

# Customer Specification

## PART NO. 6454

### Construction

						Diameter ("in")	
1) Component 1						1 x 1 PAIR	
a) Conductor						22 (7/.0096) AWG Tinned Copper	0.030
b) Insulation						0.0325" Wall, Nom. Foam HDPE	0.095
(1) Color(s)							
Pair	Color	Pair	Color	Pair	Color		
1	ORANGE/WHITE- WHITE/ORANGE						
c) Pair						2/Cond Cabled Together	
(1) Twists:						4.4 Twists/ft. (min.)	
Individually Applied:							
d) Shield						Alum/Mylar Tape, 25% Overlap (min.)	
(1) Foil Direction						Foil Facing Out	
(2) Drain Wire						22 (7/.0096) AWG Tinned Copper	
2) Component 2						1 x 1 COND	
a) Conductor						22 (7/.0096) AWG Tinned Copper	0.030
b) Insulation						0.0165" Wall, Nom. PVC	0.062
(1) Color(s)							
Cond	Color	Cond	Color	Cond	Color		
1	BLUE/WHITE						
3) Cable Assembly						2 Components Cabled	
a) Twists						4.0 Twists/ft. (min.)	
b) Orientation						Components to be arranged from INSIDE LAYER-to- OUTSIDE LAYER	
4) Shield						Tinned Copper BRAID Shield, 65% Coverage (min.)	
5) Jacket						0.042" Wall, Nom., PVC	0.300 (0.315 max.)
a) Color(s)						BLACK	
b) Print						ALPHA WIRE P/N 6454 E34972-48 3C22 SHIELDED (UL) CM OR PLTC SUN RES OR C(UL) CM --- FT1 CE ROHS <i>Note: Product may have c(UL) or CSA markings depending upon plant of manufacture.</i>	

## Applicable Specifications

1) UL	PLTC	60°C
	CM	60°C
	SUN RES	
2) CSA International	CM	60°C
	FT1	
3) CE	EU Low Voltage Directive 2014/35/EU	

## Environmental

1) CE: EU Directive 2011/65/EU(RoHS2), EU Directive 2015/863/EU (RoHS3)	
	This product complies with European Directive 2011/65/EU (RoHS Directive) of the European Parliament and of the Council of 8 June 2011 and the amending Directive 2015/863/EU of 4 June 2015. No exemptions are required for RoHS Compliance on this item.
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.

## Properties

<b>Physical &amp; Mechanical Properties</b>	
1) Temperature Range	-20 to 60°C
2) Bend Radius	10X Cable Diameter
3) Pull Tension	24.2 lbs. max.
<b>Electrical Properties</b>	
	<i>Engineering purposes only</i>
1) Voltage Rating	300 V <sub>RMS</sub>
2) Component 1	
a) Characteristic Impedance	120 $\omega$ +/- 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 $\omega$ /1000ft. @20°C, Nominal
f) Current	2.7 amps per conductor @30°C (max.)
g) Attenuation, Max dB/100ft	0.5 @1 MHz
3) Component 2	
a) Conductor DCR	17.8 $\omega$ /1000ft. @20°C, Nominal
b) OA Shield DCR	5.2 $\omega$ /1000ft. @20°C, Nominal
c) Current	2.7 amps per conductor @30°C (max.)

## Other

Packaging	Flange x Traverse x Barrel (inches)
a) 1000 FT	18 x 9 x 8 Continuous Length
b) 500 FT	12 x 10.5 x 5 Continuous Length
c) 100 FT	10.5 x 5 x 3.5 Continuous Length
	<i>Spool dimensions may vary slightly.</i>
<b>Note:</b>	
a) EIA Industrial RS485 cable	

[www.alphawire.com](http://www.alphawire.com)

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# EU/UK/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, including all packaging materials, 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). This product also complies with UK - RoHS. 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. This product is also in compliance with China RoHS 2 per GB/T 26572-2011.

## Substance

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) , 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 4/1/2025

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