

# Customer Specification

## PART NO. M4650

### Construction

				Diameters (In)	
1) Component 1		40 X 1 COND			
a) Conductor		22 (7/30) AWG TC		0.030	
b) Insulation		0.010" Wall, Nom. PVC, Semi Rigid		0.050	
(1) Color Code		Alpha Wire Color Code E			
Cond	Color	Cond	Color	Cond	Color
1	BLACK	15	WHITE/YELLOW	29	WHITE/BROWN/ ORANGE
2	BROWN	16	WHITE/GREEN	30	WHITE/BROWN/ YELLOW
3	RED	17	WHITE/BLUE	31	WHITE/BROWN/ GREEN
4	ORANGE	18	WHITE/VIOLET	32	WHITE/BROWN/ BLUE
5	YELLOW	19	WHITE/SLATE	33	WHITE/BROWN/ VIOLET
6	GREEN	20	WHITE/BLACK/B ROWN	34	WHITE/BROWN/ SLATE
7	BLUE	21	WHITE/BLACK/R ED	35	WHITE/RED/OR ANGE
8	VIOLET	22	WHITE/BLACK/O RANGE	36	WHITE/RED/YEL LOW
9	SLATE	23		37	

			WHITE/BLACK/Y ELLOW		WHITE/RED/GRE EN
10	WHITE	24	WHITE/BLACK/G REEN	38	WHITE/RED/BLU E
11	WHITE/BLACK	25	WHITE/BLACK/B LUE	39	WHITE/RED/VIO LET
12	WHITE/BROWN	26	WHITE/BLACK/VI OLET	40	WHITE/RED/SLA TE
13	WHITE/RED	27	WHITE/BLACK/S LATE		
14	WHITE/ORANGE	28	WHITE/BROWN/ RED		
2) Cable Assembly		40 Components Cabled			
a) Twists:		2.2 Twists/foot (min)			
b) Core Wrap		Clear Mylar Tape, 25% Overlap, Min.			
3) Shield:		Alum/Mylar Tape, 25% Overlap, Min.			
a) Foil Direction		Foil Facing In			
b) Drain Wire		22 (7/30) AWG TC			
4) Jacket		0.032" Wall, Nom.,PVC		0.436 (0.459 Max.)	
a) Color(s)		SLATE			
b) Ripcord		1 End 810 Denier Nylon			
c) Print		ALPHA WIRE-* P/N M4650 40C 22 AWG EXXXXXX SHIELDED 75C CMG (UL) C(UL) OR AWM 2464 CE ROHS * = Factory Code [Note: Product may have c(UL) or CSA markings depending upon plant of manufacture.]			

## Applicable Specifications

1) UL	AWM/STYLE 2464	80°C / 300 V <sub>RMS</sub>
	CMG	75°C
2) CSA International	FT4	
	C(UL) TYPE CMG	75°C
3) CE:	EU Low Voltage Directive 2006/95/EC	

# Environmental

1) CE: EU Directive 2011/65/EU(RoHS2):	
	This product complies with European Directive 2011/65/EU (RoHS Directive) of the European Parliament and of the Council of 8 June 2011. No Exemptions are required for RoHS Compliance on this item. Consult Alpha Wire's web site for RoHS C of C.
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. For up-to-date information, please see Alpha's REACH SVHC Declaration.
3) California Proposition 65:	The outer surface materials used in the manufacture of this part meet the requirements of California Proposition 65.

# Properties

Physical & Mechanical Properties	
1) Temperature Range	-20 to 80°C
2) Bend Radius	10X Cable Diameter
3) Pull Tension	225 Lbs, Maximum
Electrical Properties	(For Engineering purposes only)
1) Voltage Rating	300 V <sub>RMS</sub>
2) Capacitance	36 pf/ft @1 kHz, Nominal Conductor to Conductor
3) Ground Capacitance	65 pf/ft @1 kHz, Nominal
4) Inductance	0.18 µH/ft, Nominal
5) Conductor DCR	16.5 Ω/1000ft @20°C, Nominal
6) OA Shield DCR	9.2 Ω/1000ft @20°C, Nominal

# Other

Packaging	Flange x Traverse x Barrel (inches)
a) 1000 FT	24 x 14 x 12 Continuous length
b) 500 FT	18 x 12 x 8 Continuous length
c) 100 FT	12 x 10 x 5 Continuous length
d) Bulk(Made-to-order)	

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## EU/China ROHS CERTIFICATE OF COMPLIANCE

To Whom It May Concern:

Alpha Wire Part Number: M4650

M4650, RoHS-Compliant Commencing With 11/1/2004 Production

Note: all colors and put-ups

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 (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). 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.

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:

A handwritten signature in black ink, appearing to read 'Dave Watson'.

Dave Watson, Director of Engineering & QA

8/25/2020

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# Mouser Electronics

Authorized Distributor

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Alpha Wire:

M4650 SL005 M4650 SL001