

# ALPHA WIRE

## CUSTOMER PRODUCT SPECIFICATION

**Part Number: 669333**  
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**Issue: 5**  
**Issue Date: 7/7/2014**  
**Effective Date: 7/9/2014**

### A. Construction

### Diameters (In)

- |    |               |                                     |       |
|----|---------------|-------------------------------------|-------|
| 1) | Component 1   | 1 X 2 PAIR                          |       |
|    | a) Conductor  | 24 (7/32) AWG BC                    | 0.024 |
|    | b) Insulation | 0.011" Wall, Nom. Polypropylene(PP) | 0.045 |
|    | (1) Color(s)  |                                     |       |

Pair	Color	Pair	Color	Pair	Color
1	BLU - WHT/BLU	2	ORG - WHT/ORG		

- |    |                   |   |                    |
|----|-------------------|---|--------------------|
| c) | Pair              | 2/Cond Cabled Together  |                    |
|    | (1) Lay Length:   | BLU – WHT/BLU: 0.415" LH Lay<br>ORG – WHT/ORG: 0.549" LH Lay  |                    |
|    | d) Cabling        | 2 PAIR Cabled   |                    |
|    | (1) Twists:       | 4.0 Twists/foot (min)   |                    |
|    | e) Jacket         | 0.020" Wall, Nom.,PVC   | 0.200 (0.210 Max.) |
|    | (1) Color(s)      | BLACK   |                    |
|    | 2) Shield:        | Alum/Mylar Tape, 25% Overlap, Min.  |                    |
|    | a) Foil Direction | Foil Facing Out   |                    |
|    | b) Braid          | TC,90% Coverage, Min.   |                    |
|    | 3) Jacket         | 0.033" Wall, Nom.,TPE   | 0.310 (0.320 Max.) |
|    | a) Color(s)       | BLACK   |                    |
|    | b) Print          | ALPHA WIRE-* P/N 669333 2PR 24 AWG<br>RU AWM 20626 80C 300V CAT5E PATCH<br>ROHS (SEQUENTIAL #) FT<br>* = Factory Code |                    |

### B. Applicable Specifications

- |    |                |                         |                             |
|----|----------------|-------------------------|-----------------------------|
| 1) | UL             |                         |                             |
|    | a) Component 1 | AWM/STYLE 10152         | 80°C / 300 V <sub>RMS</sub> |
|    | b) Overall     | AWM/STYLE 20626         | 80°C / 300 V <sub>RMS</sub> |
|    | 2) TIA         | TIA-568-C.2 Category 5e |                             |

### C. Environmental Compliance

- |    |                                     |  |
|----|-------------------------------------|--|
| 1) | CE:                                 | EU Directive 2011/65/EU(RoHS2):<br>All materials used in the manufacture and packaging of this part must meet the requirements of European Directive 2011/65/EU regarding the restriction of use of certain hazardous substances in electrical and electronic equipment. |
|    | 2) REACH Regulation (EC 1907/2006): | This product may not contain any of the substances listed in the latest issue European Union's REACH Substance of Very High Concern (SVHC) candidate list in excess of 0.1% mass of the item.  |

### D. Physical & Mechanical Properties

- |    |                   |                   |
|----|-------------------|-------------------|
| 1) | Temperature Range | -50 to 105°C      |
|    | 2) Bend Radius    | 8X Cable Diameter |
|    | 3) Pull Tension   | 20.7 Lbs, Maximum |

### E. Electrical Properties

- |                                 |                             |                            |
|---------------------------------|-----------------------------|----------------------------|
| (For Engineering purposes only) |                             |                            |
| 1)                              | Voltage Rating              | 300 V <sub>RMS</sub>       |
|                                 | 2) Characteristic Impedance | 100 Ω +/- 15               |
|                                 | 3) Mutual Capacitance       | 5.6 nF/100m Max            |
|                                 | 4) Velocity of Propagation  | 70 % Nom.                  |
|                                 | 5) Conductor DCR            | 9.38 Ω/100m Max            |
|                                 | 6) Skew                     | 45 ns/100m Max             |
|                                 | 7) Pair to Ground Unbalance | 330 pF/100m Max            |
|                                 | 8) Transfer Impedance       | 100 mΩ/m Max               |
|                                 | 9) DC Unbalance of a Pair   | 5% Max                     |
|                                 | 10) Insertion Loss          | 2.4 (Max dB/100m ) @ 1 MHz |

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4.9 (Max dB/100m ) @ 4 MHz  
6.9 (Max dB/100m ) @ 8 MHz  
7.8 (Max dB/100m ) @ 10 MHz  
9.9 (Max dB/100m ) @ 16 MHz  
11.1 (Max dB/100m ) @ 20 MHz  
12.5 (Max dB/100m ) @ 25 MHz  
14.1 (Max dB/100m ) @ 31.25 MHz  
20.4 (Max dB/100m ) @ 62.5 MHz  
26.4 (Max dB/100m ) @ 100 MHz

**F. Other**

- |              |  |
|--------------|--|
| 1) Packaging | Flange x Traverse x Barrel (inches)                      |
| a) 1000 FT   | 16 x 11 x 8 Continuous length                            |
| b) Bulk Ft.  | 16 x 11 x 8 Continuous length, 400 ft. Min, 1200 ft. Max |

**This Design is custom, Made-To-Order & once accepted, the order is NON-CANCELLABLE & NON-RETURNABLE.**

Accepted By:	Date:
Company:	Title:

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