

# Capped IDC

## Series 9176-700



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: -40°C to +125°C

### MECHANICAL

- Insulator Material: Nylon UL94VO
- Contact Material: Phosphor Bronze
- Plating: Tin over Nickel
- Durability 3 Cycles

### HOW TO ORDER

<b>00</b>	<b>9176</b>	<b>00X</b>	<b>7XX</b>	<b>X</b>	<b>X</b>	<b>6</b>																																							
Prefix	Series	Number of Ways	Wire Gauge Size Capped - IDC Connector	Insulator Color	Cap Options	Plating Option																																							
		<table border="1"> <thead> <tr> <th>Code</th> <th>No of Ways</th> <th>Details</th> </tr> </thead> <tbody> <tr> <td>001</td> <td>1</td> <td>Pages 2 &amp; 5</td> </tr> <tr> <td>002</td> <td>2</td> <td>Pages 3 &amp; 6</td> </tr> <tr> <td>003</td> <td>3</td> <td>Pages 4 &amp; 7</td> </tr> </tbody> </table>	Code	No of Ways	Details	001	1	Pages 2 & 5	002	2	Pages 3 & 6	003	3	Pages 4 & 7	<table border="1"> <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 Stranded</td> <td>Ø 1.6 - 2.1</td> </tr> <tr> <td>722</td> <td>22 AWG Stranded</td> <td>Ø 1.1 - 1.6</td> </tr> <tr> <td>732</td> <td>24 AWG Stranded</td> <td>Ø 1.1 - 1.6</td> </tr> </tbody> </table>	Code	Accepted Wire Gauge	Wire Insulation	701	18 AWG Stranded	Ø 1.6 - 2.1	711	20 AWG Stranded	Ø 1.6 - 2.1	722	22 AWG Stranded	Ø 1.1 - 1.6	732	24 AWG Stranded	Ø 1.1 - 1.6	9 = UL White 8 = UL Black Special Order 1 = White 0 = Black Special Order	<table border="1"> <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>Pages 2 - 4</td> </tr> <tr> <td>9</td> <td>Wire Stop</td> <td>Terminates end of wire End Protected by stop face</td> <td>Pages 5 - 7</td> </tr> </tbody> </table>	Code	Cap Option	Description	Detail	0	Through Wire	Allows wire to be terminated at any point	Pages 2 - 4	9	Wire Stop	Terminates end of wire End Protected by stop face	Pages 5 - 7	06 = Pure Tin all over
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Certification: UL File #E90723

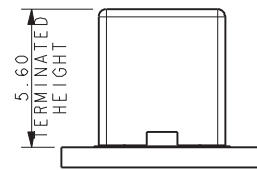
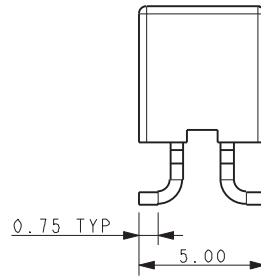
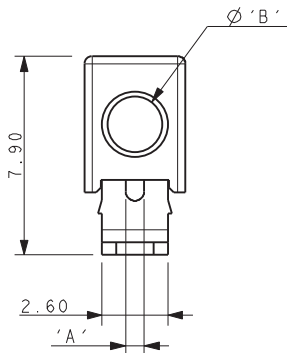
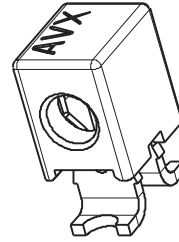
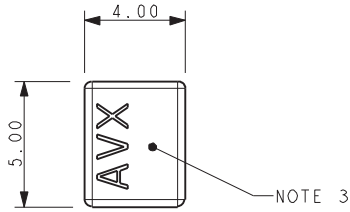


# Capped IDC

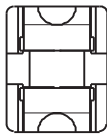
## Series 9176-700



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



### MOUNTED ON PCB

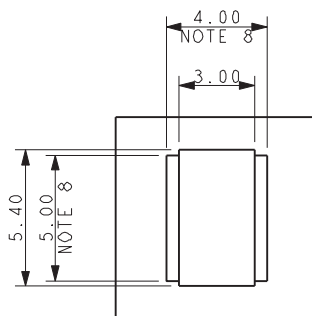


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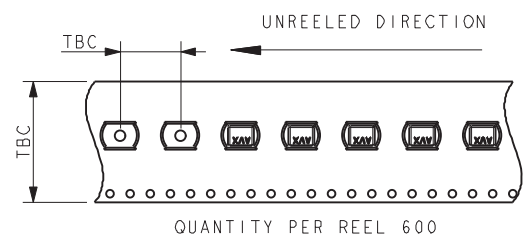
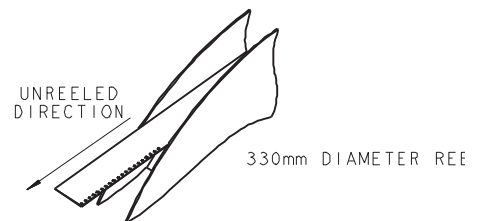
- 1 WAY CONNECTOR FOR IDC WIRE TO BOARD CONNECTION. PRE-ASSEMBLED THROUGH WIRE CAP.
- CONTACT/CAP TO MATCH 18-24 AWG STRANDED WIRE INSULATION DIAMETER RANGE AS IN TABLE.
- FLAT FACE ON TOP OF CAP TO AID PICK AND PLACE ASSEMBLY.
- FOR FULL DETAILS REFER TO ELCO SPECIFICATION 201-01-139.
- ASSEMBLY PROCEDURE, REFER TO APPLICATION NOTES 201-01-140.
- GENERAL TOLERANCE  $\pm 0.20$  UNLESS STATED.
- PACKED IN TAPE AND REEL, QUANTITY PER REEL 600.
- CONNECTOR OUTLINE.
- CONTACT MATERIAL: TIN PLATED COPPER ALLOY.
- INSULATOR MATERIAL: HIGH TEMPERATURE NYLON, GLASS FILLED, UL94 V-0. COLOR REFER TO PAGE 1.

Code	Accepted Wire Gauge	A	Wire Insulation	B
701	18 AWG Stranded	0.74	Ø 1.6-2.1	2.1
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732	24 AWG Stranded	0.37	Ø 1.1-1.6	1.6

### PACKING DETAILS



### SUGGEST PCB LAYOUT

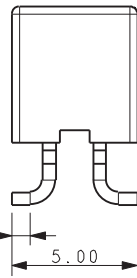
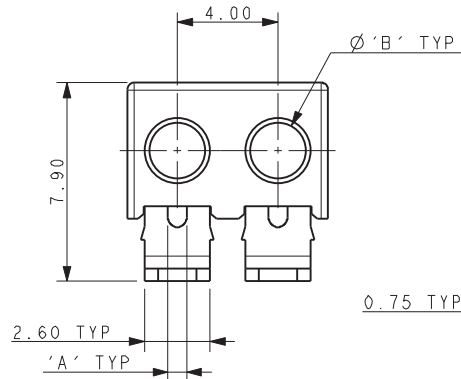
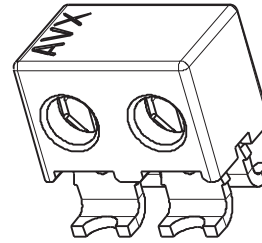
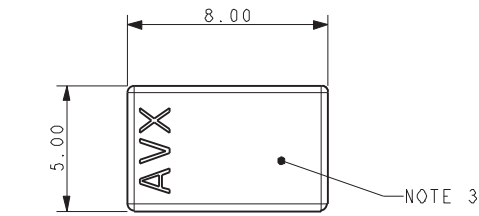


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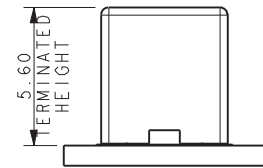
## Series 9176-700



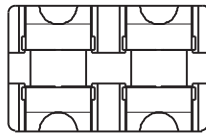
### 18 - 24 AWG 2 WAY IDC CONNECTOR THROUGH WIRE CAPPED IDC



ALL TAILS WITHIN 0.10 COPLANARITY TOLERANCE



### MOUNTED ON PCB

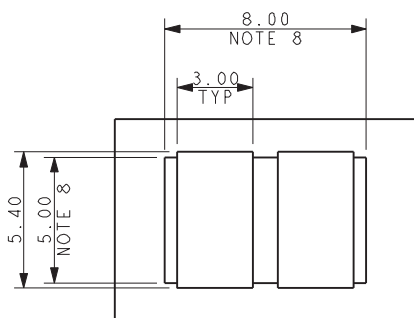


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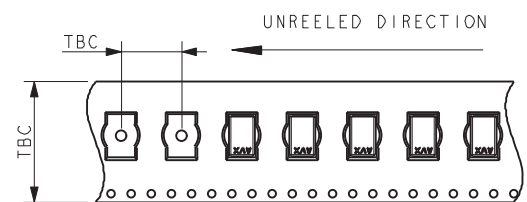
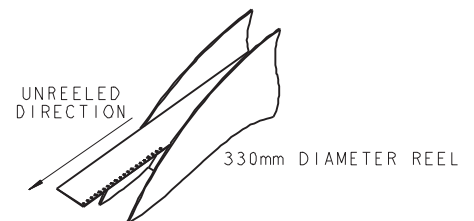
1. 2 WAY CONNECTOR FOR IDC WIRE TO BOARD CONNECTION. PRE-ASSEMBLED THROUGH WIRE CAP.
2. CONTACT/CAP TO MATCH 18-24 AWG STRANDED WIRE INSULATION DIAMETER RANGE AS IN TABLE.
3. FLAT FACE ON TOP OF CAP TO AID PICK AND PLACE ASSEMBLY.
4. FOR FULL DETAILS REFER TO ELCO SPECIFICATION 201-01-139.
5. ASSEMBLY PROCEDURE, REFER TO APPLICATION NOTES 201-01-140.
6. GENERAL TOLERANCE  $\pm 0.20$  UNLESS STATED.
7. PACKED IN TAPE AND REEL, QUANTITY PER REEL 600.
8. CONNECTOR OUTLINE.
9. CONTACT MATERIAL: TIN PLATED COPPER ALLOY.
10. INSULATOR MATERIAL: HIGH TEMPERATURE NYLON, GLASS FILLED, UL94 V-0. COLOR REFER TO PAGE 1.

Code	Accepted Wire Gauge	A	Wire Insulation	B
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### PACKING DETAILS



### SUGGEST PCB LAYOUT



QUANTITY PER REEL 600

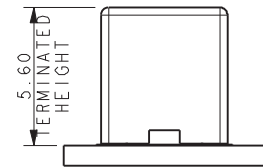
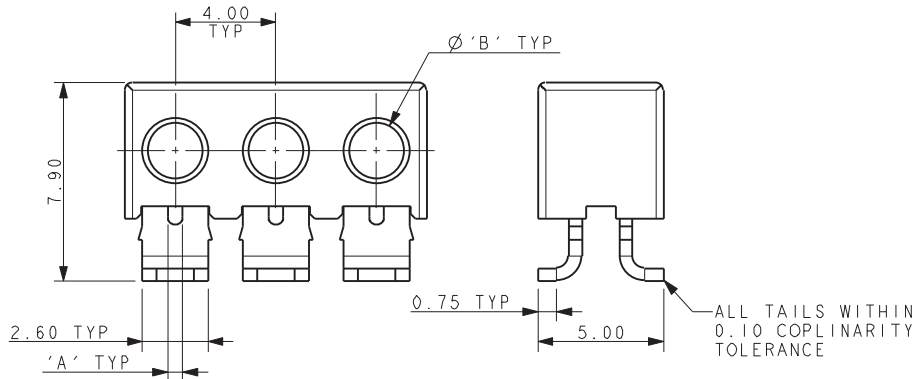
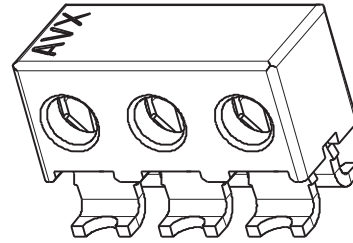
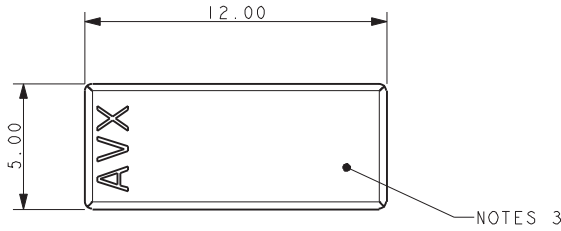


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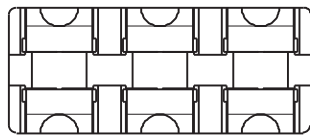
## Series 9176-700



### 18 - 24 AWG 3 WAY IDC CONNECTOR THROUGH WIRE CAPPED IDC



### MOUNTED ON PCB

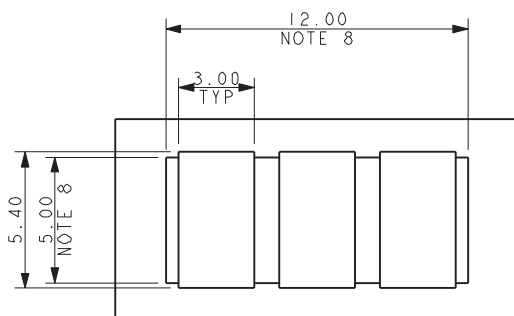


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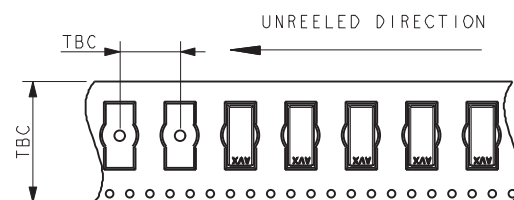
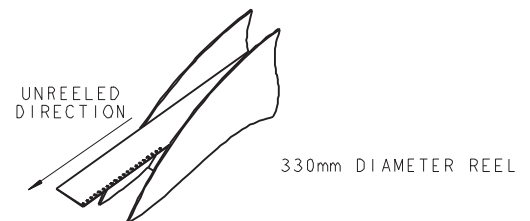
#### NOTES:

- 3 WAY CONNECTOR FOR IDC WIRE TO BOARD CONNECTION. PRE-ASSEMBLED THROUGH WIRE CAP.
- CONTACT/CAP TO MATCH 18-24 AWG STRANDED WIRE INSULATION DIAMETER RANGE AS IN TABLE.
- FLAT FACE ON TOP OF CAP TO AID PICK AND PLACE ASSEMBLY.
- FOR FULL DETAILS REFER TO ELCO SPECIFICATION 201-01-139.
- ASSEMBLY PROCEDURE, REFER TO APPLICATION NOTES 201-01-140.
- GENERAL TOLERANCE  $\pm 0.20$  UNLESS STATED.
- PACKED IN TAPE AND REEL, QUANTITY PER REEL 600.
- CONNECTOR OUTLINE.
- CONTACT MATERIAL: TIN PLATED COPPER ALLOY.
- INSULATOR MATERIAL: HIGH TEMPERATURE NYLON, GLASS FILLED, UL94 V-0. COLOR REFER TO PAGE 1.

### PACKING DETAILS



### SUGGEST PCB LAYOUT



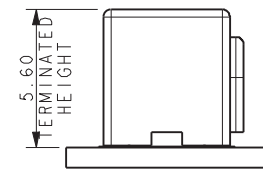
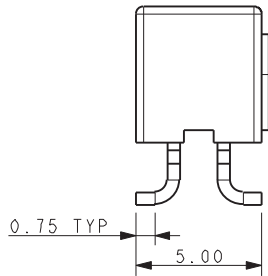
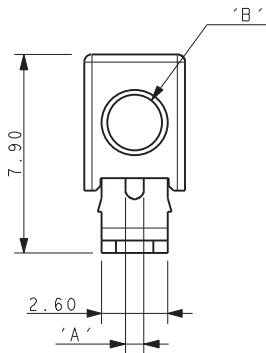
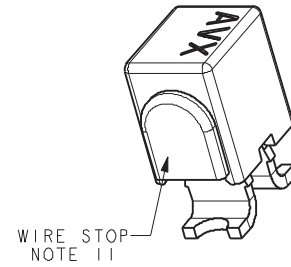
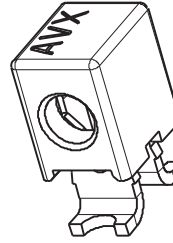
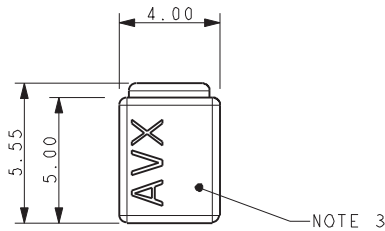
QUANTITY PER REEL 600

# Capped IDC

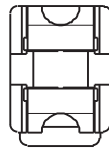
## Series 9176-700



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



### MOUNTED ON PCB

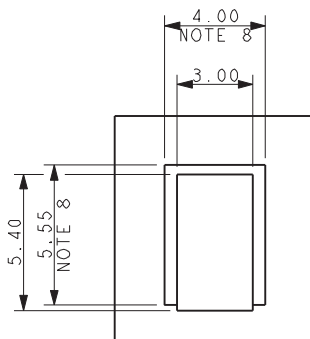


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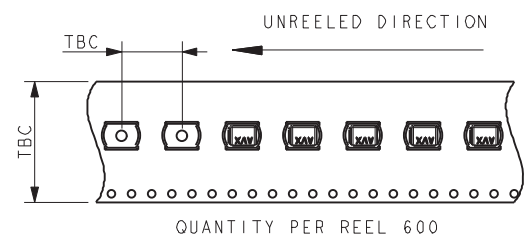
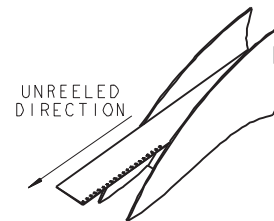
- 1 WAY CONNECTOR FOR IDC WIRE TO BOARD CONNECTION. PRE-ASSEMBLED WIRE SOFT CAP. CODE REFER TO PAGE 1.
- CONTACT/CAP TO MATCH 18-24 AWG STRANDED WIRE. INSULATION DIAMETER RANGE AS IN TABLE.
- FLAT FACE ON TOP OF CAP TO AID PICK AND PLACE ASSEMBLY.
- FOR FULL DETAILS REFER TO ELCO SPECIFICATION 201-01-139.
- ASSEMBLY PROCEDURE, REFER TO APPLICATION NOTES 201-01-140.
- GENERAL TOLERANCE  $\pm 0.20$  UNLESS STATED.
- PACKED IN TAPE AND REEL, QUANTITY PER REEL 600.
- CONNECTOR OUTLINE.
- CONTACT MATERIAL: TIN PLATED COPPER ALLOY.
- INSULATOR MATERIAL: HIGH TEMPERATURE NYLON, GLASS FILLED, UL94 V-0. COLOR REFER TO PAGE 1.
- WIRE STOP CAP PROTECTS END OF WIRE.

Code	Accepted Wire Gauge	A	Wire Insulation	B
701	18 AWG Stranded	0.74	$\varnothing$ 1.6-2.1	2.1
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### PACKING DETAILS



### SUGGEST PCB LAYOUT

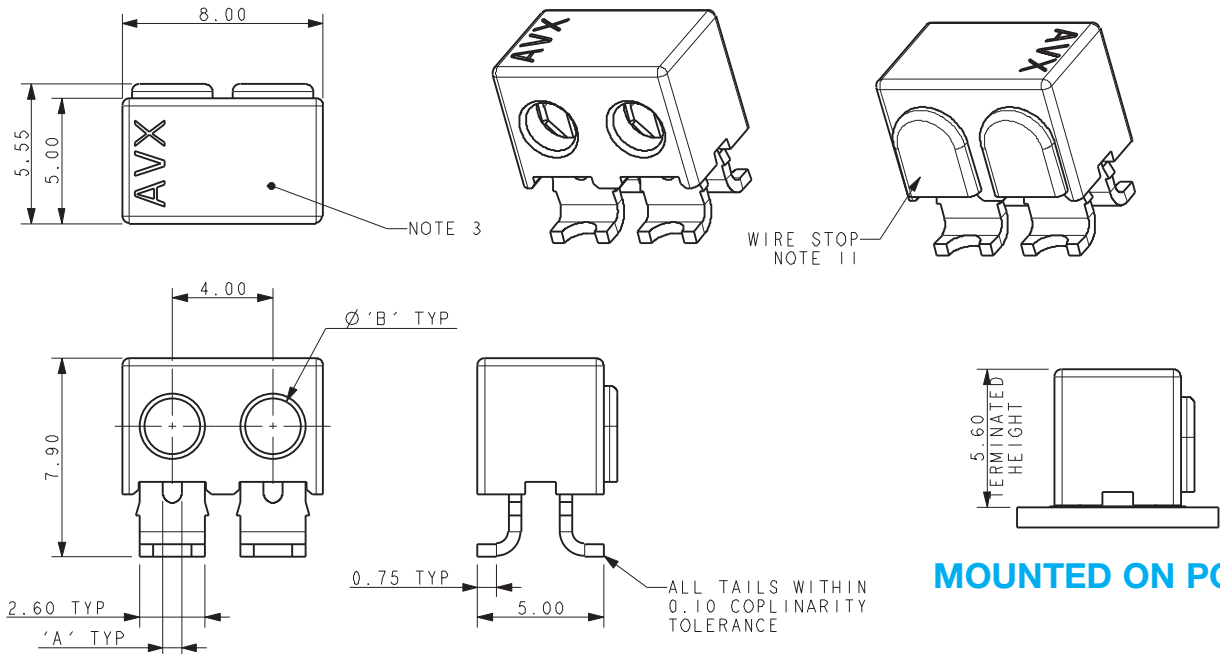


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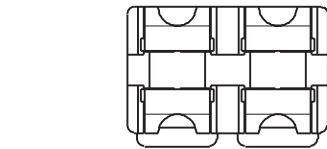
## Series 9176-700



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



### MOUNTED ON PCB

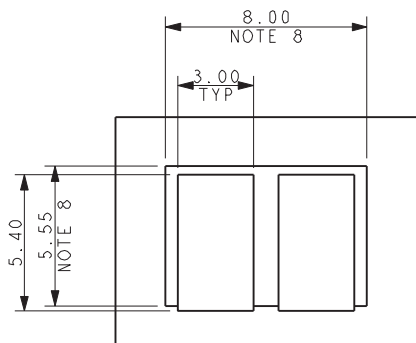


#### NOTES:

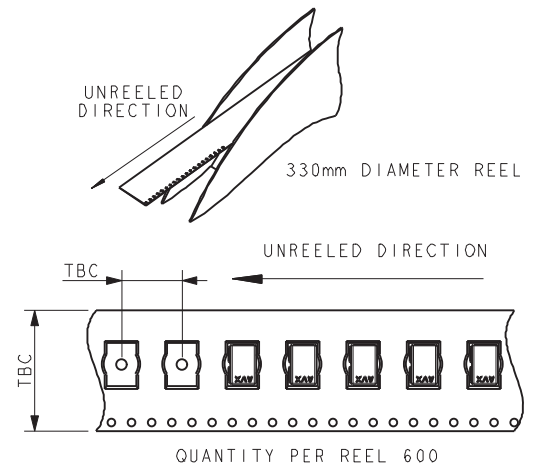
- 2 WAY CONNECTOR FOR IDC WIRE TO BOARD CONNECTION. PRE-ASSEMBLED WIRE SOFT CAP. CODE REFER TO PAGE 1.
- CONTACT/CAP TO MATCH 18-24 AWG STRANDED WIRE. INSULATION DIAMETER RANGE AS IN TABLE.
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- ASSEMBLY PROCEDURE, REFER TO APPLICATION NOTES 201-01-140.
- GENERAL TOLERANCE  $\pm 0.20$  UNLESS STATED.
- PACKED IN TAPE AND REEL, QUANTITY PER REEL 600.
- CONNECTOR OUTLINE.
- CONTACT MATERIAL: TIN PLATED COPPER ALLOY.
- INSULATOR MATERIAL: HIGH TEMPERATURE NYLON, GLASS FILLED, UL94 V-0. COLOR REFER TO PAGE 1.
- WIRE STOP CAP PROTECTS END OF WIRE.

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### PACKING DETAILS



### SUGGEST PCB LAYOUT

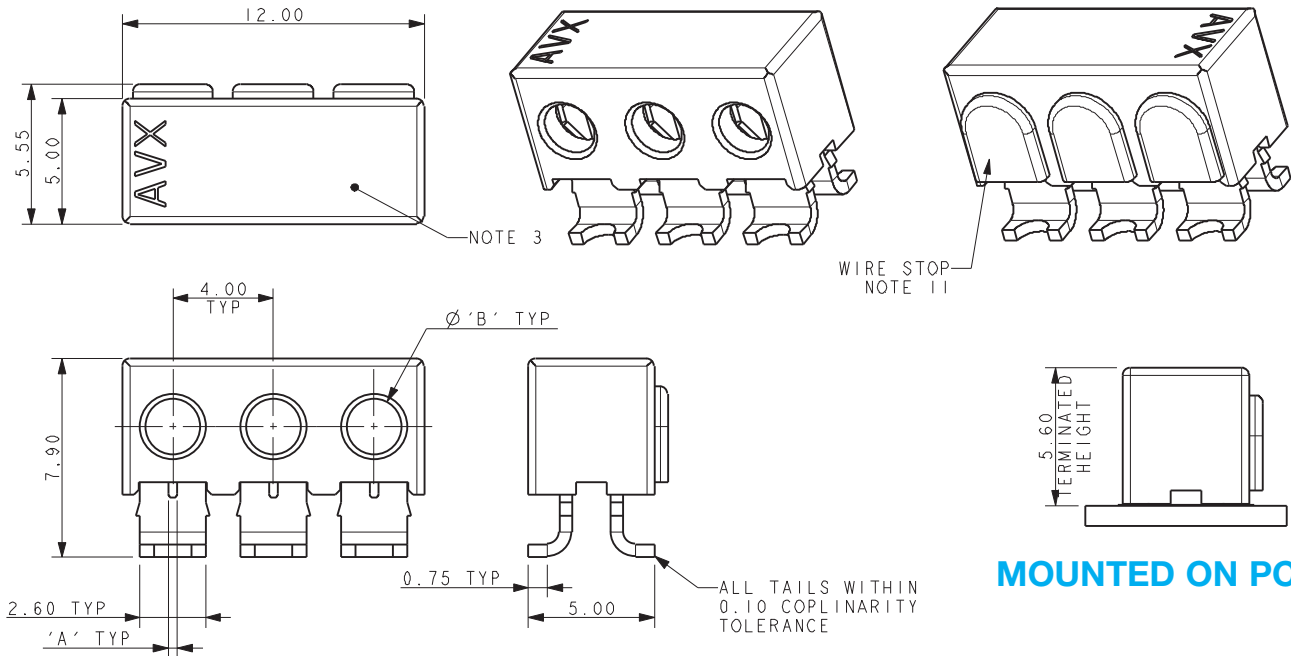


# Capped IDC

## Series 9176-700



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



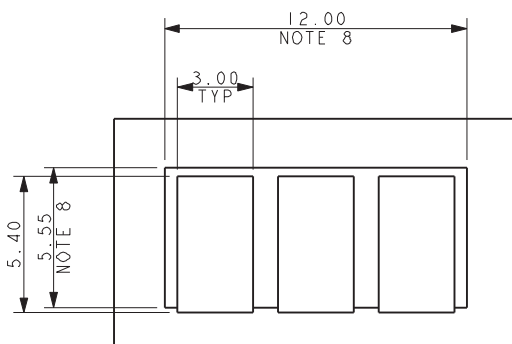
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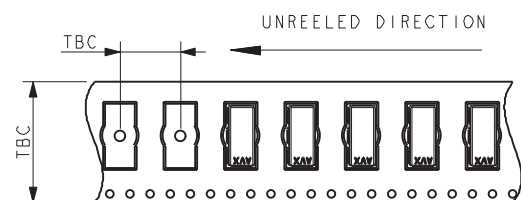
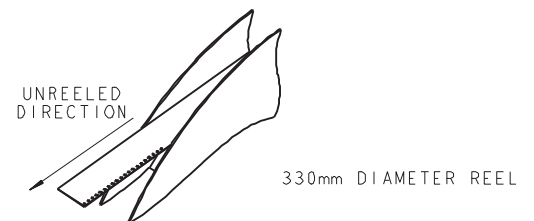
#### NOTES:

- 2 WAY CONNECTOR FOR IDC WIRE TO BOARD CONNECTION. PRE-ASSEMBLED WIRE SOFT CAP. CODE REFER TO PAGE 1.
- CONTACT/CAP TO MATCH 18-24 AWG STRANDED WIRE. INSULATION DIAMETER RANGE AS IN TABLE.
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- CONTACT MATERIAL: TIN PLATED COPPER ALLOY.
- INSULATOR MATERIAL: HIGH TEMPERATURE NYLON, GLASS FILLED, UL94 V-0. COLOR REFER TO PAGE 1.
- WIRE STOP CAP PROTECTS END OF WIRE.

### PACKING DETAILS



### SUGGEST PCB LAYOUT



QUANTITY PER REEL 600

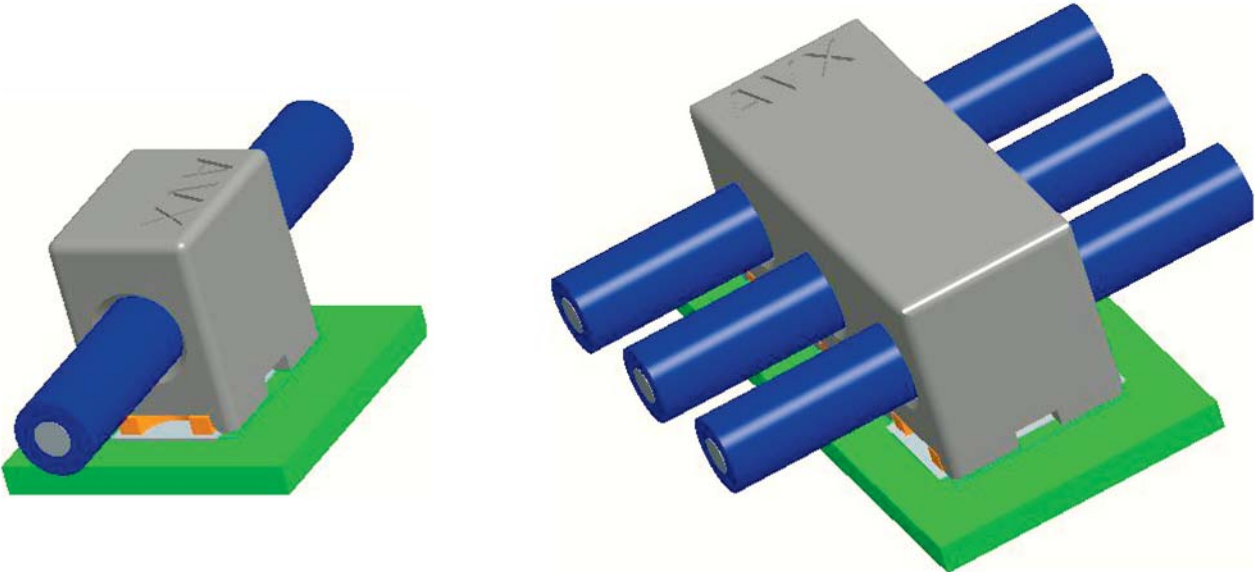


# Discrete Wire IDC

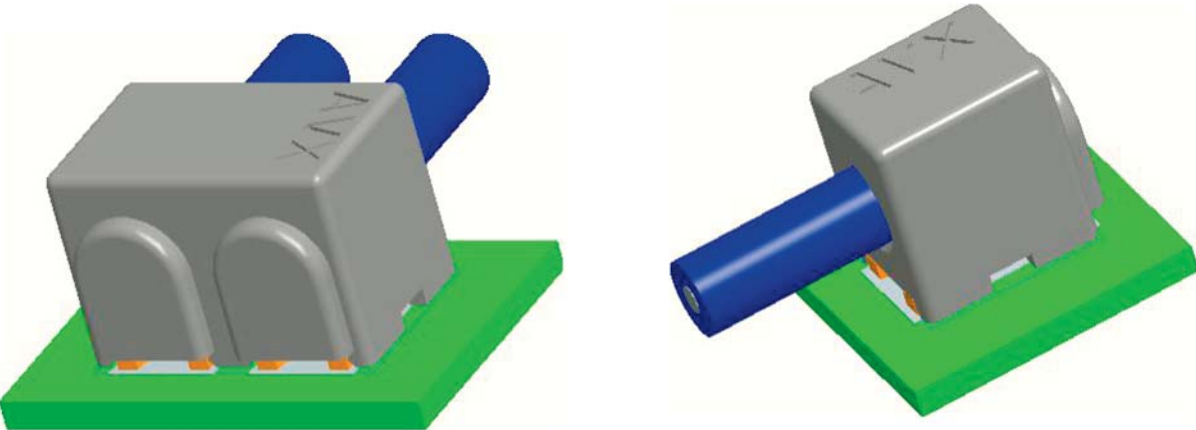
Series 9176-700



## 18-24 AWG ASSEMBLED CAPPED IDC CONNECTORS



TYPICAL THROUGH WIRE ASSEMBLY



TYPICAL WIRE STOP ASSEMBLY

