## Customer Specification

### PART NO. 6454

### Construction

<table>
<thead>
<tr>
<th>Component</th>
<th>Diameter (in)</th>
<th>Color(s)</th>
<th>Twists/foot (min)</th>
<th>Shield Direction</th>
<th>Drain Wire Diameter (in)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1) Component 1</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a) Conductor</td>
<td>0.030</td>
<td>ORANGE/WHITE-WHITE/WHITE/ORANGE</td>
<td>4.4</td>
<td>Alum/Mylar Tape, 25% Overlap, Min.</td>
<td>22 (7/30) AWG TC</td>
</tr>
<tr>
<td>b) Insulation</td>
<td>0.095</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c) Pair</td>
<td>2/Cond Cabled Together</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(1) Twists</td>
<td>4.4 Twists/foot (min)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>2) Component 2</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a) Conductor</td>
<td>0.030</td>
<td>BLUE/WHITE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b) Insulation</td>
<td>0.062</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>3) Cable Assembly</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a) Twists</td>
<td>4.0 Twists/foot (min)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>4) Shield</strong></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>TC BRAID Shield, 65% Coverage, Min.</td>
<td></td>
<td></td>
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<tr>
<td><strong>5) Jacket</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a) Color(s)</td>
<td>BLACK</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b) Print</td>
<td>ALPHA WIRE P/N 6454</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Applicable Specifications

*Note: Product may have c(UL) or CSA markings depending upon plant of manufacture.*
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 60°C

2) Bend Radius
10X Cable Diameter

3) Pull Tension
26 Lbs, Maximum

Electrical Properties
(For Engineering purposes only)

1) Voltage Rating
300 V_RMS

2) Component 1
   a) Characteristic Impedance
   120 Ω +/- 12
   b) Mutual Capacitance
   11 pf/ft @1 kHz, Nominal
   c) Ground Capacitance
   20.9 pf/ft @1 kHz, Nominal
   d) Velocity of Propagation
   78 %
   e) Conductor DCR
   15.1 Ω/1000ft @20°C, Nominal
   f) Current
   2.7 amps per conductor @30°C, Maximum
   g) Attenuation, Max dB/100ft
   0.5 @ 1 MHz

3) Component 2
   a) Conductor DCR
   17.8 Ω/1000ft @20°C, Nominal
   b) Current
   2.7 amps per conductor @30°C, Maximum

4) OA Shield DCR
   5.2 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

[Spool dimensions may vary slightly]

Notes:
a) EIA Industrial RS485 cable.
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EU/China ROHS CERTIFICATE OF COMPLIANCE

To Whom It May Concern:

Alpha Wire Part Number: 6454

6454, 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.

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

The information provided in this document and disclosure is correct to the best of Alpha Wire's knowledge, information and belief at the date of its release. The information provided is designed only as a general guide for the safe handling, storage, and any other operation of the product itself or the one that it will become part of. The intent of this document is not to be considered a warranty or quality specification. Regulatory information is for guidance purposes only. Product users are responsible for determining the applicability of legislation and regulations based on their individual usage of the product.

Authorized Signatory for the Alpha Wire:

Dave Watson, Director of Engineering & QA  5/19/2017

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