

# PowerCat 5e U/UTP Cable

Molex PowerCat 5e U/UTP Cable is ideal for supporting 1000BASE-T Ethernet networks.

## APPLICATIONS

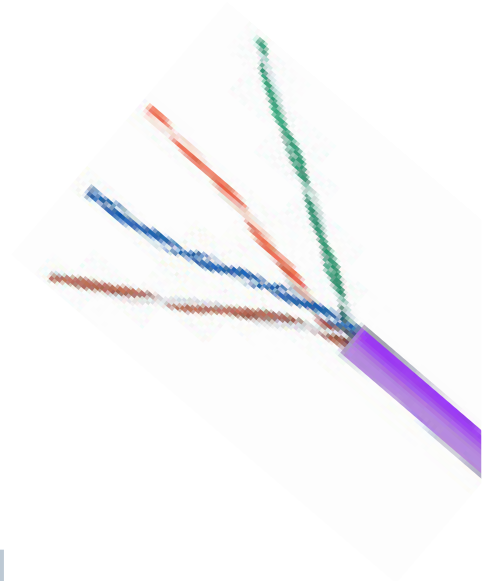
PowerCat 5e U/UTP Cable is intended for high speed data applications up to 350 MHz including:  
IEEE 802.3 1000BASE-T, 100BASE-TX, 10BASE-T 155 Mb/s ATM  
ANSI X3.263 100 Mb/s  
4/16 Mb/s Token Ring

## FEATURES AND ADVANTAGES

Specified and tested to 350 MHz

ETL verified to TIA-568-C.2 and ISO/IEC 11801

1000 foot to 0 foot markers



## SPECIFICATIONS

### Commercial Standards

North American: TIA-568-C.2 Category 5e  
International: ISO/IEC 11801 Category 5e  
European: EN 50173

### Flame Rating

**Non-plenum:** UL 1666, CMR, CMG, IEC 332-1, C(UL)

**Plenum:** NFPA 262, CMP

### Technical Information

#### Mechanical Characteristics

#### Materials:

0.52 mm (24 AWG), bare copper wire insulated with polyethylene (non-plenum) or FEP (plenum). Two insulated conductors twisted together

to form a pair and four such pairs laid up to form the basic unit jacketed with flame-retardant PVC.

**Pulling Tension:** 110N (25 lbf)

### PoE

**Our PowerCat 5e system is suitable for PoE applications as defined below:**

IEEE 802.3bt from Type 1 to Type 4, and CISCO UPoE+

#### Notes:

For new installations of PoE Type 3 / Class 5 and above that wish to be eligible for the Molex 25 year Application Assurance Warranty, we require Category 6A cable to be

used throughout.

To confirm your PoE / RP3 cabling design is eligible for the Molex 25 year Application Assurance Warranty, your design must be verified and validated with the Molex PoE Calculator. Read more

<https://www.molexces.com/poe-calculator>

Molex recommends that the PoE feature on an individual switch port are power disabled prior to unplugging the associated powered Device. Molex recommends that the full range of PowerCat 5e products be used in a system to maximize cabling and PoE performance. Details on Molex requirements for Warranty can be found at

<https://www.molexces.com/about-us/our-warranty/>

[www.molexces.com/products/copper/cat5e/](http://www.molexces.com/products/copper/cat5e/)

# PowerCat 5e U/UTP Cable

## SPECIFICATIONS - CONTINUED

### Technical Data - Physical

**D.C. Resistance:** 30 ohm/100m

|   | Non-Plenum  | Plenum      |
|---|-------------|-------------|
| Conductor diameter - in. (mm)           | .022 (0.52) | .020 (0.52) |
| Cable diameter - in. (mm)               | .187 (4.8)  | .165 (4.2)  |
| Nominal cable weight - lb./kft. (kg/km) | 20 (30)     | 21 (31)     |
| Max installation tension - lb. (N)      | 25 (110)    | 25 (110)    |
| Min. bend radius - in. (mm)             | 1.0 (25.4)  | 1.0 (25.4)  |

|                                       | Horizontal  |
|---------------------------------------|---|
| Mutual Capacitance                    | 4.4nF/100 m nom.  |
| DC resistance                         | 9.38 Ohms/100 m max.  |
| Skew                                  | 25 ns/100 m max.  |
| Pair to ground Unbalance              | 330 pF/100 m max  |
| Nominal Velocity of Propagation (NVP) | See cable jacket for NVP setting                              |
| Input Impedance (Ohms)                | 100Ω ± 14% 0.772-100 MHz<br>100Ω ± [14+15log (F/100)] 100-350 |

### Temperature Rating

**Installation:** 0°C to +50°C

**Operation:** -20°C to +60°C

### Color Code

**Pair 1: White/Blue Blue**

**Pair 2: White/Orange Orange**

**Pair 3: White/Green Green**

**Pair 4: White/Brown Brown**

[www.molex.com/products/copper/cat5e/](http://www.molex.com/products/copper/cat5e/)

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# PowerCat 5e U/UTP Cable

## SPECIFICATIONS - CONTINUED

| FREQ<br>MHz | SRL<br>(dB) |         | RL<br>(dB) |         | INSERTION LOSS<br>(dB/100m) |         | PS-NEXT<br>(dB) |         | NEXT<br>(dB) |         |
|-------------|-------------|---------|------------|---------|-----------------------------|---------|-----------------|---------|--------------|---------|
|             | min.        | typical | min.       | typical | max.                        | typical | min.            | typical | min.         | typical |
| 1           | 25.5        | 44.7    | 20.0       | 38.2    | 2.0                         | 1.7     | 68.3            | 82.7    | 70.3         | 89.1    |
| 4           | 25.5        | 44.9    | 23.3       | 36.0    | 4.0                         | 3.5     | 59.9            | 73.3    | 61.9         | 81.9    |
| 10          | 25.5        | 47.7    | 25.0       | 39.0    | 6.4                         | 5.6     | 53.3            | 65.9    | 55.3         | 75.1    |
| 20          | 25.5        | 45.9    | 25.5       | 47.5    | 9.2                         | 8.1     | 48.8            | 60.6    | 50.8         | 66.3    |
| 31.25       | 24.4        | 55.3    | 24.4       | 43.0    | 11.6                        | 10.1    | 45.9            | 59      | 47.9         | 65      |
| 62.5        | 22.7        | 41.6    | 22.7       | 39.5    | 16.8                        | 14.6    | 41.4            | 55.7    | 43.4         | 62.1    |
| 100         | 21.5        | 37.3    | 21.5       | 35.5    | 21.7                        | 18.7    | 38.3            | 51.4    | 40.3         | 57.5    |
| 200         | 19.8        | 43.1    | 19.8       | 46.5    | 32.1                        | 27.2    | 33.8            | 47.7    | 35.8         | 53.2    |
| 300         | 18.8        | 36.1    | 18.8       | 35.7    | 40.5                        | 33.9    | 31.2            | 45.2    | 33.2         | 53.4    |
| 350         | 18.4        | 35.4    | 18.4       | 35.0    | 44.4                        | 36.9    | 30.2            | 42.2    | 32.2         | 48.8    |
| 400         | 18.1        | 38.0    | 18.1       | 34.4    | 48.0                        | 39.6    | 29.3            | 39.4    | 31.3         | 45.6    |
| 450         | 17.8        | 34.7    | 17.8       | 34.5    | 51.5                        | 42.4    | 28.5            | 36.2    | 30.5         | 43.4    |

**IMPORTANT:** Molex performance guarantees are based on swept-frequency testing and apply to all frequencies for the entire specified frequency range and are not limited to the tables of data shown which are presented to demonstrate our guarantees at “representative” frequencies.

| FREQ<br>MHz | ACR<br>(dB@100m) |         | PS-ACR<br>(dB@100m) |         | ELFEXT<br>(dB) |         | PS-ELFEXT<br>(dB) |         |
|-------------|------------------|---------|---------------------|---------|----------------|---------|-------------------|---------|
|             | min.             | typical | min.                | typical | max.           | typical | min.              | typical |
| 1           | 68.3             | 83      | 66.3                | 80.8    | 66.8           | 86.2    | 63.8              | 77      |
| 4           | 57.3             | 71      | 55.3                | 69.6    | 54.7           | 73.2    | 42.7              | 64.8    |
| 10          | 48.9             | 61      | 46.9                | 59.8    | 46.8           | 65.5    | 44.8              | 57      |
| 20          | 41.6             | 55      | 39.6                | 52      | 40.7           | 60.8    | 38.7              | 51.5    |
| 31.25       | 36.3             | 50      | 34.3                | 48.1    | 36.9           | 56.6    | 34.9              | 47.8    |
| 62.5        | 26.6             | 42      | 24.6                | 40      | 30.8           | 50.5    | 28.8              | 42.1    |
| 100         | 18.6             | 33      | 16.6                | 31.2    | 26.8           | 45.5    | 24.8              | 38.5    |
| 200         | 3.7              | 21.2    | 1.7                 | 18.4    | 20.7           | 44.7    | 17.7              | 37.4    |
| 300         | -                | 9.6     | -                   | 8.3     | 17.2           | 38.1    | 14.2              | 31.9    |
| 350         | -                | 4.9     | -                   | 1.9     | 15.9           | 36.4    | 12.9              | 30.6    |
| 400         | -                | -1.8    | -                   | -4      | 14.7           | 33.4    | 11.7              | 27.5    |
| 450         | -                | -8.9    | -                   | -10.6   | 13.7           | 36.7    | 10.7              | 28.3    |

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# PowerCat 5e U/UTP Cable >

## ORDERING INFORMATION

| Order No.    | SAP No.       | Description  |
|--------------|---------------|--|
| CAA-0182R-BL | Consult Molex | PowerCat 5e U/UTP Cable, 4 Pair, CMR, PVC - Blue             |
| CAA-0182R-02 | Consult Molex | PowerCat 5e U/UTP Cable, 4 Pair, CMR, PVC - White            |
| CAA-0182R-08 | Consult Molex | PowerCat 5e U/UTP Cable, 4 Pair, CMR, PVC - Light Gray       |
| CAA-0182P-BL | Consult Molex | PowerCat 5e U/UTP Cable, 4 Pair, CMP, PVC Alloy - Blue       |
| CAA-0182P-02 | Consult Molex | PowerCat 5e U/UTP Cable, 4 Pair, CMP, PVC Alloy - White      |
| CAA-0182P-08 | Consult Molex | PowerCat 5e U/UTP Cable, 4 Pair, CMP, PVC Alloy - Light Gray |

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