

# 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 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

### 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

### 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

**00**  
Prefix

**9176**  
Series

| Number of Ways |            |         |
|----------------|------------|---------|
| Code           | No of Ways | Details |
| 001            | 1          | Page 3  |
| 002            | 2          | Page 4  |
| 003            | 3          | Page 5  |

| Wire Gauge Size |                                     |                 |                    |
|-----------------|-------------------------------------|-----------------|--------------------|
| Code            | Accepted Wire Gauge                 | Wire Insulation | Cap Code Pages 6-7 |
| 001             | 18 Gauge Solid or Stranded          | Ø 1.6-2.1       | 021                |
| 011             | 20 Gauge Stranded Solid or Stranded | Ø 1.6-2.1       | 021                |
| 022             | 22 Gauge Stranded Solid or Stranded | Ø 1.1-1.6       | 016                |
| 032             | 24 Gauge Stranded Solid or Stranded | Ø 1.1-1.6       | 016                |

**X**  
Insulator Color  
9 = UL White  
8 = UL Black  
1 = White  
0 = Black

**06**  
Plating Option  
06 = Pure Tin all over



Certification: UL File #E90723



# Discrete Wire IDC



## Series 9176

### CONNECTOR/TOOLING PART NUMBER MATRIX

| SERIES 9176 IDC |                 |           |          |                 | HAND INSERTION TOOLING* |                     |                  | ACCESSORY CAPS  |                 |
|-----------------|-----------------|-----------|----------|-----------------|-------------------------|---------------------|------------------|-----------------|-----------------|
| AWG             | Wire Insulation | Positions | Color    | Part Number     | Plastic (medium volume) | Metal (high volume) | Mass Termination | Through Wire    | Wire Stop       |
| 18              | Ø 1.6 - 2.1     | 1p        | White    | 009176001001106 | 069176701601000         | 069176701701000     | N/A              | 609176001021100 | 609176001021199 |
| 18              | Ø 1.6 - 2.1     | 1p        | Black    | 009176001001006 | 069176701601000         | 069176701701000     | N/A              | 609176001021000 | 609176001021099 |
| 18              | Ø 1.6 - 2.1     | 1p        | UL White | 009176001001906 | 069176701601000         | 069176701701000     | N/A              | 609176001021100 | 609176001021199 |
| 18              | Ø 1.6 - 2.1     | 2p        | White    | 009176002001106 | 069176701601000         | 069176701701000     | 069176701701002  | 609176002021100 | 609176002021199 |
| 18              | Ø 1.6 - 2.1     | 2p        | Black    | 009176002001006 | 069176701601000         | 069176701701000     | 069176701701002  | 609176002021000 | 609176002021099 |
| 18              | Ø 1.6 - 2.1     | 2p        | UL White | 009176002001906 | 069176701601000         | 069176701701000     | 069176701701002  | 609176002021100 | 609176002021199 |
| 18              | Ø 1.6 - 2.1     | 3p        | White    | 009176003001106 | 069176701601000         | 069176701701000     | 069176701701003  | 609176003021100 | 609176003021199 |
| 18              | Ø 1.6 - 2.1     | 3p        | Black    | 009176003001006 | 069176701601000         | 069176701701000     | 069176701701003  | 609176003021000 | 609176003021099 |
| 18              | Ø 1.6 - 2.1     | 3p        | UL White | 009176003001906 | 069176701601000         | 069176701701000     | 069176701701003  | 609176003021100 | 609176003021199 |
| 20              | Ø 1.6 - 2.1     | 1p        | White    | 009176001011106 | 069176701601000         | 069176701701000     | N/A              | 609176001021100 | 609176001021199 |
| 20              | Ø 1.6 - 2.1     | 1p        | Black    | 009176001011006 | 069176701601000         | 069176701701000     | N/A              | 609176001021000 | 609176001021099 |
| 20              | Ø 1.6 - 2.1     | 1p        | UL White | 009176001011906 | 069176701601000         | 069176701701000     | N/A              | 609176001021100 | 609176001021199 |
| 20              | Ø 1.6 - 2.1     | 2p        | White    | 009176002011106 | 069176701601000         | 069176701701000     | 069176701701002  | 609176002021100 | 609176002021199 |
| 20              | Ø 1.6 - 2.1     | 2p        | Black    | 009176002011006 | 069176701601000         | 069176701701000     | 069176701701002  | 609176002021000 | 609176002021099 |
| 20              | Ø 1.6 - 2.1     | 2p        | UL White | 009176002011906 | 069176701601000         | 069176701701000     | 069176701701002  | 609176002021100 | 609176002021199 |
| 20              | Ø 1.6 - 2.1     | 3p        | White    | 009176003011106 | 069176701601000         | 069176701701000     | 069176701701003  | 609176003021100 | 609176003021199 |
| 20              | Ø 1.6 - 2.1     | 3p        | Black    | 009176003011006 | 069176701601000         | 069176701701000     | 069176701701003  | 609176003021000 | 609176003021099 |
| 20              | Ø 1.6 - 2.1     | 3p        | UL White | 009176003011906 | 069176701601000         | 069176701701000     | 069176701701003  | 609176003021100 | 609176003021199 |
| 22              | Ø 1.1 - 1.6     | 1p        | White    | 009176001022106 | 069176701602000         | 069176701702000     | N/A              | 609176001016100 | 609176001016199 |
| 22              | Ø 1.1 - 1.6     | 1p        | Black    | 009176001022006 | 069176701602000         | 069176701702000     | N/A              | 609176001016000 | 609176001016099 |
| 22              | Ø 1.1 - 1.6     | 1p        | UL White | 009176001022906 | 069176701602000         | 069176701702000     | N/A              | 609176001016100 | 609176001016199 |
| 22              | Ø 1.1 - 1.6     | 2p        | White    | 009176002022106 | 069176701602000         | 069176701702000     | 069176701702002  | 609176002016100 | 609176002016199 |
| 22              | Ø 1.1 - 1.6     | 2p        | Black    | 009176002022006 | 069176701602000         | 069176701702000     | 069176701702002  | 609176002016000 | 609176002016099 |
| 22              | Ø 1.1 - 1.6     | 2p        | UL White | 009176002022906 | 069176701602000         | 069176701702000     | 069176701702002  | 609176002016100 | 609176002016199 |
| 22              | Ø 1.1 - 1.6     | 3p        | White    | 009176003022106 | 069176701602000         | 069176701702000     | 069176701702003  | 609176003016100 | 609176003016199 |
| 22              | Ø 1.1 - 1.6     | 3p        | Black    | 009176003022006 | 069176701602000         | 069176701702000     | 069176701702003  | 609176003016000 | 609176003016099 |
| 22              | Ø 1.1 - 1.6     | 3p        | UL White | 009176003022906 | 069176701602000         | 069176701702000     | 069176701702003  | 609176003016100 | 609176003016199 |
| 24              | Ø 1.1 - 1.6     | 1p        | White    | 009176001032106 | 069176701602000         | 069176701702000     | N/A              | 609176001016100 | 609176001016199 |
| 24              | Ø 1.1 - 1.6     | 1p        | Black    | 009176001032006 | 069176701602000         | 069176701702000     | N/A              | 609176001016000 | 609176001016099 |
| 24              | Ø 1.1 - 1.6     | 1p        | UL White | 009176001032906 | 069176701602000         | 069176701702000     | N/A              | 609176001016100 | 609176001016199 |
| 24              | Ø 1.1 - 1.6     | 2p        | White    | 009176002032106 | 069176701602000         | 069176701702000     | 069176701702002  | 609176002016100 | 609176002016199 |
| 24              | Ø 1.1 - 1.6     | 2p        | Black    | 009176002032006 | 069176701602000         | 069176701702000     | 069176701702002  | 609176002016000 | 609176002016099 |
| 24              | Ø 1.1 - 1.6     | 2p        | UL White | 009176002032906 | 069176701602000         | 069176701702000     | 069176701702002  | 609176002016100 | 609176002016199 |
| 24              | Ø 1.1 - 1.6     | 3p        | White    | 009176003032106 | 069176701602000         | 069176701702000     | 069176701702003  | 609176003016100 | 609176003016199 |
| 24              | Ø 1.1 - 1.6     | 3p        | Black    | 009176003032006 | 069176701602000         | 069176701702000     | 069176701702003  | 609176003016000 | 609176003016099 |
| 24              | Ø 1.1 - 1.6     | 3p        | UL White | 009176003032906 | 069176701602000         | 069176701702000     | 069176701702003  | 609176003016100 | 609176003016199 |

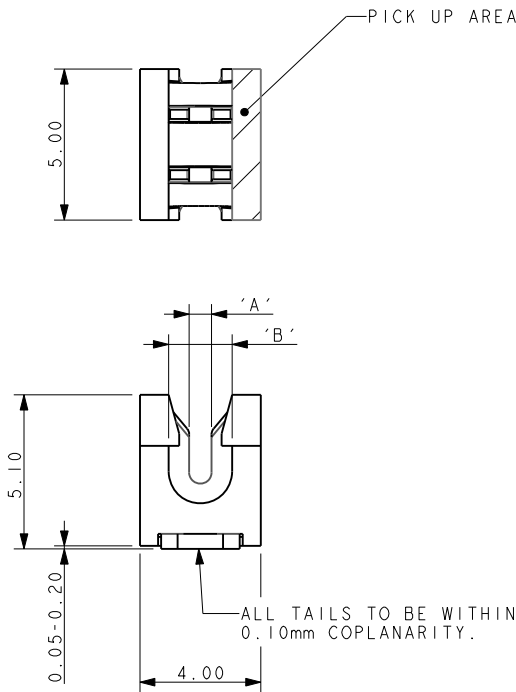
\* Hand Insertion Tooling - Universal Hand Tool 067000773001000; Consult Application Notes 201-01-124

# Discrete Wire IDC

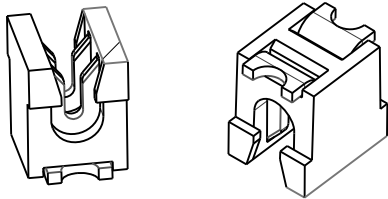
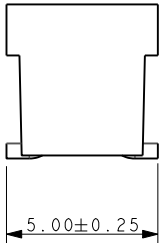
## Series 9176



### 18-24 AWG 1 WAY IDC CONNECTOR



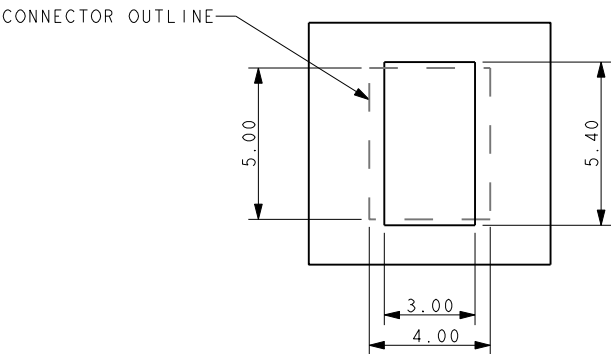
- NOTES:
1. CONNECTOR FOR IDC WIRE TO BOARD CONNECTION.
  2. CONTACT MATERIAL: PHOSPHOR BRONZE.  
INSULATION MATERIAL: HIGH TEMPERATURE NYLON 46.  
COLOR REFER TO PAGE 1.
  3. CONNECTOR DESIGNED TO ACCEPT BETWEEN 24 AND 18 GAUGE STRANDED WIRE.
  4. ALL DIMENSIONS FOR REFERENCE UNLESS OTHERWISE STATED.
  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 8.
  7. FOR HAND WIRE ASSEMBLY TOOLING REFER TO PAGE 8.



| 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 |

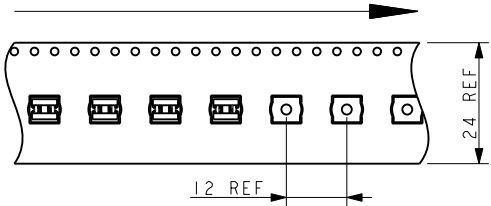
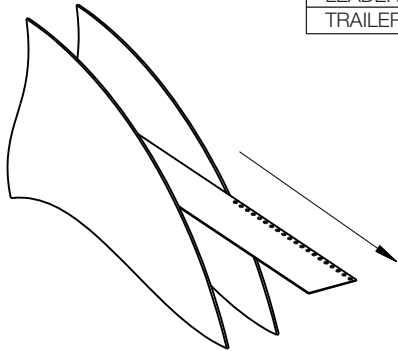
### SMT PCB LAYOUT

PURE TIN PADS



### PACKING DETAILS

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

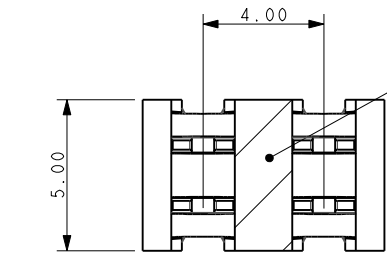


# Discrete Wire IDC

## Series 9176

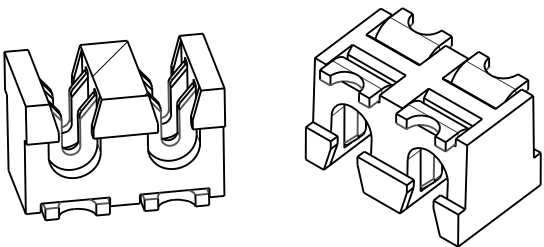
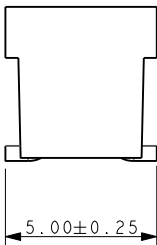
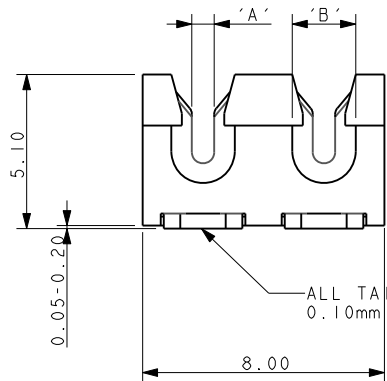


### 18-24 AWG 2 WAY IDC CONNECTOR



#### NOTES:

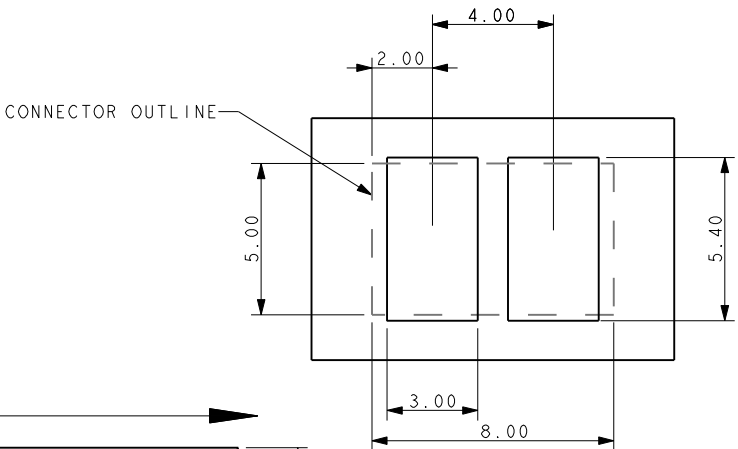
1. CONNECTOR FOR IDC WIRE TO BOARD CONNECTION.
2. CONTACT MATERIAL: PHOSPHOR BRONZE.  
INSULATION MATERIAL: HIGH TEMPERATURE NYLON 46.  
COLOR REFER TO PAGE 1.
3. CONNECTOR DESIGNED TO ACCEPT BETWEEN 24 AND 18 GAUGE STRANDED WIRE.
4. ALL DIMENSIONS FOR REFERENCE UNLESS OTHERWISE STATED.
5. FOR FULL PRODUCT 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 8.
7. FOR HAND WIRE ASSEMBLY TOOLING REFER TO PAGE 8
8. FOR PRESS WIRE ASSEMBLY TOOLING REFER TO PAGE 9.
9. FOR ACCESSORY CAPS REFER TO PAGES 6 AND 7.



| Code | Accepted Wire Gauge | A    | Wire Insulation | B   |
|------|---------------------|------|-----------------|-----|
| 001  | 18 Gauge Stranded   | 0.72 | Ø 1.6-2.1       | 2.1 |
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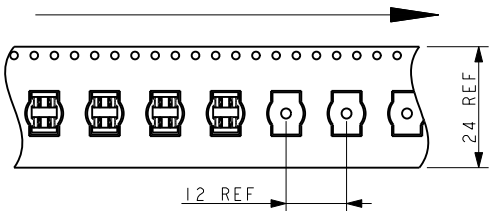
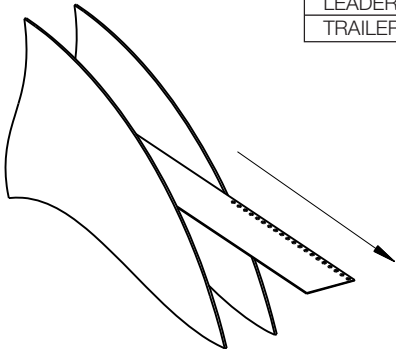
### SMT PCB LAYOUT

PURE TIN PADS

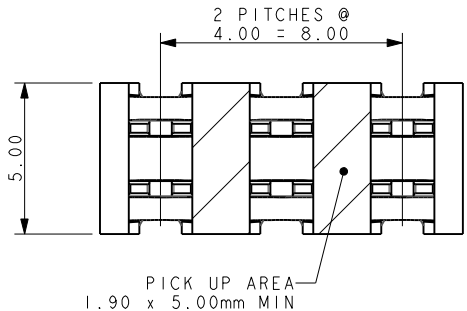


### PACKING DETAILS

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

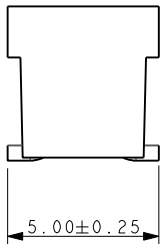
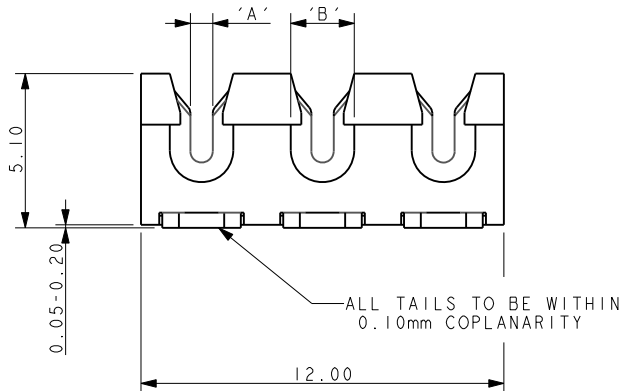


### 18-24 AWG 3 WAY IDC CONNECTOR

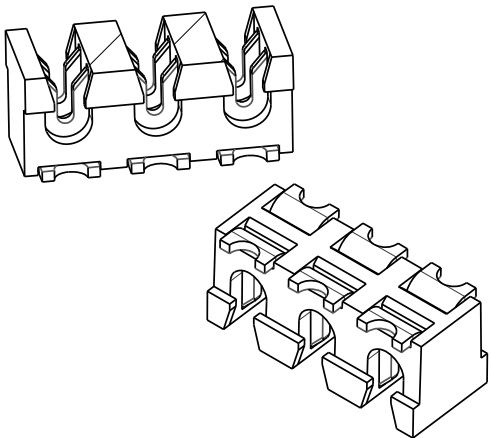


#### NOTES:

1. CONNECTOR FOR IDC WIRE TO BOARD CONNECTION.
2. CONTACT MATERIAL: PHOSPHOR BRONZE.  
INSULATION MATERIAL: HIGH TEMPERATURE NYLON 46.  
COLOR REFER TO PAGE 1.
3. CONNECTOR DESIGNED TO ACCEPT BETWEEN 24 AND 18 GAUGE STRANDED WIRE.
4. ALL DIMENSIONS FOR REFERENCE UNLESS OTHERWISE STATED.
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6. FOR PCB SPACE RESTRICTED BY WIRE ASSEMBLY TOOLING REFER TO PAGE 8.
7. FOR HAND WIRE ASSEMBLY TOOLING REFER TO PAGE 8.
8. FOR PRESS WIRE ASSEMBLY TOOLING REFER TO PAGE 9.
9. FOR ACCESSORY CAPS REFER TO PAGES 6 AND 7.

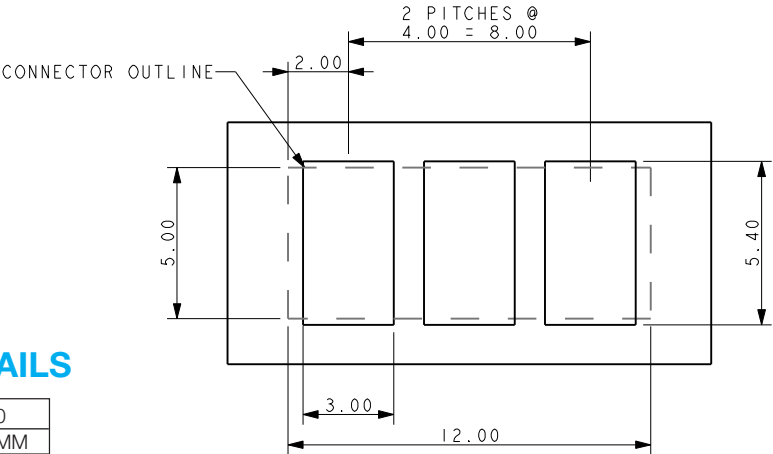


| Code | Accepted Wire Gauge | A    | Wire Insulation | B   |
|------|---------------------|------|-----------------|-----|
| 001  | 18 Gauge Stranded   | 0.72 | Ø 1.6-2.1       | 2.1 |
| 011  | 20 Gauge Stranded   | 0.60 | Ø 1.6-2.1       | 2.1 |
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| 032  | 24 Gauge Stranded   | 0.37 | Ø 1.1-1.6       | 1.6 |



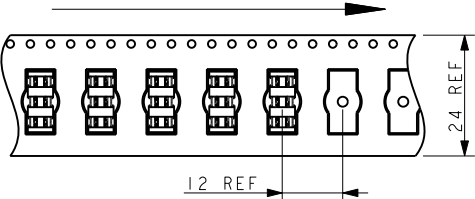
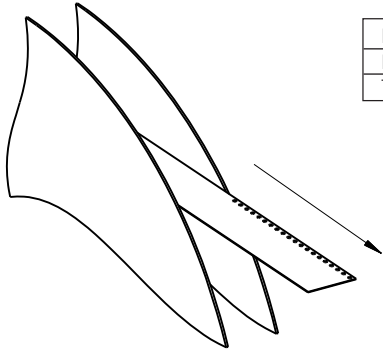
### SMT PCB LAYOUT

PURE TIN PADS



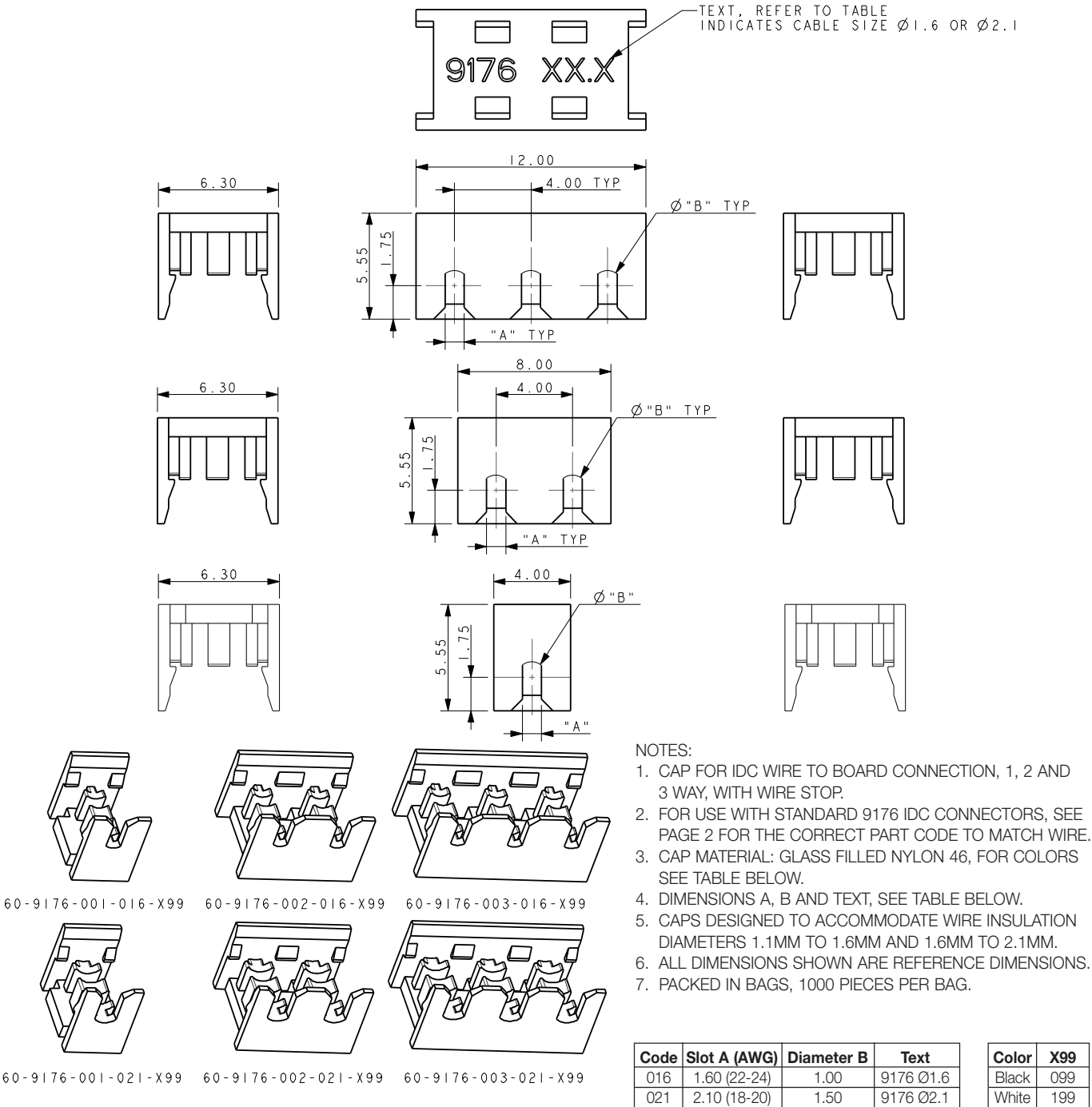
### PACKING DETAILS

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





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

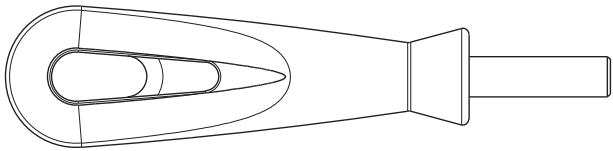


# Discrete Wire IDC

Series 9176

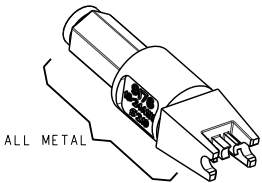


## HAND INSERTION TOOLING FOR SINGLE 18/24 GAUGE WIRE



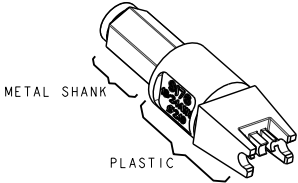
### UNIVERSAL HANDLE

| Details                 | Tool Part Number    |
|-------------------------|---------------------|
| 6.35 A/F HEX BIT HOLDER | 06 7000 7730 01 000 |



### HIGH PRODUCTION Metal

| Max Insulation Dia (AWG) | Tool Part Number    |
|--------------------------|---------------------|
| 2.10 (18-20)             | 06 9176 7017 01 000 |
| 1.60 (22-24)             | 06 9176 7017 02 000 |

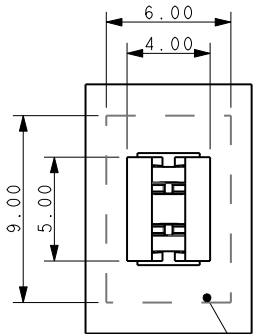


### MEDIUM PRODUCTION Metal/Plastic

| Max Insulation Dia (AWG) | Tool Part Number    |
|--------------------------|---------------------|
| 2.10 (18-20)             | 06 9176 7016 01 000 |
| 1.60 (22-24)             | 06 9176 7016 02 000 |

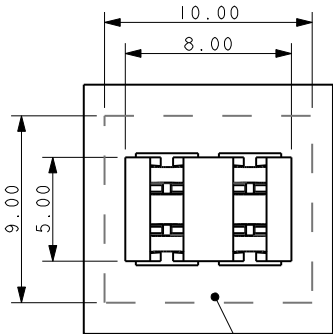
## CLEARANCE AREA ON PCB FOR HAND TOOLING

### 1 WAY



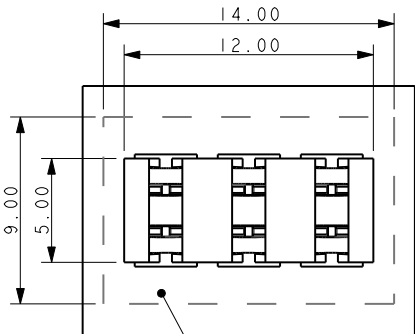
AREA TO BE KEPT CLEAR FOR TOOLING

### 2 WAY



AREA TO BE KEPT CLEAR FOR TOOLING

### 3 WAY



AREA TO BE KEPT CLEAR FOR TOOLING



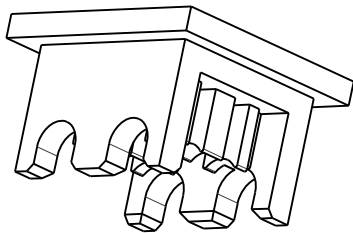
# Discrete Wire IDC



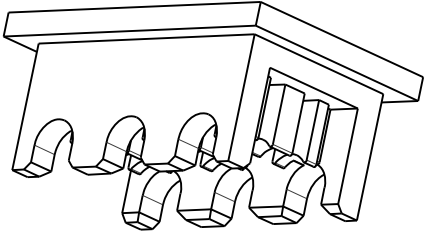
## Series 9176

### INSERTION TOOLING REQUIRES HAND PRESS WITH FLAT ROCK PLATES

#### 2 WAY



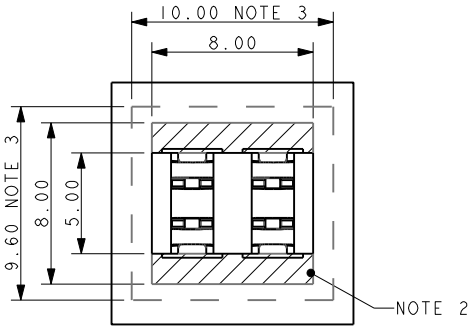
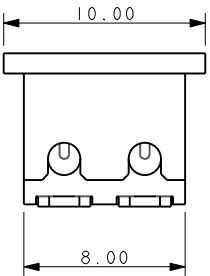
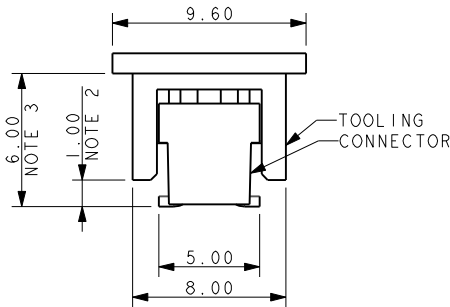
#### 3 WAY



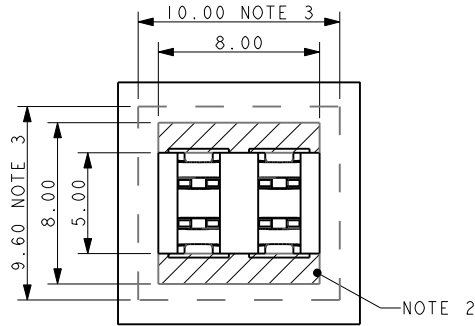
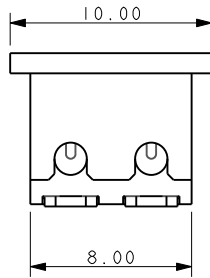
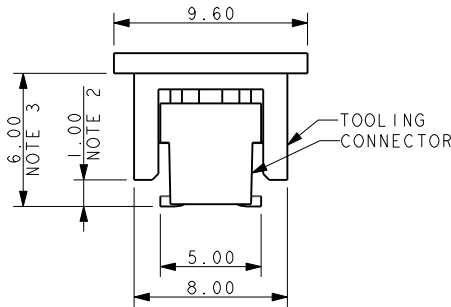
#### HIGH PRODUCTION Metal

| No. of Ways | Max Insulation Dia (AWG) | Tool Part Number    |
|-------------|--------------------------|---------------------|
| 2           | 2.10 (18-20)             | 06 9176 7017 01 002 |
|             | 1.60 (22-24)             | 06 9176 7017 02 002 |
| 3           | 2.10 (18-20)             | 06 9176 7017 01 003 |
|             | 1.60 (22-24)             | 06 9176 7017 02 003 |

#### 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 8.





Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Помимо этого, одним из направлений компании «ЭлектроПласт» является направление «Источники питания». Мы предлагаем Вам помощь Конструкторского отдела:

- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



#### Как с нами связаться

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