

## Customer Specification

**PART NO. XM1649L**

### Construction

	Diameters (In)	
1) Component 1	49 X 1 COND	
a) Conductor	16 (65/34) AWG Bare Copper	0.059
b) Insulation	0.016" Wall, Nom. PVC/ 0.005" Wall NYLON	0.101
(1) Print	ALPHANUMERIC NUMBERS - 1-ONE ALTERNATING AND INVERTED	
(2) Color Code	Alpha Wire Color Code LW	

Cond	Color	Cond	Color	Cond	Color
1	GREEN/YEL	18	DK. BLUE#17	35	DK. BLUE#34
2	DK. BLUE#1	19	DK. BLUE#18	36	DK. BLUE#35
3	WHITE/BLU	20	DK. BLUE#19	37	DK. BLUE#36
4	DK. BLUE#3	21	DK. BLUE#20	38	DK. BLUE#37
5	DK. BLUE#4	22	DK. BLUE#21	39	DK. BLUE#38
6	DK. BLUE#5	23	DK. BLUE#22	40	DK. BLUE#39
7	DK. BLUE#6	24	DK. BLUE#23	41	DK. BLUE#40
8	DK. BLUE#7	25	DK. BLUE#24	42	DK. BLUE#41
9	DK. BLUE#8	26	DK. BLUE#25	43	DK. BLUE#42
10	DK. BLUE#9	27	DK. BLUE#26	44	DK. BLUE#43
11	DK. BLUE#10	28	DK. BLUE#27	45	DK. BLUE#44
12	DK. BLUE#11	29	DK. BLUE#28	46	DK. BLUE#45
13	DK. BLUE#12	30	DK. BLUE#29	47	DK. BLUE#46
14	DK. BLUE#13	31	DK. BLUE#30	48	DK. BLUE#47
15	DK. BLUE#14	32	DK. BLUE#31	49	DK. BLUE#48
16	DK. BLUE#15	33	DK. BLUE#32		
17	DK. BLUE#16	34	DK. BLUE#33		
2) Cable Assembly				49 Components Cabled	
a) Twists:				1.4 Twists/foot (min)	
b) Orientation:				Components to be arranged from OUTSIDE LAYER to INSIDE LAYER	
c) Core Wrap				REMAI Tape, 25% Overlap, Min.	
3) Jacket				0.085" Wall, Nom.,PVC	
a) Color(s)				BLACK	
b) Print				ALPHA WIRE-* P/N XM1649L 49C 16 AWG (1.31mm <sup>2</sup> ) SERIES XM (UL) WTTC 90C WET/DRY 1000V OR (UL) TC-ER 90C WET/DRY 600V SUN RES DIR BUR OIL RES I OR MTW 16 AWG OR CRU AWM I/II A/B 90C 600V FT4 CE ROHS (DATE CODE) (SEQ FOOTAGE) * = Factory Code	

## Applicable Specifications

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1) UL		
a) Component 1	Unlisted Conductor	90°C Dry / 90°C Wet / 600 V <sub>RMS</sub>
b) Overall	MTW	90°C Dry / 60°C Wet / 600 V <sub>RMS</sub>
	TC	90°C Dry / 90°C Wet / 600 V <sub>RMS</sub>
	EXPOSED RUN	
	SUN RES	
	OIL RES I	
	WTTC	90°C Dry / 90°C Wet / 1000 V <sub>RMS</sub>
2) CSA International	C(RU) AWM I/II A/B	90°C / 600 V <sub>RMS</sub>
	FT4	
3) Other	Conductors ASTM Class M	
	Conductors IEC Class 6 on AWG size	
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.
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

<b>Physical &amp; Mechanical Properties</b>	
1) Temperature Range	-30 to 90°C(static), -5 to 90°C (dynamic)
2) Bend Radius	6X Cable Diameter(static), 8X Cable Diameter(dynamic)
3) Pull Tension	993 Lbs, Maximum
4) Sunlight Resistance	Yes
<b>Electrical Properties</b> (For Engineering purposes only)	
1) Voltage Rating	600/1000 V <sub>RMS</sub>
2) Capacitance	29 pF/ft @1 kHz, Nominal Conductor to Conductor
3) Inductance	0.18 μH/ft, Nominal
4) Conductor DCR	4.3 Ω/1000ft @20°C, Nominal

# Other

<b>Packaging</b>	Flange x Traverse x Barrel (inches)
a) Bulk(Made-to-order)	
<b>Notes:</b>	
a) Suitable for constant flexing where cycle count will be less than 12,000,000 cycles.	

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

Alpha Wire  
2200 US Highway 27 South  
Richmond, IN 47374

Tel: 1-800-52 ALPHA

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# EU/UK/China ROHS CERTIFICATE OF COMPLIANCE

To Whom It May Concern:

Alpha Wire Part Number: XM1649L

XM1649L, RoHS-Compliant Commencing With 3/16/2010 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

Lead  
Mercury  
Cadmium  
Hexavalent Chromium  
Polybrominated Biphenyls (PBB)  
Polybrominated Diphenyl Ethers (PBDE) ,  
Including Deca-BDE  
Bis(2-ethylhexyl) phthalate (DEHP)  
Butyl benzyl phthalate (BBP)  
Dibutyl phthalate (DBP)  
Diisobutyl phthalate (DIBP)

## Maximum Control Value

0.1% by weight (1000 ppm)  
0.1% by weight (1000 ppm)  
0.01% by weight (100 ppm)  
0.1% by weight (1000 ppm)  
0.1% by weight (1000 ppm)  
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Authorized Signatory for the Alpha Wire:

Dave Watson, Director of Engineering 3/31/2025

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