

## 4812 Multi-Conductor - Enhanced Category 6 Nonbonded-Pair Cable



For more Information  
please call

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### General Description:

CAT6+ (600MHz), 4-Pair, U/UTP-Unshielded, Riser-CMR, Premise Horizontal Cable, 23 AWG Solid Bare Copper Conductors, Polyolefin Insulation, X Spline, Ripcord, PVC Jacket

### Usage (Overall)

**Suitable Applications:** Premise Horizontal Cable, Gigabit Ethernet, 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 |
|---------------------|
| PO - Polyolefin     |

#### Outer Shield

Outer Shield Material:

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

#### Outer Jacket

Outer Jacket Material:

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

Outer Jacket Diameter:

| Nom. Dia. (in.) |
|-----------------|
| 0.255           |

**Outer Jacket Ripcord:** Yes

#### Overall Cable

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

#### 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:** -20°C To +75°C

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

**Operating Temperature Range:** -20°C To +60°C

**Bulk Cable Weight:** 31 lbs/1000 ft.

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

**Min. Bend Radius/Minor Axis:** 1 in.

**Min. Bend/Installation:** 2.500 in.

### Applicable Specifications and Agency Compliance (Overall)

Applicable Standards & Environmental Programs

## 4812 Multi-Conductor - Enhanced Category 6 Nonbonded-Pair Cable

|                                       |                                     |
|---------------------------------------|-------------------------------------|
| 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): | 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                                 |
| MIL Order #39 (China RoHS):           | Yes                                 |
| Telecommunications Standards:         | Category 6 - TIA 568.C.2            |
| Other Specification:                  | UL Verified to Category 6           |

**Applicable Patents:**

|                  |
|------------------|
| <b>Country</b>   |
| www.belden.com/p |

**Flame Test**

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

**Suitability**

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

**Plenum/Non-Plenum**

|                |      |
|----------------|------|
| Plenum (Y/N):  | No   |
| Plenum Number: | 4813 |

### Electrical Characteristics (Overall)

**Nom. Mutual Capacitance:**

|                            |
|----------------------------|
| <b>Capacitance (pF/ft)</b> |
| 15.500                     |

|   |     |
|---|-----|
| Maximum Capacitance Unbalance (pF/100 m): | 330 |
|---|-----|

**Nominal Velocity of Propagation:**

|               |
|---------------|
| <b>VP (%)</b> |
| 68.000        |

**Maximum Delay:**

|                         |
|-------------------------|
| <b>Delay (ns/100 m)</b> |
| 538 @ 100MHz            |

**Max. Delay Skew:**

|                              |
|------------------------------|
| <b>Delay Skew (ns/100 m)</b> |
| 25.000                       |

**Maximum Conductor DC Resistance:**

|                               |
|-------------------------------|
| <b>DCR @ 20°C (Ohm/100 m)</b> |
| 6.600                         |

**Max. Operating Voltage - UL:**

|                |
|----------------|
| <b>Voltage</b> |
| 300 V RMS      |

**Maximum DCR Unbalanced:**

|                                 |
|---------------------------------|
| <b>DCR Unbalance @ 20°C (%)</b> |
| 3                               |

### Electrical Characteristics-Premise (Overall)

**Premise Cable Electrical Table 1:**

|                    |                                    |                       |                         |                      |                        |                    |
|--------------------|------------------------------------|-----------------------|-------------------------|----------------------|------------------------|--------------------|
| <b>Freq. (MHz)</b> | <b>Max. Attenuation (dB/100 m)</b> | <b>Min. NEXT (dB)</b> | <b>Min. PSNEXT (dB)</b> | <b>Min. ACR (dB)</b> | <b>Min. PSACR (dB)</b> | <b>Min RL (dB)</b> |
|--------------------|------------------------------------|-----------------------|-------------------------|----------------------|------------------------|--------------------|

## 4812 Multi-Conductor - Enhanced Category 6 Nonbonded-Pair Cable

|       |        |      |      |      |      |        |
|-------|--------|------|------|------|------|--------|
| 0.772 | 1.700  | 83   | 82   | 81.3 | 80.3 |        |
| 1     | 1.900  | 81.3 | 80.3 | 79.4 | 78.4 | 20.000 |
| 4     | 3.500  | 72.3 | 71.3 | 68.8 | 67.8 | 23.000 |
| 8     | 4.900  | 67.8 | 66.8 | 62.8 | 61.8 | 24.500 |
| 10    | 5.500  | 66.3 | 65.3 | 60.8 | 59.8 | 25.000 |
| 16    | 7.000  | 63.2 | 62.2 | 56.3 | 55.3 | 25.000 |
| 20    | 7.800  | 61.8 | 60.8 | 54.0 | 53.0 | 25.000 |
| 25    | 8.700  | 60.3 | 59.3 | 51.6 | 50.6 | 25.000 |
| 31.25 | 9.800  | 58.9 | 57.9 | 49.1 | 48.1 | 24.300 |
| 62.5  | 14.100 | 54.4 | 53.4 | 40.3 | 39.3 | 22.200 |
| 100   | 18.000 | 51.3 | 50.3 | 33.3 | 32.3 | 20.800 |
| 155   | 22.700 | 48.4 | 47.4 | 24.8 | 23.8 | 19.500 |
| 200   | 26.200 | 46.8 | 45.8 | 20.6 | 19.6 | 18.700 |
| 250   | 29.600 | 45.3 | 44.3 | 15.8 | 14.8 | 18.000 |
| 300   | 32.700 | 44.1 | 43.1 | 11.4 | 10.4 | 17.500 |
| 350   | 35.600 | 43.1 | 42.1 | 7.5  | 6.5  | 17.000 |
| 400   | 38.400 | 42.3 | 41.3 | 3.9  | 2.9  | 16.600 |
| 450   | 41.000 | 41.5 | 40.5 | 0.5  | -0.5 | 16.200 |
| 500   | 43.600 | 40.8 | 39.8 | -2.8 | -3.8 | 15.900 |
| 550   | 46.000 | 40.2 | 39.2 | -5.8 | -6.8 | 12.900 |
| 600   | 48.400 | 39.6 | 38.6 | -8.7 | -9.7 | 12.700 |

Premise Cable Electrical Table 2:

| Freq. (MHz) | Input (Unfitted) Imp. (Ohms) | Fitted Impedance | Min. ACRF (dB) | Min. PSACRF (dB) |
|-------------|------------------------------|------------------|----------------|------------------|
| 0.772       |                              | 102 ± 15         | 77.0           | 75.0             |
| 1           | 100 ± 15                     | 100 ± 15         | 74.8           | 72.8             |
| 4           | 100 ± 15                     | 100 ± 15         | 62.8           | 60.8             |
| 8           | 100 ± 15                     | 100 ± 15         | 56.7           | 54.7             |
| 10          | 100 ± 15                     | 100 ± 15         | 54.8           | 52.8             |
| 16          | 100 ± 15                     | 100 ± 15         | 50.7           | 48.7             |
| 20          | 100 ± 15                     | 100 ± 15         | 48.8           | 46.8             |
| 25          | 100 ± 15                     | 100 ± 15         | 46.8           | 44.8             |
| 31.25       | 100 ± 15                     | 100 ± 15         | 44.9           | 42.9             |
| 62.5        | 100 ± 15                     | 100 ± 15         | 38.9           | 36.9             |
| 100         | 100 ± 15                     | 100 ± 15         | 34.8           | 32.8             |
| 155         | 100 ± 22                     | 100 ± 15         | 31.0           | 29.0             |
| 200         | 100 ± 22                     | 100 ± 15         | 28.8           | 26.8             |
| 250         | 100 ± 32                     | 100 ± 15         | 26.8           | 24.8             |
| 300         | 100 ± 32                     | 100 ± 15         | 25.3           | 23.3             |
| 350         | 100 ± 32                     | 100 ± 15         | 23.9           | 21.9             |
| 400         | 100 ± 32                     | 100 ± 15         | 22.8           | 20.8             |
| 450         | 100 ± 32                     | 100 ± 15         | 21.7           | 19.7             |
| 500         | 100 ± 32                     | 100 ± 15         | 20.8           | 18.8             |
| 550         | 100 ± 32                     | 100 ± 15         | 20.0           | 18.0             |
| 600         | 100 ± 32                     | 100 ± 15         | 19.2           | 17.2             |

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        |                  |

### Notes (Overall)

**Notes:** Belden IBDN. Jacket sequentially marked at 2 ft./1m intervals. Values above 600 MHz are for Engineering Information Only. Third party verified to ANSI/TIA-568-C.2, Category 6.

### Reference (Overall)

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Previous Part Number:

24586685, 24586685+US, 24586785, 24586785+US, 25086885, 25086885+US, 24586985, 24586985+US, 24586956, 24586956+US, 24586915, 24586915+US, 24586185, 24586385, 24586385+US, 24586315, 24586315+US, 24586451+US

### Put Ups and Colors:

| Item #        | Putup    | Ship Weight | Color       | Notes | Item Desc                 |
|---------------|----------|-------------|-------------|-------|---------------------------|
| 4812 0021000  | 1,000 FT | 31.000 LB   | RED         |       | CAT6E+ 4PR U/UTP CMR REEL |
| 4812 0041000  | 1,000 FT | 31.000 LB   | YELLOW      |       | CAT6E+ 4PR U/UTP CMR REEL |
| 4812 0051000  | 1,000 FT | 31.000 LB   | GREEN, DARK |       | CAT6E+ 4PR U/UTP CMR REEL |
| 4812 006A1000 | 1,000 FT | 31.000 LB   | BLUE, LIGHT |       | CAT6E+ 4PR U/UTP CMR RIB  |
| 4812 0061000  | 1,000 FT | 31.000 LB   | BLUE, LIGHT |       | CAT6E+ 4PR U/UTP CMR REEL |
| 4812 0062500  | 2,500 FT | 82.500 LB   | BLUE, LIGHT |       | CAT6E+ 4PR U/UTP CMR REEL |
| 4812 0081000  | 1,000 FT | 31.000 LB   | GRAY        |       | CAT6E+ 4PR U/UTP CMR REEL |
| 4812 009A1000 | 1,000 FT | 31.000 LB   | WHITE       |       | CAT6E+ 4PR U/UTP CMR RIB  |
| 4812 0091000  | 1,000 FT | 31.000 LB   | WHITE       |       | CAT6E+ 4PR U/UTP CMR REEL |
| 4812 0103000  | 3,000 FT | 102.000 LB  | BLACK       |       | CAT6E+ 4PR U/UTP CMR REEL |

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