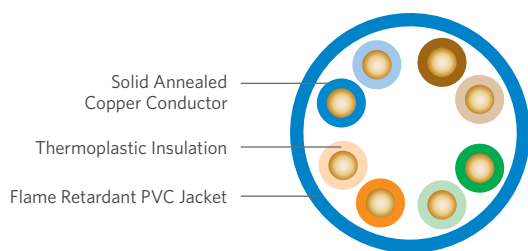


# PowerWise™ Category 5e+

CMR/CMP



## PRODUCT DESCRIPTION

PowerWise™ Category 5e+ cables provide the best performance and overall value for 4-Pair Power over Ethernet (4PPoE) applications requiring up to 100W of power and up to 1 Gigabit Ethernet performance. PowerWise CAT 5e+ cables are specifically designed to mitigate temperature build-up, offer exceptional energy efficiency and ensure performance (up to 1 Gigabit Ethernet) over the lifetime of your system.

PowerWise CAT 5e+ cable provides the performance benefits of a typical CAT 5E cable including a small diameter. Cable temperature increases are reduced and power efficiency is increased as a result of 22 gauge conductors. Plenum rated conductors are also 100% FEP insulated and ensure cable performance over the life of your system. PowerWise CAT 5e+ cables are the best solution to connect and power your 4PPoE applications compared to standard CAT 5e and 6 designs.

## APPLICATIONS

- 10BASE-T through 1000BASE-T Ethernet
- Power over Ethernet (PoE) - IEEE 802.3af
- PoE+ - IEEE 802.3at Type 1 and 2
- 4PPoE - IEEE 802.3bt Type 3 and 4 draft D1.2
- ATM and token ring

## FEATURES

- Guaranteed 0.3 dB headroom for IL, ACR and PSACR
- Tested 350 MHz
- Tested in most severe temperature conditions in bundle of 100 cables
- BrakeBox® payout control system
- CableID® alpha numeric code printed every 2 feet
- QuickCount marking system in feet and meters
- ColorTip® circuit identification system
- Color coded box labels

## BENEFITS

- Performance assurance for exceptional overall channel performance
- Assures ample bandwidth Headroom
- AWG 22 insulated wire offers 88% power efficiency and lowest temperature increase inside a bundle, the best of its class
- Adjustable tension control on reel prevents over spin and entangling of cable
- Allows both ends of a cable run to be easily identifiable without the need to separately label or tone the cable
- Provides remaining length of cable on reel
- Easily identifiable conductor mates even in low-light environments
- Easily identifies jacket colors

## SPECIFICATIONS

|                                   |  |
|-----------------------------------|--|
| Pair Count                        | 4  |
| Conductor                         | Solid annealed copper  |
| AWG (mm)                          | 22 (0.51)  |
| Insulation                        | Thermoplastic  |
| Insulation Colors                 | Pair 1: ColorTip Light Blue, Blue<br>Pair 2: ColorTip Light Orange, Orange<br>Pair 3: ColorTip Light Green, Green<br>Pair 4: ColorTip Light Brown, Brown |
| Jacket                            | CMR: Flame retardant (FR) PVC<br>CMP: FR, low smoke PVC  |
| Characteristic Impedance Ohms     | 100 ± 15   |
| Nominal Velocity of Propagation % | CMR: 71<br>CMP: 74   |
| Performance Compliance            | UL 444<br>CSA C22.2 No. 214-08<br>UL 1666<br>NFPA 262<br>ANSI/TIA-568-C.2<br>ANSI/ICEA S-90-661-2012<br>Article 800, NEC (NFPA 70)                       |
| NRTL Programs                     | UL Verified CAT 5e<br>UL, c(UL) Listed CMR<br>UL, c(UL) Listed CMP   |

## PART NUMBERS AND PHYSICAL CHARACTERISTICS

| Listing | Part Number <sup>1</sup> | Nominal Diameter in (mm) | Approx. Weight lbs/kft (kg/km) | Package               | Packages per Pallet |
|---------|--------------------------|--------------------------|--------------------------------|-----------------------|---------------------|
| CMR     | PW52-H46-y5              | 0.23 (4.6)               | 28 (25)                        | 1,000 ft BrakeBox     | 12                  |
| CMR     | PW52-H72-y5              | 0.23 (4.6)               | 28 (25)                        | 1,000 ft Plywood Reel | 16                  |
| CMP     | PW52-H46-y8              | 0.23 (4.8)               | 37 (28)                        | 1,000 ft BrakeBox     | 12                  |
| CMP     | PW52-H72-y8              | 0.23 (4.8)               | 37 (28)                        | 1,000 ft Plywood Reel | 16                  |

## JACKET COLORS

<sup>1</sup>Replace "y" with:

Blue = 2

Gray = 3

White = 4

Green = 5

Yellow = 6

Red = 9

**ELECTRICAL SPECIFICATIONS**

| Frequency<br>MHz | Insertion Loss @ 20°C Maximum<br>dB/100 m |                |         | NEXT Minimum<br>dB/100 m |                | ACR Minimum<br>dB/100 m |                |         | PSNEXT Minimum<br>dB/100 m |                |
|------------------|---|----------------|---------|--------------------------|----------------|-------------------------|----------------|---------|----------------------------|----------------|
|                  | TIA-568-C.2                               | Superior Essex |         | TIA-568-C.2              | Superior Essex | TIA-568-C.2             | Superior Essex |         | TIA-568-C.2                | Superior Essex |
|                  | Specified                                 | Guaranteed     | Typical | Specified                | Typical        | Calculated              | Guaranteed     | Typical | Specified                  | Typical        |
| 1                | 2   | 1.7            | 1.7     | 65.3                     | 76.8           | 63.3                    | 63.6           | 81.0    | 62.3                       | 75.3           |
| 4                | 4.1                                       | 3.8            | 3.7     | 56.3                     | 67.8           | 52.2                    | 52.5           | 70.1    | 53.3                       | 66.3           |
| 8                | 5.8                                       | 5.5            | 5.4     | 51.8                     | 63.3           | 46.0                    | 46.3           | 63.9    | 48.8                       | 61.8           |
| 10               | 6.5                                       | 6.2            | 6.0     | 50.3                     | 61.8           | 43.8                    | 44.1           | 61.8    | 47.3                       | 60.3           |
| 16               | 8.2                                       | 7.9            | 7.7     | 47.2                     | 58.7           | 39.0                    | 39.3           | 57.0    | 44.3                       | 57.2           |
| 20               | 9.3                                       | 9.0            | 8.6     | 45.8                     | 57.3           | 36.5                    | 36.8           | 54.7    | 42.8                       | 55.8           |
| 25               | 10.4                                      | 10.1           | 9.6     | 44.3                     | 55.8           | 33.9                    | 34.2           | 52.2    | 41.3                       | 54.3           |
| 31.25            | 11.7                                      | 11.4           | 10.8    | 42.9                     | 54.4           | 31.2                    | 31.5           | 49.6    | 39.9                       | 52.9           |
| 62.5             | 17  | 16.7           | 15.5    | 38.4                     | 49.9           | 21.4                    | 21.7           | 40.4    | 35.4                       | 48.4           |
| 100              | 22  | 21.7           | 19.8    | 35.3                     | 46.8           | 13.3                    | 13.6           | 33.0    | 32.3                       | 45.3           |
| 155              |   |                | 24.8    |                          | 43.9           |                         |                | 25.1    |                            | 42.4           |
| 200              |   |                | 28.2    |                          | 42.3           |                         |                | 20.1    |                            | 40.8           |
| 250              |   |                | 31.8    |                          | 40.8           |                         |                | 15.0    |                            | 39.3           |
| 300              |   |                | 35      |                          | 39.6           |                         |                | 10.6    |                            | 38.1           |
| 350              |   |                | 38.3    |                          | 38.6           |                         |                | 6.3     |                            | 37.1           |

| Frequency<br>MHz | PSACR Minimum<br>dB/100 m |                |         | Return Loss Minimum<br>dB/100 m |                | ELFEXT Minimum<br>dB/100 m |                | PSELFEXT Minimum<br>dB/100 m |                |
|------------------|---------------------------|----------------|---------|---------------------------------|----------------|----------------------------|----------------|------------------------------|----------------|
|                  | TIA-568-C.2               | Superior Essex |         | TIA-568-C.2                     | Superior Essex | TIA-568-C.2                | Superior Essex | TIA-568-C.2                  | Superior Essex |
|                  | Calculated                | Guaranteed     | Typical | Specified                       | Typical        | Specified                  | Typical        | Specified                    | Typical        |
| 1                | 60.3                      | 60.6           | 78.3    | 20.0                            | 33.0           | 63.8                       | 74.6           | 60.8                         | 69.3           |
| 4                | 49.2                      | 49.5           | 67.4    | 23.0                            | 36.0           | 51.8                       | 62.6           | 48.8                         | 57.3           |
| 8                | 43.0                      | 43.3           | 61.2    | 24.5                            | 37.5           | 45.7                       | 56.5           | 42.7                         | 51.2           |
| 10               | 40.8                      | 41.1           | 59.1    | 25.0                            | 38.0           | 43.8                       | 54.6           | 40.8                         | 49.3           |
| 16               | 36.1                      | 36.4           | 54.3    | 25.0                            | 38.0           | 39.7                       | 50.5           | 36.7                         | 45.2           |
| 20               | 33.5                      | 33.8           | 52.0    | 25.0                            | 38.0           | 37.8                       | 48.6           | 34.8                         | 43.3           |
| 25               | 30.9                      | 31.2           | 49.5    | 24.3                            | 37.3           | 35.8                       | 46.6           | 32.8                         | 41.3           |
| 31.25            | 28.2                      | 28.5           | 46.9    | 23.6                            | 36.6           | 33.9                       | 44.7           | 30.9                         | 39.4           |
| 62.5             | 18.4                      | 18.7           | 37.7    | 21.5                            | 34.5           | 27.9                       | 38.7           | 24.9                         | 33.4           |
| 100              | 10.3                      | 10.6           | 30.3    | 20.1                            | 33.1           | 23.8                       | 34.6           | 20.8                         | 29.3           |
| 155              |                           |                | 22.4    |                                 | 31.8           |                            | 30.8           |                              | 25.5           |
| 200              |                           |                | 17.4    |                                 | 31.0           |                            | 28.6           |                              | 23.3           |
| 250              |                           |                | 12.3    |                                 | 30.3           |                            | 26.6           |                              | 21.3           |
| 300              |                           |                | 7.9     |                                 | 29.8           |                            | 25.1           |                              | 19.8           |
| 350              |                           |                | 3.6     |                                 | 29.3           |                            | 23.7           |                              | 18.4           |