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# Customer Specification

## PART NO. SPM1609CY

### Construction

|                     |       | Diameters (In)  |        |                |             |
|---------------------|-------|---|--------|----------------|-------------|
| 1) Component 1      |       | 9 X 1 COND  |        |                |             |
| a) Conductor        |       | 16 (26/30) AWG BC   |        | 0.060          |             |
| b) Insulation       |       | 0.016" Wall, Nom. PVC/ 0.005" Wall NYLON  |        | 0.102          |             |
| (1) Color Code      |       | Alpha Wire Color Code F   |        |                |             |
| Cond                | Color | Cond  | Color  | Cond           | Color       |
| 1                   | BLACK | 4   | GREEN  | 7              | WHITE/BLACK |
| 2                   | WHITE | 5   | ORANGE | 8              | RED/BLACK   |
| 3                   | RED   | 6   | BLUE   | 9              | GREEN/BLACK |
| 2) Cable Assembly   |       | 9 Components Cabled   |        |                |             |
| a) Twists:          |       | 2.4 Twists/foot (min)   |        |                |             |
| b) Core Wrap        |       | Clear Mylar Tape, 25% Overlap, Min.   |        |                |             |
| 3) Shield           |       | TC BRAID Shield, 85% Coverage, Min.   |        |                |             |
| 4) Jacket           |       | 0.050" Wall, Nom., PVC  |        | 0.509+/- 0.026 |             |
| a) Color(s)         |       | GREEN   |        |                |             |
| b) Jacket Separator |       | Tissue Tape, 25% Overlap, Min.  |        |                |             |
| c) Print            |       | ALPHA WIRE-* P/N SPM1609CY 9C 16 AWG (1.32mm <sup>2</sup> )<br>SERIES SPM (UL) WTTC 90C DRY/WET 1000V OR<br>(UL) TC-ER 90C DRY/WET 600V DIR BUR SUN RES<br>OR MTW 16 AWG FLEXING --- C(RU) AWM I/II A/B 105C<br>600V FT1 CE ROHS<br>(DATE CODE) (SEQ FOOTAGE)<br>* = Factory Code |        |                |             |

### Applicable Specifications

|                      |                                     |   |
|----------------------|-------------------------------------|---|
| 1) UL                |                                     |   |
| a) Component 1       | Unlisted Conductor                  | 90°C Dry / 90°C Wet / 600 V <sub>RMS</sub>  |
| b) Overall           | UL 1277 TC                          | 90°C Dry / 90°C Wet / 600 V <sub>RMS</sub>  |
|                      | UL 2277 WTTC                        | 90°C Dry / 90°C Wet / 1000 V <sub>RMS</sub> |
|                      | SUN RES                             |   |
|                      | UL 1685 Vertical Tray Flame Test    |   |
|                      | UL 1063 MTW                         | 90°C Dry / 60°C Wet / 600 V <sub>RMS</sub>  |
|                      | DIRECT BURIAL                       |   |
|                      | EXPOSED RUN                         |   |
|                      | OIL RES I                           |   |
| 2) CSA International | C(RU) AWM I/II A/B FT1              | 105°C / 600 V <sub>RMS</sub>                |
| 3) Other             |                                     |   |
| a) Component 1       | ASTM-B174 Class K                   |   |
| 4) CE:               | EU Low Voltage Directive 2006/95/EC |   |

## Environmental

|  |  |
|--|--|
| 1) CE: EU Directive 2011/65/EU(RoHS2), EU Directive 2015/863/EU (RoHS3): |  |
|  | This product complies with European Directive 2011/65/EU (RoHS Directive) of the European Parliament and of the Council of 8 June 2011 and the amending Directive 2015/863/EU of 4 June 2015 . 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:  |  |
|  | Exempt from warning labels based on the Consent Judgment. Please see Alpha's CA Prop 65 Statement for more information.  |

## Properties

|                                  |   |
|----------------------------------|---|
| Physical & Mechanical Properties |   |
| 1) Temperature Range             | -40 to 90°C(static), -30 to 90°C (dynamic)      |
| 2) Bend Radius                   | 10X Cable Diameter                              |
| 3) Pull Tension                  | 198 Lbs, Maximum                                |
| 4) Sunlight Resistance           | Yes   |
| 5) Direct Burial                 | Yes   |
| Electrical Properties            |   |
| (For Engineering purposes only)  |   |
| 1) Voltage Rating                | 600/1000 V <sub>RMS</sub>                       |
| 2) Capacitance                   | 48 pf/ft @1 kHz, Nominal Conductor to Conductor |
| 3) Ground Capacitance            | 86 pf/ft @1 kHz, Nominal                        |
| 4) Inductance                    | 0.18 μH/ft, Nominal                             |
| 5) Conductor DCR                 | 4.1 Ω/1000ft @20°C, Nominal                     |
| 6) OA Shield DCR                 | 1.6 Ω/1000ft @20°C, Nominal                     |

## Other

|                        |                                     |
|------------------------|-------------------------------------|
| <b>Packaging</b>       | Flange x Traverse x Barrel (inches) |
| a) Bulk(Made-to-order) |                                     |

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# EU/China ROHS CERTIFICATE OF COMPLIANCE

To Whom It May Concern:

Alpha Wire Part Number: SPM1609CY

SPM1609CY , RoHS-Compliant Commencing With 8/24/2009 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)  |

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Authorized Signatory for the Alpha Wire:

Dave Watson, Director of Engineering & QA

9/6/2019

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