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# Customer Specification

## PART NO. 6452

### Construction

|                       |            | Diameters (In)   |       |                |       |
|-----------------------|------------|--|-------|----------------|-------|
| 1) Component 1        |            | 1 X 1 PAIR   |       |                |       |
| a) Conductor          |            | 22 (19/34) AWG TC  |       | 0.030          |       |
| b) Insulation         |            | 0.021" Wall, Nom. PVC  |       | 0.072          |       |
| (1) Color(s)          |            |  |       |                |       |
| Pair                  | Color      | Pair   | Color | Pair           | Color |
| 1                     | BLACK-RED  |  |       |                |       |
| Individually Applied: |            |  |       |                |       |
| c) Shield:            |            | Alum/Mylar Tape, 25% Overlap, Min.   |       |                |       |
| (1) Foil Direction    |            | Foil Facing Out  |       |                |       |
| 2) Component 2        |            | 1 X 1 PAIR   |       |                |       |
| a) Conductor          |            | 24 (19/36) AWG TC  |       | 0.025          |       |
| b) Insulation         |            | 0.026" Wall, Nom. Foam HDPE  |       | 0.077          |       |
| (1) Color(s)          |            |  |       |                |       |
| Pair                  | Color      | Pair   | Color | Pair           | Color |
| 1                     | BLUE-WHITE |  |       |                |       |
| Individually Applied: |            |  |       |                |       |
| c) Shield:            |            | Alum/Mylar Tape, 25% Overlap, Min.   |       |                |       |
| (1) Foil Direction    |            | Foil Facing Out  |       |                |       |
| 3) Cable Assembly     |            | 2 Components Cabled  |       |                |       |
| a) Twists:            |            | 4.0 Twists/foot (min)  |       |                |       |
| 4) Shield             |            | TC BRAID Shield,65% Coverage, Min.   |       |                |       |
| a) Drain Wire         |            | 22 (19/34) AWG TC  |       |                |       |
| 5) Jacket             |            | 0.033" Wall, Nom.,PVC  |       | 0.280+/- 0.015 |       |
| a) Color(s)           |            | SLATE  |       |                |       |
| b) Jacket Separator   |            | Clear Mylar Tape, 25% Overlap, Min.  |       |                |       |
| c) Print              |            | ALPHA WIRE P/N 6452<br>DEVICENET THIN --- 1PR22 1PR24 SHIELDED (UL)<br>EXXXXX CL2 OR CMG 75C OR AWM 600V OR C(UL) CMG<br>OR AWM I/II A 80C 300V --- FT4 SUN RES<br>OIL RES CE ROHS<br>( 1 METER MARKING,---METER---)<br><i>[Note: Product may have c(UL) or CSA markings depending upon plant of manufacture.]</i> |       |                |       |

### Applicable Specifications

|                      |                                     |                             |
|----------------------|-------------------------------------|-----------------------------|
| 1) UL                | CL2                                 | 75°C                        |
|                      | SUN RES                             | 75°C                        |
|                      | CMG                                 | 75°C                        |
|                      | AWM/STYLE 20201                     | 60°C / 600 V <sub>RMS</sub> |
|                      | OIL RES I                           |                             |
| 2) CSA International | C(UL) TYPE CMG                      | 75°C                        |
|                      | AWM I/II A                          | 80°C / 300 V <sub>RMS</sub> |
|                      | FT4                                 |                             |
| 3) Other             | ODVA CLASS 2 THIN                   |                             |
| 4) CE:               | EU Low Voltage Directive 2006/95/EC |                             |

## Environmental

|  |   |
|--|---|
| 1) CE: EU Directive 2011/65/EU(RoHS2): |   |
|  | This product complies with European Directive 2011/65/EU (RoHS Directive) of the European Parliament and of the Council of 8 June 2011. No Exemptions are required for RoHS Compliance on this item. Consult Alpha Wire's web site for RoHS C of C. |
| 2) REACH Regulation (EC 1907/2006):    |   |
|  | This product does not contain Substances of Very High Concern (SVHC) listed on the European Union's REACH candidate list in excess of 0.1% mass of the item. For up-to-date information, please see Alpha's REACH SVHC Declaration.                 |

## Properties

|  |  |
|--|--|
| Physical & Mechanical Properties                         |  |
| 1) Temperature Range                                     | -20 to 75°C(static), 0 to 80°C (dynamic) |
| 2) Bend Radius   | 10X Cable Diameter                       |
| 3) Pull Tension  | 29 Lbs, Maximum                          |
| Electrical Properties<br>(For Engineering purposes only) |  |
| 1) Voltage Rating  | 300 V <sub>RMS</sub>                     |
| 2) Component 1   |  |
| a) Inductance  | 0.221 µH/ft, Nominal                     |
| b) Conductor DCR   | 17.5 Ω/1000ft @20°C, Nominal             |
| c) Current   | 2.4 amps per conductor @30°C, Maximum    |
| 3) Component 2   |  |
| a) Characteristic Impedance                              | 120 Ω +/- 12                             |
| b) Inductance  | 0.251 µH/ft, Nominal                     |
| c) Mutual Capacitance                                    | 12 pf/ft @1 kHz, Nominal                 |
| d) Velocity of Propagation                               | 75 %                                     |
| e) Conductor DCR   | 28 Ω/1000ft @20°C, Nominal               |
| f) Current   | 1.7 amps per conductor @30°C, Maximum    |
| g) Attenuation, Max dB/100ft                             | 0.29 @ 125 kHz                           |
|  | 0.5 @ 500 kHz                            |
|  | 0.7 @ 1 MHz                              |
| 4) OA Shield DCR   | 3.2 Ω/1000ft @20°C, Nominal              |

## Other

| Packaging  | Flange x Traverse x Barrel (inches)         |
|------------|---|
| a) 1000 FT | 16 x 11 x 8 Continuous length               |
| b) 500 FT  | 12 x 10 x 5 Continuous length               |
| c) 100 FT  | 12 x 4.5 x 3.5 Continuous length            |
|            | <i>[Spool dimensions may vary slightly]</i> |

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# EU/China ROHS CERTIFICATE OF COMPLIANCE

To Whom It May Concern:

Alpha Wire Part Number: 6452

6452 , RoHS-Compliant Commencing With 7/1/2008 Production

Note: all colors and put-ups

This document certifies that the Alpha part number cited above is manufactured in accordance with Directive 2011/65/EU of the European Parliament, better known as the RoHS Directive (commonly known as RoHS 2), with regards to restrictions of the use of certain hazardous substances used in the manufacture of electrical and electronic equipment. This certification extends to amending Directive 2015/863/EU which expanded the list of restricted substances to 10 items (commonly known as RoHS 3) The reader is referred to these Directives for the specific definitions and extents of the Directives. **No Exemptions are required for RoHS Compliance on this item.** Additionally, Alpha certifies that the listed part number is in compliance with China RoHS "Marking for Control of Pollution by Electronic Information Products" standard SJ/T 11364-2014.

| Substance   | Maximum Control Value      |
|---|----------------------------|
| Lead  | 0.1% by weight (1000 ppm)  |
| Mercury   | 0.1% by weight (1000 ppm)  |
| Cadmium   | 0.01% by weight (100 ppm)  |
| Hexavalent Chromium   | 0.1% by weight (1000 ppm ) |
| Polybrominated Biphenyls (PBB)                                | 0.1% by weight (1000 ppm)  |
| Polybrominated Diphenyl Ethers (PBDE) ,<br>Including Deca-BDE | 0.1% by weight (1000 ppm)  |
| Bis(2-ethylhexyl) phthalate (DEHP)                            | 0.1% by weight (1000 ppm)  |
| Butyl benzyl phthalate (BBP)                                  | 0.1% by weight (1000 ppm)  |
| Dibutyl phthalate (DBP)                                       | 0.1% by weight (1000 ppm)  |
| Diisobutyl phthalate (DIBP)                                   | 0.1% by weight (1000 ppm)  |

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Authorized Signatory for the Alpha Wire:

Dave Watson, Director of Engineering & QA

4/20/2017

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