

**ALPHA WIRE
CUSTOMER PRODUCT SPECIFICATION**

Part Number: 518257
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Issue: 1
Issue Date: 1/24/2013
Effective Date: 3/20/2013

A. Construction

Diameters (In)

- 1) Component 1 2 X 1 COND
 a) Conductor 16 (26/30) AWG TC 0.060
 b) Insulation 0.016" Wall, Nom. TPE 0.092
 (1) Color Code Alpha Wire Color Code J

Cond	Color	Cond	Color	Cond	Color
1	BLACK	2	RED		

- 2) Component 2 1 X 4 COND
 a) Conductor 22 (7/30) AWG TC 0.030
 b) Insulation 0.022" Wall, Nom. Polypropylene, Foam 0.082
 (1) Color(s)

Cond	Color	Cond	Color	Cond	Color
1	VIOLET	3	GREEN		
2	SLATE	4	ORANGE		

- c) Cabling 4 COND Cabled
 (1) Twists: 4.8 Twists/foot (min)
 d) Shield: Alum/Mylar Tape, 25% Overlap, Min.
 (1) Foil Direction Foil Facing In
 (2) Drain Wire 22 (7/30) AWG TC
 3) Component 3 1 X 1 PAIR
 a) Conductor 22 (7/30) AWG TC 0.030
 b) Insulation 0.022" Wall, Nom. Polypropylene, Foam 0.074
 (1) Color(s)

Pair	Color	Pair	Color	Pair	Color
1	BLUE-YELLOW				

- c) Pair 2/Cond Cabled Together
 (1) Twists: 6.0 Twists/foot (min)
 d) Shield: Alum/Mylar Tape, 25% Overlap, Min.
 (1) Foil Direction Foil Facing In
 (2) Drain Wire 22 (7/30) AWG TC
 4) Component 4 2 X 1 COND
 a) Conductor 22 (7/30) AWG TC 0.030
 b) Insulation 0.016" Wall, Nom. TPE 0.062
 (1) Color(s)

Cond	Color	Cond	Color	Cond	Color
1	WHITE	2	BROWN		

- 5) Cable Assembly 6 Components Cabled
 a) Twists: 2.4 Twists/foot (min)
 b) Core Wrap Clear Mylar Tape, 25% Overlap, Min.
 6) Jacket 0.110" Wall, Nom., TPE-C 0.543+/- 0.024
 a) Color(s) BLACK
 b) Print ALPHA WIRE-* P/N 518257 2C 16 AWG 4C 22 AWG 1PR 22 AWG 2C 22 AWG
 MILLER ELECTRIC P/N 261821 ROHS CE
 (LOT # DATE CODE)
 * = Factory Code

B. Applicable Specifications

C. Environmental Compliance

- 1) CE: EU Directive 2011/65/EU(RoHS2):
 This product complies with European Directive 2011/65/EU (RoHS Directive) of the

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European Parliament and of the Council of 8 June 2011. 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. For up-to-date information, please see [Alpha's REACH SVHC Declaration](#).

D. Physical & Mechanical Properties

- 1) Temperature Range -40 to 80°C
- 2) Bend Radius 10X Cable Diameter
- 3) Pull Tension 96 Lbs, Maximum

E. Electrical Properties

- 1) Voltage Rating 300 V_{RMS} (For Engineering purposes only)
- 2) Component 1
 - a) Capacitance 18.6 pf/ft @1 kHz, Nominal Conductor to Conductor
 - b) Characteristic Impedance 81 Ω
 - c) Inductance 0.17 μH/ft, Nominal
 - d) Conductor DCR 4.4 Ω/1000ft @20°C, Nominal
- 3) Component 2
 - a) Capacitance 10.5 pf/ft @1 kHz, Nominal Conductor to Conductor
 - b) Ground Capacitance 18.9 pf/ft @1 kHz, Nominal
 - c) Inductance 0.24 μH/ft, Nominal
 - d) Conductor DCR 16.4 Ω/1000ft @20°C, Nominal
 - e) Component Shield DCR 11.8 Ω/1000ft @20°C, Nominal
- 4) Component 3
 - a) Mutual Capacitance 12.2 pf/ft @1 kHz, Nominal
 - b) Ground Capacitance 22 pf/ft @1 kHz, Nominal
 - c) Characteristic Impedance 107 Ω
 - d) Inductance 0.22 μH/ft, Nominal
 - e) Conductor DCR 17.3 Ω/1000ft @20°C, Nominal
 - f) Component Shield DCR 12.2 Ω/1000ft @20°C, Nominal
- 5) Component 4
 - a) Capacitance 14.3 pf/ft @1 kHz, Nominal Conductor to Conductor
 - b) Characteristic Impedance 114 Ω
 - c) Inductance 0.2 μH/ft, Nominal
 - d) Conductor DCR 16.4 Ω/1000ft @20°C, Nominal

F. Other

- 1) Packaging Flange x Traverse x Barrel (inches)
- a) 1000 FT 30 x 14 x 12 Continuous length
[Spool dimensions may vary slightly]

This Design is custom, Made-To-Order & once accepted, the order is NON-CANCELLABLE & NON-RETURNABLE.

Accepted By:	Date:
Company:	Title:

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