



Alpha Wire | 711 Lidgerwood Avenue, Elizabeth, NJ 07207  
Tel: 1-800-52 ALPHA (25742), Web: [www.alphawire.com](http://www.alphawire.com)

# Customer Specification

## PART NO. V16112

Construction

				Diameters (In)	
1) Component 1		4 X 1 COND			
a) Conductor		12 (65/30) AWG TC		0.093	
b) Insulation		0.047" Wall, Nom. XLPE		0.190	
(1) Separator		Paper Tape, 10% Overlap, Min.			
(2) Color(s)					
Cond	Color	Cond	Color	Cond	Color
1	BLACK#1	3	BLACK#3		
2	BLACK#2	4	GREEN OR GREEN/YELLOW		
2) Component 2		1 X 1 PAIR			
a) Conductor		14 (41/30) AWG TC		0.075	
b) Insulation		0.032" Wall, Nom. XLPE		0.142	
(1) Separator		Paper Tape, 10% Overlap, Min.			
(2) Color(s)					
Pair	Color	Pair	Color	Pair	Color
1	BLACK-WHITE				
c) Pair		2/Cond Cabled Together			
(1) Twists:		2.8 Twists/foot (min)			
Individually Applied:					
d) Shield:		Alum/Mylar Tape, 25% Overlap, Min.			
(1) Foil Direction		Foil Facing In			
(2) Drain Wire		14 (41/30) AWG TC			
3) Cable Assembly		5 Components Cabled			
a) Twists:		1.5 Twists/foot (min)			
4) Shield:		A/P/A Tape, 25% Overlap, Min.			
a) Drain Wire		12 (65/30) AWG TC			
b) Braid		TC,85% Coverage, Min.			
5) Jacket		0.065" Wall, Nom.,PVC		0.785+/- 0.027	
a) Color(s)		BLACK			
b) Jacket Separator		Tissue Tape, 25% Overlap, Min.			
c) Print		ALPHA WIRE- E64067-L P/N V16112 4/C 12 AWG RHW-2 1PR 14 AWG XHHW-2 SERIES V VFD CABLE W/ BRAKE PAIR 600V TYPE TC-ER (UL) XLPE/PVC 90C DRY/WET SUN RES DIR BUR 4/C 12 AWG 1PR 14 AWG--- LLXXXXXX CSA AWM I/II A/B 1000V 90C FT4 --- CE ROHS [Note: Product may have c(UL) or CSA markings depending upon plant of manufacture.]			

## Applicable Specifications

1) UL		
a) Component 1	RHW-2Wet/Dry	90°C / 600 V <sub>RMS</sub>
	XHHW-2Wet/Dry	90°C / 600 V <sub>RMS</sub>
b) Component 2	XHHW-2Wet/Dry	90°C / 600 V <sub>RMS</sub>
c) Overall	TC	90°C / 600 V <sub>RMS</sub>
	EXPOSED RUN	
	DIRECT BURIAL	
	SUN RES	
2) CSA International		
a) Component 1	AWM I A/B	90°C / 1000 V <sub>RMS</sub>
b) Component 2	AWM I A/B	90°C / 1000 V <sub>RMS</sub>
c) Overall	AWM I/II A/B	90°C / 1000 V <sub>RMS</sub>
	FT4	
3) CE:	LVD 73/23/EEC Amendment 93/68/EEC	

## Environmental

1) EU Directive 2002/95/EC(RoHS):	
	All materials used in the manufacture of this part are in compliance with EU Directive 2002/95/EU regarding the restriction of use of certain hazardous substances in electrical and electronic equipment. Consult Alpha Wire's web site for compliance Date of Manufacture.

## Properties

Physical & Mechanical Properties	
1) Temperature Range	-40 to 90°C
2) Bend Radius	10X Cable Diameter
3) Pull Tension	368 Lbs, Maximum
4) Sunlight Resistance	Yes
5) Direct Burial	Yes
Electrical Properties	
(For Engineering purposes only)	
1) Voltage Rating	1000 V <sub>RMS</sub>
2) Component 1	
a) Characteristic Impedance	71 Ω
b) Inductance	0.2 μH/ft, Nominal
c) Mutual Capacitance	26 pf/ft @1 kHz, Nominal
d) Ground Capacitance	47 pf/ft @1 kHz, Nominal
e) Conductor DCR	1.8 Ω/1000ft @20°C, Nominal
f) OA Shield DCR	0.83 Ω/1000ft @20°C, Nominal
g) Current	24 amps per conductor @30°C, Maximum
h) Insulation Resistance	300 MΩ/MFt (Est.)
3) Component 2	
a) Inductance	0.19 μH/ft, Nominal
b) Mutual Capacitance	22 pf/ft @1 kHz, Nominal
c) Ground Capacitance	40 pf/ft @1 kHz, Nominal
d) Conductor DCR	2.6 Ω/1000ft @20°C, Nominal
e) Ind. Shield DC Resistance	2.5 Ω/1000ft @20°C, Nominal
f) Current	20 amps per conductor @30°C, Maximum
g) Insulation Resistance	300 MΩ/MFt (Est.)

## Other

Packaging	Flange x Traverse x Barrel (inches)
a) Bulk(Made-to-order)	

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

Alpha Wire | 711 Lidgerwood Avenue, Elizabeth, NJ 07207

Tel: 1-800-52 ALPHA (25742)

Although Alpha Wire ("Alpha") makes every reasonable effort to ensure their accuracy at the time of publication, information and specifications described herein are subject to errors or omissions and to changes without notice, and the listing of such information and specifications does not ensure product availability.

Alpha provides the information and specifications herein on an "AS IS" basis, with no representations or warranties, whether express, statutory or implied. In no event will Alpha be liable for any damages (including consequential, indirect, incidental, special, punitive, or exemplary) whatsoever, even if Alpha had been advised of the possibility of such damages, whether in an action under contract, negligence or any other theory, arising out of or in connection with the use, or inability to use, the information or specifications described herein.

#### ALPHA WIRE - CONFIDENTIAL AND PROPRIETARY

Notice to persons receiving this document and/or technical information. This document is confidential and is the exclusive property of ALPHA WIRE, and is merely on loan and subject to recall by ALPHA WIRE at any time. By taking possession of this document, the recipient acknowledges and agrees that this document cannot be used in any manner adverse to the interests of ALPHA WIRE, and that no portion of this document may be copied or otherwise reproduced without the prior written consent of ALPHA WIRE. In the case of conflicting contractual provisions, this notice shall govern the status of this document. ©2013 ALPHA WIRE - all rights reserved.



# EU/China ROHS CERTIFICATE OF COMPLIANCE

To Whom It May Concern:

Alpha Wire Part Number: V16112

V16112 , RoHS-Compliant Commencing With 10/1/2005 Production

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, with regards to restrictions of the use of certain hazardous substances used in the manufacture of electrical and electronic equipment. The reader is referred to this Directive for the specific definitions and extents of this Directive. **No Exemptions are required for RoHS Compliance on this item.** It should be noted that this product does not fall within the scope of Directive 2011/65/EU, but this Certificate is offered for cases where this product will be used within EEE that does fit within the Directive's scope. 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 11364-2006.

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)

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 Company:

Dave Watson, Director of Engineering & QA

5/16/2013