

## Customer Specification

**PART NO. SF61221CY**

## Construction

						<b>Diameters (In)</b>		
1) Component 1						4 X 1 COND		
a) Conductor						14 (41/30) AWG Tinned Copper		0.073
b) Insulation						0.016" Wall, Nom. PVC/ 0.005" Wall NYLON		0.115
(1) Print						ALPHANUMERIC NUMBERS - 1-ONE ALTERNATING AND INVERTED		
(2) Color Code						Alpha Wire Color Code KX		
Cond	Color	Cond	Color	Cond	Color			
1	GREEN/YELLOW	3	BLACK#2					
2	BLACK#1	4	BLACK#3					
2) Component 2						2 X 1 PAIR		
a) Conductor						18 (19/30) AWG Tinned Copper		0.050
b) Insulation						0.016" Wall, Nom. PVC/ 0.005" Wall NYLON		0.092
(1) Color Code						Alpha Wire Color Code A		
Pair	Color	Pair	Color	Pair	Color			
1	BLACK-RED	2	BLACK-WHITE					
c) Pair						2/Cond Cabled Together		
(1) Twists:						6.0 Twists/foot (min)		
Individually Applied:								
d) Shield:						Flex Alum/Mylar Tape, 25% Overlap, Min.		
(1) Foil Direction						Foil Facing Out		
(2) Drain Wire						22 (7/30) AWG Tinned Copper		
(3) Braid						Tinned Copper,85% Coverage, Min.		
e) Jacket						0.016" Wall, Nom.,TPE		0.242 (0.253 Max.)
(1) Color(s)						NATURAL		
(2) Print						ALPHANUMERIC NUMBERS - 1-ONE ALTERNATING AND INVERTED		
3) Cable Assembly						6 Components Cabled		
a) Twists:						2.7 Twists/foot (min)		
b) Orientation:						Components to be arranged from INSIDE LAYER to OUTSIDE LAYER		
c) Core Wrap						Polyester Fabric Tape, 25% Overlap, Min.		
4) Shield:						A/P/A Tape, 25% Overlap, Min.		
a) Drain Wire						22 (7/30) AWG Tinned Copper		
b) Braid						Tinned Copper,85% Coverage, Min.		
5) Jacket						0.065" Wall, Nom.,TPE		0.657+/- 0.032
a) Color(s)						ORANGE		
b) Jacket Separator						Tissue Tape, 25% Overlap, Min.		
c) Print						ALPHA WIRE-* P/N SF61221CY 4C14 THHN 2PR18 TFFN E324185 (UL) WTTC 90C 1000 VOLT OR (UL) TC-ER 90C 600V OIL RES I/II SUN RES OR C(UL) CIC CONTROL/TC 90C PVC/NYLON INS SHIELDED FT4 4C14 2PR18 OR C(RU) AWM I/II A/B 90C 600V FT4 CE ROHS (DATE CODE) (SEQ FOOTAGE) * = Factory Code [Note: Product may have c(UL) or CSA markings depending upon plant of manufacture.]		

## Applicable Specifications

1) UL		
a) Component 1	THHN	90°C / 600 V <sub>RMS</sub>
b) Component 2	TFFN	90°C / 600 V <sub>RMS</sub>
c) Overall	TC	90°C / 600 V <sub>RMS</sub>
	EXPOSED RUN	
	OIL RES I/II	
	SUN RES	
	WTTC	90°C / 1000 V <sub>RMS</sub>
2) CSA International	C(RU) AWM I/II A/B	90°C / 600 V <sub>RMS</sub>
	FT4	
	C(UL) CIC CONTROL	90°C / 600 V <sub>RMS</sub>
	C(UL) TC	90°C / 600 V <sub>RMS</sub>
3) Other	Conductors NEMA Class K	
4) CE:	EU Low Voltage Directive 2014/35/EU	

## Environmental

1) EU Directive 2011/65/EU(RoHS2), EU Directive 2015/863/EU (RoHS3):	
	All materials used in the manufacture of this part are in compliance with European Directive 2011/65/EU and the amending Directive 2015/863/EU of 4 June 2015 regarding the restriction of use of certain hazardous substances in electrical and electronic equipment.
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.
3) California Proposition 65:	This product may contain substances known to the State of California to cause Cancer or Reproductive Harm, but is exempt from labeling based on the Consent Judgement. See the Alpha Wire website for more information.

## Properties

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Physical & Mechanical Properties	
1) Temperature Range	-30 to 90°C(static), -5 to 90°C (dynamic)
2) Bend Radius	10X Cable Diameter(static), 10X Cable Diameter(dynamic)
3) Pull Tension	226 Lbs, Maximum
4) Sunlight Resistance	Yes
Electrical Properties	
(For Engineering purposes only)	
1) Voltage Rating	600 V <sub>RMS</sub>
2) Component 1	
a) Capacitance	48 pF/ft @1 kHz, Nominal Conductor to Conductor
b) Ground Capacitance	86 pF/ft @1 kHz, Nominal
c) Inductance	0.17 µH/ft, Nominal
d) Conductor DCR	2.9 Ω/1000ft @20°C, Nominal
e) OA Shield DCR	1.24 Ω/1000ft @20°C, Nominal
3) Component 2	
a) Mutual Capacitance	43 pF/ft @1 kHz, Nominal
b) Ground Capacitance	77 pF/ft @1 kHz, Nominal
c) Characteristic Impedance	48 Ω
d) Inductance	0.19 µH/ft, Nominal
e) Conductor DCR	6.1 Ω/1000ft @20°C, Nominal
f) Component Shield DCR	2.9 Ω/1000ft @20°C, Nominal
g) OA Shield DCR	1.24 Ω/1000ft @20°C, Nominal

## Other

Packaging	Flange x Traverse x Barrel (inches)
a) 1000 FT	30 x 14 x 12 Continuous length
b) 500 FT	24 x 14 x 12 Continuous length
c) 100 FT	18 x 9 x 8 Continuous length
	<i>[Spool dimensions may vary slightly]</i>
<b>Notes:</b>	
a) Suitable for use in Industrial Machinery per the requirements of NFPA-79	
b) Suitable for intermittent or light duty flexing where cycle count will be less than 1,000,000 cycles.	

[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: SF61221CY

SF61221CY, RoHS-Compliant Commencing With 2/9/2009 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 7/2/2025

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