLACK       | C     | CAT6E 4PR U/UTP CMR REEL |

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

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