INSULATION DISPLACEMENT CONNECTORS (IDC) WIRE TO BOARD (WTB)

DISCRETE WIRE IDC – SERIES 9175 .................................................................................................................. 2-8
  26-28 AWG 2 Way IDC Connector .................................................................................................................. 3
  26-28 AWG 3 Way IDC Connector .................................................................................................................. 4
  Accessory Cap - Through Wire. ...................................................................................................................... 6
  Accessory Cap - Wire Stop ................................................................................................................................. 6
  Hand Insertion Tooling / Clearance Area on PCB for Hand Tooling. ............................................................... 7
  Insertion Tooling Requires Hand Press with Flat Rock Plates ........................................................................ 8

DISCRETE WIRE IDC – SERIES 9176 ............................................................................................................. 9-17
  18-24 AWG 1 Way IDC Connector .................................................................................................................. 11
  18-24 AWG 2 Way IDC Connector .................................................................................................................. 12
  18-24 AWG 3 Way IDC Connector .................................................................................................................. 13
  Accessory Cap - Through Wire. ...................................................................................................................... 14
  Accessory Cap - Wire Stop ................................................................................................................................. 15
  Hand Insertion Tooling for Single 18/24 Gauge Wire ...................................................................................... 16
  Insertion Tooling Requires Hand Press with Flat Rock Plates ........................................................................ 17

DISCRETE WIRE IDC CONTACT AND CAP – SERIES 9176-400 .............................................................. 18-22
  Contact Details .............................................................................................................................................. 19
  22-24 AWG IDC Wire to Board Connector Single Contact ........................................................................... 20
  Assembly Tooling Cap Not Used – Wire onto Contact. .................................................................................... 21
  Cap Details .................................................................................................................................................... 22

DISCRETE WIRE IDC CONTACT AND CAP – SERIES 9176-500 .............................................................. 23-27
  Contact Details .............................................................................................................................................. 24
  18-24 AWG IDC Wire to Board Connector Single Contact ........................................................................... 25
  Assembly Tooling Cap Used/Assembly Tooling Cap Not Used – Wire onto Contact ................................. 26
  Cap Details .................................................................................................................................................... 27

DISCRETE WIRE IDC – SERIES 9177 ............................................................................................................. 28-33
  14-20 AWG 1 Way IDC Connector .................................................................................................................. 30
  14-20 AWG 2 Way IDC Connector .................................................................................................................. 31
  14-20 AWG 3 Way IDC Connector .................................................................................................................. 32
  Insertion Tooling Requires Hand Press with Flat Rock Plates ........................................................................ 33
  Insertion Tooling PCB Restricted Areas for Assembly Tooling ................................................................. 33

POKE-HOME WIRED TO BOARD (WTB)

DISCRETE WIRE-TO-BOARD; POKE-HOME SERIES 9276 ........................................................................... 34-42
  Wire Assembly/Wire Extraction ....................................................................................................................... 35
  1 Way Wire to Board Connector ..................................................................................................................... 36
  2 Way Wire to Board Connector ..................................................................................................................... 37
  3 Way Wire to Board Connector ..................................................................................................................... 38
  4 Way Wire to Board Connector ..................................................................................................................... 39
  6 Way Wire to Board Connector ..................................................................................................................... 40
  8 Way Wire to Board Connector ..................................................................................................................... 41

NOTICE: Specifications are subject to change without notice. Contact your nearest AVX Sales Office for the latest specifications. All statements, information and data given herein are believed to be accurate and reliable, but are presented without guarantee, warranty, or responsibility of any kind, expressed or implied. Statements or suggestions concerning possible use of our products are made without representation or warranty that any such use is free of patent infringement and are not recommendations to infringe any patent. The user should not assume that all safety measures are indicated or that other measures may not be required. Specifications are typical and may not apply to all applications.
Discrete Wire IDC
Series 9175

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.

### ELECTRICAL
- **Current Rating**: 1 Amp / Contact
- **Voltage Rating**: 125 VAC

### 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

### 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

#### 9175 Series
- **Prefix**: 00
- **Number of Ways**: 00X
- **Wire Gauge Size**: 001
- **Insulator Color**: X
- **Plating**: 06 = Pure Tin all over

### 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>Throug Wire</th>
<th>Wire Stop</th>
</tr>
</thead>
<tbody>
<tr>
<td>26</td>
<td>Ø 1.0</td>
<td>2p</td>
<td>White</td>
<td>009175002001106</td>
<td>0691750701601000</td>
<td>0691750701701000</td>
<td>0691750701701000</td>
<td>069175002010100</td>
<td>069175002010199</td>
</tr>
<tr>
<td>26</td>
<td>Ø 1.0</td>
<td>2p</td>
<td>Black</td>
<td>009175002001006</td>
<td>0691750701601000</td>
<td>0691750701701000</td>
<td>0691750701701000</td>
<td>069175002010100</td>
<td>069175002010199</td>
</tr>
<tr>
<td>26</td>
<td>Ø 1.0</td>
<td>3p</td>
<td>White</td>
<td>009175003001106</td>
<td>0691750701601000</td>
<td>0691750701701000</td>
<td>0691750701701000</td>
<td>069175003001000</td>
<td>0691750030010199</td>
</tr>
<tr>
<td>26</td>
<td>Ø 1.0</td>
<td>3p</td>
<td>Black</td>
<td>009175003001006</td>
<td>0691750701601000</td>
<td>0691750701701000</td>
<td>0691750701701000</td>
<td>069175003001000</td>
<td>0691750030010199</td>
</tr>
<tr>
<td>28</td>
<td>Ø 0.7</td>
<td>2p</td>
<td>White</td>
<td>009175002001106</td>
<td>0691750701601000</td>
<td>0691750701701000</td>
<td>0691750701701000</td>
<td>069175002010100</td>
<td>069175002010199</td>
</tr>
<tr>
<td>28</td>
<td>Ø 0.7</td>
<td>2p</td>
<td>Black</td>
<td>009175002001006</td>
<td>0691750701601000</td>
<td>0691750701701000</td>
<td>0691750701701000</td>
<td>069175002010100</td>
<td>069175002010199</td>
</tr>
<tr>
<td>28</td>
<td>Ø 0.7</td>
<td>3p</td>
<td>White</td>
<td>009175003001106</td>
<td>0691750701601000</td>
<td>0691750701701000</td>
<td>0691750701701000</td>
<td>069175003001000</td>
<td>0691750030010199</td>
</tr>
<tr>
<td>28</td>
<td>Ø 0.7</td>
<td>3p</td>
<td>Black</td>
<td>009175003001006</td>
<td>0691750701601000</td>
<td>0691750701701000</td>
<td>0691750701701000</td>
<td>069175003001000</td>
<td>0691750030010199</td>
</tr>
</tbody>
</table>

* Hand Insertion Tooling - Universal Hand Tool 06700073001000; Consult Application Notes 201-01-124
Discrete Wire IDC
Series 9175

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 2.
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 REFER TO ELCO SPEC 201-01-100.

PICK UP AREA 1.18 x 2.50mm

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>2000</td>
</tr>
<tr>
<td>LEADER</td>
<td>500MM</td>
</tr>
<tr>
<td>TRAILER</td>
<td>500MM</td>
</tr>
<tr>
<td>REEL / BOX</td>
<td>7</td>
</tr>
<tr>
<td>PACK QTY</td>
<td>14000</td>
</tr>
</tbody>
</table>

ALL TAILS TO BE WITHIN 0.10mm COPLANARITY TOLERANCE
Discrete Wire IDC
Series 9175

26-28 AWG 3 WAY IDC CONNECTOR

NOTES:
1. CONNECTOR FOR IDC WIRE TO BOARD CONNECTION.
2. CONTACT MATERIAL: PHOSPHOR BRONZE.
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 REFER TO ELCO SPEC 201-01-100.

PICK UP AREA 1.10 x 2.50mm

ALL TAILS TO BE WITHIN 0.10mm COPLANARITY TOLERANCE

SMT PCB LAYOUT
PURE TIN PADS

CONNECTOR OUTLINE

PACKING DETAILS
<table>
<thead>
<tr>
<th>ITEM</th>
<th>QUANTITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>REEL QTY</td>
<td>2000</td>
</tr>
<tr>
<td>LEADER</td>
<td>500MM</td>
</tr>
<tr>
<td>TRAILER</td>
<td>500MM</td>
</tr>
<tr>
<td>REEL / BOX</td>
<td>7</td>
</tr>
<tr>
<td>PACK QTY</td>
<td>14000</td>
</tr>
</tbody>
</table>

2 PITCHES Ø
2.50 ≤ 5.00

16.00 REF

8.00 REF
NOTES:
1. CAP FOR IDC WIRE TO BOARD CONNECTION, 2 AND 3 WAY, THROUGH WIRE.
2. THROUGH WIRE CAP CAN BE USED AT ANY POSITION ALONG A WIRE.
3. FOR USE WITH STANDARD 9175 IDC CONNECTORS.
4. CAP MATERIAL: GLASS FILLED NYLON 46, FOR COLORS SEE PAGE 2.
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.
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 2.
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.
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 AF HEX BIT HOLDER</td>
<td>06 7000 7730 01 000</td>
</tr>
</tbody>
</table>

ALL METAL
HIGH PRODUCTION

Metal

<table>
<thead>
<tr>
<th>Max Insulation Dia</th>
<th>Tool Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>ø 1.00</td>
<td>06 9175 7017 01 000</td>
</tr>
</tbody>
</table>

METAL SHANK
MEDIUM PRODUCTION

Metal/Plastic

<table>
<thead>
<tr>
<th>Max Insulation Dia</th>
<th>Tool Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>ø 1.00</td>
<td>06 9175 7016 01 000</td>
</tr>
</tbody>
</table>

CLEARANCE AREA ON PCB FOR HAND TOOLING

2 WAY

AREA TO BE KEPT CLEAR FOR TOOLING

3 WAY

AREA TO BE KEPT CLEAR FOR TOOLING
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.
Discrete Wire IDC
Series 9176

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 replaced 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

**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
- Optional thru and end caps lock in place to provide maximum strain relief
- High temperature insulator capable to 260ºC reflow soldering processes

**ELECTRICAL**
- Current Rating: 10 Amp / Contact
- Voltage Rating: 250 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**

```
00  9176  00X
Prefix  Series  Number of Ways
       | Wire Gauge Size
  Code | No of | Details
       | Ways
001  1  Page 11
002  2  Page 12
003  3  Page 13

<table>
<thead>
<tr>
<th>Code</th>
<th>Accepted Wire Gauge</th>
<th>Wire Insulation</th>
<th>Cap Code</th>
<th>Pages 13-14</th>
</tr>
</thead>
<tbody>
<tr>
<td>001</td>
<td>18 Gauge Stranded</td>
<td>Ø 1.6-2.1</td>
<td>021</td>
<td></td>
</tr>
<tr>
<td>011</td>
<td>20 Gauge Stranded</td>
<td>Ø 1.6-2.1</td>
<td>021</td>
<td></td>
</tr>
<tr>
<td>022</td>
<td>22 Gauge Stranded</td>
<td>Ø 1.1-1.6</td>
<td>016</td>
<td></td>
</tr>
<tr>
<td>032</td>
<td>24 Gauge Stranded</td>
<td>Ø 1.1-1.6</td>
<td>016</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Code</th>
<th>Color</th>
<th>Application</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Black</td>
<td>Industrial</td>
</tr>
<tr>
<td>1</td>
<td>White</td>
<td>Lighting</td>
</tr>
</tbody>
</table>
```

Certification: UL File #E320991
### CONNECTOR/TOOLING PART NUMBER MATRIX

<table>
<thead>
<tr>
<th>AWG</th>
<th>Wire Insulation Positions</th>
<th>Color</th>
<th>Part Number</th>
<th>Plastic (medium volume)</th>
<th>Metal (high volume)</th>
<th>Mass Termination</th>
<th>Through Wire</th>
<th>Wire Stop</th>
</tr>
</thead>
<tbody>
<tr>
<td>18</td>
<td>Ø 1.6 - 2.1 1p</td>
<td>White</td>
<td>0091767001001106</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 1p</td>
<td>Black</td>
<td>0091767001000106</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 2p</td>
<td>White</td>
<td>0091767002001106</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 2p</td>
<td>Black</td>
<td>0091767002000106</td>
<td>069176701601000</td>
<td>069176701701000</td>
<td>N/A</td>
<td>609176001021100</td>
<td>609176001021199</td>
</tr>
<tr>
<td>20</td>
<td>Ø 1.6 - 2.1 1p</td>
<td>White</td>
<td>0091767001001106</td>
<td>069176701601000</td>
<td>069176701701000</td>
<td>N/A</td>
<td>609176001021100</td>
<td>609176001021199</td>
</tr>
<tr>
<td>20</td>
<td>Ø 1.6 - 2.1 1p</td>
<td>Black</td>
<td>0091767001000106</td>
<td>069176701601000</td>
<td>069176701701000</td>
<td>N/A</td>
<td>609176001021100</td>
<td>609176001021199</td>
</tr>
<tr>
<td>20</td>
<td>Ø 1.6 - 2.1 2p</td>
<td>White</td>
<td>0091767002001106</td>
<td>069176701601000</td>
<td>069176701701000</td>
<td>N/A</td>
<td>609176001021100</td>
<td>609176001021199</td>
</tr>
<tr>
<td>20</td>
<td>Ø 1.6 - 2.1 2p</td>
<td>Black</td>
<td>0091767002000106</td>
<td>069176701601000</td>
<td>069176701701000</td>
<td>N/A</td>
<td>609176001021100</td>
<td>609176001021199</td>
</tr>
<tr>
<td>20</td>
<td>Ø 1.6 - 2.1 3p</td>
<td>White</td>
<td>0091767003001106</td>
<td>069176701601000</td>
<td>069176701701000</td>
<td>N/A</td>
<td>609176001021100</td>
<td>609176001021199</td>
</tr>
<tr>
<td>20</td>
<td>Ø 1.6 - 2.1 3p</td>
<td>Black</td>
<td>0091767003000106</td>
<td>069176701601000</td>
<td>069176701701000</td>
<td>N/A</td>
<td>609176001021100</td>
<td>609176001021199</td>
</tr>
<tr>
<td>22</td>
<td>Ø 1.1 - 1.6 1p</td>
<td>White</td>
<td>0091767001002106</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 1p</td>
<td>Black</td>
<td>0091767001001106</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 2p</td>
<td>White</td>
<td>0091767002002106</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 2p</td>
<td>Black</td>
<td>0091767002001106</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 3p</td>
<td>White</td>
<td>0091767003002106</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 3p</td>
<td>Black</td>
<td>0091767003001106</td>
<td>069176701602000</td>
<td>069176701702000</td>
<td>N/A</td>
<td>609176001016000</td>
<td>609176001016099</td>
</tr>
<tr>
<td>24</td>
<td>Ø 1.1 - 1.6 1p</td>
<td>White</td>
<td>0091767001003206</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 1p</td>
<td>Black</td>
<td>0091767001002206</td>
<td>069176701602000</td>
<td>069176701702000</td>
<td>N/A</td>
<td>609176001016000</td>
<td>609176001016099</td>
</tr>
<tr>
<td>24</td>
<td>Ø 1.1 - 1.6 2p</td>
<td>White</td>
<td>0091767002003206</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 2p</td>
<td>Black</td>
<td>0091767002002206</td>
<td>069176701602000</td>
<td>069176701702000</td>
<td>N/A</td>
<td>609176001016000</td>
<td>609176001016099</td>
</tr>
<tr>
<td>24</td>
<td>Ø 1.1 - 1.6 3p</td>
<td>White</td>
<td>0091767003003206</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 3p</td>
<td>Black</td>
<td>0091767003002206</td>
<td>069176701602000</td>
<td>069176701702000</td>
<td>N/A</td>
<td>609176001016000</td>
<td>609176001016099</td>
</tr>
</tbody>
</table>

* Hand Insertion Tooling - Universal Hand Tool 06700073001000; Consult Application Notes 201-01-124
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 9.
3. CONNECTOR DESIGNED TO ACCEPT BETWEEN 24 AND 18 GAUGE STRANDED WIRE.
4. ALL DIMENSIONS FOR REFERENCE UNLESS OTHERWISE STATED.
5. FOR FULL PRODUCT SPECIFICATION REFER TO ELCO SPEC 201-01-106 AND APPLICATION NOTES 201-01-124.
6. FOR PCB SPACE RESTRICTED BY WIRE ASSEMBLY TOOLING REFER TO PAGE 16.
7. FOR HAND WIRE ASSEMBLY TOOLING REFER TO PAGE 16.

PICK UP AREA 0.9 x 5.00mm MIN

ALL TAILS TO BE WITHIN 0.10mm COPLANARITY.

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>

Code | Accepted Wire Gauge | A | Wire Insulation | B |
001 | 18 Gauge Stranded   | 0.72 | Ø 1.6-2.1 | 2.1 |
011 | 20 Gauge Stranded   | 0.60 | Ø 1.6-2.1 | 2.1 |
022 | 22 Gauge Stranded   | 0.47 | Ø 1.1-1.6 | 1.6 |
032 | 24 Gauge Stranded   | 0.37 | Ø 1.1-1.6 | 1.6 |
DISCRETE WIRE IDC
Series 9176

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 9.
3. CONNECTOR DESIGNED TO ACCEPT BETWEEN 24 AND 18 GAUGE STRANDED WIRE.
4. ALL DIMENSIONS FOR REFERENCE UNLESS OTHERWISE STATED.
5. FOR FULL PRODUCT SPECIFICATION REFER TO ELCO SPEC 201-01-106 AND APPLICATION
   NOTES 201-01-124.
6. FOR PCB SPACE RESTRICTED BY WIRE ASSEMBLY TOOLING REFER TO PAGE 16.
7. FOR HAND WIRE ASSEMBLY TOOLING REFER TO PAGE 16
8. FOR PRESS WIRE ASSEMBLY TOOLING REFER TO PAGE 17.
9. FOR ACCESSORY CAPS REFER TO PAGES 14 AND 15.

PICK UP AREA 1.9 x 5.00mm MIN

ALL TAILS TO BE WITHIN 0.10mm COPLANARITY.

SMT PCB LAYOUT
PURE TIN PADS

PACKING DETAILS

| REEL QTY | 1000 |
| LEADER   | 480MM |
| TRAILER  | 120MM |

WIRE GAUGE INSULATION

<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>18 Gauge Stranded</td>
<td>0.72</td>
<td>Ø 1.6-2.1</td>
<td>2.1</td>
</tr>
<tr>
<td>011</td>
<td>20 Gauge Stranded</td>
<td>0.60</td>
<td>Ø 1.6-2.1</td>
<td>2.1</td>
</tr>
<tr>
<td>022</td>
<td>22 Gauge Stranded</td>
<td>0.47</td>
<td>Ø 1.1-1.6</td>
<td>1.6</td>
</tr>
<tr>
<td>032</td>
<td>24 Gauge Stranded</td>
<td>0.37</td>
<td>Ø 1.1-1.6</td>
<td>1.6</td>
</tr>
</tbody>
</table>

CONNECTOR OUTLINE
**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 9.
3. CONNECTOR DESIGNED TO ACCEPT BETWEEN 24 AND 18 GAUGE STRANDED WIRE.
4. ALL DIMENSIONS FOR REFERENCE UNLESS OTHERWISE STATED.
5. FOR FULL PRODUCT SPECIFICATION REFER TO ELCO SPEC 201-01-106 AND APPLICATION NOTES 201-01-124.
6. FOR PCB SPACE RESTRICTED BY WIRE ASSEMBLY TOOLING REFER TO PAGE 16.
7. FOR HAND WIRE ASSEMBLY TOOLING REFER TO PAGE 18.
8. FOR PRESS WIRE ASSEMBLY TOOLING REFER TO PAGE 17.
9. FOR ACCESSORY CAPS REFER TO PAGES 14 AND 15.

### SMT PCB LAYOUT
PURE TIN PADS

### 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>18 Gauge Stranded</td>
<td>0.72</td>
<td>Ø 1.6-2.1</td>
<td>2.1</td>
</tr>
<tr>
<td>011</td>
<td>20 Gauge Stranded</td>
<td>0.60</td>
<td>Ø 1.6-2.1</td>
<td>2.1</td>
</tr>
<tr>
<td>022</td>
<td>22 Gauge Stranded</td>
<td>0.47</td>
<td>Ø 1.1-1.6</td>
<td>1.6</td>
</tr>
<tr>
<td>032</td>
<td>24 Gauge Stranded</td>
<td>0.37</td>
<td>Ø 1.1-1.6</td>
<td>1.6</td>
</tr>
</tbody>
</table>
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 10 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.

<table>
<thead>
<tr>
<th>Code</th>
<th>Slot A (AWG)</th>
<th>Diameter B</th>
<th>Text</th>
<th>Color</th>
<th>X00</th>
</tr>
</thead>
<tbody>
<tr>
<td>016</td>
<td>1.60 (22-24)</td>
<td>1.00</td>
<td>9176 01.6</td>
<td>Black</td>
<td>000</td>
</tr>
<tr>
<td>021</td>
<td>2.10 (18-20)</td>
<td>1.50</td>
<td>9176 02.1</td>
<td>White</td>
<td>100</td>
</tr>
</tbody>
</table>
NOTES:
1. CAP FOR IDC WIRE TO BOARD CONNECTION, 1, 2 AND 3 WAY, WITH WIRE STOP.
2. FOR USE WITH STANDARD 9176 IDC CONNECTORS, SEE PAGE 10 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.

<table>
<thead>
<tr>
<th>Code</th>
<th>Slot A (AWG)</th>
<th>Diameter B</th>
<th>Text</th>
<th>Color</th>
<th>X99</th>
</tr>
</thead>
<tbody>
<tr>
<td>016</td>
<td>1.60 (22-24)</td>
<td>1.00</td>
<td>9176</td>
<td>Black</td>
<td>099</td>
</tr>
<tr>
<td>021</td>
<td>2.10 (18-20)</td>
<td>1.50</td>
<td>9176</td>
<td>White</td>
<td>199</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 AT HEX BIT HOLDER</td>
<td>06 7000 7730 01 000</td>
</tr>
</tbody>
</table>

HIGH PRODUCTION  
Metal

<table>
<thead>
<tr>
<th>Max Insulation Dia (AWG)</th>
<th>Tool Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.10 (18-20)</td>
<td>06 9176 7017 01 000</td>
</tr>
<tr>
<td>1.60 (22-24)</td>
<td>06 9176 7017 02 000</td>
</tr>
</tbody>
</table>

MEDIUM PRODUCTION  
Metal/Plastic

<table>
<thead>
<tr>
<th>Max Insulation Dia (AWG)</th>
<th>Tool Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.10 (18-20)</td>
<td>06 9176 7016 01 000</td>
</tr>
<tr>
<td>1.60 (22-24)</td>
<td>06 9176 7016 02 000</td>
</tr>
</tbody>
</table>

CLEARANCE AREA ON PCB FOR HAND TOOLING

1 WAY

2 WAY

3 WAY

AREA TO BE KEPT CLEAR FOR TOOLING
INSERTION TOOLING
REQUIRES HAND PRESS WITH FLAT ROCK PLATES

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>2</td>
<td>2.10 (18-20)</td>
<td>06 9176 7017 01 002</td>
</tr>
<tr>
<td></td>
<td>1.60 (22-24)</td>
<td>06 9176 7017 02 002</td>
</tr>
<tr>
<td>3</td>
<td>2.10 (18-20)</td>
<td>06 9176 7017 01 003</td>
</tr>
<tr>
<td></td>
<td>1.60 (22-24)</td>
<td>06 9176 7017 02 003</td>
</tr>
</tbody>
</table>

NOTES:
1. DIMENSIONS SHOWN AREREFERENCE 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 16.
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 24 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.

### 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: 6 Amps/Contact
- Voltage Rating: Dependant on component proximity

### 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 – CONTACT OPTIONS

<table>
<thead>
<tr>
<th>Prefix</th>
<th>Series</th>
<th>Number 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>001</td>
<td>1</td>
<td>Page 20</td>
<td>422 22 Gauge Stranded</td>
<td>06 Pure Tin all over</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>432 24 Gauge Stranded</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>443 26-28 Gauge Stranded</td>
<td></td>
</tr>
</tbody>
</table>

### HOW TO ORDER – CAP OPTIONS

<table>
<thead>
<tr>
<th>Prefix</th>
<th>Series</th>
<th>Number 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>4XX</td>
<td>X00</td>
</tr>
<tr>
<td>001</td>
<td>1</td>
<td>Page 20</td>
<td>415 Ø 1.0-1.5</td>
<td>000 Black Industrial</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>100 White Lighting</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Code</th>
<th>Color</th>
<th>Application</th>
</tr>
</thead>
<tbody>
<tr>
<td>000</td>
<td>Black</td>
<td>Industrial</td>
</tr>
<tr>
<td>100</td>
<td>White</td>
<td>Lighting</td>
</tr>
</tbody>
</table>

RoHS COMPLIANT
Discrete Wire IDC Contact & Cap
Series 9176-400

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 22 AND 28 GAUGE STRANDED WIRE. SEE TABLE.
5. ALL DIMENSIONS FOR REFERENCE UNLESS OTHERWISE STATED.
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 20.
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 21 FOR WIRE INTO CONTACT.

PACKING DETAILS

| REEL QTY | 2000 |
| LEADER  | 480MM |
| TRAILER | 120MM |
Discrete Wire IDC Contact & Cap
Series 9176-400

22-24 AWG IDC WIRE TO BOARD CONNECTOR
SINGLE CONTACT

SMT PCB LAYOUT
PURE TIN PADS

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 APPLICATION NOTES 201-01-124.
4. DIMENSIONS SHOWN ARE REFERENCED DIMENSIONS.
5. ASSEMBLY TOOLING FOR WIRE INTO CONTACT SEE PAGE 21.
Discrete Wire IDC Contact & Cap
Series 9176-400

ASSEMBLY TOOLING – CAP NOT USED
WIRE INTO CONTACT

NOTES:
1. ASSEMBLY TOOLING FOR CAP.
2. MINIMUM 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.

PLASTIC TOOL – LOW/MEDIUM VOLUME
06-9176-7023-01-000

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

UNIVERSAL HANDLE
06 7000 7730 01 000

CONNECTOR/TOOLING PART NUMBER MATRIX

<table>
<thead>
<tr>
<th>SERIES 9176-400 IDC</th>
<th>HAND INSERTION TOOLING*</th>
<th>ACCESSORY CAPS</th>
</tr>
</thead>
<tbody>
<tr>
<td>AWG</td>
<td>Wire Insulation</td>
<td>Positions</td>
</tr>
<tr>
<td>22</td>
<td>Ø 1.0 - 1.5</td>
<td>1p</td>
</tr>
<tr>
<td>24</td>
<td>Ø 1.0 - 1.5</td>
<td>1p</td>
</tr>
<tr>
<td>26</td>
<td>Ø 0.7 - 1.0</td>
<td>1p</td>
</tr>
<tr>
<td>28</td>
<td>Ø 0.7 - 1.0</td>
<td>1p</td>
</tr>
</tbody>
</table>

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

NOTES:
1. CAP FOR IDC WIRE TO BOARD CONNECTION.
2. CAP MATERIAL: GLASS FILLED NYLON 46, COLOR SEE PAGE 18.
3. CAPS DESIGNED TO ACCOMMODATE WIRE INSULATION DIAMETERS 1.0MM TO 1.5MM.
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 2000 PER BAG.
7. FOR INSTALLATION DETAILS REFER TO DRAWING 70-9176-001-4XX-006S.
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

**ELECTRICAL**
- Current Rating: 10 Amps/Contact
- Voltage Rating: Dependant on component proximity

**ENVIROMENTAL**
- 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 – CONTACT OPTIONS**

<table>
<thead>
<tr>
<th>Prefix</th>
<th>Series</th>
<th>Number 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>5XX</td>
<td>006</td>
</tr>
<tr>
<td>Prefix</td>
<td>Series</td>
<td>Number of Ways</td>
<td>Wire Gauge Size</td>
<td>Color Application</td>
</tr>
<tr>
<td>60</td>
<td>9176</td>
<td>001</td>
<td>5XX</td>
<td>X00</td>
</tr>
</tbody>
</table>

**CONNECTOR/TOOLING PART NUMBER MATRIX**

<table>
<thead>
<tr>
<th>SERIES 9176-500 IDC</th>
<th>HAND INSERTION TOOLING*</th>
<th>ACCESSORY CAPS</th>
</tr>
</thead>
<tbody>
<tr>
<td>AWG</td>
<td>Wire Insulation</td>
<td>Positions</td>
</tr>
<tr>
<td>18</td>
<td>Ø 1.6 - 2.1 1p</td>
<td>709176000150100</td>
</tr>
<tr>
<td>20</td>
<td>Ø 1.6 - 2.1 1p</td>
<td>709176000151000</td>
</tr>
<tr>
<td>22</td>
<td>Ø 1.1 - 1.6 1p</td>
<td>709176000152000</td>
</tr>
<tr>
<td>24</td>
<td>Ø 1.1 - 1.6 1p</td>
<td>709176000153000</td>
</tr>
</tbody>
</table>

* Hand Insertion Tooling and Cap Application - Universal Hand Tool 067000773001000; Consult Application Notes 201-01-124
Discrete Wire IDC Contact & Cap
Series 9176-500

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 25.
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 26 (WITH CAP AND WITHOUT CAP).

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>

AREA AVAILABLE FOR PICK & PLACE 2.00mm SQUARE
Discrete Wire IDC Contact & Cap
Series 9176-500

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 26 (WITH CAP AND WITHOUT CAP).
**ASSEMBLY TOOLING – CAP USED**

**CAP APPLICATION TOOL**

06-9176-7018-01-000

ORIENTATE CAP IN TOOL

**UNIVERSAL HANDLE**

06 7000 7730 01 000

NOTES:
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**

**WIRE ONTO CONTACT**

**2.1 WIRE (18-20 AWG)**

06-9176-7019-01-000

06-9176-7020-01-000

06-7000-7730-01-000

**1.6 WIRE (22-24 AWG)**

06-9176-7019-02-000

06-9176-7020-02-000

**UNIVERSAL HANDLE**

06 7000 7730 01 000

NOTES:
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.

<table>
<thead>
<tr>
<th>Wire Gauge</th>
<th>Wire Insulation ø</th>
<th>Metal Tool High Volume</th>
<th>Plastic Tool Small to Medium Volume</th>
<th>Handle</th>
</tr>
</thead>
<tbody>
<tr>
<td>22-24 AWG</td>
<td>1.10 to 1.60</td>
<td>06-9176-7019-02-000</td>
<td>06-9176-7020-02-000</td>
<td>06-7000-7730-01-000</td>
</tr>
<tr>
<td>18-20 AWG</td>
<td>1.60 to 2.10</td>
<td>06-9176-7019-01-000</td>
<td>06-9176-7020-01-000</td>
<td>06-9176-7730-01-000</td>
</tr>
</tbody>
</table>
NOTES:
1. CAP FOR IDC WIRE TO BOARD CONNECTION.
2. CAP MATERIAL: GLASS FILLED NYLON 46, COLOR SEE PAGE 23.
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</td>
<td>Ø 1.6</td>
</tr>
<tr>
<td>521</td>
<td>1.6 to 2.1 (18-20)</td>
<td>1.50</td>
<td>Ø 2.1</td>
</tr>
</tbody>
</table>
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.

### 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: 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

Certification: UL File #E320991
## 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>
</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>
</tr>
<tr>
<td>14</td>
<td>Ø 4.25</td>
<td>1p</td>
<td>Black</td>
<td>009177001001006</td>
<td>069177701601001</td>
<td>069177701701001</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>
</tr>
<tr>
<td>14</td>
<td>Ø 4.25</td>
<td>2p</td>
<td>Black</td>
<td>009177002001006</td>
<td>069177701601002</td>
<td>069177701701002</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>
</tr>
<tr>
<td>14</td>
<td>Ø 4.25</td>
<td>3p</td>
<td>Black</td>
<td>009177003001006</td>
<td>069177701601003</td>
<td>069177701701003</td>
</tr>
<tr>
<td>16</td>
<td>Ø 3.50</td>
<td>1p</td>
<td>White</td>
<td>009177001012106</td>
<td>069177701602001</td>
<td>069177701702001</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>
</tr>
<tr>
<td>16</td>
<td>Ø 3.50</td>
<td>2p</td>
<td>White</td>
<td>009177002012106</td>
<td>069177701602002</td>
<td>069177701702002</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>
</tr>
<tr>
<td>16</td>
<td>Ø 3.50</td>
<td>3p</td>
<td>White</td>
<td>009177003012106</td>
<td>069177701602003</td>
<td>069177701702003</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>
</tr>
<tr>
<td>18</td>
<td>Ø 3.50</td>
<td>1p</td>
<td>White</td>
<td>009177001022106</td>
<td>069177701602001</td>
<td>069177701702001</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>
</tr>
<tr>
<td>18</td>
<td>Ø 3.50</td>
<td>2p</td>
<td>White</td>
<td>009177002022106</td>
<td>069177701602002</td>
<td>069177701702002</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>
</tr>
<tr>
<td>18</td>
<td>Ø 3.50</td>
<td>3p</td>
<td>White</td>
<td>009177003022106</td>
<td>069177701602003</td>
<td>069177701702003</td>
</tr>
<tr>
<td>18</td>
<td>Ø 3.50</td>
<td>3p</td>
<td>Black</td>
<td>009177003022006</td>
<td>069177701602003</td>
<td>069177701702003</td>
</tr>
<tr>
<td>20</td>
<td>Ø 2.75</td>
<td>1p</td>
<td>White</td>
<td>009177001033106</td>
<td>069177701603001</td>
<td>069177701703001</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>
</tr>
<tr>
<td>20</td>
<td>Ø 2.75</td>
<td>2p</td>
<td>White</td>
<td>009177002033106</td>
<td>069177701603002</td>
<td>069177701703002</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>
</tr>
<tr>
<td>20</td>
<td>Ø 2.75</td>
<td>3p</td>
<td>White</td>
<td>009177003033106</td>
<td>069177701603003</td>
<td>069177701703003</td>
</tr>
<tr>
<td>20</td>
<td>Ø 2.75</td>
<td>3p</td>
<td>Black</td>
<td>009177003033006</td>
<td>069177701603003</td>
<td>069177701703003</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 28.
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 33.

PACKING DETAILS

| REEL QTY | 400  |
| LEADER   | 500MM|
| TRAILER  | 400MM|
| REEL/BOX | 4    |
| PACK QTY | 1600 |

SMT PCB LAYOUT

PURE TIN PADS

<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 Gauge Stranded</td>
<td>1.10</td>
<td>Ø 4.25 max 4.25</td>
</tr>
<tr>
<td>012</td>
<td>16 Gauge Stranded</td>
<td>0.82</td>
<td>Ø 3.50 max 3.50</td>
</tr>
<tr>
<td>022</td>
<td>18 Gauge Stranded</td>
<td>0.72</td>
<td>Ø 3.50 max 3.50</td>
</tr>
<tr>
<td>033</td>
<td>20 Gauge Stranded</td>
<td>0.60</td>
<td>Ø 2.75 max 2.75</td>
</tr>
</tbody>
</table>
**14-20 AWG 2 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. 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 33.

**SMT PCB LAYOUT**

**PURE TIN PADS**

**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 Gauge Stranded</td>
<td>1.10</td>
<td>Ø 4.25 max</td>
<td>4.25</td>
</tr>
<tr>
<td>012</td>
<td>16 Gauge Stranded</td>
<td>0.82</td>
<td>Ø 3.50 max</td>
<td>3.50</td>
</tr>
<tr>
<td>022</td>
<td>18 Gauge Stranded</td>
<td>0.72</td>
<td>Ø 3.50 max</td>
<td>3.50</td>
</tr>
<tr>
<td>033</td>
<td>20 Gauge Stranded</td>
<td>0.60</td>
<td>Ø 2.75 max</td>
<td>2.75</td>
</tr>
</tbody>
</table>

**REEL QTY** 400
**LEADER** 500MM
**TRAILER** 400MM
**REEL/BOX** 4
**PACK QTY** 1600
Discrete Wire IDC
Series 9177

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 28.
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 ELOCO SPEC 201-01-109.
6. FOR PCB SPACE RESTRICTED BY ASSEMBLY TOOLING REFER TO PAGE 33.

SMT PCB LAYOUT

PURE TIN PADS

CONNECTOR OUTLINE

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 Gauge Stranded</td>
<td>1.10</td>
<td>Ø 4.25 max</td>
<td>4.25</td>
</tr>
<tr>
<td>012</td>
<td>16 Gauge Stranded</td>
<td>0.82</td>
<td>Ø 3.50 max</td>
<td>3.50</td>
</tr>
<tr>
<td>022</td>
<td>18 Gauge Stranded</td>
<td>0.72</td>
<td>Ø 3.50 max</td>
<td>3.50</td>
</tr>
<tr>
<td>033</td>
<td>20 Gauge Stranded</td>
<td>0.60</td>
<td>Ø 2.75 max</td>
<td>2.75</td>
</tr>
</tbody>
</table>

REEL QTY 400
LEADER 500MM
TRAILER 400MM
REEL/BOX 4
PACK QTY 1600

------
DISCRETE WIRE IDC

Series 9177

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.

INSERTION TOOLING – REQUIRES HAND PRESS WITH FLAT ROCK PLATES

1 WAY

2 WAY

3 WAY

HIGH PRODUCTION

Metal

<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)</td>
<td>06 9177 7017 01 001</td>
</tr>
<tr>
<td></td>
<td>3.50 (16-18)</td>
<td>06 9177 7017 02 001</td>
</tr>
<tr>
<td></td>
<td>2.75 (20)</td>
<td>06 9177 7017 03 001</td>
</tr>
<tr>
<td>2</td>
<td>4.25 (14)</td>
<td>06 9177 7017 01 002</td>
</tr>
<tr>
<td></td>
<td>3.50 (16-18)</td>
<td>06 9177 7017 02 002</td>
</tr>
<tr>
<td></td>
<td>2.75 (20)</td>
<td>06 9177 7017 03 002</td>
</tr>
<tr>
<td>3</td>
<td>3.50 (16-18)</td>
<td>06 9177 7017 02 003</td>
</tr>
<tr>
<td></td>
<td>2.75 (20)</td>
<td>06 9177 7017 03 003</td>
</tr>
</tbody>
</table>

MEDIUM PRODUCTION

Plastic

<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)</td>
<td>06 9177 7016 01 001</td>
</tr>
<tr>
<td></td>
<td>3.50 (16-18)</td>
<td>06 9177 7016 02 001</td>
</tr>
<tr>
<td></td>
<td>2.75 (20)</td>
<td>06 9177 7016 03 001</td>
</tr>
<tr>
<td>2</td>
<td>4.25 (14)</td>
<td>06 9177 7016 01 002</td>
</tr>
<tr>
<td></td>
<td>3.50 (16-18)</td>
<td>06 9177 7016 02 002</td>
</tr>
<tr>
<td></td>
<td>2.75 (20)</td>
<td>06 9177 7016 03 002</td>
</tr>
<tr>
<td>3</td>
<td>3.50 (16-18)</td>
<td>06 9177 7016 02 003</td>
</tr>
<tr>
<td></td>
<td>2.75 (20)</td>
<td>06 9177 7016 03 003</td>
</tr>
</tbody>
</table>

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

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.

INSERTION TOOLING – PCB RESTRICTED AREAS FOR ASSEMBLY TOOLING

1 WAY

2 WAY

3 WAY

TOOLING CONNECTOR
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 (18-24 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 18-24AWG 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: 250v AC

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

### 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>00</td>
<td>1</td>
<td>Page 36</td>
</tr>
<tr>
<td>002</td>
<td>2</td>
<td>Page 37</td>
</tr>
<tr>
<td>003</td>
<td>3</td>
<td>Page 38</td>
</tr>
<tr>
<td>004</td>
<td>4</td>
<td>Page 39</td>
</tr>
<tr>
<td>006</td>
<td>6</td>
<td>Page 40</td>
</tr>
<tr>
<td>008</td>
<td>8</td>
<td>Page 41</td>
</tr>
</tbody>
</table>
```

<table>
<thead>
<tr>
<th>Code</th>
<th>Wire Size</th>
<th>Max Conductor</th>
<th>Max Insulation</th>
</tr>
</thead>
<tbody>
<tr>
<td>001</td>
<td>18 - 24 AWG</td>
<td>1.20mm Diameter</td>
<td>2.10mm Diameter</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Code</th>
<th>Color</th>
<th>Application</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Black</td>
<td>Industrial</td>
</tr>
<tr>
<td>1</td>
<td>White</td>
<td>Lighting</td>
</tr>
</tbody>
</table>

RoHS Compliant
Wire Assembly

For further details refer to Application Notes 201-01-127

Strip length

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.

Push wire until stop is reached.

Wire Extraction

Push blade (not sharp) into slot above wire. When wire is free, pull to extract.
1 WAY WIRE TO BOARD CONNECTOR

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 34.
3. CONTACT MATERIAL: COPPER ALLOY, 0.20MM THICK, TIN PLATED.
4. OUTLINE OF CONNECTOR.
5. WIRE ASSEMBLY / EXTRACTION, REFER TO PAGE 35.
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

PACKING DETAILS
Discrete Wire-to-Board; Poke-Home
Series 9276

2 WAY WIRE TO BOARD CONNECTOR

SECTION ON A-A

SECTION ON A-A WITH WIRE

PACKING DETAILS

2 WAY PCB BOARD LAYOUT

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 34.
3. CONTACT MATERIAL: COPPER ALLOY, 0.20MM THICK, TIN PLATED.
4. OUTLINE OF CONNECTOR.
5. WIRE ASSEMBLY / EXTRACTION, REFER TO PAGE 35.
6. FRONT FACE OF CONNECTOR CAN BE IN LINE WITH EDGE OF PCB.
7. PACKING TAPE AND REEL, QUANTITY 1000 PER REEL.
Discrete Wire-to-Board; Poke-Home
Series 9276

3 WAY WIRE TO BOARD CONNECTOR

Section on A-A

Section on A-A with wire

Packing Details

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 34.
3. Contact material: copper alloy, 0.20mm thick, tin plated.
4. Outline of connector.
5. Wire assembly / extraction, refer to page 34.
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
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 34.
3. CONTACT MATERIAL: COPPER ALLOY, 0.20MM THICK, TIN PLATED.
4. OUTLINE OF CONNECTOR.
5. WIRE ASSEMBLY / EXTRACTION, REFER TO PAGE 35.
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

Discrete Wire-to-Board; Poke-Home
Series 9276
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 34.
3. CONTACT MATERIAL: COPPER ALLOY, 0.20MM THICK, TIN PLATED.
4. OUTLINE OF CONNECTOR.
5. WIRE ASSEMBLY / EXTRACTION, REFER TO PAGE 35.
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

PACKING DETAILS
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 34.
3. CONTACT MATERIAL: COPPER ALLOY, 0.20MM THICK, TIN PLATED.
4. OUTLINE OF CONNECTOR.
5. WIRE ASSEMBLY / EXTRACTION, REFER TO PAGE 35.
6. FRONT FACE OF CONNECTOR CAN BE IN LINE WITH EDGE OF PCB.
7. PACKING TAPE AND REEL, QUANTITY 1000 PER REEL.
Discrete Wire-to-Board Connectors For Harsh Environments

Series 9276; Poke-Home

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 (18-24 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.

FEATURES AND BENEFITS
- Simple strip, insert and removal design
- SMT RoHS termination to the PCB with minimal footprint
- Accepts 18-24AWG 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: 250v AC

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

Series 9176; Insulation Displacement

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 ranging from 14 AWG to 28 AWG directly to a PCB. This industry proven contact system has been tested to automotive levels of shock, vibration, and temperature cycling to prove its 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.

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
- Optional thru and end caps lock in place to provide maximum strain relief
- High temperature insulator capable to 260°C reflow soldering processes
- Available in standard white and optional black color

ELECTRICAL
- Current Rating: 10 Amp / Contact
- Voltage Rating: 250 VAC

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

AVX Myrtle Beach, SC  
Tel: 843-448-9411

AVX Northwest, WA  
Tel: 360-699-8746

AVX Midwest, IN  
Tel: 317-861-9184

AVX Mid/Pacific, CA  
Tel: 408-988-4900

AVX Northeast, MA  
Tel: 617-479-0345

AVX Southwest, CA  
Tel: 949-859-9509

AVX Canada  
Tel: 905-238-3151

AVX South America  
Tel: +55-11-4688-1960

AVX Limited, England  
Tel: +44-1252-770000

AVX S.A.S., France  
Tel: +33-1-69-18-46-00

AVX GmbH, Germany  
Tel: +49-0811-95949-0

AVX SRL, Italy  
Tel: +39-02-614-571

AVX Czech Republic  
Tel: +420-57-57-57-521

AVX/ELCO UK  
Tel: +44-1638-675000

ELCO Europe GmbH  
Tel: +49-2741-299-0

AVX S.A., Spain  
Tel: +34-91-63-97-197

AVX Benelux  
Tel: +31-187-489-337

AVX/Kyocera (S) Pte Ltd.,  
Singapore  
Tel: +65-6286-7555

AVX/Kyocera, Asia, Ltd.,  
Hong Kong  
Tel: +852-2363-3303

AVX/Kyocera Yuhan Hoesa,  
South Korea  
Tel: +82-2-785-6504

AVX/Kyocera HK Ltd.,  
Taiwan  
Tel: +886-2-2656-0258

AVX/Kyocera (M) Sdn Bhd,  
Malaysia  
Tel: +60-4228-1190

AVX/Kyocera International  
Trading Co. Ltd.,  
Shanghai  
Tel: +86-21-3255 1933

AVX/Kyocera Asia Ltd.,  
Shenzhen  
Tel: +86-755-3336-0615

AVX/Kyocera International  
Trading Co. Ltd.,  
Beijing  
Tel: +86-10-6588-3528

AVX/Kyocera India  
Liaison Office  
Tel: +91-80-6450-0715

KED Hong Kong Ltd.  
Tel: +852-2305-1080/1233

KED Hong Kong Ltd.  
Shenzhen  
Tel: +86-755-3398-9600

KED Company Ltd.  
Shanghai  
Tel: +86-21-3255-1833

KED Hong Kong Ltd.  
Beijing  
Tel: +86-10-6869-4655

KED Taiwan Ltd.  
Tel: +886-2-2950-0268

KED Korea Yuhan Hoesa,  
South Korea  
Tel: +82-2-783-3604/6126

KED (S) Pte Ltd.  
Singapore  
Tel: +65-6509-0328

Kyocera Corporation  
Japan  
Tel: +81-75-604-3449

http://www.avx.com