General Information





The 917X series of surface mount Insulation Displacement Connectors (IDC) were developed to meet the harsh automotive and industrial market applications for connecting individual wires directly to a PCB ranging from 14 AWG to 28 AWG. This industry proven contact system has been tested to automotive levels of shock, vibration, and temperature cycling to prove their reliability and robustness. 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

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

MECHANICAL

Plating: Tin over Nickel **Durability: 3 Cycles**

Insulator Material: Nylon 46: UL94V0 Contact Material: Phosphor Bronze

- . Low and high volume assembly tools to match production volumes
- Reduced total applied cost versus solder or crimp processes
- High temperature insulator capable to 260°C reflow soldering processes

ELECTRICAL

Current Rating: 15 Amp / Contact

Voltage Rating: 600 VAC

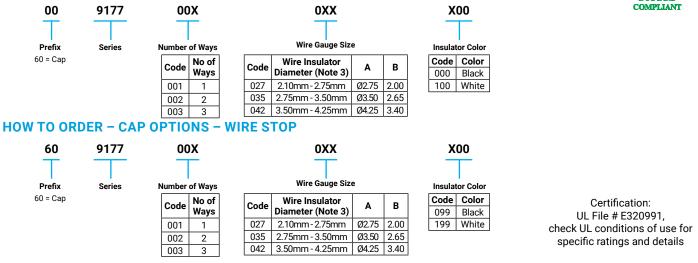
HOW TO ORDER

| 00 | 9177 | | 00X | | | 0XX | | | | Х | | 06 |
|--------|--------|-------|---------|---------|-------|--------------------------|------------|----------------|-------|-----------------------------|------|-------------------|
| Т | | | | | | \top | | | | Т | | Т |
| Prefix | Series | Nu | mber of | Ways | | Wire Gauge Size | | Color/Approval | | | | Plating |
| | | Code | No of | Details | Code | Accepted | Wire | Code | Color | Approval | | Option |
| | | Code | Ways | Details | Code | Wire Gauge | Insulation | 0 | Black | Special Order - NON-UL | 06 = | Pure Tin all Over |
| | | 001 | 1 | Page 62 | 001 | 14 AWG Solid or Stranded | Ø 4.25 | 1 | White | Special Order - NON-UL | | |
| | | 002 | 2 | Page 63 | 012 | 16 AWG Solid or Stranded | Ø 3.50 | 8 | Black | Special Order - UL APPROVED | | |
| | | 003 | 3 | Page 64 | 022 | 18 AWG Solid or Stranded | | 9 | White | Standard - UL APPROVED | | |
| | | | | | 033 | 20 AWG Solid or Stranded | Ø 2.75 | | | | | |
| HOW | TO ORI | DER - | - CAF | P OPTI | ONS · | - THROUGH WIRE | | | | | | RoHS |
| | 00 | 91 | 77 | 0 | 0X | 0X | х | | Х | 00 | C | COMPLIANT |

ENVIRONMENTAL

-40°C to +125°C

· Operating Temperature:



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General Information

CONNECTOR/TOOLING PART NUMBER MATRIX

| | | SERIES | S 9177 IDC | ; | HAND INSERT | ION TOOLING* | ACCESSO | ORY CAPS |
|-----|--------------------|-----------|-------------|------------------------|-------------------------|-------------------------|--------------------|-----------------|
| AWG | Wire Insulation | Positions | Color | Part Number | Plastic (low volume) | Metal (high volume) | Through Wire | Wire Stop |
| 14 | Ø 4.25 | 1p | White | 009177001001106 | 069177701601001 | 069177701701001 | 609177001042100 | 609177001042199 |
| 14 | Ø 4.25 | 1p | Black | 009177001001006 | 069177701601001 | 069177701701001 | 609177001042000 | 609177001042099 |
| 14 | Ø 4.25 | 2p | White | 009177002001106 | 069177701601002 | 069177701701002 | 609177002042100 | 609177002042199 |
| 14 | Ø 4.25 | 2p | Black | 009177002001006 | 069177701601002 | 069177701701002 | 609177002042000 | 609177002042099 |
| 14 | Ø 4.25 | 3p | White | 009177003001106 | 069177701601003 | 069177701701003 | 609177003042100 | 609177003042199 |
| 14 | Ø 4.25 | 3p | Black | 009177003001006 | 069177701601003 | 069177701701003 | 609177003042000 | 609177003042099 |
| 16 | Ø 3.50 | 1p | White | 009177001012106 | 069177701602001 | 069177701702001 | 609177001035100 | 609177001035199 |
| 16 | Ø 3.50 | 1p | Black | 009177001012006 | 069177701602001 | 069177701702001 | 609177001035000 | 609177001035099 |
| 16 | Ø 3.50 | 2p | White | 009177002012106 | 069177701602002 | 069177701702002 | 609177002035100 | 609177002035199 |
| 16 | Ø 3.50 | 2p | Black | 009177002012006 | 069177701602002 | 069177701702002 | 609177002035000 | 609177002035099 |
| 16 | Ø 3.50 | 3p | White | 009177003012106 | 069177701602003 | 069177701702003 | 609177003035100 | 609177003035199 |
| 16 | Ø 3.50 | 3p | Black | 009177003012006 | 069177701602003 | 069177701702003 | 609177003035000 | 609177003035099 |
| 18 | Ø 3.50 | 1p | White | 009177001022106 | 069177701602001 | 069177701702001 | 609177001035100 | 609177001035199 |
| 18 | Ø 3.50 | 1p | Black | 009177001022006 | 069177701602001 | 069177701702001 | 609177001035000 | 609177001035099 |
| 18 | Ø 3.50 | 2p | White | 009177002022106 | 069177701602002 | 069177701702002 | 609177002035100 | 609177002035199 |
| 18 | Ø 3.50 | 2p | Black | 009177002022006 | 069177701602002 | 069177701702002 | 609177002035000 | 609177002035099 |
| 18 | Ø 3.50 | 3p | White | 009177003022106 | 069177701602003 | 069177701702003 | 609177003035100 | 609177003035199 |
| 18 | Ø 3.50 | 3p | Black | 009177003022006 | 069177701602003 | 069177701702003 | 609177003035000 | 609177003035099 |
| 20 | Ø 2.75 | 1p | White | 009177001033106 | 069177701603001 | 069177701703001 | 609177001027100 | 609177001027199 |
| 20 | Ø 2.75 | 1p | Black | 009177001033006 | 069177701603001 | 069177701703001 | 609177001027000 | 609177001027099 |
| 20 | Ø 2.75 | 2p | White | 009177002033106 | 069177701603002 | 069177701703002 | 609177002027100 | 609177002027199 |
| 20 | Ø 2.75 | 2p | Black | 009177002033006 | 069177701603002 | 069177701703002 | 609177002027000 | 609177002027099 |
| 20 | Ø 2.75 | 3p | White | 009177003033106 | 069177701603003 | 069177701703003 | 609177003027100 | 609177003027199 |
| 20 | Ø 2.75 | 3p | Black | 009177003033006 | 069177701603003 | 069177701703003 | 609177003027000 | 609177003027099 |
| | | * Inse | ertion Tool | ing - Requires Hand Pr | ess with Flat Rock Pla | tes; Consult Applicatio | n Notes 201-01-124 | |

1 Position

00

6



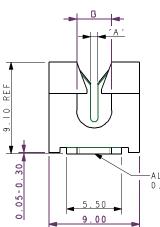
14-20 AWG 1 WAY IDC CONNECTOR

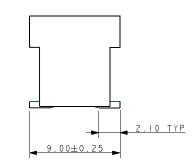
Pick and place area 2.375 x 9.00mm MIN





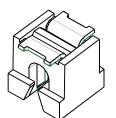
- 1. CONNECTOR FOR IDC WIRE TO BOARD CONNECTION.
- 2. CONTACT MATERIAL: PHOSPHOR BRONZE. INSULATION MATERIAL: HIGH TEMP NYLON 46, COLOUR REFER TO SHEET 1.
- 3. CONNECTOR DESIGNED TO ACCEPT BETWEEN 14AWG AND 20AWG SOLID AND STRANDED WIRE.
- 4. ALL DIMENSIONS ±0.20 UNLESS TOLERANCED
- 5. FOR FULL PRODUCT SPECIFICATION ON STANDARD CONNECTORS REFER TO ELCO SPEC 201-01-109, UL COMPONENTS REFER TO ELCO SPEC 201-01-109UL.
- 6. APPLICATION NOTES 201-01-124
- 7. FOR UL PRODUCT CODES UL REFERENCE E320991.
- 8. FOR PCB SPACE RESTRICTED BY ASSEMBLY TOOLING REFER TO SHEET 6





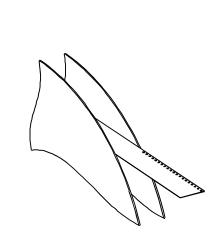
| Code | Accepted Wire Gauge | Α | Wire | В |
|------|--------------------------|------|------------|------|
| | | | Insulation | |
| 001 | 14 AWG Solid or Stranded | 1.10 | Ø 4.25 max | 4.25 |
| 012 | 16 AWG Solid or Stranded | 0.82 | Ø 3.50 max | 3.50 |
| 022 | 18 AWG Solid or Stranded | 0.72 | Ø 3.50 max | 3.50 |
| 033 | 20 AWG Solid or Stranded | 0.60 | Ø 2.75 max | 2.75 |

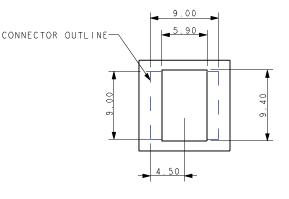
SMT PCB LAYOUT PURE TIN PADS

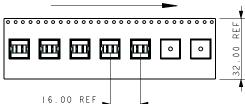


PACKING DETAILS

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

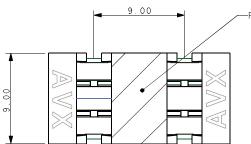






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2 Position



Α

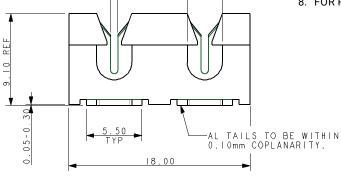
14-20 AWG 2 WAY IDC CONNECTOR

PICK UP AREA 4.75 x 9.00mm MIN



NOTES:

- 1. CONNECTOR FOR IDC WIRE TO BOARD CONNECTION.
- 2. CONTACT MATERIAL: PHOSPHOR BRONZE. INSULATION MATERIAL: HIGH TEMP NYLON 46, COLOUR REFER TO SHEET 1.
- 3. CONNECTOR DESIGN TO ACCEPT BETWEEN 14AWG AND 20AWG SOLID AND STRANDED WIRE.
- 4. ALL DIMENSIONS ±0.20 UNLESS TOLLERANCED.
- 5. FOR FULL PRODUCT SPECIFICATION ON STANDARD CONNECTORS REFER TO ELCO SPEC 201-01-109, UL COMPONENTS REFER TO ELCO SPEC 201-01-109UL.
- 6. APPLICATION NTOES 201-01-124.
- 7. FOR UL PRODUCT CODES UL REFERENCE E320991
- 8. FOR PCB SPACE RESTRICTED BY ASSEMBLY TOOLING REFER TO SHEET 6



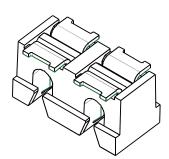
N

В

| 9.00± | 0.25 | 2.10 | <u>T Y P</u> |
|-------|------|------|--------------|

| Code | Accepted Wire Gauge | Α | Wire Insulation | В |
|------|--------------------------|------|-----------------|------|
| 001 | 14 AWG Solid or Stranded | 1.10 | Ø 4.25 max | 4.25 |
| 012 | 16 AWG Solid or Stranded | 0.82 | Ø 3.50 max | 3.50 |
| 022 | 18 AWG Solid or Stranded | 0.72 | Ø 3.50 max | 3.50 |
| 033 | 20 AWG Solid or Stranded | 0.60 | Ø 2.75 max | 2.75 |

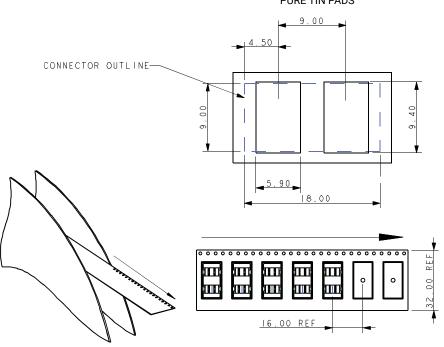
SMT PCB LAYOUT PURE TIN PADS



ST P

PACKING DETAILS

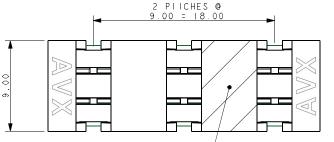
| REEL QTY | 400 |
|---------------|-------|
| LEADER | 500mm |
| TRAILER | 400mm |
| REEL DIAMETER | 330mm |



KUCCERA available online at www.avx.com/disclaimer/ by reference and should be reviewed in full before placing any order.

3 Position

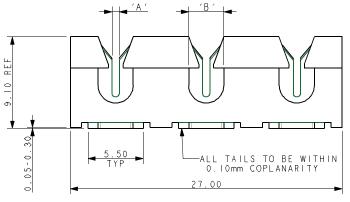
14-20 AWG 3 WAY IDC CONNECTOR

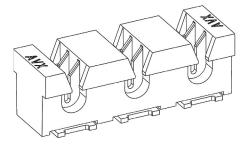


PICK UP AREA 4.75 x 9.00mm MIN-



- 1. CONNECTOR FOR IDC WIRE TO BOARD CONNECTION.
- 2. CONTACT MATERIAL: PHOSPHOR BRONZE.
- INSULATION MATERIAL: HIGH TEMP NYLON 46, COLOUR REFER TO SHEET 1 3. CONNECTOR DESIGNED TO ACCEPT BETWEEN 14AWG AND 20AWG SOLID AND STRANDED WIRE.
- 4. ALL DIMENSIONS ±0.20 UNLESS TOLERANCED.
- FOR FULL PRODUCT SPECIFICATION ON STANDARD CONNECTORS REFER TO ELCO SPEC 201-01-109, UL COMPONENTS REFER TO ELCO SPEC 201-01-109UL.
- 6. APPLICATION NOTES 201-01-124.
- 7. FOR UL PRODUCT CODES UL REFERENCE E320991.
- 8. FOR PCO SPACE RESTICTED BY ASSEMBLY TOOLING REFER TO SHEET 6





PACKING DETAILS

REEL DIAMETER 330mm

400

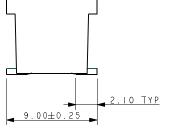
500mm

400mm

REEL QTY

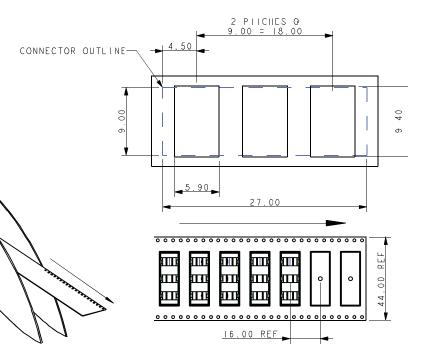
LEADER

TRAILER



| Code | Accepted Wire Gauge | Α | Wire Insulation | В |
|------|--------------------------|------|-----------------|------|
| 001 | 14 AWG Solid or Stranded | 1.10 | Ø 4.25 max | 4.25 |
| 012 | 16 AWG Solid or Stranded | 0.82 | Ø 3.50 max | 3.50 |
| 022 | 18 AWG Solid or Stranded | 0.72 | Ø 3.50 max | 3.50 |
| 033 | 20 AWG Solid or Stranded | 0.60 | Ø 2.75 max | 2.75 |

SMT PCB LAYOUT PURE TIN PADS



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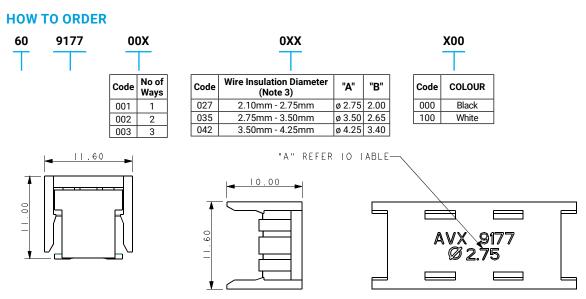


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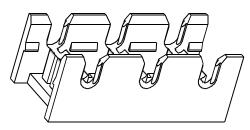


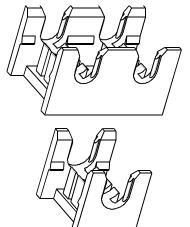
Assessory Cap - Through Wire

ACCESSORY CAP – THROUGH WIRE



ASSEMBLED DIMENSIONS





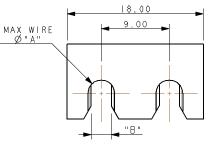
NOTES:

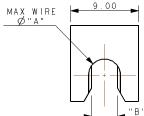
- 1. CAP FOR 9177 IDC WIRE TO BOARD CONNECTOR.
- 2. THROUGH WIRE CAP CAN BE USED AT ANY POSITION ALONG WIRE.
- 3. REFERS TO CAP, FOR WIRE MATCH TO CONNECTOR REFER TO TABLE ON SHEET
- 4. MATERIAL: GLASS FILLED NYLON 46, FOR COLOUR REFER TO TABLE
- 5. CAPS DESIGNED TO ACCOODATE INSULATION DIAMETERS REFER TO TABLE.
- 6. GENERAL TOLERANCE ±0.20mm.
- 7. PACKED IN BAGS, 400 PIECES PER BAG
- 8. APPLICATION NOTES REFER TO ELCO SPECIFICATION 201-01-124

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RoHS

COMPLIANT



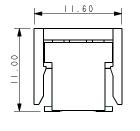


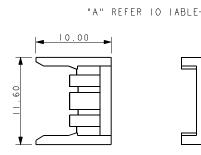
KUDEERA AWAC The Important Information/Disclaimer is incorporated in the catalog where these specifications came from or available online at www.avx.com/disclaimer/ by reference and should be reviewed in full before placing any order.

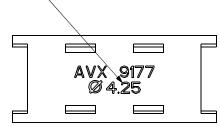


Assessory Cap - Wire Stop

ACCESSORY CAP - WIRE STOP

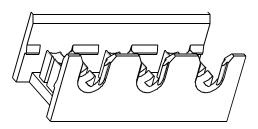


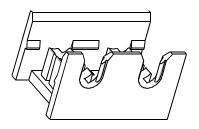


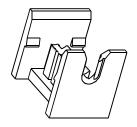


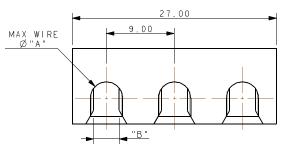


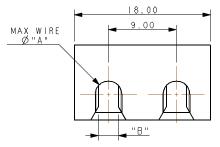
ASSEMBLED DIMENSIONS

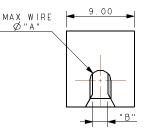












NOTES:

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

KUCCERA available online at www.avx.com/disclaimer/ by reference and should be reviewed in full before placing any order.

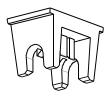
Insertion Tooling

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RoHS COMPLIANT

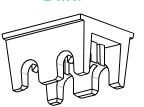
INSERTION TOOLING - REQUIRES HAND PRESS WITH FLAT ROCK PLATES

1 WAY



HIGH PRODUCTION Metal

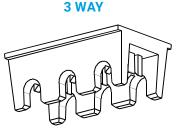
| No. of Ways | Max Insulation Dia (AWG) | Tool Part Number |
|----------------|--------------------------------|---------------------|
| | ø 4.25 | 06-9177-7017-01-001 |
| 1 | ø 3.50 | 06-9177-7017-02-001 |
| | ø 2.75 | 06-9177-7017-03-001 |
| | ø 4.25 | 06-9177-7017-01-002 |
| 2 | ø 3.50 | 06-9177-7017-02-002 |
| | ø 2.75 | 06-9177-7017-03-002 |
| | ø 4.25 | 06-9177-7017-01-003 |
| 3 | ø 3.50 | 06-9177-7017-02-003 |
| | ø 2.75 | 06-9177-7017-03-003 |



2 WAY

MEDIUM PRODUCTION Plastic

| Max Insulation Dia (AWG) | Tool Part Number |
|--------------------------------|---|
| ø 4.25 | 06-9177-7016-01-001 |
| ø 3.50 | 06-9177-7016-02-001 |
| ø 2.75 | 06-9177-7016-03-001 |
| ø 4.25 | 06-9177-7016-01-002 |
| ø 3.50 | 06-9177-7016-02-002 |
| ø 2.75 | 06-9177-7016-03-002 |
| ø 4.25 | 06-9177-7016-01-003 |
| ø 3.50 | 06-9177-7016-02-003 |
| ø 2.75 | 06-9177-7016-03- 003 |
| | Insulation Dia (AWG) Ø 4.25 Ø 3.50 Ø 2.75 Ø 4.25 Ø 3.50 Ø 2.75 Ø 4.25 Ø 3.50 |

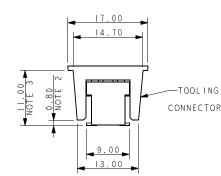


The assembly tooling restricts the available space/component heights on the PCB. For details see below.

NOTES:

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

INSERTION TOOLING – PCB RESTRICTED AREAS FOR ASSEMBLY TOOLING



17.00 14.70 TOOLING 0.80 NOTE CONNECTOR 9.00 13.00 .00 17 70 4 00 TOOLING 0.80 NOTE NOTE CONNECTOR

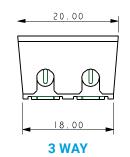
9.00

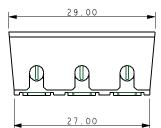
13.00

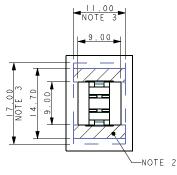
1 WAY

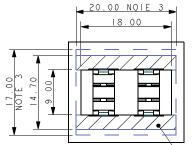


2 WAY

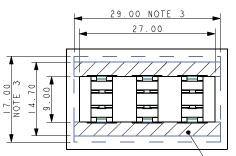








NOTE 2

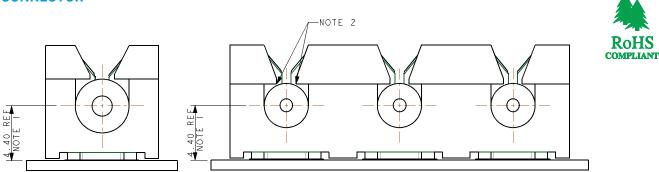


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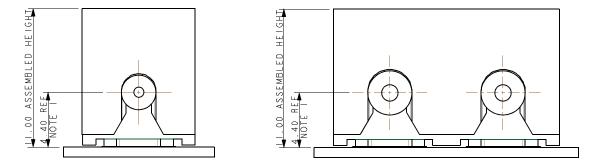
090721

Assembled Connector

STANDARD CONNECTOR



CONNECTOR WITH CAP



NOTES:

- 1. ASSEMBLED HEIGHTS INCLUDE 0.10mm ALLOWANCE FOR PAD AND SOLDER THICKNESS, NO ALLOWANCE HAS BEEN MADE FOR ANY SOLDER RESIST OR OTHER FEATURES.
- 2. WHEN THE WIRE IS ASSEMBLED THE INSULATION SHOULD BE TRAPPED BY THESE EDGES.

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