Wire-to-Board Connectors
IMPORTANT INFORMATION/DISCLAIMER

All product specifications, statements, information and data (collectively, the “Information”) in this datasheet or made available on the website are subject to change. The customer is responsible for checking and verifying the extent to which the Information contained in this publication is applicable to an order at the time the order is placed. All Information given herein is believed to be accurate and reliable, but it is presented without guarantee, warranty, or responsibility of any kind, expressed or implied.

Statements of suitability for certain applications are based on AVX’s knowledge of typical operating conditions for such applications, but are not intended to constitute and AVX specifically disclaims any warranty concerning suitability for a specific customer application or use.

ANY USE OF PRODUCT OUTSIDE OF SPECIFICATIONS OR ANY STORAGE OR INSTALLATION INCONSISTENT WITH PRODUCT GUIDANCE VOIDS ANY WARRANTY.

The Information is intended for use only by customers who have the requisite experience and capability to determine the correct products for their application. Any technical advice inferred from this Information or otherwise provided by AVX with reference to the use of AVX’s products is given without regard, and AVX assumes no obligation or liability for the advice given or results obtained.

Although AVX designs and manufactures its products to the most stringent quality and safety standards, given the current state of the art, isolated component failures may still occur. Accordingly, customer applications which require a high degree of reliability or safety should employ suitable designs or other safeguards (such as installation of protective circuitry or redundancies) in order to ensure that the failure of an electrical component does not result in a risk of personal injury or property damage.

Unless specifically agreed to in writing, AVX has not tested or certified its products, services or deliverables for use in high risk applications including medical life support, medical device, direct physical patient contact, water treatment, nuclear facilities, weapon systems, mass and air transportation control, flammable environments, or any other potentially life critical uses. Customer understands and agrees that AVX makes no assurances that the products, services or deliverables are suitable for any high-risk uses. Under no circumstances does AVX warrant or guarantee suitability for any customer design or manufacturing process.

Although all product–related warnings, cautions and notes must be observed, the customer should not assume that all safety measures are indicted or that other measures may not be required.
# WIRE-TO-BOARD CONNECTORS

## Table of Contents

### STANDARD 26-28 AWG: 00-9175
- General Information ................................................. 1
- 2 Position..................................................................... 2
- 3 Position..................................................................... 3
- Accessory Cap - Through Wire ................................. 4
- Accessory Cap - Wire Stop ...................................... 5
- Hand Insertion Tooling / Clearance Area on PCB for Hand Tooling .............................. 6
- Insertion Tooling Requires Hand Press with Flat Rock Plates .............................. 7

## CAPPED IDC 26-28 AWG: 9175-700
- General Information ................................................. 8
- 2 Position - Through Wire ........................................... 9
- 3 Position - Through Wire ........................................... 10
- 2 Position - Wire Stop ...............................................11
- 3 Position - Wire Stop ...............................................12
- Assembly - Through Wire and Wire Stop ......................13

### STANDARD IDC 18-24 AWG: 00-9176
- General Information ................................................. 14
- 1 Position..................................................................... 16
- 2 Position..................................................................... 17
- 3 Position..................................................................... 18
- Accessory Cap - Through Wire ................................. 19
- Accessory Cap - Wire Stop ...................................... 20
- Hand Insertion Tooling for Single 18/24 Gauge Wire ........................................ 21
- Insertion Tooling Requires Hand Press with Flat Rock Plates .............................. 22
- Hand Insertion Tooling for One Way Cap Insertion / Clearance Area on PCB for Hand Tooling .............................. 23
- Assembled Connector ................................................. 24

### CAPPED 18-24 AWG: 9176-700
- General Information ................................................. 25
- 1 Position - Through Wire .......................................... 26
- 2 Position - Through Wire .......................................... 27
- 3 Position - Through Wire .......................................... 28
- 1 Position - Wire Stop ...............................................29
- 2 Position - Wire Stop ...............................................30
- 3 Position - Wire Stop ...............................................31
- Assembly - Through Wire and Wire Stop ......................32

### SINGLE IDC CONTACT 22-28 AWG: 9176-400
- General Information ................................................. 33
- Contact Details............................................................. 34
- PCB Layout .................................................................. 35
- Assembly Tooling ....................................................... 36
- Cap Details................................................................. 38

### SINGLE IDC CONTACT 18-24 AWG: 9176-500
- General Information ................................................. 39
- Contact Details............................................................. 40
- PBC Layout .................................................................. 41
- Assembly Tooling ....................................................... 42
- Cap Details................................................................. 43

### SINGLE TINE PTH 18-24 AWG: 9176-600
- General Information ................................................. 44
- 1 Position - Through Wire .......................................... 45
- 1 Position - Wire Stop ...............................................46
- Assembly - Through Wire and Wire Stop ......................47

### SINGLE TINE SMT 18-24 AWG: 9176-650
- General Information ................................................. 48
- 1 Position - Through Wire .......................................... 49
- 1 Position - Wire Stop ...............................................50
- Assembly - Through Wire and Wire Stop ......................51

### LOW PROFILE IDC 22-26 AWG: 9176-800
- General Information ................................................. 52
- 1 Position..................................................................... 53
- 2 Position..................................................................... 54
- 3 Position..................................................................... 55
- 4 Position..................................................................... 56
- Connector Details....................................................... 57

### STANDARD 14-20 AWG: 00-9177
- General Information ................................................. 58
- 1 Position..................................................................... 60
- 2 Position..................................................................... 61
- 3 Position..................................................................... 62
- Accessory Cap - Through Wire ....................................63
- Accessory Cap - Wire Stop ...................................... 64
- Insertion Tooling ....................................................... 65

### CAPPED THRU HOLE 12-18 AWG: 00-9177
- General Information ................................................. 66
- 1 Position - Through Wire .......................................... 67
- 1 Position - Wire Stop ...............................................68

### SINGLE THRU HOLE IDC CONTACT 12-18 AWG: 9177-600
- General Information ................................................. 69
- Contact Details............................................................. 70
- Assembly Tooling ....................................................... 71
- Accessory Cap - Through Wire ....................................72
- Accessory Cap - Wire Stop ...................................... 73

### POKE-HOME: HORIZONTAL
- 18-26 AWG: 00-9276
- General Information ................................................. 74
- Wire Assembly/Wire Extraction ............................... 75
- 1 Position..................................................................... 76
- 2 Position..................................................................... 77
- 3 Position..................................................................... 78
- 4 Position..................................................................... 79
- 6 Position..................................................................... 80
- 8 Position..................................................................... 81

---

The Important Information/Disclaimer is incorporated in these specifications by reference and should be reviewed in full before placing any order.
# WIRE-TO-BOARD CONNECTORS

## Table of Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>POKE-HOME: SINGLE HORIZONTAL CONTACT</td>
<td>82</td>
</tr>
<tr>
<td>12-28 AWG: 70-9296</td>
<td></td>
</tr>
<tr>
<td>General Information</td>
<td>82</td>
</tr>
<tr>
<td>1.7mm</td>
<td>83</td>
</tr>
<tr>
<td>2mm</td>
<td>84</td>
</tr>
<tr>
<td>2.5mm</td>
<td>85</td>
</tr>
<tr>
<td>2.5mm – No Stop</td>
<td>86</td>
</tr>
<tr>
<td>3mm</td>
<td>87</td>
</tr>
<tr>
<td>4mm</td>
<td>88</td>
</tr>
<tr>
<td>Connector Assembly / Contact Opening Tool</td>
<td>89</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>POKE-HOME: VERTICAL TOP ENTRY</td>
<td>90</td>
</tr>
<tr>
<td>18-26 AWG: 00-9296</td>
<td></td>
</tr>
<tr>
<td>General Information</td>
<td>90</td>
</tr>
<tr>
<td>1 Position</td>
<td>91</td>
</tr>
<tr>
<td>2 Position</td>
<td>92</td>
</tr>
<tr>
<td>3 Position</td>
<td>93</td>
</tr>
<tr>
<td>4 Position</td>
<td>94</td>
</tr>
<tr>
<td>5 Position</td>
<td>95</td>
</tr>
<tr>
<td>6 Position</td>
<td>96</td>
</tr>
<tr>
<td>Connector Assembly / Contact Opening Tool</td>
<td>97</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>POKE-HOME: INVERTED THRU BOARD</td>
<td>98</td>
</tr>
<tr>
<td>18-26 AWG: 00-9296</td>
<td></td>
</tr>
<tr>
<td>General Information</td>
<td>98</td>
</tr>
<tr>
<td>1 Position</td>
<td>99</td>
</tr>
<tr>
<td>2 Position</td>
<td>100</td>
</tr>
<tr>
<td>3 Position</td>
<td>101</td>
</tr>
<tr>
<td>4 Position</td>
<td>102</td>
</tr>
<tr>
<td>5 Position</td>
<td>103</td>
</tr>
<tr>
<td>6 Position</td>
<td>104</td>
</tr>
<tr>
<td>Wire Strip Length</td>
<td>105</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>SINGLE VERTICAL TOP ENTRY</td>
<td>106</td>
</tr>
<tr>
<td>18 AWG: 58-9296</td>
<td></td>
</tr>
<tr>
<td>General Information</td>
<td>106</td>
</tr>
<tr>
<td>Single Vertical Top Entry</td>
<td>107</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>POKE-HOME: SINGLE VERTICAL CONTACT</td>
<td>108</td>
</tr>
<tr>
<td>18-24 AWG: 70-9296</td>
<td></td>
</tr>
<tr>
<td>General Information</td>
<td>108</td>
</tr>
<tr>
<td>Top Side Contact - Bottom Entry Wire (FR4 Board)</td>
<td>109</td>
</tr>
<tr>
<td>Through Board Contact - Top Entry Wire (FR4 Board)</td>
<td>110</td>
</tr>
<tr>
<td>Top Side Contact - Bottom Entry Wire (Metal Board)</td>
<td>111</td>
</tr>
<tr>
<td>Through Board Contact - Top Entry Wire (Metal Board)</td>
<td>112</td>
</tr>
<tr>
<td>Wire Trim Details</td>
<td>113</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>POKE-HOME: MICRO SINGLE VERTICAL CONTACT</td>
<td>114</td>
</tr>
<tr>
<td>22-26 AWG: 70-9296</td>
<td></td>
</tr>
<tr>
<td>General Information</td>
<td>114</td>
</tr>
<tr>
<td>Top Side Contact - Bottom Entry Wire (FR4 Board)</td>
<td>115</td>
</tr>
<tr>
<td>Through Board Contact - Top Entry Wire (FR4 Board)</td>
<td>116</td>
</tr>
<tr>
<td>Top Side Contact - Bottom Entry Wire (Metal Board)</td>
<td>117</td>
</tr>
<tr>
<td>Through Board Contact - Top Entry Wire (Metal Board)</td>
<td>118</td>
</tr>
<tr>
<td>Wire Trim Details</td>
<td>119</td>
</tr>
</tbody>
</table>

---

The Important Information/Disclaimer is incorporated in these specifications by reference and should be reviewed in full before placing any order.
The 917X series of surface mount Insulation Displacement Connectors (IDC) were developed to meet the harsh automotive and industrial market applications for connecting individual wires directly to a PCB ranging from 14 AWG to 28 AWG. This industry proven contact system has been tested to automotive levels of shock, vibration, and temperature cycling to prove their reliability and robustness. The simplicity of inserting a wire into the connector with a small tool allows a wide range of devices to be connected to the PCB without soldering. In SSL applications specifically, these connectors are used to bring power and signal onto the PCB or are used to daisy chain multiple boards together in a long string. While the IDC contact provides a gas-tight connection to conductor of the wire, the housing has been designed to grab the insulation of the wire to provide a positive strain relief even in the harshest conditions. In case of repair, the wires can be removed and replace up to three times.

The 9175 series accepts 26 AWG to 28 AWG wires with an insulation diameter ranging from 0.7mm to 1.0mm. These single contact connectors support a 1 amp current rating and have a split SMT tail design to provide maximum stability on the PCB. Available in a 2p and 3p configuration, these connectors can be end stackable for higher pin counts.

### APPLICATIONS
- Connecting discrete wire components directly to the PCB
- Bringing power and signals onto a PCB
- Daisy chaining PCB's together to create a continuous string of boards
- Application Notes: refer to 201-01-124

### FEATURES AND BENEFITS
- IDC contact provides a gas-tight connection to the PCB for long term reliability
- Connector housing captures the wire insulation for positive strain relief
- Tested to automotive levels on shock, vibration and temperature cycling for reliability
- Low and high volume assembly tools to match production volumes
- Reduced total applied cost versus solder or crimp processes
- High temperature insulator capable to 260 degrees C reflow soldering processes

### ELECTRICAL
- Current Rating: 1 Amp / Contact
- Voltage Rating: 150 VAC

### ENVIRONMENTAL
- Operating Temperature: 
  -40ºC to +125ºC

### MECHANICAL
- Insulator Material: Nylon 46: UL94V0
- Contact Material: Phosphor Bronze
- Plating: Tin over Nickel
- Durability: 3 Cycles

### HOW TO ORDER

<table>
<thead>
<tr>
<th>00Prefix</th>
<th>9159</th>
<th>00X</th>
<th>Number of Ways</th>
</tr>
</thead>
<tbody>
<tr>
<td>Code</td>
<td>No of Ways</td>
<td>Details</td>
<td></td>
</tr>
<tr>
<td>002</td>
<td>2</td>
<td>Page 4</td>
<td></td>
</tr>
<tr>
<td>003</td>
<td>3</td>
<td>Page 5</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>00X</th>
<th>Wire Gauge Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Code</td>
<td>Accepted Wire Gauge</td>
</tr>
<tr>
<td>001</td>
<td>28 Gauge Solid or Stranded</td>
</tr>
<tr>
<td>002</td>
<td>26 Gauge Solid or Stranded</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>06Plating Option</th>
</tr>
</thead>
<tbody>
<tr>
<td>9 = UL White</td>
</tr>
<tr>
<td>8 = UL Black Special Order</td>
</tr>
<tr>
<td>06 = Pure Tin all over</td>
</tr>
</tbody>
</table>

### CONNECTOR/TOOLING PART NUMBER MATRIX

<table>
<thead>
<tr>
<th>SERIES 9175 IDC</th>
<th>HAND INSERTION TOOLING*</th>
<th>ACCESSORY CAPS</th>
</tr>
</thead>
<tbody>
<tr>
<td>AWG Wire Insulation Positions Color</td>
<td>Part Number</td>
<td>Plastic (medium volume)</td>
</tr>
<tr>
<td>26 0.07 - 1.0 2p White 009175002002906 0691757016010000 0691757017010000</td>
<td>0691757017010000 0691757017010002</td>
<td>6091750020101000 6091750020101999</td>
</tr>
<tr>
<td>26 0.07 - 1.0 2p Black 009175002002806 0691757016010000 0691757017010000</td>
<td>0691757017010000 0691757017010002</td>
<td>6091750020100000 6091750020100999</td>
</tr>
<tr>
<td>26 0.07 - 1.0 3p White 009175003002906 0691757016010000 0691757017010000</td>
<td>0691757017010000 0691757017010003</td>
<td>6091750030101000 6091750030101999</td>
</tr>
<tr>
<td>26 0.07 - 1.0 3p Black 009175003002806 0691757016010000 0691757017010000</td>
<td>0691757017010000 0691757017010003</td>
<td>6091750030100000 6091750030100999</td>
</tr>
<tr>
<td>28 0.07 - 1.0 2p White 009175002001906 0691757016010000 0691757017010000</td>
<td>0691757017010000 0691757017010002</td>
<td>6091750020100100 6091750020101999</td>
</tr>
<tr>
<td>28 0.07 - 1.0 2p Black 009175002001806 0691757016010000 0691757017010000</td>
<td>0691757017010000 0691757017010002</td>
<td>6091750020100000 6091750020100999</td>
</tr>
<tr>
<td>28 0.07 - 1.0 3p White 009175003001906 0691757016010000 0691757017010000</td>
<td>0691757017010000 0691757017010003</td>
<td>6091750030100100 6091750030101999</td>
</tr>
<tr>
<td>28 0.07 - 1.0 3p Black 009175003001806 0691757016010000 0691757017010000</td>
<td>0691757017010000 0691757017010003</td>
<td>6091750030100000 6091750030100999</td>
</tr>
</tbody>
</table>

* Hand Insertion Tooling - Universal Hand Tool 06/100773010000; Consult Application Notes 201-01-124

Certification: UL File #E90723
The Important Information/Disclaimer is incorporated in these specifications by reference and should be reviewed in full before placing any order.

26-28 AWG 2 WAY IDC CONNECTOR

NOTES:
1. CONNECTOR FOR IDC WIRE TO BOARD CONNECTION.
2. CONTACT MATERIAL: PHOSPHOR BRONZE.
   INSULATION MATERIAL: HIGH TEMPERATURE NYLON 46.
   COLOR REFER TO PAGE 3.
3. CONNECTOR DESIGNED TO ACCEPT 26 AND 28 GAUGE SOLID OR STRANDED WIRE.
4. ALL DIMENSIONS FOR REFERENCE UNLESS OTHERWISE STATED.
5. FOR FULL PRODUCT SPECIFICATION ON STANDARD CONNECTORS REFER TO ELCO SPEC 201-01-100, UL COMPONENTS REFER TO ELCO SPEC 201-01-100UL.
6. APPLICATION NOTES 201-01-124.
7. FOR UL PRODUCT CODES UL REFERENCE 390723 (US AND CANADA).
8. CONNECTOR OUTLINE.
9. ALL DIMENSIONS ±0.20 UNLESS TOLERANCE SPECIFIED.

SMT PCB LAYOUT
PURE TIN PADS

PACKING DETAILS

| REEL QTY | 2000 |
| LEADER | 500MM |
| TRAILER | 500MM |

PICK UP AREA 1.18 x 2.50mm

0.10 TYP

0.70 TYP

2.50

0.80 TYP

SMT PCB LAYOUT
PURE TIN PADS

ALL TAILS TO WITHIN 0.10mm COPLANARITY TOLERANCE

0.50 TYP

5.00

0.10 TYP

1.10 TYP

2.95

3.45

2.50

0.10 TYP

2.95

1.10 TYP

3.45

2.50

5.00

Note 9

5.00

2.50

1.10 TYP

2.95

3.45

2.50
The Important Information/Disclaimer is incorporated in these specifications by reference and should be reviewed in full before placing any order.

26-28 AWG 3 WAY IDC CONNECTOR

NOTES:
1. CONNECTOR FOR IDC WIRE TO BOARD CONNECTION.
2. CONTACT MATERIAL: PHOSPHOR BRONZE.
3. INSULATION MATERIAL: HIGH TEMPERATURE NYLON 46.
4. COLOR REFER TO PAGE 3.
5. CONNECTOR DESIGNED TO ACCEPT 26 AND 28 GAUGE SOLID OR STRANDED WIRE.
6. ALL DIMENSIONS FOR REFERENCE UNLESS OTHERWISE STATED.
7. FOR FULL PRODUCT SPECIFICATION ON STANDARD CONNECTORS REFER TO ELCO SPEC 201-01-100, UL COMPONENTS REFER TO ELCO SPEC 201-01-100UL.
8. APPLICATION NOTES 201-01-124.
9. CONNECTOR OUTLINE.
10. ALL DIMENSIONS ±0.20 UNLESS TOLERANCE SPECIFIED.

PICK UP AREA
1.10 x 2.50mm

SMT PCB LAYOUT

PICK UP AREA
1.10 x 2.50mm

2.50

NOTES:
1. CONNECTOR FOR IDC WIRE TO BOARD CONNECTION.
2. CONTACT MATERIAL: PHOSPHOR BRONZE.
3. INSULATION MATERIAL: HIGH TEMPERATURE NYLON 46.
4. COLOR REFER TO PAGE 3.
5. CONNECTOR DESIGNED TO ACCEPT 26 AND 28 GAUGE SOLID OR STRANDED WIRE.
6. ALL DIMENSIONS FOR REFERENCE UNLESS OTHERWISE STATED.
7. FOR FULL PRODUCT SPECIFICATION ON STANDARD CONNECTORS REFER TO ELCO SPEC 201-01-100, UL COMPONENTS REFER TO ELCO SPEC 201-01-100UL.
8. APPLICATION NOTES 201-01-124.
9. CONNECTOR OUTLINE.
10. ALL DIMENSIONS ±0.20 UNLESS TOLERANCE SPECIFIED.

SMT PCB LAYOUT

PURE TIN PADS

0.80 TYP

2.50

Code | Wire Gauge | A
--- | --- | ---
001 | 28AWG | 0.20
002 | 26AWG | 0.28

PACKING DETAILS

REEL QTY | 2000
LEADER | 500MM
TRAILER | 500MM
NOTES:
1. CAP FOR IDC WIRE TO BOARD CONNECTION, 2 AND 3 WAY, THROUGH WIRE.
2. THROUGH WIRE CAP CAN BE USED AT ANY POSTION ALONG A WIRE.
3. FOR USE WITH STANDARD 9175 IDC CONNECTORS
4. CAP MATERIAL: GLASS FILLED NYLON 46, FOR COLORS SEE PAGE 3.
5. CAPS DESIGNED TO ACCOMMODATE WIRES WITH INSULATION UP TO 1.00MM DIAMETERS.
6. GENERAL TOLERANCE ±0.20.
7. PACKED IN BAGS, 1000 PIECES PER BAG.
8. ALL DIMENSIONS ±0.20 UNLESS TOLERANCE SPECIFIED.
The Important Information/Disclaimer is incorporated in these specifications by reference and should be reviewed in full before placing any order.

NOTES:
1. CAP FOR IDC WIRE TO BOARD CONNECTION, 2 AND 3 WAY, WIRE STOP.
2. WIRE STOP CAP FOR USE AT WIRE ENDS, STOP FACE PROTECTS THE WIRE ENDS.
3. FOR USE WITH STANDARD 9175 IDC CONNECTORS
4. CAP MATERIAL: GLASS FILLED NYLON 46, FOR COLORS SEE PAGE 3.
5. CAPS DESIGNED TO ACCOMMODATE WIRES WITH INSULATION UP TO 1.00MM DIAMETERS.
6. GENERAL TOLERANCE ±0.20.
7. PACKED IN BAGS, 1000 PIECES PER BAG.
8. ALL DIMENSIONS ±0.20 UNLESS TOLERANCE SPECIFIED.
HAND INSERTION TOOLING
SINGLE WIRE INSERTION TOOL FOR 26/28 GAUGE WIRE

UNIVERSAL HANDLE

<table>
<thead>
<tr>
<th>Details</th>
<th>Tool Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.35 A/F HEX BIT HOLDER</td>
<td>06-7000-7730-01-000</td>
</tr>
</tbody>
</table>

HAND INSERTION TOOLING / Clearance Area on PCB for Hand Tooling

2 WAY

3 WAY

Max Insulation Dia | Tool Part Number
Ø 1.00            | 06-9175-7017-01-000
Ø 1.00            | 06-9175-7016-01-000

The Important Information/Disclaimer is incorporated in these specifications by reference and should be reviewed in full before placing any order.
INSERTION TOOLING
REQUIRES HAND PRESS WITH FLAT ROCK PLATES

2 WAY TOOL
TOOL NUMBER 06-9175-7017-01-002
SKETCH SHOWS PCB RESTRICTED AREAS FOR ASSEMBLY TOOLING

3 WAY TOOL
TOOL NUMBER 06-9175-7017-01-003
SKETCH SHOWS PCB RESTRICTED AREAS FOR ASSEMBLY TOOLING

NOTES:
1. DIMENSIONS SHOWN ARE REFERENCE DIMENSIONS.
2. MAXIMUM COMPONENT HEIGHT 0.80MM IN THIS AREA.
3. MAXIMUM COMPONENT HEIGHT 4.00MM IN THIS AREA.
4. THE SAME RESTRICTIONS APPLY TO ALL WIRE INSULATION DIAMETERS.

ASSEMBLED CONNECTOR

STANDARD CONNECTOR

CONNECTOR WITH CAP

NOTES:
1. ASSEMBLED HEIGHTS INCLUDE A 0.10MM ALLOWANCE FOR PAD AND SOLDER THICKNESS, NO ALLOWANCE HAS BEEN MADE FOR ANY SOLDER RESIST OR OTHER FEATURES.
2. WHEN THE WIRE IS ASSEMBLED THE INSULATION SHOULD BE TRAPPED BY THESE EDGES.
The market and applications for simple and reliable discrete Wire-to-Board connectors continue to evolve. AVX first introduced the 9175 series of surface mountable Insulation Displacement Connectors (IDC) in 2006. Developed for harsh industrial and automotive applications, these connectors have been used in hundreds of applications from today’s “Smart Meter” all the way down to a simple sensor termination to a PCB. Size and performance has been one of the key factors for selecting this connector in terminating 26-28AWG wires to a PCB.

The next generation of IDC connector moves beyond all of the technical and performance attributes to address the “User Friendliness” of the product. By changing the insulator from acting as a connector body and make it more like a contact carrier, the insulator becomes the wire location and insertion aid without any special tools. The wire is just inserted into the cap (no stripping required) and then pressed down to provide a secure “Gas Tight” termination. This configuration simplifies and cost reduces the entire wire termination process for connecting discrete wires to a PCB.

### APPLICATIONS
- Connecting discrete wire components to a PCB
- Bringing power and signals onto a PCB
- Daisy chaining PCB’s together to create a continuous string
- Reference Product Specification 201-01-140

### FEATURES AND BENEFITS
- IDC contact provides a gas-tight connection to the PCB for long term reliability
- Plastic cap retains the contacts in position prior to automatic placement, then acts as the assembly tool to terminate the wires; no special tooling.
- Tested to automotive levels on shock, vibration and temperature cycling for reliability
- Identical contact and footprint pattern to the existing 9175 for full backward compatibility and functionality
- The IDC contact reduces the total applied cost versus solder or crimp processes
- Connectors are available in two configurations for maximum flexibility; End and Through Wire

### ELECTRICAL
- Current Rating: 1 Amps / Contact
- Voltage Rating: 150 VAC

### ENVIRONMENTAL
- Operating Temperature: -40°C to +125°C

### MECHANICAL
- Insulator Material: Nylon UL94V0
- Contact Material: Phosphor Bronze
- Plating: Tin over Nickel

### HOW TO ORDER

<table>
<thead>
<tr>
<th>Code</th>
<th>No of Ways</th>
<th>Details</th>
<th>Prefix</th>
<th>Series</th>
<th>Number of Ways</th>
</tr>
</thead>
<tbody>
<tr>
<td>002</td>
<td>2</td>
<td>Pages 11 &amp; 13</td>
<td>00</td>
<td>9175</td>
<td>00X</td>
</tr>
<tr>
<td>003</td>
<td>3</td>
<td>Pages 12 &amp; 14</td>
<td>00X</td>
<td>70X</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Code</th>
<th>Wire Gauge</th>
<th>Wire Insulation</th>
</tr>
</thead>
<tbody>
<tr>
<td>701</td>
<td>28 Gauge Solid or Stranded</td>
<td>Min Ø 0.70</td>
</tr>
<tr>
<td>702</td>
<td>26 Gauge Solid or Stranded</td>
<td>Min Ø 0.80, Max Ø 1.20</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Code</th>
<th>Insulator Color</th>
<th>Description</th>
<th>Detail</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>UL White</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>UL Black</td>
<td>Special Order</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Code</th>
<th>Cap Option</th>
<th>Description</th>
<th>Detail</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Through Wire</td>
<td>Allows wire to be terminated at any point</td>
<td>Page 11-12</td>
</tr>
<tr>
<td>9</td>
<td>Wire Stop</td>
<td>Terminates end of wire End Protected by stop face</td>
<td>Pages 13-14</td>
</tr>
</tbody>
</table>

Plating Option
- 6 = Pure Tin all over

Certification: UL File #E90723
CAPPED IDC 26-28 AWG: 9175-700

2 Position - Through Wire

26-28 AWG 2 WAY IDC CONNECTOR THROUGH WIRE CAPPED IDC

NOTES:
1. 2 WAY CONNECTOR FOR IDC WIRE TO BOARD CONNECTION.
   PRE-ASSEMBLED THROUGH WIRE CAP.
2. CONTACT/CAP TO MATCH 26AWG AND 28AWG WIRES. SOLID OR STRANDED
   CONDUCTOR. MAXIMUM INSULATOR 1.00 MM DIAMETER.
3. FLAT FACE ON TOP OF CAP TO AID PICK AND PLACE ASSEMBLY.
4. FOR FULL PRODUCT SPECIFICATION ON STANDARD CONNECTORS REFER TO
   ELCO SPEC 201-01-139. UL COMPONENTS REFER TO ELCO SPEC 201-01-139UL.
5. ASSEMBLY PROCEDURE, REFER TO APPLICATION NOTES 201-01-140.
6. GENERAL TOLERANCE ±0.20 UNLESS STATED.
7. PACKED IN TAPE AND REEL, QUANTITY PER REEL 1000.
8. CONNECTOR OUTLINE.
9. CONTACT MATERIAL: TIN PLATED COPPER ALLOY.
10. INSULATOR MATERIAL: HIGH TEMPERATURE NYLON, GLASS FILLED, UL94 V-0.
    COLOR REFER TO PAGE 10.
11. FOR UL CODES UL REFERENCE E90723 (US AND CANADA).

<table>
<thead>
<tr>
<th>Code</th>
<th>Wire Gauge</th>
<th>Diameter</th>
</tr>
</thead>
<tbody>
<tr>
<td>701</td>
<td>28AWG</td>
<td>1.10</td>
</tr>
<tr>
<td>702</td>
<td>26AWG</td>
<td>1.30</td>
</tr>
</tbody>
</table>

SUGGEST PCB LAYOUT
CAPPED IDC 26-28 AWG: 9175-700

3 Position - Through Wire

**26-28 AWG 3 WAY IDC CONNECTOR THROUGH WIRE CAPPED IDC**

- **NOTES:**
  1. WAY CONNECTOR FOR IDC WIRE TO BOARD CONNECTION. PRE-ASSEMBLED THROUGH WIRE CAP.
  2. CONTACT/CAP TO MATCH 26AWG AND 28AWG WIRES. SOLID OR STRANDED CONDUCTOR. MAXIMUM INSULATOR 1.00 MM DIAMETER.
  3. FLAT FACE ON TOP OF CAP TO AID PICK AND PLACE ASSEMBLY.
  4. FOR FULL PRODUCT SPECIFICATION ON STANDARD CONNECTORS REFER TO ELCO SPEC 201-01-139. UL COMPONENTS REFER TO ELCO SPEC 201-01-139UL.
  5. ASSEMBLY PROCEDURE, REFER TO APPLICATION NOTES 201-01-140.
  6. GENERAL TOLERANCE ±0.20 UNLESS STATED.
  7. PACKED IN TAPE AND REEL, QUANTITY PER REEL 1000.
  8. CONNECTOR OUTLINE.
  9. CONTACT MATERIAL: TIN PLATED COPPER ALLOY.
  10. INSULATOR MATERIAL: HIGH TEMPERATURE NYLON, GLASS FILLED, UL94 V-0. COLOR REFER TO PAGE 10.
  11. FOR UL CODES UL REFERENCE E90723 (US AND CANADA).

<table>
<thead>
<tr>
<th>Code</th>
<th>Wire Gauge</th>
<th>Diameter A</th>
</tr>
</thead>
<tbody>
<tr>
<td>701</td>
<td>28AWG</td>
<td>1.10</td>
</tr>
<tr>
<td>702</td>
<td>26AWG</td>
<td>1.30</td>
</tr>
</tbody>
</table>

**PACKING DETAILS**

- **UNREELLED DIRECTION**
- **330mm DIAMETER REEL**
- **QUANTITY PER REEL 1000**
The Important Information/Disclaimer is incorporated in these specifications by reference and should be reviewed in full before placing any order.

**CAPPED IDC 26-28 AWG: 9175-700**

2 Position - Wire Stop

26-28 AWG 2 WAY IDC CONNECTOR WIRE STOP CAPPED IDC

MOUNTED ON PCB

NOTES:
1. 2 WAY CONNECTOR FOR IDC WIRE TO BOARD CONNECTION. PRE-ASSEMBLED WIRE STOP CAP.
2. WIRE STOP CAP PROTECTS END OF WIRE.
3. CONTACT/CAP TO MATCH 26AWG AND 28AWG WIRES. SOLID OR STRANDED CONDUCTOR. MAXIMUM INSULATOR 1.00 MM DIAMETER.
4. FLAT FACE ON TOP OF CAP TO AID PICK AND PLACE ASSEMBLY.
5. FOR FULL PRODUCT SPECIFICATION ON STANDARD CONNECTORS REFER TO ELCO SPEC 201-01-139. UL COMPONENTS REFER TO ELCO SPEC 201-01-139UL.
6. ASSEMBLY PROCEDURE, REFER TO APPLICATION NOTES 201-01-140.
7. GENERAL TOLERANCE ±0.20 UNLESS STATED.
8. PACKED IN TAPE AND REEL, QUANTITY PER REEL 1000.
9. CONNECTOR OUTLINE.
10. CONTACT MATERIAL: TIN PLATED COPPER ALLOY.
11. INSULATOR MATERIAL: HIGH TEMPERATURE NYLON, GLASS FILLED, UL94 V-0. COLOR REFER TO PAGE 10.
12. FOR UL CODES UL REFERENCE E90723 (US AND CANADA).

<table>
<thead>
<tr>
<th>Code</th>
<th>Wire Gauge</th>
<th>Diameter</th>
</tr>
</thead>
<tbody>
<tr>
<td>701</td>
<td>28AWG</td>
<td>1.10</td>
</tr>
<tr>
<td>702</td>
<td>26AWG</td>
<td>1.30</td>
</tr>
</tbody>
</table>

SUGGEST PCB LAYOUT

PACKING DETAILS

UNREELLED DIRECTION

330mm DIAMETER REEL

UNREELLED DIRECTION

QUANTITY PER REEL 1000
The Important Information/Disclaimer is incorporated in these specifications by reference and should be reviewed in full before placing any order.

**CAPPED IDC 26-28 AWG: 9175-700**

3 Position - Wire Stop

**26-28 AWG 3 WAY IDC CONNECTOR WIRE STOP CAPPED IDC**

**NOTES:**
1. 3 WAY CONNECTOR FOR IDC WIRE TO BOARD CONNECTION.
2. PRE-ASSEMBLED WIRE STOP CAP.
3. WIRE STOP CAP PROTECTS END OF WIRE.
4. CONTACT/CAP TO MATCH 26AWG AND 28AWG WIRES. SOLID OR STRANDED CONDUCTOR. MAXIMUM INSULATOR 1.00 MM DIAMETER.
5. FLAT FACE ON TOP OF CAP TO AID PICK AND PLACE ASSEMBLY.
6. FOR FULL PRODUCT SPECIFICATION ON STANDARD CONNECTORS REFER TO ELCO SPEC 201-01-139. UL COMPONENTS REFER TO ELCO SPEC 201-01-139UL.
7. ASSEMBLY PROCEDURE, REFER TO APPLICATION NOTES 201-01-140.
8. GENERAL TOLERANCE ±0.20 UNLESS STATED.
9. PACKED IN TAPE AND REEL, QUANTITY PER REEL 1000.
10. CONTACT MATERIAL: TIN PLATED COPPER ALLOY.
11. INSULATOR MATERIAL: HIGH TEMPERATURE NYLON, GLASS FILLED, UL94 V-0. COLOR REFER TO PAGE 10.
12. FOR UL CODES UL REFERENCE E90723 (US AND CANADA).

<table>
<thead>
<tr>
<th>Code</th>
<th>Wire Gauge</th>
<th>Diameter A</th>
</tr>
</thead>
<tbody>
<tr>
<td>701</td>
<td>28AWG</td>
<td>1.10</td>
</tr>
<tr>
<td>702</td>
<td>26AWG</td>
<td>1.30</td>
</tr>
</tbody>
</table>

**SUGGEST PCB LAYOUT**

**PACKING DETAILS**
CAPPED IDC 26-28 AWG: 9175-700
Assembly - Through Wire and Wire Stop

26-28 AWG ASSEMBLED CAPPED IDC CONNECTORS

MOUNTED ON PCB

TYPICAL THROUGH WIRE ASSEMBLY

TYPICAL WIRE STOP ASSEMBLY
The 917X series of surface mount Insulation Displacement Connectors (IDC) were developed to meet the harsh automotive and industrial market applications for connecting individual wires directly to a PCB ranging from 14 AWG to 28 AWG. This industry proven contact system has been tested to automotive levels of shock, vibration, and temperature cycling to prove their reliability and robustness. The simplicity of inserting a wire into the connector with a small tool allows a wide range of devices to be connected to the PCB without soldering. In SSL applications specifically, these connectors are used to bring power and signal onto the PCB or are used to daisy chain multiple boards together in a long string. While the IDC contact provides a gas-tight connection to conductor of the wire, the housing has been designed to grab the insulation of the wire to provide a positive strain relief even in the harshest conditions. In case of repair, the wires can be removed and replace up to three times.

The 9176 series accepts 18 AWG to 24 AWG wires with an insulation diameter ranging from 1.1mm to 2.1mm. These dual contact connectors support a 10 amp current rating with two large SMT solder tails per wire to provide maximum stability on the PCB. Available in 1p-3p configuration, these connectors can be end stackable for higher pin counts. The 9176 series also comes with optional locking strain relief caps that act as the termination tool for severe vibration applications.

### APPLICATIONS
- Connecting discrete wire components directly to the PCB
- Bringing power and signals onto a PCB
- Daisy chaining PCB’s together to create a continuous string of boards
- Application Notes: refer to 201-01-124

### ELECTRICAL
- Current Rating: 10 Amp / Contact
- Voltage Rating: 300 VAC

### ENVIRONMENTAL
- Operating Temperature: -40°C to +125°C

### MECHANICAL
- Insulator Material: Nylon 46: UL94V0
- Contact Material: Phosphor Bronze
- Plating: Tin over Nickel
- Durability: 3 Cycles

### HOW TO ORDER

<table>
<thead>
<tr>
<th>Prefix</th>
<th>Series</th>
<th>Number of Ways</th>
<th>Cod</th>
<th>Code</th>
<th>Accepted Wire Gauge</th>
<th>Wire Insulation</th>
<th>Cap Code</th>
<th>Pages 21-22</th>
</tr>
</thead>
<tbody>
<tr>
<td>00</td>
<td>9175</td>
<td>00X</td>
<td>001</td>
<td>18</td>
<td>18 Gauge Stranded</td>
<td>Ø 1.6-2.1</td>
<td>021</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>011</td>
<td>20</td>
<td>20 Gauge Solid or Stranded</td>
<td>Ø 1.6-2.1</td>
<td>021</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>022</td>
<td>22</td>
<td>22 Gauge Solid or Stranded</td>
<td>Ø 1.1-1.6</td>
<td>016</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>032</td>
<td>24</td>
<td>24 Gauge Solid or Stranded</td>
<td>Ø 1.1-1.6</td>
<td>016</td>
<td></td>
</tr>
</tbody>
</table>

Insulator Color
- All Sizes
- 9 = UL White (Standard)
- 8 = UL Black (Special Order)
- One Way Only (Special Order)
- 2 = UL Brown
- 3 = UL Blue
- 4 = UL Yellow
- 5 = UL Red
- 6 = UL Green
- 7 = UL Orange

Certification: UL File #E90723
### STANDARD IDC 18-24 AWG: 00-9176

**General Information**

---

#### CONNECTOR/TOOLING PART NUMBER MATRIX

<table>
<thead>
<tr>
<th>AWG</th>
<th>Wire Insulation</th>
<th>Positions</th>
<th>Color</th>
<th>Part Number</th>
<th>Plastic (medium volume)</th>
<th>Metal (high volume)</th>
<th>Mass Termination</th>
<th>Though Wire</th>
<th>Wire Stop</th>
</tr>
</thead>
<tbody>
<tr>
<td>18</td>
<td>Ø 1.6 - 2.1</td>
<td>1p</td>
<td>Black</td>
<td>009176001001806</td>
<td>069176701601000</td>
<td>069176701701000</td>
<td>N/A</td>
<td>609176001021000</td>
<td>609176001021099</td>
</tr>
<tr>
<td>18</td>
<td>Ø 1.6 - 2.1</td>
<td>1p</td>
<td>White</td>
<td>009176001001906</td>
<td>069176701601000</td>
<td>069176701701000</td>
<td>N/A</td>
<td>609176001021100</td>
<td>609176001021199</td>
</tr>
<tr>
<td>18</td>
<td>Ø 1.6 - 2.1</td>
<td>2p</td>
<td>Black</td>
<td>009176002001806</td>
<td>069176701601000</td>
<td>069176701701000</td>
<td>069176701701002</td>
<td>609176002021000</td>
<td>609176002021099</td>
</tr>
<tr>
<td>18</td>
<td>Ø 1.6 - 2.1</td>
<td>2p</td>
<td>White</td>
<td>009176002001906</td>
<td>069176701601000</td>
<td>069176701701000</td>
<td>069176701701002</td>
<td>609176002021100</td>
<td>609176002021199</td>
</tr>
<tr>
<td>18</td>
<td>Ø 1.6 - 2.1</td>
<td>3p</td>
<td>Black</td>
<td>009176003001806</td>
<td>069176701601000</td>
<td>069176701701000</td>
<td>069176701701003</td>
<td>609176003021000</td>
<td>609176003021099</td>
</tr>
<tr>
<td>18</td>
<td>Ø 1.6 - 2.1</td>
<td>3p</td>
<td>White</td>
<td>009176003001906</td>
<td>069176701601000</td>
<td>069176701701000</td>
<td>069176701701003</td>
<td>609176003021100</td>
<td>609176003021199</td>
</tr>
<tr>
<td>20</td>
<td>Ø 1.6 - 2.1</td>
<td>1p</td>
<td>Black</td>
<td>009176001011806</td>
<td>069176701601000</td>
<td>069176701701000</td>
<td>N/A</td>
<td>609176001021000</td>
<td>609176001021099</td>
</tr>
<tr>
<td>20</td>
<td>Ø 1.6 - 2.1</td>
<td>1p</td>
<td>White</td>
<td>009176001011906</td>
<td>069176701601000</td>
<td>069176701701000</td>
<td>N/A</td>
<td>609176001021110</td>
<td>609176001021199</td>
</tr>
<tr>
<td>20</td>
<td>Ø 1.6 - 2.1</td>
<td>2p</td>
<td>Black</td>
<td>009176002011806</td>
<td>069176701601000</td>
<td>069176701701000</td>
<td>069176701701002</td>
<td>609176002021000</td>
<td>609176002021099</td>
</tr>
<tr>
<td>20</td>
<td>Ø 1.6 - 2.1</td>
<td>2p</td>
<td>White</td>
<td>009176002011906</td>
<td>069176701601000</td>
<td>069176701701000</td>
<td>069176701701002</td>
<td>609176002021100</td>
<td>609176002021199</td>
</tr>
<tr>
<td>20</td>
<td>Ø 1.6 - 2.1</td>
<td>3p</td>
<td>Black</td>
<td>009176003011806</td>
<td>069176701601000</td>
<td>069176701701000</td>
<td>069176701701003</td>
<td>609176003021000</td>
<td>609176003021099</td>
</tr>
<tr>
<td>20</td>
<td>Ø 1.6 - 2.1</td>
<td>3p</td>
<td>White</td>
<td>009176003011906</td>
<td>069176701601000</td>
<td>069176701701000</td>
<td>069176701701003</td>
<td>609176003021100</td>
<td>609176003021199</td>
</tr>
<tr>
<td>22</td>
<td>Ø 1.1 - 1.6</td>
<td>1p</td>
<td>Black</td>
<td>009176001022806</td>
<td>069176701602000</td>
<td>069176701702000</td>
<td>N/A</td>
<td>609176001016000</td>
<td>609176001016099</td>
</tr>
<tr>
<td>22</td>
<td>Ø 1.1 - 1.6</td>
<td>2p</td>
<td>White</td>
<td>009176002022806</td>
<td>069176701602000</td>
<td>069176701702000</td>
<td>N/A</td>
<td>609176001016100</td>
<td>609176001016199</td>
</tr>
<tr>
<td>22</td>
<td>Ø 1.1 - 1.6</td>
<td>2p</td>
<td>Black</td>
<td>009176002022906</td>
<td>069176701602000</td>
<td>069176701702000</td>
<td>069176701702002</td>
<td>609176002016000</td>
<td>609176002016099</td>
</tr>
<tr>
<td>22</td>
<td>Ø 1.1 - 1.6</td>
<td>3p</td>
<td>Black</td>
<td>009176003022806</td>
<td>069176701602000</td>
<td>069176701702000</td>
<td>069176701702003</td>
<td>609176003016000</td>
<td>609176003016099</td>
</tr>
<tr>
<td>24</td>
<td>Ø 1.1 - 1.6</td>
<td>1p</td>
<td>White</td>
<td>009176001032106</td>
<td>069176701602000</td>
<td>069176701702000</td>
<td>N/A</td>
<td>609176001016100</td>
<td>609176001016199</td>
</tr>
<tr>
<td>24</td>
<td>Ø 1.1 - 1.6</td>
<td>1p</td>
<td>Black</td>
<td>009176001032806</td>
<td>069176701602000</td>
<td>069176701702000</td>
<td>N/A</td>
<td>609176001016100</td>
<td>609176001016199</td>
</tr>
<tr>
<td>24</td>
<td>Ø 1.1 - 1.6</td>
<td>2p</td>
<td>Black</td>
<td>009176002032806</td>
<td>069176701602000</td>
<td>069176701702000</td>
<td>069176701702002</td>
<td>609176002016000</td>
<td>609176002016099</td>
</tr>
<tr>
<td>24</td>
<td>Ø 1.1 - 1.6</td>
<td>3p</td>
<td>Black</td>
<td>009176003032806</td>
<td>069176701602000</td>
<td>069176701702000</td>
<td>069176701702002</td>
<td>609176003016000</td>
<td>609176003016099</td>
</tr>
<tr>
<td>24</td>
<td>Ø 1.1 - 1.6</td>
<td>5p</td>
<td>White</td>
<td>009176003032906</td>
<td>069176701602000</td>
<td>069176701702000</td>
<td>069176701702003</td>
<td>609176003016000</td>
<td>609176003016099</td>
</tr>
</tbody>
</table>

* Hand Insertion Tooling - Universal Hand Tool 067000773001000; Consult Application Notes 201-01-124

---

The important Information/Disclaimer is incorporated in these specifications by reference and should be reviewed in full before placing any order.
18-24 AWG 1 WAY IDC CONNECTOR

NOTES:
1. CONNECTOR FOR IDC WIRE TO BOARD CONNECTION.
2. CONTACT MATERIAL: PHOSPHOR BRONZE.
   INSULATION MATERIAL: HIGH TEMPERATURE NYLON 46.
   COLOR REFER TO PAGE 16.
3. CONTACTS DESIGNED TO ACCEPT BETWEEN 20AWG AND 24AWG SOLID AND
   STRANDED WIRES. 18AWG WILL ONLY ACCEPT STRANDED WIRES,
   SEE TABLE.
4. ALL DIMENSIONS FOR REFERENCE UNLESS OTHERWISE STATED.
5. FOR FULL PRODUCT SPECIFICATION ON STANDARD CONNECTORS REFER TO ELCO
   SPEC 201-01-106. UL COMPONENTS REFER TO ELECO SPEC 201-01-106U.
6. APPLICATION NOTES 201-01-124.
7. FOR PCB SPACE RESTRICTED BY WIRE ASSEMBLY TOOLING REFER TO PAGE 23.
8. FOR HAND WIRE ASSEMBLY TOOLING REFER TO PAGE 23.
9. FOR UL PRODUCT CODES UL REFERENCE E90723 (US AND CANADA).
10. ALL DIMENSIONS ±0.20 TOLERANCE SPECIFIED.

<table>
<thead>
<tr>
<th>Code</th>
<th>Accepted Wire Gauge</th>
<th>A</th>
<th>Wire Insulation</th>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td>001</td>
<td>18AWG Stranded</td>
<td>0.72</td>
<td>Ø1.6±0.21</td>
<td>2.1</td>
</tr>
<tr>
<td>011</td>
<td>20AWG Solid and Stranded</td>
<td>0.60</td>
<td>Ø1.6±0.21</td>
<td>2.1</td>
</tr>
<tr>
<td>022</td>
<td>22AWG Solid and Stranded</td>
<td>0.47</td>
<td>Ø1.1±1.6</td>
<td>1.6</td>
</tr>
<tr>
<td>032</td>
<td>24AWG Solid and Stranded</td>
<td>0.37</td>
<td>Ø1.1±1.6</td>
<td>1.6</td>
</tr>
</tbody>
</table>

SMT PCB LAYOUT

PURE TIN PADS

PACKING DETAILS

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>REEL QTY</td>
<td>1000</td>
</tr>
<tr>
<td>LEADER</td>
<td>480MM</td>
</tr>
<tr>
<td>TRAILER</td>
<td>120MM</td>
</tr>
</tbody>
</table>
18-24 AWG 2 WAY IDC CONNECTOR

NOTES:
1. CONNECTOR FOR IDC WIRE TO BOARD CONNECTION.
2. CONTACT MATERIAL: PHOSPHOR BRONZE.
   INSULATION MATERIAL: HIGH TEMPERATURE NYLON 46.
   COLOR REFER TO PAGE 16.
3. CONTACTS DESIGNED TO ACCEPT BETWEEN 20AWG AND 24AWG SOLID
   AND STRANDED WIRES. 18AWG WILL ONLY ACCEPT STRANDED WIRES, SEE
   TABLE.
4. ALL DIMENSIONS FOR REFERENCE UNLESS OTHERWISE STATED.
5. FOR FULL PRODUCT SPECIFICATION ON STANDARD CONNECTORS REFER TO
   ELECO SPEC 201-01-106. UL COMPONENTS REFER TO ELECO SPEC 201-01-106U.
6. APPLICATION NOTES 201-01-124.
7. FOR PCB SPACE RESTRICTED BY WIRE ASSEMBLY TOOLING REFER TO PAGE 23.
8. FOR HAND WIRE ASSEMBLY TOOLING REFER TO PAGE 23.
9. FOR UL PRODUCT CODES UL REFERENCE E90723 (US AND CANADA).
10. ALL DIMENSIONS ±0.20 TOLERANCE SPECIFIED.

PACKING DETAILS

SMT PCB LAYOUT

PURE TIN PADS

The Important Information/Disclaimer is incorporated in these specifications
by reference and should be reviewed in full before placing any order.
18-24 AWG 3 WAY IDC CONNECTOR

NOTES:
1. CONNECTOR FOR IDC WIRE TO BOARD CONNECTION.
2. CONTACT MATERIAL: PHOSPHOR BRONZE.
   INSULATION MATERIAL: HIGH TEMPERATURE NYLON 46.
   COLOR REFER TO PAGE 16.
3. CONTACTS DESIGNED TO ACCEPT BETWEEN 20AWG AND 24AWG SOLID AND STRANDED WIRES. 18AWG WILL ONLY ACCEPT STRANDED WIRE, SEE TABLE.
4. ALL DIMENSIONS FOR REFERENCE UNLESS OTHERWISE STATED.
5. FOR FULL PRODUCT SPECIFICATION ON STANDARD CONNECTORS REFER TO ELECO SPEC 201-01-106. UL COMPONENTS REFER TO ELECO SPEC 201-01-106U.
6. APPLICATION NOTES 201-01-124.
7. FOR PCB SPACE RESTRICTED BY WIRE ASSEMBLY TOOLING REFER TO PAGE 23.
8. FOR HAND WIRE ASSEMBLY TOOLING REFER TO PAGE 23.
9. FOR UL PRODUCT CODES UL REFERENCE E90723 (US AND CANADA).
10. ALL DIMENSIONS ±0.20 TOLERANCE SPECIFIED.

<table>
<thead>
<tr>
<th>Code</th>
<th>Accepted Wire Gauge</th>
<th>A Wire</th>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td>001</td>
<td>18AWG Stranded</td>
<td>0.72</td>
<td>2.1</td>
</tr>
<tr>
<td>011</td>
<td>20AWG Solid and Stranded</td>
<td>0.60</td>
<td>2.1</td>
</tr>
<tr>
<td>022</td>
<td>22AWG Solid and Stranded</td>
<td>0.47</td>
<td>1.6</td>
</tr>
<tr>
<td>032</td>
<td>24AWG Solid and Stranded</td>
<td>0.37</td>
<td>1.6</td>
</tr>
</tbody>
</table>

SMT PCB LAYOUT
PURE TIN PADS

PACKING DETAILS
<table>
<thead>
<tr>
<th>REEL QTY</th>
<th>LEADER</th>
<th>TRAILER</th>
</tr>
</thead>
<tbody>
<tr>
<td>1000</td>
<td>480MM</td>
<td>120MM</td>
</tr>
</tbody>
</table>
60-9176-00X-0XX-X00
ACCESSORY CAP – THROUGH WIRE

NOTES:
1. CAP FOR IDC WIRE TO BOARD CONNECTION, 1, 2 AND 3 WAY, THROUGH WIRE.
2. FOR USE WITH STANDARD 9176 IDC CONNECTORS, SEE PAGE 17 FOR THE CORRECT PART CODE TO MATCH WIRE.
3. CAP MATERIAL: GLASS FILLED NYLON 46, FOR COLORS SEE TABLE BELOW.
4. DIMENSIONS A, B AND TEXT, SEE TABLE BELOW.
5. CAPS DESIGNED TO ACCOMMODATE WIRE INSULATION DIAMETERS 1.1MM TO 1.6MM AND 1.6MM TO 2.1MM.
6. ALL DIMENSIONS SHOWN ARE REFERENCE DIMENSIONS.
7. PACKED IN BAGS, 1000 PIECES PER BAG.
8. ONE WAY CAP ASSEMBLY AID, REFER TO PAGE 25.
9. ALL DIMENSIONS ±0.20 TOLERANCE SPECIFIED.

<table>
<thead>
<tr>
<th>Code</th>
<th>Slot A</th>
<th>Diameter B</th>
<th>Text</th>
<th>Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>016</td>
<td>1.00</td>
<td>1.60</td>
<td>Ø1.6</td>
<td>Black</td>
</tr>
<tr>
<td>021</td>
<td>1.50</td>
<td>2.10</td>
<td>Ø2.1</td>
<td>White</td>
</tr>
</tbody>
</table>

The Important Information/Disclaimer is incorporated in these specifications by reference and should be reviewed in full before placing any order.
The Important Information/Disclaimer is incorporated in these specifications by reference and should be reviewed in full before placing any order.

STANDARD IDC 18-24 AWG: 00-9176
Accessory Cap - Wire Stop

60-9176-00X-0XX-X99
ACCESSORY CAP – WIRE STOP

NOTES:
1. CAP FOR IDC WIRE TO BOARD CONNECTION, 1, 2 AND 3 WAY, WIRE STOP.
2. FOR USE WITH STANDARD 9176 IDC CONNECTORS, SEE PAGE 17 FOR THE CORRECT PART CODE TO MATCH WIRE.
3. CAP MATERIAL: GLASS FILLED NYLON 46, FOR COLORS SEE TABLE BELOW.
4. DIMENSIONS A, B AND TEXT, SEE TABLE BELOW.
5. CAPS DESIGNED TO ACCOMMODATE WIRE INSULATION DIAMETERS 1.1MM TO 1.6MM AND 1.6MM TO 2.1MM.
6. ALL DIMENSIONS SHOWN ARE REFERENCE DIMENSIONS.
7. PACKED IN BAGS, 1000 PIECES PER BAG.
8. ONE WAY CAP ASSEMBLY AID, REFER TO PAGE 25.
9. ALL DIMENSIONS ±0.20 TOLERANCE SPECIFIED.

<table>
<thead>
<tr>
<th>Code</th>
<th>Slot A</th>
<th>Diameter B</th>
<th>Text</th>
<th>Color</th>
<th>X00</th>
</tr>
</thead>
<tbody>
<tr>
<td>016</td>
<td>1.00</td>
<td>1.60</td>
<td>Ø1.6</td>
<td>Black</td>
<td>000</td>
</tr>
<tr>
<td>021</td>
<td>1.50</td>
<td>2.10</td>
<td>Ø2.1</td>
<td>White</td>
<td>100</td>
</tr>
</tbody>
</table>
**HAND INSERTION TOOLING**

**FOR SINGLE 18/24 GAUGE WIRE**

### Universal Handle

<table>
<thead>
<tr>
<th>Details</th>
<th>Tool Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.35 A/F HEX BIT HOLDER</td>
<td>06 7000 7730 01 000</td>
</tr>
</tbody>
</table>

### High Production

**Metal**

<table>
<thead>
<tr>
<th>Max Insulation Dia</th>
<th>Tool Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ø2.10</td>
<td>06 9176 7017 01 000</td>
</tr>
<tr>
<td>Ø1.60</td>
<td>06 9176 7017 02 000</td>
</tr>
</tbody>
</table>

### Medium Production

**Metal/Plastic**

<table>
<thead>
<tr>
<th>Max Insulation Dia</th>
<th>Tool Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ø2.10</td>
<td>06 9176 7016 01 000</td>
</tr>
<tr>
<td>Ø1.60</td>
<td>06 9176 7016 02 000</td>
</tr>
</tbody>
</table>

### Clearance Area on PCB for Hand Tooling

#### 1 Way

- Area to be kept clear for tooling

#### 2 Way

- Area to be kept clear for tooling

#### 3 Way

- Area to be kept clear for tooling

---

The Important Information/Disclaimer is incorporated in these specifications by reference and should be reviewed in full before placing any order.
STANDARD IDC 18-24 AWG: 00-9176
Insertion Tooling Requires Hand Press with Flat Rock Plates

INSERTION TOOLING
REQUIRES HAND PRESS WITH FLAT ROCK PLATES

2 WAY

3 WAY

HIGH PRODUCTION
Metal

<table>
<thead>
<tr>
<th>No. of Ways</th>
<th>Max Insulation Dia</th>
<th>Tool Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Ø2.10</td>
<td>06 9176 7017 01 002</td>
</tr>
<tr>
<td></td>
<td>Ø1.60</td>
<td>06 9176 7017 02 002</td>
</tr>
<tr>
<td>3</td>
<td>Ø2.10</td>
<td>06 9176 7017 01 003</td>
</tr>
<tr>
<td></td>
<td>Ø1.60</td>
<td>06 9176 7017 02 003</td>
</tr>
</tbody>
</table>

PCB RESTRICTED AREAS FOR PRESS ASSEMBLY TOOLING

2 WAY

3 WAY

NOTES:
1. DIMENSIONS SHOWN ARE REFERENCE DIMENSIONS.
2. MAXIMUM COMPONENT HEIGHT 1.00MM IN THIS AREA.
3. MAXIMUM COMPONENT HEIGHT 6.00MM IN THIS AREA.
4. THE SAME RESTRICTIONS APPLY TO ALL WIRE INSULATION DIAMETERS.
5. 2 AND 3 WAY TOOLS ONLY, FOR USE UNDER HAND PRESS WITH FLAT PLATES.
6. FOR HAND TOOLING REFER TO PAGE 23.
7. ALL DIMENSIONS ±0.20 UNLESS TOLERANCE SPECIFIED.
HAND INSERTION TOOLING
FOR ONE WAY CAP INSERTION

06-9176-7028-01-000

TO BE USED WITH 06-7000-7730-01-000
UNIVERSAL HANDLE

FOR ASSEMBLY INSTRUCTION REFER TO 201-01-124 APPLICATION NOTES

CLEARANCE AREA ON PCB FOR HAND TOOLING

AREA TO BE KEPT CLEAR FOR TOOLING

STANDARD IDC 18-24 AWG: 00-9176
Hand Insertion Tooling for One Way Cap Insertion /
Clearance Area on PCB for Hand Tooling
ASSEMBLED CONNECTOR

CONNECTOR WITH CAP

NOTES:
1. ASSEMBLED HEIGHTS INCLUDE 0.10MM ALLOWANCE FOR PAD AND SOLDER THICKNESS. NO ALLOWANCE HAS BEEN MADE FOR ANY SOLDER RESIST OR OTHER FEATURES.
2. WHEN THE WIRE IS ASSEMBLED THE INSULATION SHOULD BE TRAPPED BY THESE EDGES.
**CAPPED 18-24 AWG: 9176-700**

*General Information*

The market and applications for simple and reliable discrete Wire-to-Board connectors continue to evolve. AVX first introduced the 9176 series of surface mountable Insulation Displacement Connectors (IDC) in 2007. Developed for harsh industrial and automotive applications, these connectors have been used in hundreds of applications from today’s “Smart Meter” all the way down to a simple sensor termination to a PCB. Size and performance has been one of the key factors for selecting this connector in terminating 18-24AWG wires to a PCB.

The next generation of IDC connector moves beyond all of the technical and performance attributes to address the “User Friendliness” of the product. By changing the insulator from acting as a connector body and make it more like a contact carrier, the insulator becomes the wire location and insertion aid without any special tools. The wire is just inserted into the cap (no stripping required) and then pressed down to provide a secure “Gas Tight” termination. This configuration simplifies and cost reduces the entire wire termination process for connecting discrete wires to a PCB.

**APPLICATIONS**
- Connecting discrete wire components to a PCB
- Bringing power and signals onto a PCB
- Daisy chaining PCB’s together to create a continuous string
- Reference Product Specification 201-01-140

**FEATURES AND BENEFITS**
- IDC contact provides a gas-tight connection to the PCB for long term reliability
- Plastic cap retains the contacts in position prior to automatic placement, then acts as the assembly tool to terminate the wires; no special tooling.
- Tested to automotive levels on shock, vibration and temperature cycling for reliability
- Identical contact and footprint pattern to the existing 9176 for full backward compatibility and functionality
- The IDC contact reduces the total applied cost versus solder or crimp processes
- Connectors are available in two configurations for maximum flexibility; End and Through Wire

**ELECTRICAL**
- Current Rating: 10 Amps / Contact
- Voltage Rating: 300 VAC

**ENVIRONMENTAL**
- Operating Temperature: -40ºC to +125ºC

**MECHANICAL**
- Insulator Material: Nylon UL94VO
- Contact Material: Phosphor Bronze
- Plating: Tin over Nickel

**HOW TO ORDER**

<table>
<thead>
<tr>
<th>Prefix</th>
<th>Series</th>
<th>Number of Ways</th>
</tr>
</thead>
<tbody>
<tr>
<td>00</td>
<td>9176</td>
<td>00X</td>
</tr>
</tbody>
</table>

**Wire Gauge Size Capped - IDC Connector**

<table>
<thead>
<tr>
<th>Code</th>
<th>Accepted Wire Gauge</th>
<th>Wire Insulation</th>
</tr>
</thead>
<tbody>
<tr>
<td>701</td>
<td>18 AWG Stranded</td>
<td>Ø 1.6 - 2.1</td>
</tr>
<tr>
<td>711</td>
<td>20 AWG Solid and Stranded</td>
<td>Ø 1.6 - 2.1</td>
</tr>
<tr>
<td>722</td>
<td>22 AWG Solid and Stranded</td>
<td>Ø 1.1 - 1.6</td>
</tr>
<tr>
<td>732</td>
<td>24 AWG Solid and Stranded</td>
<td>Ø 1.1 - 1.6</td>
</tr>
</tbody>
</table>

**Insulator Color**
- All Sizes
  - 9 = UL White (Standard)
  - 8 = UL Black (Special Order)

**Cap Options**
- One Way Only (Special Order)
  - 0 = Through Wire
    - Allows wire to be terminated at any point
    - Pages 26 - 28
  - 9 = Wire Stop
    - Terminates end of wire
    - End Protected by stop face
    - Pages 29 - 31

**Plating Option**
- 6 = Pure Tin all over

Certification: UL File #E90723
CAPPED 18-24 AWG: 9176-700

1 Position - Through Wire

18 - 24 AWG 1 WAY IDC CONNECTOR THROUGH WIRE CAPPED IDC

NOTES:
1. 1 WAY CONNECTOR FOR IDC WIRE TO BOARD CONNECTION.
2. CONTACT/CAP TO MATCH 20AWG-24AWG SOLID AND STRANDED WIRES, 18AWG WILL ONLY ACCEPT STRANDED WIRES, SEE TABLE.
3. FLAT FACE ON TOP OF CAP TO AID PICK AND PLACE ASSEMBLY.
4. FOR FULL PRODUCT SPECIFICATION ON STANDARD CONNECTORS REFER TO ELCO SPEC 201-01-138, UL COMPONENTS REFER TO ELCO SPEC 201-01-138UL.
5. ASSEMBLY PROCEDURE, REFER TO APPLICATION NOTES 201-01-140.
6. GENERAL TOLERANCE ±0.20 UNLESS STATED.
7. PACKED IN TAPE AND REEL, QUANTITY PER REEL 600.
8. CONNECTOR OUTLINE.
9. CONTACT MATERIAL: TIN PLATED COPPER ALLOY.
10. INSULATION MATERIAL: HIGH TEMPERATURE NYLON, GLASS FILLED. UL94 V-0, COLOR REFER TO PAGE 27.
11. GENERAL TOLERANCE ±0.20 UNLESS STATED.
12. FOR UL PRODUCT CODES UL REFERENCE E90723 (US AND CANADA).

Packaging Details

Code | Wire Gauge | A | Wire Insulation | B
---|---|---|---|---
701 | 18 AWG Stranded | 0.74 | Ø16.2 | 2.1
711 | 20 AWG Solid and Stranded | 0.60 | Ø16.2 | 2.1
722 | 22 AWG Solid and Stranded | 0.47 | Ø1.1-1.6 | 1.6
732 | 24 AWG Solid and Stranded | 0.37 | Ø1.1-1.6 | 1.6

The Important Information/Disclaimer is incorporated in these specifications by reference and should be reviewed in full before placing any order.
The Important Information/Disclaimer is incorporated in these specifications by reference and should be reviewed in full before placing any order.

**18 - 24 AWG 2 WAY IDC CONNECTOR THROUGH WIRE CAPPED IDC**

**NOTES:**
1. 2 WAY CONNECTOR FOR IDC WIRE TO BOARD CONNECTION.
2. CONTACT/CAP TO MATCH 20AWG-24AWG SOLID AND STRANDED WIRES, 18AWG WILL ONLY ACCEPT STRANDED WIRES, SEE TABLE.
3. FLAT FACE ON TOP OF CAP TO AID PICK AND PLACE ASSEMBLY.
4. FOR FULL PRODUCT SPECIFICATION ON STANDARD CONNECTORS REFER TO ELCO SPEC 201-01-138, UL COMPONENTS REFER TO ELCO SPEC 201-01-138UL.
5. ASSEMBLY PROCEDURE, REFER TO APPLICATION NOTES 201-01-140.
6. GENERAL TOLERANCE ±0.20 UNLESS STATED.
7. PACKED IN TAPE AND REEL, QUANTITY PER REEL 600.
8. CONNECTOR OUTLINE.
9. CONTACT MATERIAL: TIN PLATED COPPER ALLOY.
10. INSULATION MATERIAL: HIGH TEMPERATURE NYLON, GLASS FILLED. UL94 V-0, COLOR REFER TO PAGE 27.
11. GENERAL TOLERANCE ±0.20 UNLESS STATED.
12. FOR UL PRODUCT CODES UL REFERENCE E90723 (US AND CANADA).

**PACKING DETAILS**

**SUGGEST PCB LAYOUT**

![Diagram of 18 - 24 AWG 2 WAY IDC CONNECTOR THROUGH WIRE CAPPED IDC](image-url)

**SPECIFICATIONS**

<table>
<thead>
<tr>
<th>Code</th>
<th>Wire Gauge</th>
<th>Accepted Wire Gauge</th>
<th>A</th>
<th>Wire Insulation</th>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td>701</td>
<td>18 AWG Stranded</td>
<td>0.74</td>
<td>Ø1.6-2.1</td>
<td>2.1</td>
<td></td>
</tr>
<tr>
<td>711</td>
<td>20 AWG Solid and Stranded</td>
<td>0.60</td>
<td>Ø1.6-2.1</td>
<td>2.1</td>
<td></td>
</tr>
<tr>
<td>722</td>
<td>22 AWG Solid and Stranded</td>
<td>0.47</td>
<td>Ø1.1-1.6</td>
<td>1.6</td>
<td></td>
</tr>
<tr>
<td>732</td>
<td>24 AWG Solid and Stranded</td>
<td>0.37</td>
<td>Ø1.1-1.6</td>
<td>1.6</td>
<td></td>
</tr>
</tbody>
</table>

**MOUNTED ON PCB**
**18 - 24 AWG 3 WAY IDC CONNECTOR THROUGH WIRE CAPPED IDC**

### NOTES:
1. 3 WAY CONNECTOR FOR IDC WIRE TO BOARD CONNECTION.
2. CONTACT/CAP TO MATCH 20AWG-24AWG SOLID AND STRANDED WIRES, 18AWG WILL ONLY ACCEPT STRANDED WIRES, SEE TABLE.
3. FLAT FACE ON TOP OF CAP TO AID PICK AND PLACE ASSEMBLY.
4. FOR FULL PRODUCT SPECIFICATION ON STANDARD CONNECTORS REFER TO ELCO SPEC 201-01-138, UL COMPONENTS REFER TO ELCO SPEC 201-01-138UL.
5. ASSEMBLY PROCEDURE, REFER TO APPLICATION NOTES 201-01-140.
6. GENERAL TOLERANCE ±0.20 UNLESS STATED.
7. PACKED IN TAPE AND REEL, QUANTITY PER REEL 600.
8. CONNECTOR OUTLINE.
9. CONTACT MATERIAL: TIN PLATED COPPER ALLOY.
10. INSULATION MATERIAL: HIGH TEMPERATURE NYLON, GLASS FILLED.
11. GENERAL TOLERANCE ±0.20 UNLESS STATED.
12. FOR UL PRODUCT CODES UL REFERENCE E90723 (US AND CANADA).

<table>
<thead>
<tr>
<th>Code</th>
<th>Accepted Wire Gauge</th>
<th>A</th>
<th>Wire Insulation</th>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td>701</td>
<td>18 AWG Stranded</td>
<td>0.74</td>
<td>Ø1.621</td>
<td>2.1</td>
</tr>
<tr>
<td>711</td>
<td>20 AWG Solid and Stranded</td>
<td>0.60</td>
<td>Ø1.621</td>
<td>2.1</td>
</tr>
<tr>
<td>722</td>
<td>22 AWG Solid and Stranded</td>
<td>0.47</td>
<td>Ø1.1-1.6</td>
<td>1.6</td>
</tr>
<tr>
<td>732</td>
<td>24 AWG Solid and Stranded</td>
<td>0.37</td>
<td>Ø1.1-1.6</td>
<td>1.6</td>
</tr>
</tbody>
</table>

**SUGGEST PCB LAYOUT**
CAPPED 18-24 AWG: 9176-700

1 Position - Wire Stop

18 - 24 AWG 1 WAY IDC CONNECTOR WIRE STOP CAPPED IDC

NOTES:
1. 1 WAY CONNECTOR FOR IDC WIRE TO BOARD CONNECTION. PRE-ASSEMBLED WIRE STOP CAP CODE REFER TO PAGE 27.
2. CONTACT/CAP TO MATCH 20AWG-24AWG SOLID AND STRANDED WIRES, 18AWG WILL ONLY ACCEPT STRANDED WIRES, SEE TABLE.
3. FLAT FACE ON TOP OF CAP TO AID PICK AND PLACE ASSEMBLY.
4. FOR FULL PRODUCT SPECIFICATION ON STANDARD CONNECTORS REFER TO ELCO SPEC 201-01-138, UL COMPONENTS REFER TO ELCO SPEC 201-01-138UL.
5. ASSEMBLY PROCEDURE, REFER TO APPLICATION NOTES 201-01-140.
6. GENERAL TOLERANCE ±0.20 UNLESS STATED.
7. CONNECTOR OUTLINE.
8. CONTACT MATERIAL: TIN PLATED COPPER ALLOY.
9. INSULATION MATERIAL: HIGH TEMPERATURE NYLON, GLASS FILLED. UL94 V-0, COLOR REFER TO PAGE 27.
10. GENERAL TOLERANCE ±0.20 UNLESS STATED.
11. FOR UL PRODUCT CODES UL REFERENCE E90723 (US AND CANADA).

<table>
<thead>
<tr>
<th>Code</th>
<th>Accepted Wire Gauge</th>
<th>A</th>
<th>Wire Insulation</th>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td>701</td>
<td>18 AWG Stranded</td>
<td>0.74</td>
<td>Ø1.62-1.7</td>
<td>2.1</td>
</tr>
<tr>
<td>711</td>
<td>20 AWG Solid and Stranded</td>
<td>0.60</td>
<td>Ø1.62-1.7</td>
<td>2.1</td>
</tr>
<tr>
<td>722</td>
<td>22 AWG Solid and Stranded</td>
<td>0.47</td>
<td>Ø1.1-1.6</td>
<td>1.6</td>
</tr>
<tr>
<td>732</td>
<td>24 AWG Solid and Stranded</td>
<td>0.37</td>
<td>Ø1.1-1.6</td>
<td>1.6</td>
</tr>
</tbody>
</table>

PACKING DETAILS

SUGGEST PCB LAYOUT
The Important Information/Disclaimer is incorporated in these specifications by reference and should be reviewed in full before placing any order.

**18 - 24 AWG 2 WAY IDC CONNECTOR WIRE STOP CAPPED IDC**

**NOTES:**
1. 2 WAY CONNECTOR FOR IDC WIRE TO BOARD CONNECTION.
2. CONTACT/CAP TO MATCH 20AWG-24AWG SOLID AND STRANDED WIRES, 18AWG WILL ONLY ACCEPT STRANDED WIRES, SEE TABLE.
3. FLAT FACE ON TOP OF CAP TO AID PICK AND PLACE ASSEMBLY.
4. FOR FULL PRODUCT SPECIFICATION ON STANDARD CONNECTORS REFER TO ELCO SPEC 201-01-138, UL COMPONENTS REFER TO ELCO SPEC 201-01-138UL.
5. ASSEMBLY PROCEDURE, REFER TO APPLICATION NOTES 201-01-140.
6. GENERAL TOLERANCE ±0.20 UNLESS STATED.
7. PACKED IN TAPE AND REEL, QUANTITY PER REEL 600.
8. CONNECTOR OUTLINE.
9. CONTACT MATERIAL: TIN PLATED COPPER ALLOY.
10. INSULATION MATERIAL: HIGH TEMPERATURE NYLON, GLASS FILLED. UL94 V-0, COLOR REFER TO PAGE 27.
11. GENERAL TOLERANCE ±0.20 UNLESS STATED.
12. FOR UL PRODUCT CODES UL REFERENCE E90723 (US AND CANADA).

<table>
<thead>
<tr>
<th>Code</th>
<th>Accepted Wire Gauge</th>
<th>Wire A</th>
<th>Insulation B</th>
</tr>
</thead>
<tbody>
<tr>
<td>701</td>
<td>18 AWG Stranded</td>
<td>0.74</td>
<td>Ø1.6-2.1</td>
</tr>
<tr>
<td>711</td>
<td>20 AWG Solid and Stranded</td>
<td>0.60</td>
<td>Ø1.62.1</td>
</tr>
<tr>
<td>722</td>
<td>22 AWG Solid and Stranded</td>
<td>0.47</td>
<td>Ø1.1-1.6</td>
</tr>
<tr>
<td>732</td>
<td>24 AWG Solid and Stranded</td>
<td>0.37</td>
<td>Ø1.1-1.6</td>
</tr>
</tbody>
</table>

**SUGGEST PCB LAYOUT**

**PACKING DETAILS**
CAPPED 18-24 AWG: 9176-700

3 Position - Wire Stop

18 - 24 AWG 3 WAY IDC CONNECTOR WIRE STOP CAPPED IDC

NOTES:

1. 3 WAY CONNECTOR FOR IDC WIRE TO BOARD CONNECTION.
2. CONTACT/CAP TO MATCH 20AWG-24AWG SOLID AND STRANDED WIRES, 18AWG WILL ONLY ACCEPT STRANDED WIRES, SEE TABLE.
3. FLAT FACE ON TOP OF CAP TO AID PICK AND PLACE ASSEMBLY.
4. FOR FULL PRODUCT SPECIFICATION ON STANDARD CONNECTORS REFER TO ELCO SPEC 201-01-138, UL COMPONENTS REFER TO ELCO SPEC 201-01-138UL.
5. ASSEMBLY PROCEDURE, REFER TO APPLICATION NOTES 201-01-140.
6. GENERAL TOLERANCE ±0.20 UNLESS STATED.
7. PACKED IN TAPE AND REEL, QUANTITY PER REEL 600.
8. CONNECTOR OUTLINE.
9. CONTACT MATERIAL: TIN PLATED COPPER ALLOY.
10. INSULATION MATERIAL: HIGH TEMPERATURE NYLON, GLASS FILLED. UL94 V-0, COLOR REFER TO PAGE 27.
11. GENERAL TOLERANCE ±0.20 UNLESS STATED.
12. FOR UL PRODUCT CODES UL REFERENCE E90723 (US AND CANADA).

PACKING DETAILS

SUGGEST PCB LAYOUT

The Important Information/Disclaimer is incorporated in these specifications by reference and should be reviewed in full before placing any order.
The Important Information/Disclaimer is incorporated in these specifications by reference and should be reviewed in full before placing any order.

CAPPED 18-24 AWG: 9176-700
Assembly - Through Wire and Wire Stop

18-24 AWG ASSEMBLED CAPPED IDC CONNECTORS

TYPICAL THROUGH WIRE ASSEMBLY

TYPICAL WIRE STOP ASSEMBLY
The 917X series of surface mount Insulation Displacement Connectors (IDC) were developed to meet the harsh automotive and industrial market applications for connecting individual wires directly to a PCB ranging from 14 AWG to 28 AWG. This industry proven contact system has been tested to automotive levels of shock, vibration, and temperature cycling to prove their reliability and robustness. This new single contact was developed as a standalone component to enhance the application uses with the IDC technology. The simplicity of inserting a wire into an SMT contact with a small tool or optional retention / termination cap allows a wide range of devices to be connected to the PCB without soldering. In SSL applications specifically, these contacts are used to bring power and signal onto the PCB or are used to daisy chain multiple boards together in a long string. While the IDC contact provides a gas-tight connection to conductor of the wire, the optional cap provides a positive strain relief even in the harshest conditions.

In case of repair, the wires can be removed and replace up to three times.

The single 9176-400 series contact and cap accepts 22 AWG to 28 AWG wires with an insulation diameter ranging from 1.0mm to 1.5mm. These dual beam contacts support a 6 amp current rating with a large SMT solder base to provide maximum stability on the PCB. The optional locking strain relief cap acts as the termination tool for severe vibration applications.
The Important Information/Disclaimer is incorporated in these specifications by reference and should be reviewed in full before placing any order.

**SINGLE IDC CONTACT 22-28 AWG: 9176-400**

Contact Details

**CONTACT DETAILS**

NOTES:
1. CONNECTOR FOR IDC WIRE TO BOARD CONNECTION.
2. CONTACT MATERIAL: PHOSPHER BRONZE.
3. CONTACT PLATING: PURE TIN.
4. CONNECTOR DESIGNED TO ACCEPT BETWEEN 22AWG AND 28AWG SOLID AND STRANDED WIRE, SEE TABLE.
5. ALL DIMENSIONS ±0.20 UNLESS TOLERANCED.
6. FOR FULL PRODUCT SPECIFICATION REFER TO ELCO SPEC 201-01-126 AND APPLICATION NOTES 201-01-124.
7. SMT PCB LAYOUT, REFER TO PAGE 37.
8. PACKING IN TAPE AND REEL, QUANTITY 2000 PER REEL.
9. WHEN REQUIRED, MATCHING CAP DETAILS ON DRAWING 60-9176-001-4XX-X06S.
10. ASSEMBLY TOOLING ON PAGE 39 FOR WIRE INTO CONTACT AND PAGE 38 FOR CAP.
11. UL REFERENCE E90723, THIS UL REFERENCE ALSO APPLIES WHEN COMBINED WITH AVX SPECIFIED OPTIONAL CAP.

<table>
<thead>
<tr>
<th>Code</th>
<th>Accepted Wire Gauge</th>
<th>A</th>
</tr>
</thead>
<tbody>
<tr>
<td>422</td>
<td>22AWG Solid or Stranded</td>
<td>0.47</td>
</tr>
<tr>
<td>432</td>
<td>24AWG Solid or Stranded</td>
<td>0.37</td>
</tr>
<tr>
<td>442</td>
<td>26AWG Solid or Stranded</td>
<td>0.28</td>
</tr>
<tr>
<td>443</td>
<td>28AWG Solid or Stranded</td>
<td>0.20</td>
</tr>
</tbody>
</table>

**PACKING DETAILS**

<table>
<thead>
<tr>
<th>REEL QTY</th>
<th>LEADER</th>
<th>TRAILER</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,000</td>
<td>480MM</td>
<td>120MM</td>
</tr>
</tbody>
</table>
SINGLE IDC CONTACT 22-28 AWG: 9176-400

PCB Layout

22-28 AWG IDC WIRE TO BOARD CONNECTOR
SINGLE CONTACT

SMT PCB LAYOUT
PURE TIN PADS

ASSEMBLED/INSTALLED PRODUCTS

NOTES:
1. CONNECTOR CAN BE USED WITH CONTACT ONLY OR WITH OPTIONAL CAP.
2. OUTLINE OF CAP WHERE USED.
3. FOR FULL PRODUCT SPECIFICATION REFER TO ELCO SPEC 201-01-126 AND APPLICATION NOTES 201-01-124.
4. ALL DIMENSIONS ±0.20 UNLESS TOLERANCED.
5. ASSEMBLY TOOLING ON PAGE 39 FOR WIRE INTO CONTACT AND PAGE 38 FOR CAP.
6. WIRE CENTER LINE HEIGHT ABOVE THE PCB. THIS INCLUDES AN ALLOWANCE OF 0.10MM FOR SOLDER AND 0.035MM FOR PAD THICKNESS. NO ALLOWANCE HAS BEEN MADE FOR SOLDER RESIST OR OTHER FEATURES.
Assembly Tooling

ASSEMBLY TOOLING – CAP USED

NOTES:
1. ASSEMBLY TOOLING FOR CAP.
2. MINIMUM AREA OF PCB TO BE KEPT CLEAR OF COMPONENTS, TRACKS PERMISSIBLE.
3. WIRE AND CAP INSERTED IN ONE OPERATION.
4. REFER TO APPLICATION NOTE 201-01-124 FOR FURTHER INFORMATION.
5. REFER TO PAGE 39 FOR ASSEMBLY WITHOUT CAP.

CAP APPLICATION TOOL – PLASTIC
06-9176-7023-01-000

METAL TOOL – HIGH VOLUME
06-9176-7024-01-000

ORIENTATE CAP IN TOOL

UNIVERSAL HANDLE
06-7000-7730-01-000

CONNECTOR/TOOLING PART NUMBER MATRIX

<table>
<thead>
<tr>
<th>AWG</th>
<th>Wire Insulation</th>
<th>Positions</th>
<th>Part Number Plastic (medium volume)</th>
<th>Metal (high volume)</th>
<th>Cap Application Tool</th>
<th>White</th>
<th>Black</th>
</tr>
</thead>
<tbody>
<tr>
<td>22</td>
<td>Ø 1.0 - 1.5</td>
<td>1p</td>
<td>709176001422006</td>
<td>0691767022010000</td>
<td>0691767021010000</td>
<td>069176001415100</td>
<td>609176001415000</td>
</tr>
<tr>
<td>24</td>
<td>Ø 1.0 - 1.5</td>
<td>1p</td>
<td>709176001432006</td>
<td>0691767022010000</td>
<td>0691767021010000</td>
<td>069176001415100</td>
<td>609176001415000</td>
</tr>
<tr>
<td>26</td>
<td>Ø 0.7 - 1.0</td>
<td>1p</td>
<td>709176001442006</td>
<td>0691767022010000</td>
<td>0691767021010000</td>
<td>069176001415100</td>
<td>609176001415000</td>
</tr>
<tr>
<td>28</td>
<td>Ø 0.7 - 1.0</td>
<td>1p</td>
<td>709176001443006</td>
<td>0691767022010000</td>
<td>0691767021010000</td>
<td>069176001415100</td>
<td>609176001415000</td>
</tr>
</tbody>
</table>

* Hand Insertion Tooling and Cap Application - Universal Hand Tool 067000773001000; Consult Application Notes 201-01-124

The Important Information/Disclaimer is incorporated in these specifications by reference and should be reviewed in full before placing any order.
SINGLE IDC CONTACT 22-28 AWG: 9176-400

Assembly Tooling

ASSEMBLY TOOLING – CAP NOT USED
WIRE ONTO CONTACT

NOTES:
1. ASSEMBLY TOOLING FOR CONTACT ONLY. NO CAP USED.
2. MINIMUM AREA OF PCB TO BE KEPT CLEAR OF COMPONENTS, TRACKS PERMISSIBLE.
3. REFER TO APPLICATION NOTE 201-01-124 FOR FURTHER INFORMATION.
4. INSERT CORRECT TOOL INTO HANDLE, MAGNETIC RETENTION.
5. REFER TO PAGE 38 FOR ASSEMBLY WITH CAP.

METAL TOOL
HIGH VOLUME
06-9176-7021-01-000

PLASTIC TOOL
LOW/MEDIUM VOLUME
06-9176-7022-01-000

UNIVERSAL HANDLE
06-7000-7730-01-000
NOTES:
1. CAP FOR IDC WIRE TO BOARD CONNECTION.
2. CAP MATERIAL: GLASS FILLED NYLON 46, COLOR SEE PAGE 35.
3. CAPS DESIGNED TO ACCOMMODATE WIRE INSULATION DIAMETERS 0.75MM TO 1.5MM.
4. ALL DIMENSIONS ±0.20 UNLESS TOLERANCED.
5. FOR FULL PRODUCT SPECIFICATION REFER TO ELCO SPEC 201-01-126, APPLICATION NOTES 201-01-124.
6. PACKING IN BAGS, QUANTITY 2000 PER BAG.
7. FOR INSTALLATION DETAILS REFER TO DRAWING 70-9176-001-4XX-006S.
SINGLE IDC CONTACT 18-24 AWG: 9176-500

General Information

The 917X series of surface mount Insulation Displacement Connectors (IDC) were developed to meet the harsh automotive and industrial market applications for connecting individual wires directly to a PCB ranging from 14 AWG to 28 AWG. This industry proven contact system has been tested to automotive levels of shock, vibration, and temperature cycling to prove their reliability and robustness. This new single contact was developed as a standalone component to enhance the application uses with the IDC technology. The simplicity of inserting a wire into an SMT contact with a small tool or optional retention / termination cap allows a wide range of devices to be connected to the PCB without soldering. In SSL applications specifically, these contacts are used to bring power and signal onto the PCB or are used to daisy chain multiple boards together in a long string. While the IDC contact provides a gas-tight connection to conductor of the wire, the optional cap provides a positive strain relief even in the harshest conditions. In case of repair, the wires can be removed and replace up to three times.

The single 9176 series contact and cap accepts 18 AWG to 24 AWG wires with an insulation diameter ranging from 1.1mm to 2.1mm. These dual beam contacts support a 10 amp current rating with a large SMT solder base to provide maximum stability on the PCB. The optional locking strain relief cap acts as the termination tool for severe vibration applications.

APPLICATIONS

- Connecting discrete wire components directly to the PCB
- Bringing power and signals onto a PCB
- Daisy chaining PCB’s together to create a continuous string of boards
- Application notes: refer to 201-01-124

FEATURES AND BENEFITS

- IDC contact is supplied in T&R pockets for standard SMT placement
- IDC contact provides a gas-tight connection to the PCB for long term reliability
- Optional termination cap provides additional strain relief for severe environments
- Tested to automotive levels on shock, vibration and temperature cycling for reliability
- Reduced total applied cost versus solder or crimp processes
- Individual contacts can be located anywhere on the PCB based on specific application

HOW TO ORDER – CONTACT OPTIONS

<table>
<thead>
<tr>
<th>Prefix</th>
<th>Series</th>
<th>No. of Ways</th>
<th>Wire Gauge Size</th>
<th>Plating Option</th>
</tr>
</thead>
<tbody>
<tr>
<td>70</td>
<td>9176</td>
<td>001</td>
<td>4XX</td>
<td>006</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Pure Tin all over</td>
</tr>
</tbody>
</table>

HOW TO ORDER – CAP OPTIONS

<table>
<thead>
<tr>
<th>Prefix</th>
<th>Series</th>
<th>No. of Ways</th>
<th>Wire Gauge Size</th>
<th>Insulator Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>60</td>
<td>9176</td>
<td>001</td>
<td>5XX</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

CONNECTOR/TOOLING PART NUMBER MATRIX

<table>
<thead>
<tr>
<th>AWG</th>
<th>Wire Insulation</th>
<th>Positions</th>
<th>Part Number</th>
<th>Plastic (medium volume)</th>
<th>Metal (high volume)</th>
<th>Cap Application Tool</th>
<th>Accessory Caps</th>
</tr>
</thead>
<tbody>
<tr>
<td>18</td>
<td>Ø 1.6 - 2.1</td>
<td>1p</td>
<td>709176001S0100</td>
<td>0691760020100</td>
<td>069176001901000</td>
<td>069176001801000</td>
<td>609176001521000</td>
</tr>
<tr>
<td>20</td>
<td>Ø 1.6 - 2.1</td>
<td>1p</td>
<td>70917600151100</td>
<td>0691760020100</td>
<td>069176001901000</td>
<td>069176001801000</td>
<td>609176001521000</td>
</tr>
<tr>
<td>22</td>
<td>Ø 1.6 - 2.1</td>
<td>1p</td>
<td>70917600152100</td>
<td>0691760020100</td>
<td>069176001902000</td>
<td>069176001801000</td>
<td>609176001521000</td>
</tr>
<tr>
<td>24</td>
<td>Ø 1.6 - 2.1</td>
<td>1p</td>
<td>70917600153200</td>
<td>0691760020200</td>
<td>069176001902000</td>
<td>069176001801000</td>
<td>609176001521000</td>
</tr>
</tbody>
</table>

* Hand Insertion Tooling and Cap Application - Universal Hand Tool 067000773001000; Consult Application Notes 201-01-124

Certification: UL File #E90723

The Important Information/Disclaimer is incorporated in these specifications by reference and should be reviewed in full before placing any order.
The Important Information/Disclaimer is incorporated in these specifications by reference and should be reviewed in full before placing any order.

SINGLE IDC CONTACT 18-24 AWG: 9176-500

Contact Details

CONTACT DETAILS

NOTES:
1. CONNECTOR FOR IDC WIRE TO BOARD CONNECTION.
2. CONTACT MATERIAL: PHOSPHOR BRONZE.
3. CONTACT PLATING: PURE TIN.
4. CONNECTOR DESIGNED TO ACCEPT BETWEEN 18 AND 24 GAUGE STRANDED WIRE. SEE TABLE.
5. ALL DIMENSIONS FOR REFERENCE UNLESS OTHERWISE STATED.
6. FOR FULL PRODUCT SPECIFICATION REFER TO ELCO SPEC 201-01-106 AND APPLICATION NOTES 201-01-124.
7. SMT PCB LAYOUT, REFER TO PAGE 40.
8. PACKING IN TAPE AND REEL, QUANTITY 1000 PER REEL.
9. WHEN REQUIRED, MATCHING CAP DETAILS ON DRAWING 60-9176-001-5XX-X00S.
10. ASSEMBLY TOOLING ON PAGE 41 (WITH CAP AND WITHOUT CAP).

PACKING DETAILS

<table>
<thead>
<tr>
<th>Code</th>
<th>Accepted Wire Gauge</th>
<th>A</th>
</tr>
</thead>
<tbody>
<tr>
<td>501</td>
<td>18 AWG Stranded</td>
<td>0.72</td>
</tr>
<tr>
<td>511</td>
<td>20 AWG Solid and Stranded</td>
<td>0.60</td>
</tr>
<tr>
<td>522</td>
<td>22 AWG Solid and Stranded</td>
<td>0.47</td>
</tr>
<tr>
<td>532</td>
<td>24 AWG Solid and Stranded</td>
<td>0.37</td>
</tr>
</tbody>
</table>
SINGLE IDC CONTACT 18-24 AWG: 9176-500

PBC Layout

18-24 AWG IDC WIRE TO BOARD CONNECTOR
SINGLE CONTACT

SMT PCB LAYOUT
PURE TIN PADS

ASSEMBLED/INSTALLED PRODUCTS

NOTES:
1. CONNECTOR CAN BE USED WITH CONTACT ONLY OR WITH OPTIONAL CAP.
2. OUTLINE OF CAP WHEN USED.
3. FOR FULL PRODUCT SPECIFICATION REFER TO ELCO SPEC 201-01-106 AND 201-01-124.
4. DIMENSIONS SHOWN ARE REFERENCED DIMENSIONS.
5. ASSEMBLY TOOLING ON PAGE 44 (WITH CAP AND WITHOUT CAP).

The Important Information/Disclaimer is incorporated in these specifications by reference and should be reviewed in full before placing any order.
ASSEMBLY TOOLING – CAP USED

1. ASSEMBLY TOOLING FOR CAP.
2. AREA OF PCB TO BE KEPT CLEAR OF COMPONENTS, TACKS PERMISSIBLE.
3. WIRE AND CAP INSERTED IN ONE OPERATION.
4. REFER TO APPLICATION NOTE 201-01-124 FOR FURTHER INFORMATION.
5. REFER BELOW WHEN CONTACT USED WITHOUT CAP.

ASSEMBLY TOOLING – CAP NOT USED

1. ASSEMBLY TOOLING FOR CONTACT ONLY, NO CAP USED.
2. MINIMUM AREA OF PCB TO BE KEPT CLEAR OF COMPONENTS, TRACK PERMISSIBLE.
3. REFER TO TABLE FOR CORRECT TOOL/WIRE COMBINATION.
4. REFER TO APPLICATION NOTE 201-01-124 FOR FURTHER INFORMATION.

Wire Guage | Wire Insulation ø | Metal Tool High Volume | Plastic Tool Small to Medium Volume | Handle
---|---|---|---|---
22-24 AWG | 1.10 to 1.30 | 06-9176-7019-01-000 | 06-9176-7020-01-000 | 06-7000-7730-01-000
18-20 AWG | 1.60 to 2.10 | 06-9176-7019-01-000 | 06-9176-7020-01-000 | 06-7000-7730-01-000
**CAP DETAILS**

**NOTES:**
1. CAP FOR IDC WIRE TO BOARD CONNECTION.
2. CAP MATERIAL: GLASS FILLED NYLON 46, COLOR SEE PAGE 41.
3. CAPS DESIGNED TO ACCOMMODATE WIRE INSULATION DIAMETERS 1.1MM TO 2.1MM.
4. ALL DIMENSIONS FOR REFERENCE UNLESS OTHERWISE STATED.
5. FOR FULL PRODUCT SPECIFICATION REFER TO ELCO SPEC 201-01-106, APPLICATION NOTES 201-01-124.
6. PACKING IN BAGS, QUANTITY 1000 PER BAG.
7. FOR INSTALLATION DETAILS REFER TO DRAWING 70-9176-001-XX-006S.

<table>
<thead>
<tr>
<th>Code</th>
<th>Insulator Diameter (AWG)</th>
<th>B</th>
<th>Text C</th>
</tr>
</thead>
<tbody>
<tr>
<td>516</td>
<td>1.1 to 1.6 (22-24)</td>
<td>1.00 Ø 1.6</td>
<td></td>
</tr>
<tr>
<td>521</td>
<td>1.6 to 2.1 (18-20)</td>
<td>1.50 Ø 2.1</td>
<td></td>
</tr>
</tbody>
</table>
The market and applications for simple and reliable discrete Wire-to-Board (WTB) connectors continue to evolve. Developed for harsh industrial and automotive applications, Insulation Displacement Connectors (IDC) have been used in hundreds of applications connecting wires to PCB’s from transportation wiring to every day LED lighting and smart meter/sensor connections. Size, performance and simplicity have been the key factors for selecting this connector when long term reliability is critical.

This single contact version of the proven 9176 family of connectors is the first in Plated Through Hole (PTH) termination. While supporting all of the features and benefits from the SMT offering, this connector provides a new option for a small, cost effective and high performance WTB solution.

### APPLICATIONS
- Machine Controls: motors, drives, solenoids, sensors, fans and pumps
- Commercial Buildings: controls, security, fire and sensors
- Smart Grid: meters, breakers and panels
- SSL/LED: bulbs, fixtures, signage and streetlights
- Application notes: reference 201-01-142

### FEATURES AND BENEFITS
- IDC contact provides a gas-tight connection to the PCB for long term reliability
- Plastic cap retains the contact and then acts as the assembly tool to terminate the wires; no special tooling.
- Tested to automotive levels on shock, vibration and temperature cycling for reliability
- The IDC contact reduces the total applied cost versus solder or crimp processes
- Connectors are available in two configurations for maximum flexibility: End and Through Wire

### ELECTRICAL
- Current Rating: See matrix below
- Voltage Rating: 600 VAC

#### CURRENT RATING
<table>
<thead>
<tr>
<th>Wire Gauge</th>
<th>18AWG</th>
<th>20AWG</th>
<th>22AWG</th>
<th>24AWG</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contact</td>
<td>9A</td>
<td>8A</td>
<td>6A</td>
<td>5A</td>
</tr>
</tbody>
</table>

### ENVIRONMENTAL
- Operating Temperature: 
  -40°C to +125°C

### MECHANICAL
- Contact Material: Phosphor Bronze
- Contact Plating: Tin over Nickel
- Durability: 3 Cycles

### HOW TO ORDER

```
Prefix | Series | Number of Ways
00     | 9176   | 001

60X Contact Style
9 Color Option
X Cap Options
6 Plating Option
```

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Accepted Wire Gauge</th>
<th>Wire Gauges</th>
</tr>
</thead>
<tbody>
<tr>
<td>600</td>
<td>Capped IDC Connector PTH PCB Mount</td>
<td>18 AWG Stranded</td>
<td>ø1.1-1.6</td>
</tr>
<tr>
<td>601</td>
<td></td>
<td>20 AWG Solid and Stranded</td>
<td>ø1.1-1.6</td>
</tr>
<tr>
<td>602</td>
<td></td>
<td>22 AWG Solid and Stranded</td>
<td>ø1.1-1.6</td>
</tr>
<tr>
<td>603</td>
<td></td>
<td>24 AWG Solid and Stranded</td>
<td>ø1.1-1.6</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Code</th>
<th>Cap Option</th>
<th>Description</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Through Wire</td>
<td>Allows wire to be terminated at any point</td>
<td>See page 47</td>
</tr>
<tr>
<td>9</td>
<td>Wire Stop</td>
<td>Terminates end of wire End protected by stop face</td>
<td>See page 48</td>
</tr>
</tbody>
</table>

Certification: UL File #E90723
The Important Information/Disclaimer is incorporated in these specifications by reference and should be reviewed in full before placing any order.

18-24 AWG 1 WAY PTH CONNECTOR THROUGH WIRE CAPPED

NOTES:
1. 1 WAY CONNECTOR FOR PTH WIRE TO BOARD CONNECTION, PRE-ASSEMBLED THROUGH WIRE CAP, CODE SEE PAGE 46.
2. CONTACT/CAP TO MATCH 20AWG-24AWG SOLID AND STRANDED WIRES, 18AWG WILL ONLY ACCEPT STRANDED WIRES, SEE TABLE.
3. FLAT FACE ON TOP OF CAP TO AID PICK AND PLACE ASSEMBLY, MAXIMUM DIAMETER 1.8MM.
4. FOR FULL PRODUCT SPECIFICATION ON STANDARD CONNECTORS REFER TO ELCO SPEC 201-01-163.
5. ASSEMBLY PROCEDURE, REFER TO APPLICATION NOTES 201-01-142.
6. GENERAL TOLERANCE ±0.20 UNLESS STATED.
7. PACKED IN TAPE AND REEL, QUANTITY PER REEL 500.
8. CONNECTOR OUTLINE.
9. CONTACT MATERIAL: TIN PLATED COPPER ALLOY.
10. INSULATION MATERIAL: HIGH TEMPERATURE NYLON, GLASS FILLED, UL94 V-O. COLOR REFER TO PAGE 46.

SUGGESTED PCB LAYOUT

PACKING DETAILS

Code | Accepted Wire Gauge | A | Wire Insulation | B
---|---|---|---|---
600 | 18 AWG Stranded | 0.74 | Ø 1.6-2.1 | 2.1
601 | 20 AWG Solid or Stranded | 0.60 | Ø 1.6-2.1 | 2.1
602 | 22 AWG Solid or Stranded | 0.47 | Ø 1.1-1.6 | 1.6
603 | 24 AWG Solid or Stranded | 0.37 | Ø 1.1-1.6 | 1.6

571x29

The Important Information/Disclaimer is incorporated in these specifications by reference and should be reviewed in full before placing any order.
18-24 AWG 1 WAY PTH CONNECTOR
WIRE STOP CAPPED

NOTES:
1. 1 WAY CONNECTOR FOR PTH WIRE TO BOARD CONNECTION, PRE-ASSEMBLED WIRE STOP CAP, CODE SEE PAGE 46.
2. CONTACT/CAP TO MATCH 20AWG-24AWG SOLID AND STRANDED WIRES, 18AWG WILL ONLY ACCEPT STRANDED WIRES, SEE TABLE.
3. FLAT FACE ON TOP OF CAP TO AID PICK AND PLACE ASSEMBLY, MAXIMUM DIAMETER 1.8MM.
4. FOR FULL PRODUCT SPECIFICATION ON STANDARD CONNECTORS REFER TO ELCO SPEC 201-01-163.
5. ASSEMBLY PROCEDURE, REFER TO APPLICATION NOTES 201-01-142.
6. GENERAL TOLERANCE ±0.20 UNLESS STATED.
7. PACKED IN TAPE AND REEL, QUANTITY PER REEL 500.
8. CONNECTOR OUTLINE.
9. CONTACT MATERIAL: TIN PLATED COPPER ALLOY.
10. INSULATION MATERIAL: HIGH TEMPERATURE NYLON, GLASS FILLED, UL94 V-O. COLOR REFER TO PAGE 46.
11. WIRE STOP CAP PROTECTS END OF WIRE.

SUGGESTED PCB LAYOUT

PACKING DETAILS

Code  Accepted Wire Gauge  A  Wire Insulation  B
600  18 AWG Stranded  0.74  Ø 1.6-2.1  2.1
601  20 AWG Solid or Stranded  0.60  Ø 1.6-2.1  2.1
602  22 AWG Solid or Stranded  0.47  Ø 1.1-1.6  1.6
603  24 AWG Solid or Stranded  0.37  Ø 1.1-1.6  1.6
The Important Information/Disclaimer is incorporated in these specifications by reference and should be reviewed in full before placing any order.

SINGLE TINE PTH 18-24 AWG: 9176-600
Assembly - Through Wire and Wire Stop

18-24 AWG ASSEMBLED CAPPED PTH CONNECTORS

NOMINAL ASSEMBLED HEIGHTS

TYPICAL THROUGH WIRE ASSEMBLIES

TYPICAL WIRE STOP ASSEMBLIES
The market and applications for simple and reliable discrete Wire-to-Board (WTB) connectors continue to evolve. Developed for harsh industrial and automotive applications, Insulation Displacement Connectors (IDC) have been used in hundreds of applications connecting wires to PCB's from transportation wiring to every day LED lighting and smart meter/sensor connections. Size, performance and simplicity have been the key factors for selecting this connector when long term reliability is critical.

This single contact version of the proven 9176 family of connectors offers a lower cost solution to the market with only a 10% reduction in current rating. The SMT footprint is backward compatible with the standard dual contact configurations; offers all the same wire gauges and termination benefits of the integrated cap and provides a 10% height reduction.

## Applications
- Machine Controls: motors, drives, solenoids, sensors, fans and pumps
- Commercial Buildings: controls, security, fire and sensors
- Smart Grid: meters, breakers and panels
- SSL/LED: bulbs, fixtures, signage and streetlights
- Application notes: reference 201-01-142

## Features and Benefits
- IDC contact provides a gas-tight connection to the PCB for long term reliability
- Plastic cap retains the contact in position prior to automatic placement, then acts as the assembly tool to terminate the wires; no special tooling.
- Tested to automotive levels on shock, vibration and temperature cycling for reliability
- Identical contact and footprint pattern to the existing 9176 for full backward compatibility and functionality
- The IDC contact reduces the total applied cost versus solder or crimp processes
- Connectors are available in two configurations for maximum flexibility: End and Through Wire

## Electrical
- Current Rating: See matrix below
- Voltage Rating: 600 VAC

## Environmental
- Operating Temperature: -40ºC to +125ºC

## How to Order

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Accepted Wire Gauge</th>
<th>Wire Gauges</th>
</tr>
</thead>
<tbody>
<tr>
<td>650</td>
<td>Capped IDC Connector SMT Mount</td>
<td>18 AWG Stranded</td>
<td>ø1.6-2.1</td>
</tr>
<tr>
<td>651</td>
<td>20 AWG Solid and Stranded</td>
<td>ø1.6-2.1</td>
<td></td>
</tr>
<tr>
<td>652</td>
<td>22 AWG Solid and Stranded</td>
<td>ø1.1-1.6</td>
<td></td>
</tr>
<tr>
<td>653</td>
<td>24 AWG Solid and Stranded</td>
<td>ø1.1-1.6</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Code</th>
<th>Color Option</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>9 = UL White</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Code</th>
<th>Cap Option</th>
<th>Description</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Through Wire</td>
<td>Allows wire to be terminated at any point</td>
<td>See page 51</td>
</tr>
<tr>
<td>9</td>
<td>Wire Stop</td>
<td>Terminates end of wire protected by stop face</td>
<td>See page 52</td>
</tr>
</tbody>
</table>

## Current Rating

<table>
<thead>
<tr>
<th>Wire Gauge</th>
<th>18AWG</th>
<th>20AWG</th>
<th>22AWG</th>
<th>24AWG</th>
</tr>
</thead>
<tbody>
<tr>
<td>9A</td>
<td>9A</td>
<td>8A</td>
<td>6A</td>
<td>5A</td>
</tr>
</tbody>
</table>

Certification: UL File #E90723
The Important Information/Disclaimer is incorporated in these specifications by reference and should be reviewed in full before placing any order.

18-24 AWG 1 WAY IDC CONNECTOR
THROUGH WIRE CAPPED

NOTES:
1. 1 WAY CONNECTOR FOR IDC WIRE TO BOARD CONNECTION, PRE-ASSEMBLED THROUGH WIRE CAP. CODE SEE PAGE 50.
2. CONTACT/CAP TO MATCH 20AWG-24AWG SOLID AND STRANDED WIRES, 18AWG WILL ONLY ACCEPT STRANDED WIRES, SEE TABLE.
3. FLAT FACE ON TOP OF CAP TO AID PICK AND PLACE ASSEMBLY, MAXIMUM DIAMETER 1.8MM.
4. FOR FULL PRODUCT SPECIFICATION ON STANDARD CONNECTORS REFER TO ELCO SPEC 201-01-163.
5. ASSEMBLY PROCEDURE, REFER TO APPLICATION NOTES 201-01-142.
6. GENERAL TOLERANCE ±0.20 UNLESS STATED.
7. PACKED IN TAPE AND REEL, QUANTITY PER REEL 700.
8. CONNECTOR OUTLINE.
9. CONTACT MATERIAL: TIN PLATED COPPER ALLOY.
10. INSULATION MATERIAL: HIGH TEMPERATURE NYLON, GLASS FILLED, UL94 V-O. COLOR REFER TO PAGE 50.

包装详情

型号及规格

包装数量：每卷700个。

建议的PCB布局

代码 | 各类线径 | A | B
---|---|---|---
600 | 18 AWG Stranded | 0.74 | 1.6-2.1 | 2.1
601 | 20 AWG Solid or Stranded | 0.60 | 1.6-2.1 | 2.1
602 | 22 AWG Solid or Stranded | 0.47 | 1.1-1.6 | 1.6
603 | 24 AWG Solid or Stranded | 0.37 | 1.1-1.6 | 1.6
18-24 AWG 1 WAY IDC CONNECTOR
WIRE STOP CAPPED

NOTES:
1. 1 WAY CONNECTOR FOR IDC WIRE TO BOARD CONNECTION, PRE-ASSEMBLED WIRE STOP CAP, CODE SEE PAGE 50.
2. CONTACT/CAP TO MATCH 20AWG-24AWG SOLID AND STRANDED WIRES, 18AWG WILL ONLY ACCEPT STRANDED WIRES, SEE TABLE.
3. FLAT FACE ON TOP OF CAP TO AID PICK AND PLACE ASSEMBLY, MAXIMUM DIAMETER 1.8MM.
4. FOR FULL PRODUCT SPECIFICATION ON STANDARD CONNECTORS REFER TO ELCO SPEC 201-01-163.
5. ASSEMBLY PROCEDURE, REFER TO APPLICATION NOTES 201-01-142.
6. GENERAL TOLERANCE ±0.20 UNLESS STATED.
7. PACKED IN TAPE AND REEL, QUANTITY PER REEL 700.
8. CONTACT MATERIAL: TIN PLATED COPPER ALLOY.
9. INSULATION MATERIAL: HIGH TEMPERATURE NYLON, GLASS FILLED, UL94 V-O. COLOR REFER TO PAGE 50.
10. INSULATION MATERIAL: HIGH TEMPERATURE NYLON, GLASS FILLED, UL94 V-O. COLOR REFER TO PAGE 50.
11. WIRE STOP CAP PROTECTS END OF WIRE.

SUGGESTED PCB LAYOUT
The Important Information/Disclaimer is incorporated in these specifications by reference and should be reviewed in full before placing any order.

18-24 AWG ASSEMBLED CAPPED IDC CONNECTORS

NOMINAL ASSEMBLED HEIGHTS

TYPICAL THROUGH WIRE ASSEMBLIES

TYPICAL WIRE STOP ASSEMBLIES
AVX industrial/transportation grade insulation displacement connectors (IDC) have been proven in the market for over ten years. Providing a very simple one-step termination process, these connectors proved a robust wire-to-board (WTB) termination in harsh applications.

The 9176-800 series has been developed specifically for 22-26AWG discrete wires in size critical applications. By reducing the “Z” axis height by 1.0mm and the overall volume by up to 50%, this new package size is an ideal choice in space constrained applications over previous IDC connectors. In addition, an expanded size range is available starting from a 1 position up to 4 positions in each wire gauge. The entire range provides new packaging solutions in industrial, medical and transportation applications such as smart metering, LED lighting, industrial controls and portable monitoring and measurement devices.

**APPLICATIONS**
- Connecting discrete wires and components to a PCB
- Bringing power and signals onto a PCB
- Daisy chaining or interconnecting PCB’s together
- Application Notes: Refer to 201-01-216

**FEATURES AND BENEFITS**
- Redundant and fatigue resistant phosphor bronze material provides a gas tight, cold welded connection to the wire
- IDC connectors can be potted or over molded to encapsulate electronic modules and provide environmental protection
- The 1p version is available in industry standard colors to match individual wires for error free wire termination

**ELECTRICAL**
- Current Rating:
  - 22AWG: 6 amps
  - 24AWG: 5 amps
  - 26AWG: 4 amps

- Voltage Rating:
  - 1p: 600V
  - 2p-4p: 100V

- Durability: 1 Cycle

**ENVIRONMENTAL**
- Operating Temperature: -40°C to +125°C

**MECHANICAL**
- Insulator Material: Glass-Filled Nylon 46; UL94V0
- Contact Material: Phosphor Bronze
- Plating: Lead-Free Tin Over Nickel

**HOW TO ORDER**

<table>
<thead>
<tr>
<th>Prefix</th>
<th>9176</th>
<th>00X</th>
<th>8X3</th>
<th>X</th>
<th>06</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wire to Board Connecto</td>
<td>00</td>
<td>Series</td>
<td>Number of Ways</td>
<td>Wire Gauge Size</td>
<td>Insulator Color</td>
</tr>
<tr>
<td>001 = 1</td>
<td>853 = 22 AWG Solid and Stranded</td>
<td>9 = White Standard</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>002 = 2</td>
<td>863 = 24 AWG Solid and Stranded</td>
<td>Solid Colors (1p only)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>003 = 3</td>
<td>873 = 26 AWG Solid and Stranded</td>
<td>2 = Brown</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>004 = 4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Certification: UL File #E90723
LOW PROFILE IDC 22-26 AWG: 9176-800

1 Position

00-9176-001-8X3-X06

1 WAY

NOTES:
1. 1 WAY CONNECTOR FOR IDC WIRE TO BOARD CONNECTOR.
2. CONTACT/CAP TO MATCH 22AWG TO 26AWG STRANDED AND SOLID WIRE, MAXIMUM INSULATOR 1.40 DIAMETER
3. FLAT FACE ON TOP OF CAP TO AID PICK AND PLACE ASSEMBLY.
4. FOR FULL PRODUCT SPECIFICATION REFER TO AVX SPEC 201-01-215.
5. ASSEMBLY PROCEDURE, REFER TO APPLICATION NOTES 201-01-216.
6. GENERAL TOLERANCE ±0.20 UNLESS STATED.
7. PACKED IN TAPE AND REEL, QUANTITY PER REEL 1700.
8. CONNECTOR OUTLINE.
9. CONTACT MATERIAL: TIN PLATED COPPER ALLOY.
10. INSULATOR MATERIAL: HIGH TEMPERATURE NYLON, GLASS FILLED. UL94 V-0, COLOR REFER TO PAGE 54.

SUGGESTED PCB LAYOUT

PACKING DETAILS
LOW PROFILE IDC 22-26 AWG: 9176-800

2 Position

00-9176-001-8X3-X06

2 WAY

NOTES:
1. 2 WAY CONNECTOR FOR IDC WIRE TO BOARD CONNECTOR.
2. CONTACT/CAP TO MATCH 22AWG TO 26AWG STRANDED AND SOLID WIRE, MAXIMUM INSULATOR 1.40 DIAMETER.
3. FLAT FACE ON TOP OF CAP TO AID PICK AND PLACE ASSEMBLY.
4. FOR FULL PRODUCT SPECIFICATION REFER TO AVX SPEC 201-01-215.
5. ASSEMBLY PROCEDURE, REFER TO APPLICATION NOTES 201-01-216.
6. GENERAL TOLERANCE ±0.20 UNLESS STATED.
7. PACKED IN TAPE AND REEL, QUANTITY PER REEL 1700.
8. CONNECTOR OUTLINE.
9. CONTACT MATERIAL: TIN PLATED COPPER ALLOY.
10. INSULATOR MATERIAL: HIGH TEMPERATURE NYLON, GLASS FILLED. UL94 V-0, COLOR REFER TO PAGE 54.

SUGGESTED PCB LAYOUT

PACKING DETAILS

PART NUMBER
See page 54
WIRE GAUGE A
00-9176-002-853-X06 22AWG Solid and Stranded 0.47
00-9176-002-863-X06 24AWG Solid and Stranded 0.37
00-9176-002-873-X06 26AWG Solid and Stranded 0.28

The Important Information/Disclaimer is incorporated in these specifications by reference and should be reviewed in full before placing any order.
00-9176-001-8X3-X06
3 WAY

NOTES:
1. 3 WAY CONNECTOR FOR IDC WIRE TO BOARD CONNECTOR.
2. CONTACT/CAP TO MATCH 22AWG TO 26AWG STRANDED AND SOLID WIRE, MAXIMUM INSULATOR 1.40 DIAMETER.
3. FLAT FACE ON TOP OF CAP TO AID PICK AND PLACE ASSEMBLY.
4. FOR FULL PRODUCT SPECIFICATION REFER TO AVX SPEC 201-01-215.
5. ASSEMBLY PROCEDURE, REFER TO APPLICATION NOTES 201-01-216.
6. GENERAL TOLERANCE ±0.20 UNLESS STATED.
7. PACKED IN TAPE AND REEL, QUANTITY PER REEL 1700.
8. CONNECTOR OUTLINE.
9. CONTACT MATERIAL: TIN PLATED COPPER ALLOY.
10. INSULATOR MATERIAL: HIGH TEMPERATURE NYLON, GLASS FILLED, UL94 V-0, COLOR REFER TO PAGE 54.

SUGGESTED PCB LAYOUT

PACKING DETAILS
The Important Information/Disclaimer is incorporated in these specifications by reference and should be reviewed in full before placing any order.

LOW PROFILE IDC 22-26 AWG: 9176-800

4 Position

00-9176-001-8X3-X06

4 WAY

NOTES:
1. 4 WAY CONNECTOR FOR IDC WIRE TO BOARD CONNECTOR.
2. CONTACT/CAP TO MATCH 22AWG TO 26AWG STRANDED AND SOLID WIRE, MAXIMUM INSULATOR 1.40 DIAMETER.
3. FLAT FACE ON TOP OF CAP TO AID PICK AND PLACE ASSEMBLY.
4. FOR FULL PRODUCT SPECIFICATION REFER TO AVX SPEC 201-01-215.
5. ASSEMBLY PROCEDURE, REFER TO APPLICATION NOTES 201-01-216.
6. GENERAL TOLERANCE ±0.20 UNLESS STATED.
7. PACKED IN TAPE AND REEL, QUANTITY PER REEL 1700.
8. CONNECTOR OUTLINE.
9. CONTACT MATERIAL: TIN PLATED COPPER ALLOY.
10. INSULATOR MATERIAL: HIGH TEMPERATURE NYLON, GLASS FILLED. UL94 V-0, COLOR REFER TO PAGE 54.

<table>
<thead>
<tr>
<th>PART NUMBER</th>
<th>WIRE GAUGE</th>
<th>A</th>
</tr>
</thead>
<tbody>
<tr>
<td>00-9176-004-853-X06</td>
<td>22AWG Solid and Stranded</td>
<td>0.47</td>
</tr>
<tr>
<td>00-9176-004-863-X06</td>
<td>24AWG Solid and Stranded</td>
<td>0.37</td>
</tr>
<tr>
<td>00-9176-004-873-X06</td>
<td>26AWG Solid and Stranded</td>
<td>0.28</td>
</tr>
</tbody>
</table>

SUGGESTED PCB LAYOUT

PACKING DETAILS

The Important Information/Disclaimer is incorporated in these specifications by reference and should be reviewed in full before placing any order.
The Important Information/Disclaimer is incorporated in these specifications by reference and should be reviewed in full before placing any order.

LOW PROFILE IDC 22-26 AWG: 9176-800

Connector Details
The 917X series of surface mount Insulation Displacement Connectors (IDC) were developed to meet the harsh automotive and industrial market applications for connecting individual wires directly to a PCB ranging from 14 AWG to 28 AWG. This industry proven contact system has been tested to automotive levels of shock, vibration, and temperature cycling to prove their reliability and robustness. The simplicity of inserting a wire into the connector with a small tool allows a wide range of devices to be connected to the PCB without soldering. In SSL applications specifically, these connectors are used to bring power and signal onto the PCB or are used to daisy chain multiple boards together in a long string. While the IDC contact provides a gas-tight connection to conductor of the wire, the housing has been designed to grab the insulation of the wire to provide a positive strain relief even in the harshest conditions. In case of repair, the wires can be removed and replace up to three times.

The 9177 series accepts 14 AWG to 20 AWG wires with an insulation diameter ranging from 2.75mm to 4.25mm. These dual contact connectors support a 15 amp current rating with two large SMT solder tails per wire to provide maximum stability on the PCB. Available in 1p-3p configuration, these connectors can be end stackable for higher pin counts.

### General Information

**APPLICATIONS**
- Connecting discrete wire components directly to the PCB
- Bringing power and signals onto a PCB
- Daisy chaining PCB’s together to create a continuous string of boards
- Application Notes: refer to 201-01-124

**FEATURES AND BENEFITS**
- IDC contact provides a gas-tight connection to the PCB for long term reliability
- Connector housing captures the wire insulation for positive strain relief
- Tested to automotive levels on shock, vibration and temperature cycling for reliability
- Low and high volume assembly tools to match production volumes
- Reduced total applied cost versus solder or crimp processes
- High temperature insulator capable to 260ºC reflow soldering processes

### ELECTRICAL
- Current Rating: 15 Amp / Contact
- Voltage Rating: 600 VAC

### ENVIRONMENTAL
- Operating Temperature: -40ºC to +125ºC

### MECHANICAL
- Insulator Material: Nylon 46: UL94V0
- Contact Material: Phosphor Bronze
- Plating: Tin over Nickel
- Durability: 3 Cycles

### HOW TO ORDER

#### THROUGH WIRE

<table>
<thead>
<tr>
<th>Prefix</th>
<th>Series</th>
<th>Number of Ways</th>
<th>Wire Gauge Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>00</td>
<td>9177</td>
<td>00X</td>
<td>0XX</td>
</tr>
<tr>
<td>00</td>
<td>9177</td>
<td>00X</td>
<td>Wire Gauge Size</td>
</tr>
<tr>
<td>00</td>
<td>9177</td>
<td>00X</td>
<td>Wire Gauge Size</td>
</tr>
<tr>
<td>00</td>
<td>9177</td>
<td>00X</td>
<td>Wire Gauge Size</td>
</tr>
</tbody>
</table>

### HOW TO ORDER – CAP OPTIONS – THROUGH WIRE

<table>
<thead>
<tr>
<th>Prefix</th>
<th>Series</th>
<th>Number of Ways</th>
<th>Wire Gauge Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>00</td>
<td>9177</td>
<td>00X</td>
<td>0XX</td>
</tr>
<tr>
<td>00</td>
<td>9177</td>
<td>00X</td>
<td>Wire Gauge Size</td>
</tr>
<tr>
<td>00</td>
<td>9177</td>
<td>00X</td>
<td>Wire Gauge Size</td>
</tr>
<tr>
<td>00</td>
<td>9177</td>
<td>00X</td>
<td>Wire Gauge Size</td>
</tr>
</tbody>
</table>

### HOW TO ORDER – CAP OPTIONS – WIRE STOP

<table>
<thead>
<tr>
<th>Prefix</th>
<th>Series</th>
<th>Number of Ways</th>
<th>Wire Gauge Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>60</td>
<td>9177</td>
<td>00X</td>
<td>0XX</td>
</tr>
<tr>
<td>60</td>
<td>9177</td>
<td>00X</td>
<td>Wire Gauge Size</td>
</tr>
<tr>
<td>60</td>
<td>9177</td>
<td>00X</td>
<td>Wire Gauge Size</td>
</tr>
<tr>
<td>60</td>
<td>9177</td>
<td>00X</td>
<td>Wire Gauge Size</td>
</tr>
</tbody>
</table>

The Important Information/Disclaimer is incorporated in these specifications by reference and should be reviewed in full before placing any order.

Certification:
UL File # E320991,
check UL conditions of use for specific ratings and details
## CONNECTOR/TOOLING PART NUMBER MATRIX

<table>
<thead>
<tr>
<th>AWG</th>
<th>Wire Insulation</th>
<th>Positions</th>
<th>Color</th>
<th>Part Number</th>
<th>Plastic (low volume)</th>
<th>Metal (high volume)</th>
<th>Through Wire</th>
<th>Wire Stop</th>
</tr>
</thead>
<tbody>
<tr>
<td>14</td>
<td>Ø 4.25</td>
<td>1p</td>
<td>White</td>
<td>009177001001106</td>
<td>069177701601001</td>
<td>069177701701001</td>
<td>609177001042100</td>
<td>609177001042199</td>
</tr>
<tr>
<td>14</td>
<td>Ø 4.25</td>
<td>1p</td>
<td>Black</td>
<td>009177001001306</td>
<td>069177701601001</td>
<td>069177701701001</td>
<td>609177001042200</td>
<td>609177001042099</td>
</tr>
<tr>
<td>14</td>
<td>Ø 4.25</td>
<td>2p</td>
<td>White</td>
<td>009177002001106</td>
<td>069177701601002</td>
<td>069177701701002</td>
<td>609177002042100</td>
<td>609177002042199</td>
</tr>
<tr>
<td>14</td>
<td>Ø 4.25</td>
<td>2p</td>
<td>Black</td>
<td>009177002001306</td>
<td>069177701601002</td>
<td>069177701701002</td>
<td>609177002042200</td>
<td>609177002042099</td>
</tr>
<tr>
<td>14</td>
<td>Ø 4.25</td>
<td>3p</td>
<td>White</td>
<td>009177003001106</td>
<td>069177701601003</td>
<td>069177701701003</td>
<td>609177003042100</td>
<td>609177003042199</td>
</tr>
<tr>
<td>14</td>
<td>Ø 4.25</td>
<td>3p</td>
<td>Black</td>
<td>009177003001306</td>
<td>069177701601003</td>
<td>069177701701003</td>
<td>609177003042200</td>
<td>609177003042099</td>
</tr>
<tr>
<td>16</td>
<td>Ø 3.50</td>
<td>1p</td>
<td>White</td>
<td>0091770010120106</td>
<td>069177701602001</td>
<td>069177701702001</td>
<td>609177001035100</td>
<td>609177001035199</td>
</tr>
<tr>
<td>16</td>
<td>Ø 3.50</td>
<td>1p</td>
<td>Black</td>
<td>009177001012006</td>
<td>069177701602001</td>
<td>069177701702001</td>
<td>609177001035000</td>
<td>609177001035099</td>
</tr>
<tr>
<td>16</td>
<td>Ø 3.50</td>
<td>2p</td>
<td>White</td>
<td>0091770020120106</td>
<td>069177701602002</td>
<td>069177701702002</td>
<td>609177002035100</td>
<td>609177002035199</td>
</tr>
<tr>
<td>16</td>
<td>Ø 3.50</td>
<td>2p</td>
<td>Black</td>
<td>009177002012006</td>
<td>069177701602002</td>
<td>069177701702002</td>
<td>609177002035000</td>
<td>609177002035099</td>
</tr>
<tr>
<td>16</td>
<td>Ø 3.50</td>
<td>3p</td>
<td>White</td>
<td>0091770030120106</td>
<td>069177701602003</td>
<td>069177701702003</td>
<td>609177003035100</td>
<td>609177003035199</td>
</tr>
<tr>
<td>16</td>
<td>Ø 3.50</td>
<td>3p</td>
<td>Black</td>
<td>009177003012006</td>
<td>069177701602003</td>
<td>069177701702003</td>
<td>609177003035000</td>
<td>609177003035099</td>
</tr>
<tr>
<td>18</td>
<td>Ø 3.50</td>
<td>1p</td>
<td>White</td>
<td>0091770010220106</td>
<td>069177701602001</td>
<td>069177701702001</td>
<td>609177001027100</td>
<td>609177001027199</td>
</tr>
<tr>
<td>18</td>
<td>Ø 3.50</td>
<td>1p</td>
<td>Black</td>
<td>009177001022006</td>
<td>069177701602001</td>
<td>069177701702001</td>
<td>609177001027000</td>
<td>609177001027099</td>
</tr>
<tr>
<td>18</td>
<td>Ø 3.50</td>
<td>2p</td>
<td>White</td>
<td>0091770020220106</td>
<td>069177701602002</td>
<td>069177701702002</td>
<td>609177002035100</td>
<td>609177002035199</td>
</tr>
<tr>
<td>18</td>
<td>Ø 3.50</td>
<td>2p</td>
<td>Black</td>
<td>009177002022006</td>
<td>069177701602002</td>
<td>069177701702002</td>
<td>609177002035000</td>
<td>609177002035099</td>
</tr>
<tr>
<td>18</td>
<td>Ø 3.50</td>
<td>3p</td>
<td>White</td>
<td>0091770010320106</td>
<td>069177701602003</td>
<td>069177701702003</td>
<td>609177001035100</td>
<td>609177001035199</td>
</tr>
<tr>
<td>18</td>
<td>Ø 3.50</td>
<td>3p</td>
<td>Black</td>
<td>009177001032006</td>
<td>069177701602003</td>
<td>069177701702003</td>
<td>609177001035000</td>
<td>609177001035099</td>
</tr>
<tr>
<td>20</td>
<td>Ø 2.75</td>
<td>1p</td>
<td>White</td>
<td>0091770010330106</td>
<td>069177701603001</td>
<td>069177701703001</td>
<td>609177001027100</td>
<td>609177001027199</td>
</tr>
<tr>
<td>20</td>
<td>Ø 2.75</td>
<td>1p</td>
<td>Black</td>
<td>009177001033006</td>
<td>069177701603001</td>
<td>069177701703001</td>
<td>609177001027000</td>
<td>609177001027099</td>
</tr>
<tr>
<td>20</td>
<td>Ø 2.75</td>
<td>2p</td>
<td>White</td>
<td>0091770020330106</td>
<td>069177701603002</td>
<td>069177701703002</td>
<td>609177002027100</td>
<td>609177002027199</td>
</tr>
<tr>
<td>20</td>
<td>Ø 2.75</td>
<td>2p</td>
<td>Black</td>
<td>009177002033006</td>
<td>069177701603002</td>
<td>069177701703002</td>
<td>609177002027000</td>
<td>609177002027099</td>
</tr>
<tr>
<td>20</td>
<td>Ø 2.75</td>
<td>3p</td>
<td>White</td>
<td>0091770010330306</td>
<td>069177701603003</td>
<td>069177701703003</td>
<td>609177003027100</td>
<td>609177003027199</td>
</tr>
<tr>
<td>20</td>
<td>Ø 2.75</td>
<td>3p</td>
<td>Black</td>
<td>009177001033006</td>
<td>069177701603003</td>
<td>069177701703003</td>
<td>609177003027000</td>
<td>609177003027099</td>
</tr>
</tbody>
</table>

*Insertion Tooling - Requires Hand Press with Flat Rock Plates; Consult Application Notes 201-01-124*
14-20 AWG 1 WAY IDC CONNECTOR

NOTES:
1. CONNECTOR FOR IDC WIRE TO BOARD CONNECTION.
2. CONTACT MATERIAL: PHOSPHOR BRONZE.
   INSULATION MATERIAL: HIGH TEMPERATURE NYLON 46. COLOR REFER TO PAGE 60.
3. CONNECTOR DESIGNED TO ACCEPT BETWEEN 14 AND 20 GAUGE STRANDED WIRE.
4. ALL DIMENSIONS FOR REFERENCE UNLESS OTHERWISE STATED.
5. FOR FULL PRODUCT SPECIFICATION REFER TO ELCO SPEC 201-01-109.
6. FOR PCB SPACE RESTRICTED BY ASSEMBLY TOOLING REFER TO PAGE 67.

<table>
<thead>
<tr>
<th>Code</th>
<th>Accepted Wire Gauge</th>
<th>A</th>
<th>Wire Insulation</th>
</tr>
</thead>
<tbody>
<tr>
<td>001</td>
<td>14 AWG Solid or Stranded</td>
<td>1.10</td>
<td>ø4.25 max 4.25</td>
</tr>
<tr>
<td>012</td>
<td>16 AWG Solid or Stranded</td>
<td>0.82</td>
<td>ø3.50 max 3.50</td>
</tr>
<tr>
<td>022</td>
<td>18 AWG Solid or Stranded</td>
<td>0.72</td>
<td>ø3.50 max 3.50</td>
</tr>
<tr>
<td>033</td>
<td>20 AWG Solid or Stranded</td>
<td>0.60</td>
<td>ø2.75 max 2.75</td>
</tr>
</tbody>
</table>

SMT PCB LAYOUT
PURE TIN PADS

PACKING DETAILS
<table>
<thead>
<tr>
<th>REEL QTY</th>
<th>LEADER</th>
<th>TRAILER</th>
<th>REEL/BOX</th>
<th>PACK QTY</th>
</tr>
</thead>
<tbody>
<tr>
<td>400</td>
<td>500MM</td>
<td>400MM</td>
<td>4</td>
<td>1600</td>
</tr>
</tbody>
</table>

The Important Information/Disclaimer is incorporated in these specifications by reference and should be reviewed in full before placing any order.
14-20 AWG 2 WAY IDC CONNECTOR

NOTES:
1. CONNECTOR FOR IDC WIRE TO BOARD CONNECTION.
2. CONTACT MATERIAL: PHOSPHOR BRONZE.
   INSULATION MATERIAL: HIGH TEMPERATURE NYLON 46. COLOR REFER TO PAGE 60.
3. CONNECTOR DESIGNED TO ACCEPT BETWEEN 14 AND 20 GAUGE STRANDED WIRE.
4. ALL DIMENSIONS FOR REFERENCE UNLESS OTHERWISE STATED.
5. FOR FULL PRODUCT SPECIFICATION REFER TO ELCO SPEC 201-01-109.
6. FOR PCB SPACE RESTRICTED BY ASSEMBLY TOOLING REFER TO PAGE 67.

PICK UP AREA 4.75 x 9.00mm MIN

ALL TAILS TO BE WITHIN ±0.10mm COPLANARITY.

PACKING DETAILS

<table>
<thead>
<tr>
<th>Code</th>
<th>Accepted Wire Gauge</th>
<th>A</th>
<th>Wire Insulation</th>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td>001</td>
<td>14 AWG Solid or Stranded</td>
<td>1.10</td>
<td>0.425max</td>
<td>4.25</td>
</tr>
<tr>
<td>012</td>
<td>16 AWG Solid or Stranded</td>
<td>0.82</td>
<td>0.350max</td>
<td>3.50</td>
</tr>
<tr>
<td>022</td>
<td>18 AWG Solid or Stranded</td>
<td>0.72</td>
<td>0.350max</td>
<td>3.50</td>
</tr>
<tr>
<td>033</td>
<td>20 AWG Solid or Stranded</td>
<td>0.60</td>
<td>0.275max</td>
<td>2.75</td>
</tr>
</tbody>
</table>

SMT PCB LAYOUT

PURE TIN PADS

CONNECTOR OUTLINE
The Important Information/Disclaimer is incorporated in these specifications by reference and should be reviewed in full before placing any order.

14-20 AWG 3 WAY IDC CONNECTOR

NOTES:
1. CONNECTOR FOR IDC WIRE TO BOARD CONNECTION.
2. CONTACT MATERIAL: PHOSPHOR BRONZE.
   INSULATION MATERIAL: HIGH TEMPERATURE NYLON 46. COLOR REFER TO PAGE 60.
3. CONNECTOR DESIGNED TO ACCEPT BETWEEN 14 AND 20 GAUGE STRANDED WIRE.
4. ALL DIMENSIONS FOR REFERENCE UNLESS OTHERWISE STATED.
5. FOR FULL PRODUCT SPECIFICATION REFER TO ELCO SPEC 201-01-109.
6. FOR PCB SPACE RESTRICTED BY ASSEMBLY TOOLING REFER TO PAGE 67.

PACKING DETAILS

<table>
<thead>
<tr>
<th>Code</th>
<th>Accept Wire Gauge</th>
<th>A Insulation</th>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td>001</td>
<td>14 AWG Solid or Stranded</td>
<td>1.10Ø 4.25 max</td>
<td>425</td>
</tr>
<tr>
<td>012</td>
<td>16 AWG Solid or Stranded</td>
<td>0.82Ø 3.50 max</td>
<td>350</td>
</tr>
<tr>
<td>022</td>
<td>18 AWG Solid or Stranded</td>
<td>0.72Ø 3.50 max</td>
<td>350</td>
</tr>
<tr>
<td>033</td>
<td>20 AWG Solid or Stranded</td>
<td>0.60Ø 2.75 max</td>
<td>225</td>
</tr>
</tbody>
</table>

SMT PCB LAYOUT

PURE TIN PADS

CONNECTOR OUTLINE

REEL QTY | 400
LEADER | 500MM
TRAILER | 400MM
REEL/BOX | 4
PACK QTY | 1600
NOTES:
1. CAP FOR 9177 IDC WIRE TO BOARD CONNECTOR.
2. THROUGH WIRE CAP CAN BE USED AT ANY POSITION ALONG WIRE.
3. REFERS TO CAP FOR WIRE MATCH TO CONNECTOR REFER TO TABLE ON PAGE 60.
4. MATERIAL: GLASS FILLED NYLON 46. FOR COLOR REFER TO PAGE 60.
5. CAPS DESIGNED TO ACCOMMODATE INSULATION DIAMETERS REFER TO PAGE 60.
6. GENERAL TOLERANCE ±0.20MM.
7. PACKED IN BAGS, 400 PIECES PER BAG.
8. APPLICATION NOTES REFER TO ELCO SPECIFICATION 201-01-124.
STANDARD 14-20 AWG: 00-9177

Assensory Cap - Wire Stop

ACCESSORY CAP – WIRE STOP

NOTES:
1. CAP FOR 9177 IDC WIRE TO BOARD CONNECTOR.
2. THROUGH WIRE CAP CAN BE USED AT ANY POSITION ALONG WIRE.
3. REFERS TO CAP FOR WIRE MATCH TO CONNECTOR REFER TO TABLE ON PAGE 60.
4. MATERIAL: GLASS FILLED NYLON 46. FOR COLOR REFER TO PAGE 60.
5. CAPS DESIGNED TO ACCOMMODATE INSULATION DIAMETERS REFER TO PAGE 60.
6. GENERAL TOLERANCE ±0.20MM.
7. PACKED IN BAGS, 400 PIECES PER BAG.
8. APPLICATION NOTES REFER TO ELCO SPECIFICATION 201-01-124.
The Important Information/Disclaimer is incorporated in these specifications by reference and should be reviewed in full before placing any order.

**STANDARD 14-20 AWG: 00-9177**

Insertion Tooling

**INSERTION TOOLING – REQUIRES HAND PRESS WITH FLAT ROCK PLATES**

1 WAY

2 WAY

3 WAY

**HIGH PRODUCTION**

<table>
<thead>
<tr>
<th>No. of Ways</th>
<th>Max Insulation Dia (AWG)</th>
<th>Tool Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>4.25 (14) 3.50 (16-18) 2.75 (20)</td>
<td>06 9177 7017 01 001 06 9177 7017 02 001 06 9177 7017 03 001</td>
</tr>
<tr>
<td>2</td>
<td>4.25 (14) 3.50 (16-18) 2.75 (20)</td>
<td>06 9177 7017 01 002 06 9177 7017 02 002 06 9177 7017 03 002</td>
</tr>
<tr>
<td>3</td>
<td>4.25 (14) 3.50 (16-18) 2.75 (20)</td>
<td>06 9177 7017 01 003 06 9177 7017 02 003 06 9177 7017 03 003</td>
</tr>
</tbody>
</table>

**MEDIUM PRODUCTION**

<table>
<thead>
<tr>
<th>No. of Ways</th>
<th>Max Insulation Dia (AWG)</th>
<th>Tool Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>4.25 (14) 3.50 (16-18) 2.75 (20)</td>
<td>06 9177 7016 01 001 06 9177 7016 02 001 06 9177 7016 03 001</td>
</tr>
<tr>
<td>2</td>
<td>4.25 (14) 3.50 (16-18) 2.75 (20)</td>
<td>06 9177 7016 01 002 06 9177 7016 02 002 06 9177 7016 03 002</td>
</tr>
<tr>
<td>3</td>
<td>4.25 (14) 3.50 (16-18) 2.75 (20)</td>
<td>06 9177 7016 01 003 06 9177 7016 02 003 06 9177 7016 03 003</td>
</tr>
</tbody>
</table>

**NOTES:**
1. ALL DIMENSIONS FOR REFERENCE DIMENSIONS.
2. MAXIMUM COMPONENT HEIGHT 0.80MM IN THIS AREA.
3. MAXIMUM COMPONENT HEIGHT 11.00 MM IN THIS AREA.
4. THE SAME RESTRICTIONS APPLY TO ALL WIRE INSULATION DIAMETERS.

The assembly tooling restricts the available space/component heights on the PCB. For details see below.

**INSERTION TOOLING – PCB RESTRICTED AREAS FOR ASSEMBLY TOOLING**

1 WAY

2 WAY

3 WAY

The Important Information/Disclaimer is incorporated in these specifications by reference and should be reviewed in full before placing any order.
AVX developed the initial SMT discrete wire IDC connector 5 years ago for 26-28AWG AVX wires. Since then, we have seen this Wire-to-Board (WTB) contact technology spread to multiple wire gauges and multiple configurations; standard connectors, capped connectors and single contacts. All of which addresses specific application or cost parameters set forth by our customer in demanding industrial, transportation or commercial applications. The heart of the IDC connector is the true "gas tight" WTB termination that is achieved once the wire is inserted between the dual phosphor bronze contact tines. These opposing tines provide enough spring characteristics to allow the termination to remain stable over extreme levels of temperature, shock and vibration.

The new 9177-600 family of contacts incorporates all of the above mentioned capabilities. From low cost single contacts to fully integrated capped contacts. The unique feature of the 600 series is the fact that it was developed for Plated Through Hole (PTH) termination to the PCB. This addresses the rugged power type boards that have to handle larger wire gauges up to 12AWG and 15 Amps per contact of current. The PTH option provides robust PCB attachment and high current capabilities to replace older technology connectors or in most cases soldering stripped wires directly to the PCB.

### APPLICATIONS
- Industrial pumps, motors and driver boards
- Solar and alternative energy products
- Commercial electrical equipment
- Reference Product Specification & application notes 201-01-141/142

### FEATURES AND BENEFITS
- IDC contact provides a "gas tight" wire termination to the PCB to meet harsh industrial environments
- Simple, robust design offers a high performance solution to hand soldering large gauge wires to a PCB
- A single contact an handle up to 15A for high current applications with wire replacement up to 3 times
- The versatile family of IDC contact can accept 12-18AWG of stranded wires and can be tested for compliance with solid wires

### ELECTRICAL
- Current Rating: 15A
- Voltage Rating: 600 VAC

### ENVIRONMENTAL
- Operating Temperature: -40ºC to +125ºC

### MECHANICAL
- Insulator Material: Nylon 46, UL94V0
- Contact Material: Phosphor Bronze
- Plating: Tin over Nickel
- Durability: Wires can be replaced up to 3 time

### HOW TO ORDER

<table>
<thead>
<tr>
<th>Prefix</th>
<th>Series</th>
<th>Number of Ways</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>00</td>
<td>9177</td>
<td>1</td>
<td>Page 69</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Code</th>
<th>Style</th>
<th>Accepted Wire Gauge</th>
<th>Wire Insulation</th>
</tr>
</thead>
<tbody>
<tr>
<td>691</td>
<td>Though Hole Mount</td>
<td>12 AWG Solid or Stranded</td>
<td>Ø 4.25 Max</td>
</tr>
<tr>
<td>601</td>
<td>Though Hole Mount</td>
<td>14 AWG Solid or Stranded</td>
<td>Ø 4.25 Max</td>
</tr>
<tr>
<td>612</td>
<td>Though Hole Mount</td>
<td>16 AWG Solid or Stranded</td>
<td>Ø 3.50 Max</td>
</tr>
<tr>
<td>622</td>
<td>Though Hole Mount</td>
<td>18 AWG Solid or Stranded</td>
<td>Ø 3.50 Max</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Code</th>
<th>Insulator Color</th>
<th>Cap Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>00</td>
<td>Black - Special Order</td>
<td>Through Wire</td>
<td>Any Position Along Wire</td>
</tr>
<tr>
<td>09</td>
<td>Black - Special Order</td>
<td>Wire Stop</td>
<td>End of Wire- Includes Stop</td>
</tr>
<tr>
<td>10</td>
<td>White - Standard</td>
<td>Through Wire</td>
<td>Any Position Along Wire</td>
</tr>
<tr>
<td>19</td>
<td>White - Standard</td>
<td>Wire Stop</td>
<td>End of Wire- Includes Stop</td>
</tr>
</tbody>
</table>

Plating Option 6 = Pure Tin all Over

RoHS COMPLIANT

The Important Information/Disclaimer is incorporated in these specifications by reference and should be reviewed in full before placing any order.
The Important Information/Disclaimer is incorporated in these specifications by reference and should be reviewed in full before placing any order.

**12 - 18 AWG 1 WAY IDC CONNECTOR WIRE THROUGH CAP**

**NOTES:**
1. CONNECTOR FOR IDC WIRE TO BOARD CONNECTION, WIRE THROUGH CAP, CAN BE ASSEMBLED AT ANY POSITION ALONG A WIRE.
2. CONTACT MATERIAL: PHOSPHOR BRONZE. INSULATION MATERIAL: HIGH TEMP NYLON 46, UL94 V-0. COLOR REFER TO PAGE 68.
3. CONNECTOR DESIGNED TO ACCEPT BETWEEN 12 AND 18 AWG STRANDED WIRE.
4. ALL DIMENSIONS ±0.20 UNLESS TOLERANCED.
5. FOR FULL PRODUCT SPECIFICATION ON STANDARD CONNECTORS REFER TO ELCO SPEC 201-01-141.
6. APPLICATION NOTES 201-01-142.
7. OUTLINE OF CAP NO SPACE FOR COMPONENTS.
8. TEST TO INDICATE MAXIMUM INSULATION DIAMETER.

**PACKING DETAILS**

**SMT PCB LAYOUT**

**TABLE:**

<table>
<thead>
<tr>
<th>Code</th>
<th>Accepted Wire Gauge</th>
<th>A (mm)</th>
<th>Wire Insulation</th>
<th>B (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>691</td>
<td>12 AWG Solid or Stranded</td>
<td>1.50</td>
<td>Ø4.25 Max</td>
<td>4.25</td>
</tr>
<tr>
<td>601</td>
<td>14 AWG Solid or Stranded</td>
<td>1.10</td>
<td>Ø4.25 Max</td>
<td>4.25</td>
</tr>
<tr>
<td>612</td>
<td>16 AWG Solid or Stranded</td>
<td>0.82</td>
<td>Ø3.50 Max</td>
<td>3.50</td>
</tr>
<tr>
<td>622</td>
<td>18 AWG Solid or Stranded</td>
<td>0.72</td>
<td>Ø3.50 Max</td>
<td>3.50</td>
</tr>
</tbody>
</table>
**CAPPED THRU HOLE 12-18 AWG: 00-9177**

1 Position - Wire Stop

---

**12 - 18 AWG 1 WAY IDC CONNECTOR WIRE STOP CAP**

NOTES:

1. CONNECTOR FOR IDC WIRE TO BOARD CONNECTION, WIRE STOP CAP, FOR USE AT WIRE END.
2. CONTACT MATERIAL: PHOSPHOR BRONZE. INSULATION MATERIAL: HIGH TEMP NYLON 46, UL94 V-0. COLOR REFER TO PAGE 68.
3. CONNECTOR DESIGNED TO ACCEPT BETWEEN 12 AND 18 AWG STRANDED WIRE.
4. ALL DIMENSIONS ±0.20 UNLESS TOLERANCED.
5. FOR FULL PRODUCT SPECIFICATION ON STANDARD CONNECTORS REFER TO ELCO SPEC 201-01-141.
6. APPLICATION NOTES 201-01-142.
7. OUTLINE OF CAP NO SPACE FOR COMPONENTS.
8. TEST TO INDICATE MAXIMUM INSULATION DIAMETER.
9. SLOT TO CHECK WIRE POSITION BEFORE ASSEMBLY.

---

**PACKING DETAILS**

<table>
<thead>
<tr>
<th>Code</th>
<th>Accepted Wire Gauge</th>
<th>A</th>
<th>Wire Insulation</th>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td>691</td>
<td>12 AWG Solid or Stranded</td>
<td>1.50</td>
<td>Ø4.25 Max</td>
<td>4.25</td>
</tr>
<tr>
<td>601</td>
<td>14 AWG Solid or Stranded</td>
<td>1.10</td>
<td>Ø4.25 Max</td>
<td>4.25</td>
</tr>
<tr>
<td>612</td>
<td>16 AWG Solid or Stranded</td>
<td>0.82</td>
<td>Ø3.50 Max</td>
<td>3.50</td>
</tr>
<tr>
<td>622</td>
<td>18 AWG Solid or Stranded</td>
<td>0.72</td>
<td>Ø3.50 Max</td>
<td>3.50</td>
</tr>
</tbody>
</table>

---

**SMT PCB LAYOUT**

PURE TIN PADS

6.00 NOTE 7

5.50 NOTE 7

5.00

Ø2.50 REF

Ø1.50°45

---

The Important Information/Disclaimer is incorporated in these specifications by reference and should be reviewed in full before placing any order.
AVX developed the initial SMT discrete wire IDC connector 5 years ago for 26-28AWG AVX wires. Since then, we have seen this Wire-to-Board (WTB) contact technology spread to multiple wire gauges and multiple configurations; standard connectors, capped connectors and single contacts. All of which addresses specific application or cost parameters set forth by our customer in demanding industrial, transportation or commercial applications. The heart of the IDC connector is the true “gas tight” WTB termination that is achieved once the wire is inserted between the dual phosphor bronze contact tines. These opposing tines provide enough spring characteristics to allow the termination to remain stable over extreme levels of temperature, shock and vibration.

The new 9177-600 family of contacts incorporates all of the above mentioned capabilities. From low cost single contacts to fully integrated capped contacts. The unique feature of the 600 series is the fact that it was developed for Plated Through Hole (PTH) termination to the PCB. This addresses the rugged power type boards that have to handle larger wire gauges up to 12AWG and 15 Amps per contact of current. The PTH option provides robust PCB attachment and high current capabilities to replace older technology connectors or in most cases soldering stripped wires directly to the PCB.

### APPLICATIONS
- Industrial pumps, motors and driver boards
- Solar and alternative energy products
- Commercial electrical equipment
- Reference Product Specification & application notes 201-01-141/142

### FEATURES AND BENEFITS
- IDC contact provides a “gas tight” wire termination to the PCB to meet harsh industrial environments
- Simple, robust design offers a high performance solution to hand soldering large gauge wires to a PCB
- A single contact an handle up to 15A for high current applications with wire replacement up to 3 times
- The versatile family of IDC contact can accept 12-18AWG of stranded wires and can be tested for compliance with solid wires

### ELECTRICAL
- Current Rating: 15A
- Voltage Rating: 600 VAC

### ENVIRONMENTAL
- Operating Temperature: -40ºC to +125ºC

### MECHANICAL
- Insulator Material: Nylon 46, UL94VO
- Contact Material: Phosphor Bronze
- Plating: Tin over Nickel
- Durability: Wires can be replaced up to 3 time
70-9177-001-6XX-006

CONTACT DETAILS

PCB LAYOUT FOR CONTACT

NOTES:
1. IDC CONTACT OT ACCEPT WIRES FROM 12 AWG TO 18 AWG.
2. MATERIAL: PHOSPHOR BRONZE.
3. PLATING PURE TIN OVER NICKEL.
4. ALL DIMENSIONS ±0.20 UNLESS SPECIFIED.
5. PACKING IN BAGS, 800 PIECES PER BAG.
6. PRODUCT SPECIFICATION REFER TO 201-01-141.
7. OUTLINE OF CONTACT SEE PAGE 71 FOR ADDITIONAL CLEARANCE REQUIRED FOR WIRE INSERTION TOOL.
8. FOR ASSEMBLY DETAILS REFER TO APPLICATION NOTES 201-01-142.

<table>
<thead>
<tr>
<th>Code</th>
<th>Accepted Wire Gauge</th>
<th>A</th>
</tr>
</thead>
<tbody>
<tr>
<td>691</td>
<td>12 AWG Solid or Stranded</td>
<td>1.50</td>
</tr>
<tr>
<td>601</td>
<td>14 AWG Solid or Stranded</td>
<td>1.10</td>
</tr>
<tr>
<td>612</td>
<td>16 AWG Solid or Stranded</td>
<td>0.82</td>
</tr>
<tr>
<td>622</td>
<td>18 AWG Solid or Stranded</td>
<td>0.72</td>
</tr>
</tbody>
</table>
SINGLE THRU HOLE IDC CONTACT
12-18 AWG: 9177-600
Assembly Tooling

ASSEMBLY TOOLING

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Wire Insulation</th>
<th>A</th>
</tr>
</thead>
<tbody>
<tr>
<td>06-9177-7021-01-000</td>
<td>Ø 3.50 - 4.25</td>
<td>425</td>
</tr>
<tr>
<td>06-9177-7021-02-000</td>
<td>Ø 3.50 - 4.50</td>
<td>350</td>
</tr>
<tr>
<td>06-9177-7021-03-000</td>
<td>Ø 3.50 - 2.75</td>
<td>275</td>
</tr>
</tbody>
</table>

NOTES:
1. WIRE INSERTION TOOL 06-9177-7021-0X-000, FULL PART NUMBER REFER TO TABLE.
2. TOOL PART NUMBER DEPENDENT ON WIRE INSULATION DIAMETER NOT WIRE GAUGE OR CONTACT NUMBER.
3. ASSEMBLY DETAILS REFER TO APPLICATION NOTES 201-01-142
4. MATERIAL: TOOL STEEL.
5. APACE REQUIRED ON PCB FOR TOOL. NO COMPONENTS IN THIS AREA.

PCB CLEARANCE AREA FOR TOOL
SINGLE THRU HOLE IDC CONTACT
12-18 AWG: 9177-600
Accessory Cap - Through Wire

60-9177-001-6XX-X00 1 WAY WIRE THROUGH
CAP DETAILS

NOTES:
1. CAP FOR IDC WIRE TO BOARD CONNECTION, 1 WAY WITH THROUGH WIRE.
2. WIRE THROUGH CAP FOR ASSEMBLY AT ANY POSITION ON A WIRE.
3. CAP MATERIAL: GLASS FILLED NYLON 46, UL94 V-0. COLOR SEE PAGE 71.
4. CAP DESIGNED TO ACCOMMODATE WIRE INSULATION.
   DIAMETERS 2.10MM TO 2.75MM, 2.75MM TO 3.50MM AND 3.50MM TO 4.25MM.
5. ALL DIMENSIONS ±0.20 UNLESS STATED.
6. PACKED IN BAGS, QUANTITY 800 PIECES PER BAG.
7. PRODUCT SPECIFICATION REFER TO 201-01-141.
8. FOR ASSEMBLY DETAILS REFER TO APPLICATION NOTES 201-01-142.

<table>
<thead>
<tr>
<th>Code</th>
<th>Diameter A</th>
<th>Text Note 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>627</td>
<td>2.75</td>
<td>1.50</td>
</tr>
<tr>
<td>635</td>
<td>3.50</td>
<td>1.10</td>
</tr>
<tr>
<td>642</td>
<td>4.25</td>
<td>0.82</td>
</tr>
</tbody>
</table>
The Important Information/Disclaimer is incorporated in these specifications by reference and should be reviewed in full before placing any order.

60-9177-001-6XX-X99 1 WAY WIRE STOP

CAP DETAILS

NOTES:
1. CCAP FOR IDC WIRE TO BOARD CONNECTION, 1 WAY WITH WIRE STOP.
2. WIRE STOP FOR USE AT END OF WIRE.
3. SLOT TO CHECK WIRE POSITION BEFORE ASSEMBLY.
4. CAP MATERIAL: GLASS FILLED NYLON 46, UL94 V-0. COLOR SEE PAGE 71.
5. CAP DESIGNED TO ACCOMMODATE WIRE INSULATION.
   DIAMETERS 2.10MM TO 2.75MM, 2.75MM TO 3.50MM AND 3.50MM TO 4.25MM.
6. ALL DIMENSIONS ±0.20 UNLESS STATED.
7. PACKED IN BAGS, QUANTITY 800 PIECES PER BAG.
8. PRODUCT SPECIFICATION REFER TO 201-01-141.
9. FOR ASSEMBLY DETAILS REFER TO APPLICATION NOTES 201-01-142.

<table>
<thead>
<tr>
<th>Code</th>
<th>Diameter A</th>
<th>Text</th>
</tr>
</thead>
<tbody>
<tr>
<td>627</td>
<td>2.75</td>
<td>2.75</td>
</tr>
<tr>
<td>635</td>
<td>3.50</td>
<td>3.50</td>
</tr>
<tr>
<td>642</td>
<td>4.25</td>
<td>4.25</td>
</tr>
</tbody>
</table>
The new 9276 series connector provides a quick and reliable wire-to-board termination in a sleek 2.5mm pitch SMT package for a broad range of industrial and commercial markets. With almost every product on the market today having to deal with a small number of discrete wires to connect components to a board, the 9276 series connectors meet this challenge by simply stripping the wire and inserting them into the connector. This makes the connector very termination friendly within the factory as well as in the field by electrical installers. Developed for harsh industrial and Solid State Lighting (SSL) applications, the connector was designed with a high spring force Beryllium Copper upper spring contact to accept a wide range (18-26 AWG solid or stranded) of wire to meet multiple applications with a single connector. By incorporating a dual-contact design we were able to maximize current rating (6 Amps) and minimize PCB space. For example, the 4p connector has a footprint of 90 sq-mm while competing products are 160 sq-mm. The dual-contact design also provides two solder points for each wire eliminating the need for external anchor tabs. AVX provides a small insertion / extraction tool which will allow the wires to easily be replaced up to 5 times.

### APPLICATIONS
- Connecting discrete wire components directly to the PCB
- Bringing power and signals onto a PCB
- Daisy chaining PCB's together to create a continuous string of boards
- Application notes: refer to 201-01-127

### FEATURES AND BENEFITS
- Simple strip, insert and removal design
- SMT RoHS termination to the PCB with minimal footprint
- Accepts 18-26 AWG Solid and Stranded wires
- Expanded size offering to maximize application potential, 1, 2, 3, 4, 6 & 8 positions
- High spring force top contact provides a lance type retention to capture and retain the wire
- Available in standard white and optional black color

### ELECTRICAL
- Current Rating: 6 Amps / Contact
- Voltage Rating: 300 VAC

### ENVIRONMENTAL
- Operating Temperature: -40°C to +125°C

### MECHANICAL
- Insulator Material: Glass-Filled Nylon 46; UL94V0
- Contact Material: Beryllium Copper / Phosphor Bronze
- Plating: Tin over Nickel
- Replaceability: 5 Cycles

### HOW TO ORDER

<table>
<thead>
<tr>
<th>Code</th>
<th>No. of Ways</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>001</td>
<td>1</td>
<td>Page 78</td>
</tr>
<tr>
<td>002</td>
<td>2</td>
<td>Page 79</td>
</tr>
<tr>
<td>003</td>
<td>3</td>
<td>Page 80</td>
</tr>
<tr>
<td>004</td>
<td>4</td>
<td>Page 81</td>
</tr>
<tr>
<td>006</td>
<td>6</td>
<td>Page 82</td>
</tr>
<tr>
<td>008</td>
<td>8</td>
<td>Page 83</td>
</tr>
</tbody>
</table>

**Wire Gauge Size**

<table>
<thead>
<tr>
<th>Code</th>
<th>Accepted Wire Gauge</th>
<th>Max Conductor Diameter</th>
<th>Max Insulation Diameter</th>
</tr>
</thead>
<tbody>
<tr>
<td>21</td>
<td>18-26 AWG Solid or Stranded</td>
<td>1.20mm</td>
<td>2.10mm</td>
</tr>
</tbody>
</table>

### Code Accepted Wire Gauge

- 9 = UL White
- 8 = UL Black
- 06 = Pure Tin all Over

Certification: UL File #E90723
The Important Information/Disclaimer is incorporated in these specifications by reference and should be reviewed in full before placing any order.

**POKE-HOME: HORIZONTAL**

**18-26 AWG: 00-9276**

Wire Assembly/Wire Extraction

**WIRE ASSEMBLY**

FOR FURTHER DETAILS REFER TO APPLICATION NOTES 201-01-127

TRIM INSULATION.
DO NOT CRUSH CENTER OF WIRE.
STRANDED WIRES TWISTED TOGETHER BEFORE INSERTION.
CHECK ALL STANDS OF WIRE ARE CORRECTLY ALIGNED
AFTER THE INSULATION IS REMOVED.

PUSH WIRE INTO HOLE IN FRONT OF CONNECTOR
DO NOT BEND CONNECTOR

CONTINUED TO PUSH WIRE UNTIL STOP IS REACHED.

**WIRE EXTRACTION**

PUSH BLADE (NOT SHARP) INTO SLOT ABOVE WIRE.
WHEN WIRE IS FREE, PULL TO EXTRACT.
The Important Information/Disclaimer is incorporated in these specifications by reference and should be reviewed in full before placing any order.

1 WAY WIRE TO BOARD CONNECTOR

SECTION ON A-A

SECTION ON A-A WITH WIRE

NOTES:
1. 9276 ONE WAY CONNECTOR, REFER TO ELCO SPECIFICATION 201-01-125 AND APPLICATION NOTES 201-01-127 FOR FURTHER DETAILS
2. INSULATOR MATERIAL: NYLON 46, GLASS FILLED, UL94 V-0, COLOR REFER TO PAGE 76.
3. CONTACT MATERIAL: COPPER ALLOY, 0.20MM THICK, TIN PLATED.
4. OUTLINE OF CONNECTOR.
5. WIRE ASSEMBLY / EXTRACTION, REFER TO PAGE 77.
6. FRONT FACE OF CONNECTOR CAN BE IN LINE WITH EDGE OF PCB.
7. PACKING TAPE AND REEL, QUANTITY 1000 PER REEL.

1 WAY PCB BOARD LAYOUT

POKE-HOME: HORIZONTAL
18-26 AWG: 00-9276
1 Position

The Important Information/Disclaimer is incorporated in these specifications by reference and should be reviewed in full before placing any order.
2 WAY WIRE TO BOARD CONNECTOR

NOTES:
1. 9276 TWO WAY CONNECTOR, REFER TO ELCO SPECIFICATION 201-01-125 AND APPLICATION NOTES 201-01-127 FOR FURTHER DETAILS
2. INSULATOR MATERIAL: NYLON 46, GLASS FILLED, UL94 V-0, COLOR REFER TO PAGE 76.
3. CONTACT MATERIAL: COPPER ALLOY, 0.20MM THICK, TIN PLATED.
4. OUTLINE OF CONNECTOR.
5. WIRE ASSEMBLY / EXTRACTION, REFER TO PAGE 77.
6. FRONT FACE OF CONNECTOR CAN BE IN LINE WITH EDGE OF PCB.
7. PACKING TAPE AND REEL, QUANTITY 1000 PER REEL.

2 WAY PCB BOARD LAYOUT

POKE-HOME: HORIZONTAL
18-26 AWG: 00-9276
2 Position
The Important Information/Disclaimer is incorporated in these specifications by reference and should be reviewed in full before placing any order.

**3 WAY WIRE TO BOARD CONNECTOR**

![Diagram of 3 WAY WIRE TO BOARD CONNECTOR]

**SECTION ON A-A**

![Diagram of SECTION ON A-A]

**SECTION ON A-A WITH WIRE**

![Diagram of SECTION ON A-A WITH WIRE]

**NOTES:**
1. 9276 THREE WAY CONNECTOR, REFER TO ELCO SPECIFICATION 201-01-125 AND APPLICATION NOTES 201-01-127 FOR FURTHER DETAILS
2. INSULATOR MATERIAL: NYLON 46, GLASS FILLED, UL94 V-0, COLOR REFER TO PAGE 76.
3. CONTACT MATERIAL: COPPER ALLOY, 0.20MM THICK, TIN PLATED.
4. OUTLINE OF CONNECTOR.
5. WIRE ASSEMBLY / EXTRACTION, REFER TO PAGE 77.
6. FRONT FACE OF CONNECTOR CAN BE IN LINE WITH EDGE OF PCB.
7. PACKING TAPE AND REEL, QUANTITY 1000 PER REEL.

**3 WAY PCB BOARD LAYOUT**

![Diagram of 3 WAY PCB BOARD LAYOUT]

**PACKING DETAILS**

![Diagram of PACKING DETAILS]
The Important Information/Disclaimer is incorporated in these specifications by reference and should be reviewed in full before placing any order.

4 WAY WIRE TO BOARD CONNECTOR

NOTES:
1. 9276 FOUR WAY CONNECTOR, REFER TO ELCO SPECIFICATION 201-01-125 AND APPLICATION NOTES 201-01-127 FOR FURTHER DETAILS
2. INSULATOR MATERIAL: NYLON 46, GLASS FILLED, UL94 V-0, COLOR REFER TO PAGE 76.
3. CONTACT MATERIAL: COPPER ALLOY, 0.20MM THICK, TIN PLATED.
4. OUTLINE OF CONNECTOR.
5. WIRE ASSEMBLY / EXTRACTION, REFER TO PAGE 77.
6. FRONT FACE OF CONNECTOR CAN BE IN LINE WITH EDGE OF PCB.
7. PACKING TAPE AND REEL, QUANTITY 1000 PER REEL.

4 WAY PCB BOARD LAYOUT

PACKING DETAILS
The Important Information/Disclaimer is incorporated in these specifications by reference and should be reviewed in full before placing any order.

6 WAY WIRE TO BOARD CONNECTOR

NOTES:
1. 9276 SIX WAY CONNECTOR, REFER TO ELCO SPECIFICATION 201-01-125 AND APPLICATION NOTES 201-01-127 FOR FURTHER DETAILS
2. INSULATOR MATERIAL: NYLON 46, GLASS FILLED, UL94 V-0, COLOR REFER TO PAGE 76.
3. CONTACT MATERIAL: COPPER ALLOY, 0.20MM THICK, TIN PLATED.
4. OUTLINE OF CONNECTOR.
5. WIRE ASSEMBLY / EXTRACTION, REFER TO PAGE 77.
6. FRONT FACE OF CONNECTOR CAN BE IN LINE WITH EDGE OF PCB.
7. PACKING TAPE AND REEL, QUANTITY 1000 PER REEL.

6 WAY PCB BOARD LAYOUT

POKE-HOME: HORIZONTAL
18-26 AWG: 00-9276
6 Position
The Important Information/Disclaimer is incorporated in these specifications by reference and should be reviewed in full before placing any order.

8 WAY WIRE TO BOARD CONNECTOR

NOTES:
1. 9276 EIGHT WAY CONNECTOR, REFER TO ELCO SPECIFICATION 201-01-125 AND APPLICATION NOTES 201-01-127 FOR FURTHER DETAILS
2. INSULATOR MATERIAL: NYLON 46, GLASS FILLED, UL94 V-0, COLOR REFER TO PAGE 76.
3. CONTACT MATERIAL: COPPER ALLOY, 0.20MM THICK, TIN PLATED.
4. OUTLINE OF CONNECTOR.
5. WIRE ASSEMBLY / EXTRACTION, REFER TO PAGE 77.
6. FRONT FACE OF CONNECTOR CAN BE IN LINE WITH EDGE OF PCB.
7. PACKING TAPE AND REEL, QUANTITY 1000 PER REEL.

8 WAY PCB BOARD LAYOUT

PACKING DETAILS
POKE-HOME: SINGLE HORIZONTAL CONTACT
12-28 AWG: 70-9296

General Information

The widespread market adaptation of the AVX STRIPT™ contact systems continue to drive new product developments. The 70-9296 series of dual beam, boxed contacts provide a simple, yet reliable wire-to-board alternative to full sized 1pc and 2pc connector solutions. Contacts are SMT onto the PCB, then either solid or stranded wires can be stripped to length and inserted into the contact. Contacts are designed with dual beam high force contacts to maximize wire retention. Integral wire guides and stop assures proper positioning of the wire.

In this round of product expansion, the 2.5mm has been added to offer a new size when trying to maximize AWG and keep the smallest profile contact available is size critical applications. Additionally, this contact has been designed without a wire stop to facilitate solid pin insertion capabilities for board-to-board and module-to-module applications (see BTB Jumper data sheet for 109296001xxx906).

APPLICATIONS
- Industrial/Ruggedized Wire-to-Board applications
- Replace hard soldering of wire to a PCB
- Reference Product Specification 201-01-143
- Reference Application Notes 201-01-150
- Linear Board-to-Board capabilities with 109296001xxx906 jumpers

FEATURES AND BENEFITS
- Dual Beam box contact provides maximum mechanical stability and wire retention
- Tape and reel packaged for automated SMT placement
- Staged current rating based on AWG, maximum is 20A (12AWG)
- 2.5mm w/o wire stop allows for variable PCB mating tolerances in linear BTB applications

ELECTRICAL
- Voltage Rating: 300V Based on placement distance
- Current Rating: See Matrix Below

ENVIRONMENTAL
- Operating Temperature: -40°C to +125°C

MECHANICAL
- Contact Material: Phosphor Bronze
- Contact Plating: Pure Tin
- Durability 5 Cycles

HOW TO ORDER

<table>
<thead>
<tr>
<th>70</th>
<th>9296</th>
<th>001</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prefix</td>
<td>Series</td>
<td>Number of Ways</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Code</th>
<th>Contact Size</th>
<th>Wire Gauge</th>
<th>Max Insulation</th>
<th>UL Approved</th>
<th>Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>017</td>
<td>1.7mm Contact</td>
<td>22-26 AWG Solid or Stranded</td>
<td>1.3mm Ø (See page 85)</td>
<td>Yes</td>
<td>006 = Wire Stop Included Pure Tin All Over</td>
</tr>
<tr>
<td>002</td>
<td>2mm Contact</td>
<td>22-26 AWG Solid or Stranded</td>
<td>1.5mm Ø (See page 85)</td>
<td>Yes</td>
<td>016 = No Wire Stop (2.5mm only) Pure Tin All Over</td>
</tr>
<tr>
<td>025</td>
<td>2.5mm Contact</td>
<td>20-26 AWG Solid or Stranded</td>
<td>Max 2mm Ø (See page 85)</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>003</td>
<td>3mm Contact</td>
<td>18-26 AWG Solid or Stranded</td>
<td>2.5mm Ø</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>004</td>
<td>4mm Contact</td>
<td>12-20 AWG Solid or Stranded</td>
<td>3.4mm Ø</td>
<td>Yes</td>
<td></td>
</tr>
</tbody>
</table>

CURRENT RATING

<table>
<thead>
<tr>
<th>Size</th>
<th>Part Number</th>
<th>12AWG</th>
<th>14AWG</th>
<th>16AWG</th>
<th>18AWG</th>
<th>20AWG</th>
<th>22AWG</th>
<th>24AWG</th>
<th>26AWG</th>
<th>28AWG</th>
</tr>
</thead>
<tbody>
<tr>
<td>4mm</td>
<td>709296001004006</td>
<td>20A</td>
<td>16A</td>
<td>14A</td>
<td>12A</td>
<td>10A</td>
<td>8A</td>
<td>7A</td>
<td>5A</td>
<td></td>
</tr>
<tr>
<td>3mm</td>
<td>709296001003006</td>
<td>12A</td>
<td>10A</td>
<td>8A</td>
<td>7A</td>
<td>5A</td>
<td>4A</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.5mm</td>
<td>709296001025006</td>
<td>12A</td>
<td>10A</td>
<td>8A</td>
<td>7A</td>
<td>5A</td>
<td>4A</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2mm</td>
<td>709296001002006</td>
<td>8A</td>
<td>7A</td>
<td>5A</td>
<td>4A</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.7mm</td>
<td>709296001017006</td>
<td>8A</td>
<td>7A</td>
<td>5A</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The Important Information/Disclaimer is incorporated in these specifications by reference and should be reviewed in full before placing any order.
The Important Information/Disclaimer is incorporated in these specifications by reference and should be reviewed in full before placing any order.

POKE-HOME: SINGLE HORIZONTAL CONTACT
12-28 AWG: 70-9296
1.7mm

70-9296-001-017-006
1.7MM POKE HOME CONTACT

NOTES:
1. FOR FURTHER INFORMATION REFER TO ELCO SPECIFICATION 201-01-143 AND APPLICATION NOTES 201-01-150.
2. MATERIAL: TIN PLATED PHOSPHOR BRONZE.
3. PACKING IN TAPE AND REEL, 4000 PIECES PER REEL.
4. FOR WIRE TRIM DETAILS REFER TO PAGE 91.
5. AREA AVAILABLE FOR PICK AND PLACE.
6. UL REFERENCE 90723.
7. GENERAL TOLERANCE ±0.10.

SUGGESTED PCB LAYOUT

PACKING DETAILS

The Important Information/Disclaimer is incorporated in these specifications by reference and should be reviewed in full before placing any order.
POKE-HOME: SINGLE HORIZONTAL CONTACT
12-28 AWG: 70-9296

2mm

70-9296-001-002-006
2MM POKE HOME CONTACT

NOTES:
1. FOR FURTHER INFORMATION REFER TO ELCO SPECIFICATION 201-01-143 AND APPLICATION NOTES 201-01-150.
2. MATERIAL: TIN PLATED PHOSPHOR BRONZE.
3. PACKING IN TAPE AND REEL, 3500 PIECES PER REEL.
4. FOR WIRE TRIM DETAILS REFER TO PAGE 91.
5. AREA AVAILABLE FOR PICK AND PLACE.
6. UL REFERENCE 90723.
7. GENERAL TOLERANCE ±0.10.

SUGGESTED PCB LAYOUT

PACKING DETAILS
POKE-HOME: SINGLE HORIZONTAL CONTACT
12-28 AWG: 70-9296

2.5mm

70-9296-001-025-006
2.5MM POKE HOME CONTACT

NOTES:
1. FOR FURTHER INFORMATION REFER TO ELCO SPECIFICATION 201-01-143 AND
APPLICATION NOTES 201-01-150.
2. MATERIAL: TIN PLATED PHOSPHOR BRONZE.
3. PACKING IN TAPE AND REEL, 2500 PIECES PER REEL.
4. FOR WIRE TRIM DETAILS REFER TO PAGE 91.
5. AREA AVAILABLE FOR PICK AND PLACE.
6. THIS COMPONENT IS NOT CURRENTLY UL CERTIFIED.
7. GENERAL TOLERANCE ±0.10.

SUGGESTED PCB LAYOUT

PACKING DETAILS

2500 PIECES PER REEL

330mm DIAMETER REEL
POKE-HOME: SINGLE HORIZONTAL CONTACT
12-28 AWG: 70-9296
2.5mm – No Stop

70-9296-001-025-016
2.5MM POKE HOME CONTACT – NO STOP

NOTES:
1. FOR FURTHER INFORMATION REFER TO ELCO SPECIFICATION 201-01-143 AND APPLICATION NOTES 201-01-150.
2. MATERIAL: TIN PLATED PHOSPHOR BRONZE.
3. PACKING IN TAPE AND REEL, 2500 PIECES PER REEL.
4. FOR WIRE TRIM DETAILS REFER TO PAGE 91.
5. AREA AVAILABLE FOR PICK AND PLACE.
6. THIS COMPONENT IS NOT CURRENTLY UL CERTIFIED.
7. GENERAL TOLERANCE ±0.10.

SUGGESTED PCB LAYOUT

PACKING DETAILS
The Important Information/Disclaimer is incorporated in these specifications by reference and should be reviewed in full before placing any order.

POKE-HOME: SINGLE HORIZONTAL CONTACT
12-28 AWG: 70-9296

3mm

70-9296-001-003-006
3MM POKE HOME CONTACT

NOTES:
1. FOR FURTHER INFORMATION REFER TO ELCO SPECIFICATION 201-01-143 AND APPLICATION NOTES 201-01-150.
2. MATERIAL: TIN PLATED PHOSPHOR BRONZE.
3. PACKING IN TAPE AND REEL, 2500 PIECES PER REEL.
4. FOR WIRE TRIM DETAILS REFER TO PAGE 91.
5. AREA AVAILABLE FOR PICK AND PLACE.
6. UL REFERENCE 90723.
7. GENERAL TOLERANCE ±0.10.

SUGGESTED PCB LAYOUT

PACKING DETAILS

The Important Information/Disclaimer is incorporated in these specifications by reference and should be reviewed in full before placing any order.
POKE-HOME: SINGLE HORIZONTAL CONTACT
12-28 AWG: 70-9296
4mm

70-9296-001-004-006
4MM POKE HOME CONTACT

NOTES:
1. FOR FURTHER INFORMATION REFER TO ELCO SPECIFICATION 201-01-143 AND APPLICATION NOTES 201-01-150.
2. MATERIAL: TIN PLATED PHOSPHOR BRONZE.
3. PACKING IN TAPE AND REEL, 2000 PIECES PER REEL.
4. FOR WIRE TRIM DETAILS REFER TO PAGE 91.
5. AREA AVAILABLE FOR PICK AND PLACE.
6. UL REFERENCE 90723.
7. GENERAL TOLERANCE ±0.10.

SUGGESTED PCB LAYOUT

PACKING DETAILS
POKE-HOME: SINGLE HORIZONTAL CONTACT
12-28 AWG: 70-9296
Connector Assembly / Contact Opening Tool

**CONNECTOR ASSEMBLY**

FOR FULL DETAILS REFER TO APPLICATION NOTES 201-01-150

---

### CONTACT OPENING TOOL

**06-9296-7001-01-000**

Tool to open the contact to insert/withdraw wire. Refer to Application Notes 201-01-150.

---

<table>
<thead>
<tr>
<th>CONTACT</th>
<th>WIRE SIZE</th>
<th>INSULATOR DIAMETER</th>
<th>TRIM LENGTH</th>
</tr>
</thead>
<tbody>
<tr>
<td>70-9296-001-004-006</td>
<td>12AWG and 14AWG</td>
<td>Max 3.4mm</td>
<td>6.5 ± 0.5mm</td>
</tr>
<tr>
<td>70-9296-001-004-006</td>
<td>16AWG, 18AWG and 20AWG</td>
<td>Max 2.5mm</td>
<td>5.5 ± 0.5mm</td>
</tr>
<tr>
<td>70-9296-001-003-006</td>
<td>18AWG to 26AWG</td>
<td>Max 2.5mm</td>
<td>4.5 ± 0.5mm</td>
</tr>
<tr>
<td>70-9296-001-025-006</td>
<td>20AWG to 26AWG</td>
<td>Max 2.0mm</td>
<td>3.5 ± 0.5mm</td>
</tr>
<tr>
<td>70-9296-001-025-006</td>
<td>20AWG to 26AWG</td>
<td>2.0mm to 2.50mm</td>
<td>6.0 ± 0.5mm*</td>
</tr>
<tr>
<td>70-9296-001-025-016</td>
<td>20AWG to 26AWG</td>
<td>Max 2.0mm</td>
<td>3.0mm Minimum ~ No Stop on Contact</td>
</tr>
<tr>
<td>70-9296-001-025-016</td>
<td>20AWG to 26AWG</td>
<td>Max 2.0mm</td>
<td>5.5mm Minimum ~ No Stop on Contact</td>
</tr>
<tr>
<td>70-9296-001-002-006</td>
<td>22AWG to 28AWG</td>
<td>Max 1.5mm</td>
<td>3.5 ± 0.5mm</td>
</tr>
<tr>
<td>70-9296-001-002-006</td>
<td>22AWG to 28AWG</td>
<td>1.5mm to 2.0mm</td>
<td>5.5 ± 0.5mm*</td>
</tr>
<tr>
<td>70-9296-001-017-006</td>
<td>22AWG to 26AWG</td>
<td>Max 1.3mm</td>
<td>4.0 ± 0.5mm</td>
</tr>
<tr>
<td>70-9296-001-017-006</td>
<td>22AWG to 26AWG</td>
<td>1.3mm to 1.7mm</td>
<td>6.0 ± 0.5mm*</td>
</tr>
</tbody>
</table>

* Wire insulation butts on end of contact
POKE-HOME: VERTICAL TOP ENTRY
18-26 AWG: 00-9296

AVX continues to develop innovative connectors for the industrial electronics market that provide significant benefits over existing, outdated connector solutions. Listening to the design engineering community, there are ongoing applications where they cannot find an off-the-shelf solution that will satisfy a high percentage of the projects configuration, performance and cost goals.

The newest addition to AVX’s broadening line of Wire-to-Board (WTB) connectors offers a cost effective, single Poke-Home connector solution that will meet the cost and performance targets in demanding, yet user friendly applications. At the heart of the connector is the industry proven dual tine, 3mm high spring force box contact that has been on the market as a standalone horizontal contact only solution.

The new SMT vertical top entry connector allows for 18AWG to 26AWG wires to be simply stripped and inserted into the connector body at 180 degree orientation to the top side of the PCB. This single connector will replace existing 2-Piece WTB solutions where a header is soldered onto the PCB and a secondary crimp-to-wire receptacle assembly is plugged in. Available in 1-6 positions, each connector will accept the entire wire gauge range for either solid or stranded wires at varying current ratings supported by each wire size. Once inserted, wires can easily be removed or replaced by twisting/unscrewing or by using a small blade extraction tool.

### APPLICATIONS
- Industrial/Ruggedized Wire-to-Board applications
- Replace hard soldering of wire to a PCB
- Replace costly 2-Piece header and receptacle products
- Reference Product Specification 201-01-151
- Reference Application Notes 201-01-152

### FEATURES AND BENEFITS
- Dual Beam box contact provides maximum mechanical stability and wire retention
- Tape and reel packaged for automated SMT placement
- Will accept either solid or stranded wire, 18-26AWG, plated or un-plated wires
- Simple strip and insert for wire loading, with easy twist and pull for wire removal

### ELECTRICAL
- Voltage Rating: 600 VAC 1 way; 300 VAC 2 - 6 way
- Current Rating: See matrix below

### ENVIRONMENTAL
- Operating Temperature: -40ºC to +125ºC

### MECHANICAL
- Contact Material: Copper Alloy
- Contact Plating: Tin over Nickel
- Durability: 5 Cycles

### HOW TO ORDER

<table>
<thead>
<tr>
<th>Prefix</th>
<th>Series</th>
<th>Number of Ways</th>
<th>Wire Gauge Size</th>
<th>Insulator Color</th>
<th>Plating Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>00</td>
<td>9296</td>
<td>001</td>
<td>553</td>
<td>06</td>
<td>06</td>
</tr>
<tr>
<td></td>
<td></td>
<td>001</td>
<td>553</td>
<td>06</td>
<td>06</td>
</tr>
</tbody>
</table>

#### Wire Gauge Size

<table>
<thead>
<tr>
<th>Code</th>
<th>Accepted Wire Gauge</th>
<th>Max Insulation</th>
</tr>
</thead>
<tbody>
<tr>
<td>553</td>
<td>18 – 26 AWG Solid or Stranded</td>
<td>2.2mm</td>
</tr>
</tbody>
</table>

#### Insulator Color

- 9 = UL White (Standard)
- 8 = UL Black (Special Order)
- 2 = UL Brown
- 3 = UL Blue
- 4 = UL Yellow
- 5 = UL Red
- 6 = UL Green
- 7 = UL Orange

### CURRENT RATING

<table>
<thead>
<tr>
<th>Wire Gauge</th>
<th>18AWG</th>
<th>20AWG</th>
<th>22AWG</th>
<th>24AWG</th>
<th>26AWG</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current</td>
<td>7A</td>
<td>6A</td>
<td>5A</td>
<td>4A</td>
<td>3A</td>
</tr>
</tbody>
</table>

Certification: UL File #E90723
9296 TOP MOUNT POKE HOME CONNECTOR
1 WAY

NOTES:
1. TOP MOUNT 1 WAY POKE HOME CONNECTOR. FOR FURTHER DETAILS REFER TO PRODUCT SPECIFICATION 201-01-151 AND APPLICATION NOTES 201-01-152.
2. SUITABLE FOR WIRES 18AWG TO 26AWG. MAXIMUM INSULATION 2.20MM DIAMETER.
3. INSULATOR: NYLON 46, GLASS FILLED, UL94 V-0. COLOR REFER TO PAGE 92.
4. CONTACT: TIN PLATE COPPER ALLOY.
5. PACKING IN TAPE AND REEL. QTY PER REEL 400, 330MM REEL.
6. CAPTON TAPE TO AID PICK AND PLACE, 4MM DIAMETER MAX AVAILABLE.
7. CONNECTOR OUTLINE.
8. GENERAL TOLERANCE ±0.20.
9. UL REFERENCE E90723.

SUGGESTED PCB LAYOUT

PACKING DETAILS

The Important InformationDisclaimer is incorporated in these specifications by reference and should be reviewed in full before placing any order.
9296 TOP MOUNT POKE HOME CONNECTOR
2 WAY

NOTES:
1. TOP MOUNT 2 WAY POKE HOME CONNECTOR. FOR FURTHER DETAILS REFER TO PRODUCT SPECIFICATION 201-01-151 AND APPLICATION NOTES 201-01-152.
2. SUITABLE FOR WIRES 18AWG TO 26AWG. MAXIMUM INSULATION 2.20MM DIAMETER.
3. INSULATOR: NYLON 46, GLASS FILLED, UL94 V-0. COLOR REFER TO PAGE 92.
4. CONTACT: TIN PLATE COPPER ALLOY.
5. PACKING IN TAPE AND REEL. QTY PER REEL 400, 330MM REEL.
6. CAPTION TAPE TO AID PICK AND PLACE, 4MM DIAMETER MAX AVAILABLE.
7. CONNECTOR OUTLINE.
8. GENERAL TOLERANCE ±0.20.
9. UL REFERENCE E90723.

SUGGESTED PCB LAYOUT

PACKING DETAILS

The Important Information/Disclaimer is incorporated in these specifications by reference and should be reviewed in full before placing any order.
POKE-HOME: VERTICAL TOP ENTRY
18-26 AWG: 00-9296

3 Position

9296 TOP MOUNT POKE HOME CONNECTOR
3 WAY

NOTES:
1. TOP MOUNT 3 WAY POKE HOME CONNECTOR. FOR FURTHER DETAILS REFER TO
   PRODUCT SPECIFICATION 201-01-151 AND APPLICATION NOTES 201-01-152.
2. SUITABLE FOR WIRES 18AWG TO 26AWG. MAXIMUM INSULATION 2.20MM DIAMETER.
3. INSULATOR: NYLON 46, GLASS FILLED, UL94 V-0. COLOR REFER TO PAGE 92.
4. CONTACT: TIN PLATE COPPER ALLOY.
5. PACKING IN TAPE AND REEL. QTY PER REEL 400, 330MM REEL.
6. CAPTON TAPE TO AID PICK AND PLACE, 4MM DIAMETER MAX AVAILABLE.
7. CONNECTOR OUTLINE.
8. GENERAL TOLERANCE ±0.20.
9. UL REFERENCE E90723.

SUGGESTED PCB LAYOUT

PACKING DETAILS

The Important Information/Disclaimer is incorporated in these specifications by reference and should be reviewed in full before placing any order.
The Important Information/Disclaimer is incorporated in these specifications by reference and should be reviewed in full before placing any order.

POKE-HOME: VERTICAL TOP ENTRY
18-26 AWG: 00-9296

4 Position

SUGGESTED PCB LAYOUT

NOTES:
1. TOP MOUNT 4 WAY POKE HOME CONNECTOR. FOR FURTHER DETAILS REFER TO PRODUCT SPECIFICATION 201-01-151 AND APPLICATION NOTES 201-01-152.
2. SUITABLE FOR WIRES 18AWG TO 26AWG. MAXIMUM INSULATION 2.20MM DIAMETER.
3. INSULATOR: NYLON 46, GLASS FILLED, UL94 V-0. COLOR REFER TO PAGE 92.
4. CONTACT: TIN PLATE COPPER ALLOY.
5. PACKING IN TAPE AND REEL. QTY PER REEL 400, 330MM REEL.
6. CAPTON TAPE TO AID PICK AND PLACE, 4MM DIAMETER MAX AVAILABLE.
7. CONNECTOR OUTLINE.
8. GENERAL TOLERANCE ±0.20.
9. UL REFERENCE E90723.

PACKING DETAILS

The Important Information/Disclaimer is incorporated in these specifications by reference and should be reviewed in full before placing any order.
The Important Information/Disclaimer is incorporated in these specifications by reference and should be reviewed in full before placing any order.

POKE-HOME: VERTICAL TOP ENTRY
18-26 AWG: 00-9296
5 Position

9296 TOP MOUNT POKE HOME CONNECTOR
5 WAY

NOTES:
1. TOP MOUNT 5 WAY POKE HOME CONNECTOR. FOR FURTHER DETAILS REFER TO PRODUCT SPECIFICATION 201-01-151 AND APPLICATION NOTES 201-01-152.
2. SUITABLE FOR WIRES 18AWG TO 26AWG. MAXIMUM INSULATION 2.20MM DIAMETER.
3. INSULATOR: NYLON 46, GLASS FILLED, UL94 V-0. COLOR REFER TO PAGE 92.
4. CONTACT: TIN PLATE COPPER ALLOY.
5. PACKING IN TAPE AND REEL. QTY PER REEL 400, 330MM REEL.
6. CAPTON TAPE TO AID PICK AND PLACE, 4MM DIAMETER MAX AVAILABLE.
7. CONNECTOR OUTLINE.
8. GENERAL TOLERANCE ±0.20.
9. UL REFERENCE E90723.

SUGGESTED PCB LAYOUT

PACKING DETAILS

The Important Information/Disclaimer is incorporated in these specifications by reference and should be reviewed in full before placing any order.
The Important Information/Disclaimer is incorporated in these specifications by reference and should be reviewed in full before placing any order.

POKE-HOME: VERTICAL TOP ENTRY
18-26 AWG: 00-9296
6 Position

9296 TOP MOUNT POKE HOME CONNECTOR
6 WAY

NOTES:
1. TOP MOUNT 6 WAY POKE HOME CONNECTOR. FOR FURTHER DETAILS REFER TO PRODUCT SPECIFICATION 201-01-151 AND APPLICATION NOTES 201-01-152.
2. SUITABLE FOR WIRES 18AWG TO 26AWG. MAXIMUM INSULATION 2.20MM DIAMETER.
3. INSULATOR: NYLON 46, GLASS FILLED, UL94 V-0. COLOR REFER TO PAGE 92.
4. CONTACT: TIN PLATE COPPER ALLOY.
5. PACKING IN TAPE AND REEL. QTY PER REEL 400, 330MM REEL.
6. CAPTON TAPE TO AID PICK AND PLACE, 4MM DIAMETER MAX AVAILABLE.
7. CONNECTOR OUTLINE.
8. GENERAL TOLERANCE ±0.20.
9. UL REFERENCE E90723.
The Important Information/Disclaimer is incorporated in these specifications by reference and should be reviewed in full before placing any order.

9296 TOP MOUNT POKE HOME CONNECTOR ASSEMBLY

Refer to application notes 201-01-152 for full assembly procedure.

9296 TOP MOUNT POKE HOME CONNECTOR WIRE EXTRACTION TOOL

Refer to application notes 201-01-152 for full wire extraction procedure.

06-9296-7003-01-000
AVX continues to develop innovative connectors for the industrial electronics market that provide significant benefits over existing, outdated connector solutions. Listening to the design engineering community, there are ongoing applications where they cannot find an off-the-shelf solution that will satisfy a high percentage of the projects configuration, performance and cost goals.

The newest addition to AVX's broadening line of Wire-to-Board (WTB) connectors offers a cost effective, single Poke-Home connector solution that will meet the cost and performance targets in demanding, yet user friendly applications. At the heart of the connector is the industry proven dual tine, 3mm high spring force box contact that has been on the market as a standalone horizontal contact only solution.

The new SMT vertical through board connector allows for 18AWG to 26AWG wires to be simply stripped and inserted into the connector body at 180 degree orientation to the bottom side of the PCB with an above board height of 0.80mm. This single connector will replace existing 2-Piece WTB solutions where a header is soldered onto the PCB and a secondary crimp-to-wire receptacle assembly is plugged in. Available in 1-6 positions, each connector will accept the entire wire gauge range for either solid or stranded wires at varying current ratings supported by each wire size. Once inserted, wires can easily be removed or replaced by twisting/unscrewing or by using a small blade extraction tool.
POKE-HOME: INVERTED THRU BOARD
18-26 AWG: 00-9296

1 Position

9296 THROUGH BOARD MOUNT POKE HOME CONNECTOR 1 WAY

NOTES:
1. THROUGH BOARD SMT MOUNT 1 WAY POKE HOME CONNECTOR. FOR FURTHER DETAILS REFER TO PRODUCT SPECIFICATION 201-01-151 AND APPLICATION NOTES 201-01-152.
2. SUITABLE FOR WIRES 18AWG TO 26AWG. MAXIMUM INSULATION 2.20MM DIAMETER.
3. INSULATOR: NYLON 46, GLASS FILLED, UL94 V-0. COLOR REFER TO PAGE 100.
4. CONTACT: TIN PLATED COPPER ALLOY.
5. PACKING IN TAPE AND REEL, QTY. PER REEL 400, 330MM REEL.
6. GENERAL TOLERANCE ±0.20.
7. CLEARANCE HOLE FOR CONNECTOR.
8. UL REFERENCE E90723.

PACKING DETAILS

SUGGESTED PCB LAYOUT
The Important Information/Disclaimer is incorporated in these specifications by reference and should be reviewed in full before placing any order.

9296 THROUGH BOARD MOUNT POKE HOME CONNECTOR 2 WAY

NOTES:
1. THROUGH BOARD SMT MOUNT 2 WAY POKE HOME CONNECTOR. FOR FURTHER DETAILS REFER TO PRODUCT SPECIFICATION 201-01-151 AND APPLICATION NOTES 201-01-152.
2. SUITABLE FOR WIRES 18AWG TO 26AWG. MAXIMUM INSULATION 2.20MM DIAMETER.
3. INSULATOR: NYLON 46, GLASS FILLED, UL94 V-0. COLOR REFER TO PAGE 100.
4. CONTACT: TIN PLATED COPPER ALLOY.
5. PACKING IN TAPE AND REEL, QTY. PER REEL 400, 330MM REEL.
6. GENERAL TOLERANCE ±0.20.
7. CLEARANCE HOLE FOR CONNECTOR.
8. UL REFERENCE E90723.

SUGGESTED PCB LAYOUT

PACKING DETAILS
9296 THROUGH BOARD MOUNT POKE HOME CONNECTOR 3 WAY

NOTES:
1. THROUGH BOARD SMT MOUNT 3 WAY POKE HOME CONNECTOR. FOR FURTHER DETAILS REFER TO PRODUCT SPECIFICATION 201-01-151 AND APPLICATION NOTES 201-01-152.
2. SUITABLE FOR WIRES 18AWG TO 26AWG. MAXIMUM INSULATION 2.20MM DIAMETER.
3. INSULATOR: NYLON 46, GLASS FILLED, UL94 V-0. COLOR REFER TO PAGE 100.
4. CONTACT: TIN PLATED COPPER ALLOY.
5. PACKING IN TAPE AND REEL, QTY. PER REEL 400, 330MM REEL.
6. GENERAL TOLERANCE ±0.20.
7. CLEARANCE HOLE FOR CONNECTOR.
8. UL REFERENCE E90723.

SUGGESTED PCB LAYOUT

PACKING DETAILS

The Important Information/Disclaimer is incorporated in these specifications by reference and should be reviewed in full before placing any order.
102

The Important Information/Disclaimer is incorporated in these specifications by reference and should be reviewed in full before placing any order.

POKE-HOME: INVERTED THRU BOARD
18-26 AWG: 00-9296
4 Position

9296 THROUGH BOARD MOUNT POKE HOME CONNECTOR 4 WAY

NOTES:
1. THROUGH BOARD SMT MOUNT 4 WAY POKE HOME CONNECTOR. FOR FURTHER DETAILS REFER TO PRODUCT SPECIFICATION 201-01-151 AND APPLICATION NOTES 201-01-152.
2. SUITABLE FOR WIRES 18AWG TO 26AWG. MAXIMUM INSULATION 2.20MM DIAMETER.
3. INSULATOR: NYLON 46, GLASS FILLED, UL94 V-0. COLOR REFER TO PAGE 100.
4. CONTACT: TIN PLATED COPPER ALLOY.
5. PACKING IN TAPE AND REEL, QTY. PER REEL 400, 330MM REEL.
6. GENERAL TOLERANCE ±0.20.
7. CLEARANCE HOLE FOR CONNECTOR.
8. UL REFERENCE E90723.

SUGGESTED PCB LAYOUT

PACKING DETAILS

UNREELLED DIRECTION

330mm DIAMETER REEL

QUANTITY PER REEL 400
The Important Information/Disclaimer is incorporated in these specifications by reference and should be reviewed in full before placing any order.

**POKE-HOME: INVERTED THRU BOARD**

**18-26 AWG: 00-9296**

5 Position

---

**9296 THROUGH BOARD MOUNT POKE HOME CONNECTOR 5 WAY**

---

**NOTES:**

1. THROUGH BOARD SMT MOUNT 5 WAY POKE HOME CONNECTOR. FOR FURTHER DETAILS REFER TO PRODUCT SPECIFICATION 201-01-151 AND APPLICATION NOTES 201-01-152.
2. SUITABLE FOR WIRES 18AWG TO 26AWG. MAXIMUM INSULATION 2.20MM DIAMETER.
3. INSULATOR: NYLON 46, GLASS FILLED, UL94 V-0. COLOR REFER TO PAGE 100.
4. CONTACT: TIN PLATED COPPER ALLOY.
5. PACKING IN TAPE AND REEL, QTY. PER REEL 400, 330MM REEL.
6. GENERAL TOLERANCE ±0.20.
7. CLEARANCE HOLE FOR CONNECTOR.
8. UL REFERENCE E90723.

---

**SUGGESTED PCB LAYOUT**

---

**PACKING DETAILS**

---

The Important Information/Disclaimer is incorporated in these specifications by reference and should be reviewed in full before placing any order.
The Important Information/Disclaimer is incorporated in these specifications by reference and should be reviewed in full before placing any order.

9296 THROUGH BOARD MOUNT POKE HOME CONNECTOR 6 WAY

NOTES:
1. THROUGH BOARD SMT MOUNT 6 WAY POKE HOME CONNECTOR. FOR FURTHER DETAILS REFER TO PRODUCT SPECIFICATION 201-01-151 AND APPLICATION NOTES 201-01-152.
2. SUITABLE FOR WIRES 18AWG TO 26AWG. MAXIMUM INSULATION 2.20MM DIAMETER.
3. INSULATOR: NYLON 46, GLASS FILLED, UL94 V-0. COLOR REFER TO PAGE 100.
4. CONTACT: TIN PLATED COPPER ALLOY.
5. PACKING IN TAPE AND REEL, QTY. PER REEL 400, 330MM REEL.
6. GENERAL TOLERANCE ±0.20.
7. CLEARANCE HOLE FOR CONNECTOR.
8. UL REFERENCE E90723.

SUGGESTED PCB LAYOUT

PACKING DETAILS
The Important Information/Disclaimer is incorporated in these specifications by reference and should be reviewed in full before placing any order.

9296 THROUGH BOARD MOUNT POKE HOME CONNECTOR ASSEMBLY

Refer to application notes 201-01-152 for full assembly procedure.

THROUGH BOARD MOUNT POKE HOME CONNECTOR WIRE EXTRACTION TOOL

Refer to application notes 201-01-152 for full wire extraction procedure.

06-9296-7003-01-000 – PLASTIC TOOL
06-9296-7004-03-000 – METAL TOOL

The Important Information/Disclaimer is incorporated in these specifications by reference and should be reviewed in full before placing any order.
SINGLE VERTICAL TOP ENTRY
18 AWG: 58-9296

General Information

Vertical poke-home connectors were introduced into the market a few years ago to provide a reliable, yet cost effective discrete wire-to-board termination in perpendicular applications. Designed to bridge the gap between inconsistent hand soldering of wires and costly 2-piece connector systems, these connectors are available in a range of positions and configurations while accepting 18 to 26AWG solid or stranded wires.

This latest connector was developed specifically to support the high volume 18AWG wire applications used in power supply, LED driver and industrial control products where PCB space is limited. This new 9296 connector offers a robust single beam contact which securely captures and retains the wire in a 23% smaller package size.

APPLICATIONS

• Replace inconsistent hand soldered perpendicular wire terminations onto PCB’s in:
  – Power Supplies
  – LED Drivers
  – Industrial/Motor Controls
• Offer a simple and cost reduced solution to existing 2-Piece connector systems

FEATURES AND BENEFITS

• Pre-Plated phosphor bronze contact material provides excellent spring performance with high fatigue and corrosion resistance
• The single stamped and formed box contact maximizes board attachment and wire capture strength
• Tight tolerance and wire insulation stop helps to prevent potting from flowing into the connector during encapsulation processes
• Integral molded in flange provides a generous vacuum pick-up point for automated SMT placement

ELECTRICAL

• Current Rating: 8 Amps
• Voltage Rating: 600 VAC

ENVIRONMENTAL

• Operating Temperature: -40°C to +125°C

MECHANICAL

• Insulator Material: Glass-Filled Nylon 46, UL94V0
• Contact Material: Phosphor Bronze
• Plating: Pure Tin
• Durability: 3 Cycles

HOW TO ORDER

589296001000014

RoHS COMPLIANT
The Important Information/Disclaimer is incorporated in these specifications by reference and should be reviewed in full before placing any order.

**SINGLE VERTICAL TOP ENTRY**

**18 AWG: 58-9296**

Single Vertical Top Entry

**PARTS IN POCKET TAPE**  
SCALE 2.5:1

**SECTION X-X**

**RECOMMENDED WIRE STRIP DETAIL**

**SECTION X-X**

**RECOMMENDED PCB LAYOUT**

**NOTES:**

1. **HOUSING MATERIAL:** GLASS-FILLED, HIGH TEMP. THERMOPLASTIC; UL94V-0; COLOR: NATURAL.
2. **CONTACT MATERIAL:** HIGH STRENGTH PHOSPHORB BRONZE ALLOY; PRE-PLATED LEAD-FREE TIN OVER NICKEL PLATING.
3. **PACKAGING:** POCKET TAPE ON REELS, 1,250 parts per reel.
AVX continues to develop innovative connectors for the industrial electronics market that provide significant benefits over existing, outdated connector solutions. The latest release is single vertical Wire-to-Board (WTB) contacts that provide cost effective, yet robust discrete wire termination without the expense of an insulator and assembly costs. This new family of top and bottom entry contacts compliments the existing vertical poke home connectors already on the market, providing a lower cost solution without jeopardizing performance.

The new contacts support both solid and stranded wires ranging from 24AWG down to 18AWG and current ratings as high as 12 amps. The set of four contacts provide both top and bottom entry for FR4 and metal core printed circuit boards.

**APPLICATIONS**

- Machine Controls: motors, drives, solenoids, sensors, fans and pumps
- Commercial Buildings: controls, security, fire and sensors
- Smart Grid: meters, breakers and panels
- SSL/LED: bulbs, fixtures, signage and streetlights

**FEATURES AND BENEFITS**

- Dual Beam contact provides maximum mechanical stability and wire retention
- Tape and reel packaged for automated SMT placement
- Staged current rating based on AWG, maximum is 12A (18AWG)
- Increased functionality with the single contact placement: multiple contacts and/or specific individual locations

**ELECTRICAL**

- Voltage Rating: 300V
  Based on placement distance
- Current Rating: See matrix below

**ENVIRONMENTAL**

- Operating Temperature:
  -40°C to +125°C

**MECHANICAL**

- Contact Material: Phosphor Bronze
- Contact Plating: Pure Tin
- Durability: 5 Cycles

**HOW TO ORDER**

<table>
<thead>
<tr>
<th>Code</th>
<th>Contact Location</th>
<th>Wire Insertion</th>
<th>Recommended For Board Type</th>
<th>Wire Gauges</th>
</tr>
</thead>
<tbody>
<tr>
<td>103</td>
<td>Top Side</td>
<td>Bottom Entry</td>
<td>FR4</td>
<td>18 – 24 AWG</td>
</tr>
<tr>
<td>113</td>
<td>Through Board</td>
<td>Top Entry</td>
<td>FR4</td>
<td>18 – 24 AWG</td>
</tr>
<tr>
<td>123</td>
<td>Top Side</td>
<td>Bottom Entry</td>
<td>Metal Clad</td>
<td>18 – 24 AWG</td>
</tr>
<tr>
<td>133</td>
<td>Through Board</td>
<td>Top Entry</td>
<td>Metal Clad</td>
<td>18 – 24 AWG</td>
</tr>
</tbody>
</table>

**CURRENT RATING**

<table>
<thead>
<tr>
<th>18AWG</th>
<th>20AWG</th>
<th>22AWG</th>
<th>24AWG</th>
</tr>
</thead>
<tbody>
<tr>
<td>15A</td>
<td>14A</td>
<td>10A</td>
<td>9A</td>
</tr>
</tbody>
</table>

Certification: UL File #E90723
POKE-HOME: SINGLE VERTICAL CONTACT
18-24 AWG: 70-9296
Top Side Contact - Bottom Entry Wire (FR4 Board)

70-9296-001-103-006
9296 VERTICAL MOUNT SMT CONTACT
TOP SIDE CONTACT – BOTTOM ENTRY WIRE (FR4 BOARD)

NOTES:
1. CONTACT MOUNTS ON TOP SIDE OF BOARD, WIRE INSERTED FROM UNDERSIDE OF BOARD.
2. STYLE RECOMMENDED FOR FR4 BOARDS WHERE MINIMUM CLEARANCE REQUIRED TO CONTACT AND MOUNTING PADS.
3. FOR FURTHER INFORMATION REFER TO ELCO SPECIFICATION 201-01-161 AND APPLICATION NOTES 201-01-175.
4. MATERIAL: TIN PLATED PHOSPHOR BRONZE.
5. HOLE FOR WIRE INSERTION.
6. PACING IN TAPE AND REEL, 2000 PIECES PER REEL.
7. FOR WIRE TRIM DETAILS REFER TO PAGE 115.
8. UL REFERENCE E90723.
9. GENERAL TOLERANCE ±0.10.

SUGGESTED PCB LAYOUT

PACKING DETAILS

The Important Information/Disclaimer is incorporated in these specifications by reference and should be reviewed in full before placing any order.
POKE-HOME: SINGLE VERTICAL CONTACT
18-24 AWG: 70-9296
Through Board Contact - Top Entry Wire (FR4 Board)

70-9296-001-113-006
9296 VERTICAL MOUNT SMT CONTACT
THROUGH BOARD CONTACT – TOP ENTRY WIRE (FR4 BOARD)

SUGGESTED PCB LAYOUT

NOTES:
1. CONTACT MOUNTS THROUGH THE BOARD, WIRE INSERTED FROM TOP SIDE
2. OF BOARD.
3. STYLE RECOMMENDED FOR FR4 BOARDS WHERE MINIMUM CLEARANCE
   REQUIRED TO CONTACT AND MOUNTING PADS.
4. FOR FURTHER INFORMATION REFER TO ELCO SPECIFICATION 201-01-161 AND
   APPLICATION NOTES 201-01-175.
5. MATERIAL: TIN PLATED PHOSPHOR BRONZE.
6. HOLE DIMENSIONS FOR CONTACT.
7. PACING IN TAPE AND REEL, 2000 PIECES PER REEL.
8. FOR WIRE TRIM DETAILS REFER TO PAGE 115.
9. UL REFERENCE E90723.
10. GENERAL TOLERANCE ±0.10.

PACKING DETAILS

The Important Information/Disclaimer is incorporated in these specifications by reference and should be reviewed in full before placing any order.
POKE-HOME: SINGLE VERTICAL CONTACT
18-24 AWG: 70-9296
Top Side Contact - Bottom Entry Wire (Metal Board)

70-9296-001-123-006

9296 VERTICAL MOUNT SMT CONTACT
TOP SIDE CONTACT – BOTTOM ENTRY WIRE (METAL BOARD)

NOTES:
1. CONTACT MOUNTS ON TOP SIDE OF BOARD, WIRE INSERTED FROM UNDERSIDE OF BOARD.
2. STYLE RECOMMENDED FOR METAL CLAD BOARDS WHERE MAXIMUM CLEARANCE REQUIRED TO CONTACT AND MOUNTING PADS.
3. FOR FURTHER INFORMATION REFER TO ELCO SPECIFICATION 201-01-161 AND APPLICATION NOTES 201-01-175.
4. MATERIAL: TIN PLATED PHOSPHOR BRONZE.
5. HOLE FOR WIRE INSERTION.
6. PACING IN TAPE AND REEL, 1600 PIECES PER REEL.
7. FOR WIRE TRIM DETAILS REFER TO PAGE 115.
8. UL REFERENCE E90723.
9. GENERAL TOLERANCE ±0.10.

SUGGESTED PCB LAYOUT

PACKING DETAILS

The Important Information/Disclaimer is incorporated in these specifications by reference and should be reviewed in full before placing any order.
**POKE-HOME: SINGLE VERTICAL CONTACT**

18-24 AWG: 70-9296

Through Board Contact - Top Entry Wire (Metal Board)

---

**70-9296-001-133-006**

9296 VERTICAL MOUNT SMT CONTACT

THROUGH BOARD CONTACT – TOP ENTRY WIRE (METAL BOARD)

---

**SUGGESTED PCB LAYOUT**

**NOTES:**
1. CONTACT MOUNTS THROUGH THE BOARD, WIRE INSERTED FROM TOP SIDE OF BOARD.
2. STYLE RECOMMENDED FOR METAL CLAD BOARDS WHERE ADDITIONAL CLEARANCE REQUIRED TO CONTACT AND MOUNTING PADS.
3. FOR FURTHER INFORMATION REFER TO ELCO SPECIFICATION 201-01-161 AND APPLICATION NOTES 201-01-175.
4. MATERIAL: TIN PLATED PHOSPHOR BRONZE.
5. HOLE DIMENSIONS FOR CONTACT.
6. PACING IN TAPE AND REEL, 2000 PIECES PER REEL.
7. FOR WIRE TRIM DETAILS REFER TO PAGE 115.
8. UL REFERENCE E90723.
9. GENERAL TOLERANCE ±0.10.

---

**PACKING DETAILS**

**UNREELLED DIRECTION**

**QUANTITY 2000 PER REEL**

330mm DIAMETER REEL

---

The Important Information/Disclaimer is incorporated in these specifications by reference and should be reviewed in full before placing any order.
POKE-HOME: SINGLE VERTICAL CONTACT
18-24 AWG: 70-9296

Wire Trim Details

9296 VERTICAL MOUNT SMT CONTACT
WIRE TRIM DETAILS

NOTES:
1. FOR FULL ASSEMBLY PROCEDURE REFER TO APPLICATION NOTES 201-01-175.
2. THE SAME WIRE STRIP LENGTH APPLIES TO ALL STYLES.
3. STRANDED WIRES SHOULD BE TWISTED TO PREVENT SINGLE STRANDS
   BECOMING DETACHED WHEN INSERTED INTO CONTACT.
AVX continues to develop innovative connectors for the industrial electronics market that provide significant benefits over existing, outdated connector solutions. The latest release is single vertical Wire-to-Board (WTB) contacts that provide cost effective, yet robust discrete wire termination without the expense of an insulator and assembly costs. This new family of top and bottom entry contacts compliments the existing vertical poke home connectors already on the market, providing a lower cost solution without jeopardizing performance.

The new contacts support both solid and stranded wires ranging from 26AWG down to 22AWG and current ratings as high as 8 amps. Due to the mechanical stiffness of the small contact, 26AWG stranded wires may need to be pre-tinned to facilitate insertion. The set of four contacts provide both top and bottom entry for FR4 and metal core printed circuit boards.

**APPLICATIONS**
- Machine Controls: motors, drives, solenoids, sensors, fans and pumps
- Commercial Buildings: controls, security, fire and sensors
- Smart Grid: meters, breakers and panels
- SSL/LED: bulbs, fixtures, signage and streetlights
- Application notes: refer to 201-01-175

**FEATURES AND BENEFITS**
- Dual Beam contact provides maximum mechanical stability and wire retention
- Tape and reel packaged for automated SMT placement
- Staged current rating based on AWG, maximum is 8A (22AWG)
- Increased functionality with the single contact placement: multiple contacts and/or specific individual locations

**ELECTRICAL**
- Voltage Rating: 300V
- Based on placement distance
- Current Rating: See matrix below

**ENVIRONMENTAL**
- Operating Temperature: -40ºC to +125ºC

**MECHANICAL**
- Contact Material: Phosphor Bronze
- Contact Plating: Tin over Nickel
- Durability: 5 Cycles

**HOW TO ORDER**

<table>
<thead>
<tr>
<th>Code</th>
<th>Contact Location</th>
<th>Wire Insertion Direction</th>
<th>Recommended For Board Type</th>
<th>Wire Gauges*</th>
</tr>
</thead>
<tbody>
<tr>
<td>102</td>
<td>Top Side</td>
<td>Bottom Entry</td>
<td>FR4</td>
<td>22 AWG - 26 AWG</td>
</tr>
<tr>
<td>112</td>
<td>Through Board</td>
<td>Top Entry</td>
<td>FR4</td>
<td>22 AWG - 26 AWG</td>
</tr>
<tr>
<td>122</td>
<td>Top Side</td>
<td>Bottom Entry</td>
<td>Metal Based</td>
<td>22 AWG - 26 AWG</td>
</tr>
<tr>
<td>132</td>
<td>Through Board</td>
<td>Top Entry</td>
<td>Metal Based</td>
<td>22 AWG - 26 AWG</td>
</tr>
</tbody>
</table>

* 26 AWG stranded wires may require tinning to aid insertion.

**CURRENT RATING**

<table>
<thead>
<tr>
<th>22AWG</th>
<th>24AWG</th>
<th>26AWG</th>
</tr>
</thead>
<tbody>
<tr>
<td>8A</td>
<td>6A</td>
<td>5A</td>
</tr>
</tbody>
</table>

Certification: UL File #E90723
POKE-HOME: MICRO SINGLE VERTICAL CONTACT
22-26 AWG: 70-9296
Top Side Contact - Bottom Entry Wire (FR4 Board)

70-9296-001-102-006
9296 VERTICAL MOUNT SMT CONTACT
TOP SIDE CONTACT – BOTTOM ENTRY WIRE (FR4 BOARD)

SUGGESTED PCB LAYOUT

NOTES:
1. CONTACT MOUNTS ON TOP SIDE OF BOARD, WIRE INSERTED FROM UNDERSIDE OF BOARD.
2. STYLE RECOMMENDED FOR FR4 BOARDS WHERE ADDITIONAL CLEARANCE REQUIRED TO CONTACTS AND MOUNTING PADS.
3. FOR FURTHER INFORMATION REFER TO ELCO SPECIFICATION 201-01-161 AND APPLICATION NOTES 201-01-175.
4. MATERIAL: TIN PLATED PHOSPHOR BRONZE.
5. HOLE FOR WIRE INSERTION.
6. PACKING IN TAPE AND REEL, 2000 PIECES PER REEL.
7. FOR WIRE TRIM DETAILS REFER TO PAGE 121.
8. WIRE SIZES REFER TO PAGE 116.
9. GENERAL TOLERANCE ±0.10.
10. UL REFERENCE E90723 (US AND CANADA).

PACKING DETAILS

QUANTITY 2000 PER REEL
330mm DIAMETER REEL

The Important Information/Disclaimer is incorporated in these specifications by reference and should be reviewed in full before placing any order.
POKE-HOME: MICRO SINGLE VERTICAL CONTACT
22-26 AWG: 70-9296
Through Board Contact - Top Entry Wire (FR4 Board)

70-9296-001-112-006
9296 VERTICAL MOUNT SMT CONTACT
THROUGH BOARD CONTACT – TOP ENTRY WIRE (FR4 BOARD)

NOTES:
1. CONTACT MOUNTS THROUGH THE BOARD, WIRE INSERTED FROM TOP SIDE OF BOARD.
2. STYLE RECOMMENDED FOR FR4 BOARDS WHERE ADDITIONAL CLEARANCE REQUIRED TO CONTACT AND MOUNTING PADS.
3. FOR FURTHER INFORMATION REFER TO ELCO SPECIFICATION 201-01-161 AND APPLICATION NOTES 201-01-175.
4. MATERIAL: TIN PLATED PHOSPHOR BRONZE.
5. HOLE DIMENSIONS FOR CONTACT.
6. PACKING IN TAPE AND REEL, 2000 PIECES PER REEL.
7. FOR WIRE TRIM DETAILS REFER TO PAGE 121.
8. WIRE SIZES REFER TO PAGE 116.
9. GENERAL TOLERANCE ±0.10.
10. UL REFERENCE E90723 (US AND CANADA).

PACKING DETAILS
QUANTITY 2000 PER REEL
330mm DIAMETER REEL
POKE-HOME: MICRO SINGLE VERTICAL CONTACT
22-26 AWG: 70-9296
Top Side Contact - Bottom Entry Wire (Metal Board)

70-9296-001-122-006
9296 VERTICAL MOUNT SMT CONTACT
TOP SIDE CONTACT – BOTTOM ENTRY WIRE (METAL BOARD)

NOTES:
1. CONTACT MOUNTS ON TOP SIDE OF BOARD, WIRE INSERTED FROM UNDERSIDE OF BOARD.
2. STYLE RECOMMENDED FOR METAL CLAD BOARDS WHERE ADDITIONAL CLEARANCE REQUIRED TO CONTACTS AND MOUNTING PADS.
3. FOR FURTHER INFORMATION REFER TO ELCO SPECIFICATION 201-01-161 AND APPLICATION NOTES 201-01-150.
4. MATERIAL: TIN PLATED PHOSPHOR BRONZE.
5. HOLE FOR WIRE INSERTION.
6. PACKING IN TAPE AND REEL, 1600 PIECES PER REEL.
7. FOR WIRE TRIM DETAILS REFER TO PAGE 121.
8. WIRE SIZES REFER TO PAGE 116.
9. GENERAL TOLERANCE ±0.10.
10. UL REFERENCE E90723 (US AND CANADA).

SUGGESTED PCB LAYOUT

PACKING DETAILS

The Important Information/Disclaimer is incorporated in these specifications by reference and should be reviewed in full before placing any order.
POKE-HOME: MICRO SINGLE VERTICAL CONTACT
22-26 AWG: 70-9296
Through Board Contact - Top Entry Wire (Metal Board)

70-9296-001-132-006
9296 VERTICAL MOUNT SMT CONTACT
THROUGH BOARD CONTACT – TOP ENTRY WIRE (METAL BOARD)

SUGGESTED PCB LAYOUT

NOTES:
1. CONTACT MOUNTS ON TOP SIDE OF BOARD, WIRE INSERTED FROM UNDERSIDE OF BOARD.
2. STYLE RECOMMENDED FOR METAL CLAD BOARDS WHERE ADDITIONAL CLEARANCE REQUIRED TO CONTACTS AND MOUNTING PADS.
3. FOR FURTHER INFORMATION REFER TO ELCO SPECIFICATION 201-01-161 AND APPLICATION NOTES 201-01-175.
4. MATERIAL: TIN PLATED PHOSPHOR BRONZE.
5. HOLE FOR WIRE INSERTION.
6. PACKING IN TAPE AND REEL, 2000 PIECES PER REEL.
7. FOR WIRE TRIM DETAILS REFER TO PAGE 121.
8. WIRE SIZES REFER TO PAGE 116.
9. GENERAL TOLERANCE ±0.10.
10. UL REFERENCE E90723 (US AND CANADA).

PACKING DETAILS

The Important Information/Disclaimer is incorporated in these specifications by reference and should be reviewed in full before placing any order.
The Important Information/Disclaimer is incorporated in these specifications by reference and should be reviewed in full before placing any order.

POKE-HOME: MICRO SINGLE VERTICAL CONTACT
22-26 AWG: 70-9296

Wire Trim Details

9296 VERTIAL MOUNT SMT CONTACT
WIRE TRIM DETAILS

3.5 ± 0.5

NOTES:
1. FOR FULL ASSEMBLY PROCEDURE REFER TO APPLICATION NOTES 201-01-175.
2. THE SAME WIRE STRIP LENGTH APPLIES TO ALL STYLES.
3. STRANDED WIRES SHOULD BE TWISTED TO PREVENT SINGLE STRANDS BECOMING DETACHED WHEN INSERTED INTO CONTACT.
4. SUITABLE FOR SOLID AND STRANDED WIRES 22AWG, 24AWG AND 25AWG. STRANDED WIRES 26AWG MAY REQUIRE TINNING TO AID INSERTION.
POKE-HOME: LOW PROFILE HORIZONTAL
20-26 AWG: 00-9296

General Information

The new 9296 series connector provides a quick and reliable wire-to-board termination in a sleek 3.0mm pitch by 2.5mm high SMT package for a broad range of industrial and commercial applications. With almost every product on the market having to deal with a small number of discrete wires connecting components to a PCB, the 9296 connector series meets this challenge by simply stripping the wire and inserting them into a 1 to 6 position connector. This makes the connector very cost effective and termination friendly within the factory as well as in the field by electrical installers.

Developed for harsh industrial applications, the connector integrates the already proven 2mm dual beam poke-home contact into a connector housing. The high spring force Phosphor Bronze contact accepts a wide range (20-26AWG solid or stranded) of wire to accommodate any wire combination within a single connector.

<table>
<thead>
<tr>
<th>APPLICATIONS</th>
<th>FEATURES AND BENEFITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Machine Controls: motors, drives, solenoids, sensors, fans and pumps</td>
<td>• Simple strip and poke-home wire insertion with easy twist and pull wire extraction</td>
</tr>
<tr>
<td>• Commercial Buildings: controls, security, fire and sensors</td>
<td>• 2.5mm height achieves the lowest height possible for this AWG range</td>
</tr>
<tr>
<td>• Smart Grid: meters, breakers and panels</td>
<td>• Accepts 20-26 AWG solid and stranded wires</td>
</tr>
<tr>
<td>• SSL/LED: bulbs, fixtures, signage and streetlights</td>
<td>• High spring force dual beam box contact provides maximum mechanical stability and wire retention</td>
</tr>
</tbody>
</table>

ELECTRICAL
• Current Rating: See matrix below
• Voltage Rating: 300 VAC

ENVIRONMENTAL
• Operating Temperature: -40ºC to +130ºC

MECHANICAL
• Insulator Material: Glass-Filled Nylon 46; UL94V0
• Contact Material: Phosphor Bronze
• Plating: Tin over Nickel
• Durability: 3 Cycles

HOW TO ORDER

<table>
<thead>
<tr>
<th>Prefix</th>
<th>Series</th>
<th>Number of Ways</th>
<th>Description</th>
<th>Wire Gauge Size</th>
<th>Insulator Color</th>
<th>Plating Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>00</td>
<td>9296</td>
<td>001 = 1</td>
<td>20 = Horizontal SMT Mount Poke Home Connector</td>
<td>20AWG to 26AWG Max ø 1.60mm</td>
<td>All Sizes</td>
<td>06 = Pure Tin over Nickel</td>
</tr>
<tr>
<td></td>
<td></td>
<td>002 = 2</td>
<td></td>
<td></td>
<td>9 = UL White (Standard)</td>
<td>One Way Only (Special Order)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>003 = 3</td>
<td></td>
<td></td>
<td>8 = UL Black (Special Order)</td>
<td>2 = UL Brown</td>
</tr>
<tr>
<td></td>
<td></td>
<td>004 = 4</td>
<td></td>
<td></td>
<td></td>
<td>3 = UL Blue</td>
</tr>
<tr>
<td></td>
<td></td>
<td>005 = 5</td>
<td></td>
<td></td>
<td></td>
<td>4 = UL Yellow</td>
</tr>
<tr>
<td></td>
<td></td>
<td>006 = 6</td>
<td></td>
<td></td>
<td></td>
<td>5 = UL Red</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>6 = UL Green</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>7 = UL Orange</td>
</tr>
</tbody>
</table>

CURRENT RATING

<table>
<thead>
<tr>
<th>Wire Gauge</th>
<th>UL</th>
<th>cUL</th>
</tr>
</thead>
<tbody>
<tr>
<td>20AWG</td>
<td>8A</td>
<td>6A</td>
</tr>
<tr>
<td>22AWG</td>
<td>7A</td>
<td>5A</td>
</tr>
<tr>
<td>24AWG</td>
<td>6A</td>
<td>3.75A</td>
</tr>
<tr>
<td>26AWG</td>
<td>5A</td>
<td>3.75A</td>
</tr>
</tbody>
</table>

Certification: UL File #E90723
9296 HORIZONTAL MOUNT POKE HOME CONNECTOR – 1 WAY

NOTES:
1. HORIZONTAL SMT MOUNT 1 WAY POKE HOME CONNECTOR.
   FOR FURTHER DETAILS REFER TO PRODUCT SPECIFICATION 201-01-166 AND
   APPLICATION NOTES 201-01-167.
2. SUITABLE FOR WIRES 20AWG TO 26AWG, MAXIMUM INSULATION 1.60MM
   DIAMETER.
3. INSULATOR: NYLON 46, GLASS FILLED, UL94 V-O, COLOR SEE PAGE 122.
4. CONTACT: TIN PLATED COPPER ALLOY.
5. PACKING IN TAPE AND REEL, QTY PER REEL 2000, 330MM REEL.
6. GENERAL TOLERANCE ±0.20.
7. OUTLINE OF CONNECTOR.
8. UL REFERENCE E90723 (US AND CANADA).

SUGGESTED PCB LAYOUT

PACKING DETAILS
9296 HORIZONTAL MOUNT POKE HOME CONNECTOR – 2 WAY

NOTES:
1. HORIZONTAL SMT MOUNT 2 WAY POKE HOME CONNECTOR.
   FOR FURTHER DETAILS REFER TO PRODUCT SPECIFICATION 201-01-166 AND
   APPLICATION NOTES 201-01-167.
2. SUITABLE FOR WIRES 20AWG TO 26AWG, MAXIMUM INSULATION 1.60MM
   DIAMETER.
3. INSULATOR: NYLON 46, GLASS FILLED, UL94 V-O, COLOR SEE PAGE 122.
4. CONTACT: TIN PLATED COPPER ALLOY.
5. PACKING IN TAPE AND REEL, QTY PER REEL 2000, 330MM REEL.
6. GENERAL TOLERANCE ±0.20.
7. OUTLINE OF CONNECTOR.
8. UL REFERENCE E90723 (US AND CANADA).

SUGGESTED PCB LAYOUT

PACKING DETAILS
The Important Information/Disclaimer is incorporated in these specifications by reference and should be reviewed in full before placing any order.

9296 HORIZONTAL MOUNT POKE HOME CONNECTOR – 3 WAY

NOTES:
1. HORIZONTAL SMT MOUNT 3 WAY POKE HOME CONNECTOR.
   FOR FURTHER DETAILS REFER TO PRODUCT SPECIFICATION 201-01-166 AND APPLICATION NOTES 201-01-167.
2. SUITABLE FOR WIRES 20AWG TO 26AWG, MAXIMUM INSULATION 1.60MM DIAMETER.
3. INSULATOR: NYLON 46, GLASS FILLED, UL94 V-O, COLOR SEE PAGE 122.
4. CONTACT: TIN PLATED COPPER ALLOY.
5. PACKING IN TAPE AND REEL, QTY PER REEL 2000, 330MM REEL.
6. GENERAL TOLERANCE ±0.20.
7. OUTLINE OF CONNECTOR.
8. UL REFERENCE E90723 (US AND CANADA).

SUGGESTED PCB LAYOUT

PACKING DETAILS
The Important Information/Disclaimer is incorporated in these specifications by reference and should be reviewed in full before placing any order.

9296 HORIZONTAL MOUNT POKE HOME CONNECTOR – 4 WAY

NOTES:
1. HORIZONTAL SMT MOUNT 4 WAY POKE HOME CONNECTOR.
   FOR FURTHER DETAILS REFER TO PRODUCT SPECIFICATION 201-01-166 AND APPLICATION NOTES 201-01-167.
2. SUITABLE FOR WIRES 20AWG TO 26AWG, MAXIMUM INSULATION 1.60MM DIAMETER.
3. INSULATOR: NYLON 46, GLASS FILLED, UL94 V-O, COLOR SEE PAGE 122.
4. CONTACT: TIN PLATED COPPER ALLOY.
5. PACKING IN TAPE AND REEL, QTY PER REEL 2000, 330MM REEL.
6. GENERAL TOLERANCE ±0.20.
7. OUTLINE OF CONNECTOR.
8. UL REFERENCE E90723 (US AND CANADA).

SUGGESTED PCB LAYOUT

PACKING DETAILS

The important information/disclaimer is incorporated in these specifications by reference and should be reviewed in full before placing any order.
9296 HORIZONTAL MOUNT POKE HOME CONNECTOR – 5 WAY

NOTES:

1. HORIZONTAL SMT MOUNT 5 WAY POKE HOME CONNECTOR.
   FOR FURTHER DETAILS REFER TO PRODUCT SPECIFICATION 201-01-166 AND
   APPLICATION NOTES 201-01-167.
2. SUITABLE FOR WIRES 20AWG TO 26AWG, MAXIMUM INSULATION 1.60MM
   DIAMETER.
3. INSULATOR: NYLON 46, GLASS FILLED, UL94 V-O, COLOR SEE PAGE 122.
4. CONTACT: TIN PLATED COPPER ALLOY.
5. PACKING IN TAPE AND REEL, QTY PER REEL 2000, 330MM REEL.
6. GENERAL TOLERANCE ±0.20.
7. OUTLINE OF CONNECTOR.
8. UL REFERENCE E90723 (US AND CANADA).

SUGGESTED PCB LAYOUT

PACKING DETAILS

125

The Important Information/Disclaimer is incorporated in these specifications
by reference and should be reviewed in full before placing any order.
The Important Information/Disclaimer is incorporated in these specifications by reference and should be reviewed in full before placing any order.

9296 HORIZONTAL MOUNT POKE HOME CONNECTOR – 6 WAY

NOTES:
1. HORIZONTAL SMT MOUNT 6 WAY POKE HOME CONNECTOR. FOR FURTHER DETAILS REFER TO PRODUCT SPECIFICATION 201-01-166 AND APPLICATION NOTES 201-01-167.
2. SUITABLE FOR WIRES 20AWG TO 26AWG, MAXIMUM INSULATION 1.60MM DIAMETER.
3. INSULATOR: NYLON 46, GLASS FILLED, UL94 V-O, COLOR SEE PAGE 122.
4. CONTACT: TIN PLATED COPPER ALLOY.
5. PACKING IN TAPE AND REEL, QTY PER REEL 2000, 330MM REEL.
6. GENERAL TOLERANCE ±0.20.
7. OUTLINE OF CONNECTOR.
8. UL REFERENCE E90723 (US AND CANADA).

SUGGESTED PCB LAYOUT

PACKING DETAILS

POKE-HOME: LOW PROFILE HORIZONTAL
20-26 AWG: 00-9296
6 Position
The Important Information/Disclaimer is incorporated in these specifications by reference and should be reviewed in full before placing any order.

9296 HORIZONTAL MOUNT POKE HOME CONNECTOR – ASSEMBLY

Refer to Application Notes 201-01-167 for full assembly procedure.
North America
Tel: +1 864-967-2150

Central America
Tel: +55 11-46881960

Europe
Tel: +44 1276-697000

Asia
Tel: +65 6286-7555

Japan
Tel: +81 740-321250

FOLLOW US: 🌐/twitter/facebook/instagram/linked-in

VISIT US AT  WWW.AVX.COM