

ALPHA WIRE CUSTOMER PRODUCT SPECIFICATION

Part Number: 19-1030
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Issue: 0
Issue Date: 1/22/2019
Effective Date: 3/19/2019

A. Construction

- | | | <u>Diameters (In)</u> |
|----------------|-----------------------------------|-----------------------|
| 1) Component 1 | 1 X 1 CABLE 518560 | |
| (1) Component | 1 X 4 PAIR | |
| a) Conductor | 24 (7/32) AWG Copper Alloy | 0.024 |
| b) Insulation | 0.011" Wall, Nom. Polyolefin (PO) | 0.046 |
| (1) Color(s) | | |

Pair	Color	Pair	Color	Pair	Color
1	BLUE - WHITE/BLUE	3	GREEN - WHITE/GREEN		
2	ORANGE - WHITE/ORANGE	4	BROWN - WHITE/BROWN		

- | | | |
|-------------------|--|--------------------|
| c) Pair | 2/Cond Cabled Together, Non-bonded | |
| (1) Twists: | 13.7 Twists/foot (approx.) | |
| d) Cabling | 4 PAIR Cabled | |
| (1) Twists: | 3.0 Twists/foot (min) | |
| e) Jacket | 0.025" Wall, Nom., TPE | 0.254 (0.268 Max.) |
| (1) Color(s) | WHITE | |
| (2) Shield: | Alum/Mylar Tape, 25% Overlap, Min. | |
| a) Foil Direction | Foil Facing Out | |
| b) Drain Wire | 26 (7/34) AWG Tinned Copper | |
| c) Braid | TC, 85% Coverage, Min. | |
| (3) Jacket | 0.030" Wall, Nom., TPE | 0.342 (0.364 Max.) |
| a) Color(s) | BLACK | |
| b) Print | ALPHA WIRE- * P/N 518560 4PR 24 AWG
RU AWM STYLE 20626 80C 300V ANSI/TIA-568-C.2 CAT5E
PATCH CE ROHS (SEQ FOOTAGE)
* = Factory Code
<i>[Note: Product may have c(UL) or CSA markings depending upon plant of manufacture]</i> | |
| 2) Component 2 | 1 X 1 COND | |
| a) Conductor | 22 (19/34) AWG Tinned Copper | 0.032 |
| b) Insulation | 0.016" Wall, Nom. TPE | 0.064 |
| (1) Color(s) | | |

Cond	Color	Cond	Color	Cond	Color
1	PURPLE				

- | | | |
|----------------|------------------------------|-------|
| 3) Component 3 | 4 X 1 COND | |
| a) Conductor | 16 (65/34) AWG Tinned Copper | 0.059 |
| b) Insulation | 0.016" Wall, Nom. TPE | 0.091 |
| (1) Color(s) | | |

Cond	Color	Cond	Color	Cond	Color
1	WHITE	3	BROWN		
2	BLACK	4	GREY		

- | | | |
|---------------------|--|----------------|
| 4) Cable Assembly | 6 Components Cabled (SEE DRAWING) | |
| a) Twists: | 1.5 Twists/foot (min) | |
| b) Orientation: | Components to be arranged from INSIDE LAYER to OUTSIDE LAYER | |
| c) Core Wrap | Clear Mylar Tape, 25% Overlap, Min. | |
| 5) Shield | Tinned Copper BRAID Shield, 90% Coverage, Min. | |
| a) Drain Wire | 22 (7/30) AWG Tinned Copper | |
| 6) Jacket | 0.055" Wall, Nom., TPE-C | 0.678+/- 0.022 |
| a) Color(s) | BLACK | |
| b) Jacket Separator | Tissue Tape, 25% Overlap, Min. | |

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c) Print MILLER ELECTRIC MFG. CO., - APPLETON, WI USA -
AUTOMATION - 2

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 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.

D. Physical & Mechanical Properties

- 1) Temperature Range -50 to 80°C
2) Bend Radius 10X Cable Diameter(static), 10X Cable Diameter(dynamic)
3) Pull Tension 118 Lbs, Maximum
4) Sunlight Resistance Yes
5) Flex Life 10 Million Cycles

E. Electrical Properties

- (For Engineering purposes only)
- 1) Voltage Rating 300 V_{RMS}
- 2) Component 1
- a) Voltage Rating 300 V_{RMS}
 - b) Characteristic Impedance 100 Ω +/- 15
 - c) Mutual Capacitance 15 pF/ft
 - d) Velocity of Propagation 69 % Nom.
 - e) Conductor DCR 11 Ω/100m Max
 - f) Skew 45 ns/100m Max
 - g) Pair to Ground Unbalance 330 pF/100m Max
 - h) DC Unbalance of a Pair 5% Max
 - i) Insertion Loss
2.5 (Max dB/100m) @ 1 MHz
4.9 (Max dB/100m) @ 4 MHz
6.9 (Max dB/100m) @ 8 MHz
7.8 (Max dB/100m) @ 10 MHz
9.9 (Max dB/100m) @ 16 MHz
11.1 (Max dB/100m) @ 20 MHz
12.5 (Max dB/100m) @ 25 MHz
14.1 (Max dB/100m) @ 31.25 MHz
20.4 (Max dB/100m) @ 62.5 MHz
26.4 (Max dB/100m) @ 100 MHz
- 3) Component 2
- a) Ground Capacitance 54 pf/ft @1 kHz, Nominal
 - b) Inductance 0.06 μH/ft, Nominal
 - c) Conductor DCR 15.4 Ω/1000ft @20°C, Nominal
- 4) Component 3
- a) Capacitance 30 pf/ft @1 kHz, Nominal Conductor to Conductor
 - b) Ground Capacitance 54 pf/ft @1 kHz, Nominal
 - c) Inductance 0.17 μH/ft, Nominal
 - d) Conductor DCR 4.5 Ω/1000ft @20°C, Nominal
- 5) OA Shield DCR 0.85 Ω/1000ft @20°C, Nominal

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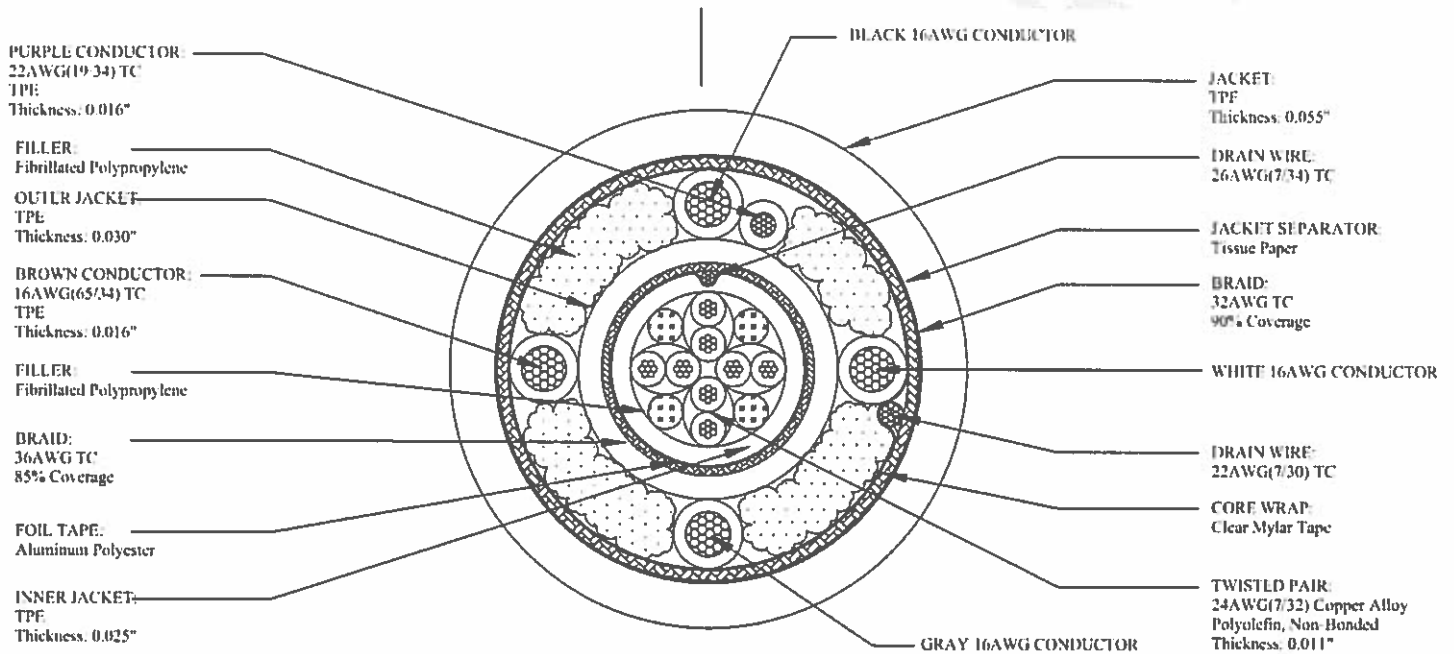
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F. Other

- 1) Packaging Flange x Traverse x Barrel (inches)
 - a) Bulk (Made-to-order) TBD
- 2) Notes:
 - a) Component1 verified to TIA-568-C.2 Cat5e but not guaranteed after this composite cable completed.
 - b) Jacket printing: 1/4" or wider white stripe interrupted with "MILLER ELECTRIC MFG. CO., - APPLETON, WI USA - AUTOMATION-2". Print is every 12".
 - c) Component2 and Component3 insulation are same as 518235 insulation - 039160.
 - d) Flexing cycles designed: 10 million for Component1. Estimated 10 million cycles for this composite cable, but it has not been tested.
 - e) Same as 16-1540 but with new conductor color arrangement and without ripcord for Ethernet.



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

Accepted By:	Date: 1/29/19
Company:	Title:

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