

ALPHA WIRE CDC SPECIFICATION

Part Number: 16-1540
Page 1 of 3 Pages

Issue: 1
Issue Date: 4/4/2016
Effective Date: 6/28/2016

A. Construction

Diameters (In)

- 1) Component 1 1 X 1 CABLE 7602F
 (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
 (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) Ripcord 1300 1/E NATURAL POLYESTER
 c) Print ALPHA WIRE-* P/N 7602F 4PR 24 AWG
 CONTINUOUS FLEX INDUSTRIAL ETHERNET
 RU AWM STYLE 20626 80C 300V ANSI/TIA-568-C.2 CAT5E
 PATCH CE ROHS (SEQ FOOTAGE)

* = Factory Code

[Note: Product may have c(UL) or CSA markings depending upon plant of manufacture.]

- 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
 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+/- 0.020

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Page 2 of 3 Pages

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- | | |
|---------------------|--|
| a) Color(s) | BLACK |
| b) Jacket Separator | Tissue Tape, 25% Overlap, Min. |
| 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 |

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Page 3 of 3 Pages

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5) OA Shield DCR 0.85 Ω /1000ft @20°C, Nominal

F. Other

1) Packaging Flange x Traverse x Barrel (inches)

a) Bulk(Made-to-order)

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". 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.

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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