

## Customer Specification

**PART NO. M9740120**

## Construction

|                       |               |      |               |      |                |                                                                                                                                                                                                                                                      |  |                    |
|-----------------------|---------------|------|---------------|------|----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--------------------|
|                       |               |      |               |      |                | Diameters (In)                                                                                                                                                                                                                                       |  |                    |
| 1) Component 1        |               |      |               |      |                | 12 X 1 PAIR                                                                                                                                                                                                                                          |  |                    |
| a) Conductor          |               |      |               |      |                | 20 (7/.0121) AWG Bare Copper                                                                                                                                                                                                                         |  | 0.036              |
| b) Insulation         |               |      |               |      |                | 0.016" Wall, Nom. PVC                                                                                                                                                                                                                                |  | 0.068              |
| (1) Print             |               |      |               |      |                | ALPHA NUMERIC NUMBERS - WHITE CONDUCTOR ONLY<br>(ONE-1) ALTERNATE INVERTED 2"SPACING(CTR. TO CTR.)                                                                                                                                                   |  |                    |
| (2) Color Code        |               |      |               |      |                | Alpha Wire Color Code BW                                                                                                                                                                                                                             |  |                    |
| Pair                  | Color         | Pair | Color         | Pair | Color          |                                                                                                                                                                                                                                                      |  |                    |
| 1                     | BLACK-WHITE#1 | 5    | BLACK-WHITE#5 | 9    | BLACK-WHITE#9  |                                                                                                                                                                                                                                                      |  |                    |
| 2                     | BLACK-WHITE#2 | 6    | BLACK-WHITE#6 | 10   | BLACK-WHITE#10 |                                                                                                                                                                                                                                                      |  |                    |
| 3                     | BLACK-WHITE#3 | 7    | BLACK-WHITE#7 | 11   | BLACK-WHITE#11 |                                                                                                                                                                                                                                                      |  |                    |
| 4                     | BLACK-WHITE#4 | 8    | BLACK-WHITE#8 | 12   | BLACK-WHITE#12 |                                                                                                                                                                                                                                                      |  |                    |
| c) Pair               |               |      |               |      |                | 2/Cond Cabled Together                                                                                                                                                                                                                               |  |                    |
| (1) Twists:           |               |      |               |      |                | 6.0 Twists/foot (min)                                                                                                                                                                                                                                |  |                    |
| Individually Applied: |               |      |               |      |                |                                                                                                                                                                                                                                                      |  |                    |
| d) Shield:            |               |      |               |      |                | Foil Free Alum/Mylar Tape, 25% Overlap, Min.                                                                                                                                                                                                         |  |                    |
| (1) Foil Direction    |               |      |               |      |                | Foil Facing In                                                                                                                                                                                                                                       |  |                    |
| (2) Drain Wire        |               |      |               |      |                | 22 (7/30) AWG Tinned Copper                                                                                                                                                                                                                          |  |                    |
| 2) Component 2        |               |      |               |      |                | 1 X 1 COND                                                                                                                                                                                                                                           |  |                    |
| a) Conductor          |               |      |               |      |                | 22 (7/30) AWG Bare Copper                                                                                                                                                                                                                            |  | 0.030              |
| b) Insulation         |               |      |               |      |                | 0.016" Wall, Nom. PVC                                                                                                                                                                                                                                |  | 0.062              |
| (1) Color(s)          |               |      |               |      |                |                                                                                                                                                                                                                                                      |  |                    |
| Cond                  | Color         | Cond | Color         | Cond | Color          |                                                                                                                                                                                                                                                      |  |                    |
| 1                     | ORANGE        |      |               |      |                |                                                                                                                                                                                                                                                      |  |                    |
| 3) Cable Assembly     |               |      |               |      |                | 13 Components Cabled                                                                                                                                                                                                                                 |  |                    |
| a) Twists:            |               |      |               |      |                | 1.6 Twists/foot (min)                                                                                                                                                                                                                                |  |                    |
| b) Orientation:       |               |      |               |      |                | Components to be arranged from INSIDE LAYER to OUTSIDE LAYER                                                                                                                                                                                         |  |                    |
| c) Core Wrap          |               |      |               |      |                | Clear Mylar Tape, 25% Overlap, Min.                                                                                                                                                                                                                  |  |                    |
| 4) Shield:            |               |      |               |      |                | Alum/Mylar Tape, 25% Overlap, Min.                                                                                                                                                                                                                   |  |                    |
| a) Foil Direction     |               |      |               |      |                | Foil Facing In                                                                                                                                                                                                                                       |  |                    |
| b) Drain Wire         |               |      |               |      |                | 22 (7/30) AWG Tinned Copper                                                                                                                                                                                                                          |  |                    |
| 5) Jacket             |               |      |               |      |                | 0.063" Wall, Nom.,PVC                                                                                                                                                                                                                                |  | 0.643 (0.669 Max.) |
| a) Color(s)           |               |      |               |      |                | BLACK                                                                                                                                                                                                                                                |  |                    |
| b) Ripcord            |               |      |               |      |                | 1 End 810 Denier Nylon                                                                                                                                                                                                                               |  |                    |
| c) Print              |               |      |               |      |                | ALPHA WIRE-* P/N M9740120 12PR 20 AWG 1C 22 AWG SHIELDED EXXXXX (UL) TYPE PLTC/ITC 105C SUN RES OR CL3 105C OR C(UL) CMG 105C FT4 CE ROHS<br>* = Factory Code<br>[Note: Product may have c(UL) or CSA markings depending upon plant of manufacture.] |  |                    |

Applicable Specifications

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| Physical & Mechanical Properties |                              |
|----------------------------------|------------------------------|
| 1) Temperature Range             | -20 to 105°C                 |
| 2) Bend Radius                   | 10X Cable Diameter           |
| 3) Pull Tension                  | 270 Lbs, Maximum             |
| 4) Sunlight Resistance           | Yes                          |
| Electrical Properties            |                              |
| (For Engineering purposes only)  |                              |
| 1) Voltage Rating                | 300 V <sub>RMS</sub>         |
| 2) Component 1                   |                              |
| a) Mutual Capacitance            | 42 pF/ft @1 kHz, Nominal     |
| b) Ground Capacitance            | 76 pF/ft @1 kHz, Nominal     |
| c) Characteristic Impedance      | 51 Ω                         |
| d) Inductance                    | 0.19 μH/ft, Nominal          |
| e) Conductor DCR                 | 10.6 Ω/1000ft @20°C, Nominal |
| f) Component Shield DCR          | 13.8 Ω/1000ft @20°C, Nominal |
| g) OA Shield DCR                 | 8.3 Ω/1000ft @20°C, Nominal  |
| 3) Component 2                   |                              |
| a) Ground Capacitance            | 94 pF/ft @1 kHz, Nominal     |
| b) Inductance                    | 0.044 μH/ft, Nominal         |
| c) Conductor DCR                 | 15.4 Ω/1000ft @20°C, Nominal |
| d) OA Shield DCR                 | 8.3 Ω/1000ft @20°C, Nominal  |
|                                  |                              |

## Other

| Packaging              | Flange x Traverse x Barrel (inches)         |
|------------------------|---------------------------------------------|
| a) 1000 FT             | 30 x 14 x 12 Continuous length              |
| b) 500 FT              | 24 x 14 x 12 Continuous length              |
| c) 100 FT              | 18 x 9 x 8 Continuous length                |
| d) Bulk(Made-to-order) |                                             |
|                        | <i>[Spool dimensions may vary slightly]</i> |
|                        |                                             |

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# EU/UK/China ROHS CERTIFICATE OF COMPLIANCE

To Whom It May Concern:

Alpha Wire Part Number: M9740120

M9740120, RoHS-Compliant Commencing With 7/1/2005 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)  
  
0.1% by weight (1000 ppm)  
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0.1% by weight (1000 ppm)

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Authorized Signatory for the Alpha Wire:

Dave Watson, Director of Engineering 8/16/2024

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