2200 US Highway 27 South
Richmond, IN 47374
Tel: 1-800-52 ALPHA
Web: www.alphawire.com

Customer Specification

PART NO. 78109

Construction

<table>
<tr><td></td><td>Diameters (In)</td><td></td></tr>
<tr><td>1) Component 1</td><td>9 X 1 PAIR</td><td></td></tr>
<tr><td>a) Conductor</td><td>28 (19/40) AWG Tinned Copper</td><td>0.016</td></tr>
<tr><td>b) Insulation</td><td>0.007" Wall, Nom. Modified Polyphenylene Ether-PE</td><td>0.030</td></tr>
<tr><td>(1) Color Code</td><td>Alpha Wire Color Code B</td><td></td></tr>
<tr><td colspan="2"><table>
<tr><td>Pair</td><td>Color</td><td>Pair</td><td>Color</td><td>Pair</td><td>Color</td></tr>
<tr><td>1</td><td>WHITE-BLACK</td><td>4</td><td>WHITE-ORANGE</td><td>7</td><td>WHITE-BLUE</td></tr>
<tr><td>2</td><td>WHITE-BROWN</td><td>5</td><td>WHITE-YELLOW</td><td>8</td><td>WHITE-VIOLET</td></tr>
<tr><td>3</td><td>WHITE-RED</td><td>6</td><td>WHITE-GREEN</td><td>9</td><td>WHITE-SLATE</td></tr>
</table></td><td></td></tr>
<tr><td>c) Pair</td><td>2/Cond Cabled Together</td><td></td></tr>
<tr><td>(1) Twists:</td><td>13.7 Twists/foot (min)</td><td></td></tr>
<tr><td>2) Cable Assembly</td><td>9 Components Cabled</td><td></td></tr>
<tr><td>a) Twists:</td><td>4.8 Twists/foot (min)</td><td></td></tr>
<tr><td>b) Orientation:</td><td>Components to be arranged from INSIDE LAYER to OUTSIDE LAYER</td><td></td></tr>
<tr><td>c) Core Wrap</td><td>Nonwoven Polyester Tape, 25% Overlap, Min.</td><td></td></tr>
<tr><td>3) Shield:</td><td>Alum/Mylar Tape, 25% Overlap, Min.</td><td></td></tr>
<tr><td>a) Foil Direction</td><td>Foil Facing In</td><td></td></tr>
<tr><td>b) Drain Wire</td><td>28 (7/36) AWG Tinned Copper</td><td></td></tr>
<tr><td>4) Jacket</td><td>0.015" Wall, Nom.,Modified Polyphenylene Ether-PE</td><td>0.217 (0.233 Max.)</td></tr>
<tr><td>a) Color(s)</td><td>SLATE</td><td></td></tr>
<tr><td>b) Ripcord</td><td>1 End 810 Denier Nylon</td><td></td></tr>
<tr><td>c) Print</td><td>ALPHA WIRE-* P/N 78109 9PR 28 AWG
ECOCABLE(R) MINI RU AWM 21460 80C 300V VW-1
C(RU) AWM I A/B FT1 80C 300V
CE ROHS (SEQ FOOTAGE)
* = Factory Code</td><td></td></tr>
<tr><td colspan="3"></td></tr>
</table>

Applicable Specifications

1) UL	AWM/STYLE 21460	80°C / 300 V_{RMS}
	VW-1	
2) CSA International	C(RU) AWM I A/B FT1	80°C / 300 V_{RMS}
3) Other	Halogen-Free	
	NFPA 79 - 2015 Compliant	
4) 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

Physical & Mechanical Properties	
1) Temperature Range	-40 to 80°C
2) Bend Radius	10X Cable Diameter
3) Pull Tension	27 Lbs, Maximum
Electrical Properties	(For Engineering purposes only)
1) Voltage Rating	300 V_{RMS}
2) Mutual Capacitance	17.3 pF/ft @1 kHz, Nominal
3) Ground Capacitance	31 pF/ft @1 kHz, Nominal
4) Characteristic Impedance	95 Ω
5) Inductance	0.19 µH/ft, Nominal
6) Conductor DCR	64 Ω/1000ft @20°C, Nominal
7) OA Shield DCR	26 Ω/1000ft @20°C, Nominal

Other

Packaging	Flange x Traverse x Barrel (inches)
a) 1000 FT	12 x 10.5 x 5 Continuous length
b) 100 FT	6.5 x 4 x 2.5 Continuous length
c) Bulk(Made-to-order)	
	[Spool dimensions may vary slightly]

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EU/UK/China ROHS CERTIFICATE OF COMPLIANCE

To Whom It May Concern:

Alpha Wire Part Number: 78109

78109, RoHS-Compliant Commencing With 7/22/2014 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	**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)

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 8/29/2026

Alpha Wire
2200 US Highway 27 South
Richmond, IN 47374
Tel: 1-908-925-8000