

## Customer Specification

**PART NO. F16049KW**

## 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 KW			
Cond	Color	Cond	Color	Cond	Color
1	GREEN/YELLOW	18	BLACK#17	35	BLACK#34
2	BLACK#1	19	BLACK#18	36	BLACK#35
3	WHITE/BLACK	20	BLACK#19	37	BLACK#36
4	BLACK#3	21	BLACK#20	38	BLACK#37
5	BLACK#4	22	BLACK#21	39	BLACK#38
6	BLACK#5	23	BLACK#22	40	BLACK#39
7	BLACK#6	24	BLACK#23	41	BLACK#40
8	BLACK#7	25	BLACK#24	42	BLACK#41
9	BLACK#8	26	BLACK#25	43	BLACK#42
10	BLACK#9	27	BLACK#26	44	BLACK#43
11	BLACK#10	28	BLACK#27	45	BLACK#44
12	BLACK#11	29	BLACK#28	46	BLACK#45
13	BLACK#12	30	BLACK#29	47	BLACK#46
14	BLACK#13	31	BLACK#30	48	BLACK#47
15	BLACK#14	32	BLACK#31	49	BLACK#48
16	BLACK#15	33	BLACK#32		
17	BLACK#16	34	BLACK#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.,TPE		1.069+/- 0.051	
a) Color(s)		BLACK			
b) Print		ALPHA WIRE-* P/N F16049KW 49C 16 AWG (1.31mm2) SERIES F (UL) TYPE TC-ER 90C WET/DRY 600V OIL RES I/II -40C SUN RES OR TYPE PLTC 90C OR C(UL) CIC CONTROL/TC 16 AWG -40C 90C WET 90C DRY PVC/NYLON INS FT4 OR CRU 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

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1) UL		
a) Component 1	MTW	90°C Dry / 60°C Wet / 600 V <sub>RMS</sub>
b) Overall	-40C	
	TC	90°C Dry / 90°C Wet / 600 V <sub>RMS</sub>
	EXPOSED RUN	
	SUN RES	
	PLTC	90°C
	OIL RES I/II	
2) CSA International	C(RU) AWM I/II A/B	90°C / 600 V <sub>RMS</sub>
	FT4	
	C(UL) CIC CONTROL	90°C / 600V V <sub>RMS</sub>
	C(UL) TC	90°C Dry / 90°C Wet / 600V V <sub>RMS</sub>
	-40C	
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

Physical & Mechanical Properties	
1) Temperature Range	-40 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 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

Packaging	Flange x Traverse x Barrel (inches)
a) Bulk(Made-to-order)	
Notes:	
a) Suitable for constant flexing where cycle count will be less than 20,000,000 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: F16049KW

F16049KW, RoHS-Compliant Commencing With 8/1/2005 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 4/27/2024

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