AVX continues to develop innovative connectors for the industrial electronics market that provide significant benefits over existing, outdated connector solutions. The latest release is single vertical Wire-to-Board (WTB) contacts that provide cost effective, yet robust discrete wire termination without the expense of an insulator and assembly costs. This new family of top and bottom entry contacts compliments the existing vertical poke home connectors already on the market, providing a lower cost solution without jeopardizing performance.

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

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

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

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

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

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

**HOW TO ORDER**

```
Prefix 9296 Number of Ways 001 Contact Style 1X3
70 = Contact 001 = 1
```

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

**CURRENT RATING**

<table>
<thead>
<tr>
<th>Wire Size</th>
<th>18AWG</th>
<th>20AWG</th>
<th>22AWG</th>
<th>24AWG</th>
</tr>
</thead>
<tbody>
<tr>
<td>103</td>
<td>15A</td>
<td>14A</td>
<td>10A</td>
<td>9A</td>
</tr>
</tbody>
</table>

Certification: UL File #E90723
SUGGESTED PCB LAYOUT

NOTES:
1. CONTACT MOUNTS ON TOP SIDE OF BOARD, WIRE INSERTED FROM UNDERSIDE OF BOARD.
2. STYLE RECOMMENDED FOR FR4 BOARDS WHERE MINIMUM CLEARANCE REQUIRED TO CONTACT AND MOUNTING PADS.
3. FOR FURTHER INFORMATION REFER TO ELCO SPECIFICATION 201-01-161 AND APPLICATION NOTES 201-01-175.
4. MATERIAL: TIN PLATED PHOSPHOR BRONZE.
5. HOLE FOR WIRE INSERTION.
6. PACING IN TAPE AND REEL, 2000 PIECES PER REEL.
7. FOR WIRE TRIM DETAILS REFER TO PAGE 107.
8. UL REFERENCE E90723.
9. GENERAL TOLERANCE ±0.10.

PACKING DETAILS
Poke-Home: Single Vertical Contact
18-24 AWG: WTB

70-9296

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

SUGGESTED PCB LAYOUT

NOTES:
1. CONTACT MOUNTS THROUGH THE BOARD, WIRE INSERTED FROM TOP SIDE OF BOARD.
2. STYLE RECOMMENDED FOR FR4 BOARDS WHERE MINIMUM CLEARANCE REQUIRED TO CONTACT AND MOUNTING PADS.
3. FOR FURTHER INFORMATION REFER TO ELCO SPECIFICATION 201-01-161 AND APPLICATION NOTES 201-01-175.
4. MATERIAL: TIN PLATED PHOSPHOR BRONZE.
5. HOLE DIMENSIONS FOR CONTACT.
6. PACING IN TAPE AND REEL, 2000 PIECES PER REEL.
7. FOR WIRE TRIM DETAILS REFER TO PAGE 107.
8. UL REFERENCE E90723.
9. GENERAL TOLERANCE ±0.10.

PACKING DETAILS

QUANTITY 2000 PER REEL
330mm DIAMETER REEL

UNREELED DIRECTION

UNREELED DIRECTION
Poke-Home: Single Vertical Contact
18-24 AWG: WTB
70-9296

70-9296-001-123-006
9296 VERTICAL MOUNT SMT CONTACT
TOP SIDE CONTACT – BOTTOM ENTRY WIRE (METAL BOARD)

SUGGESTED PCB LAYOUT

NOTES:
1. CONTACT MOUNTS ON TOP SIDE OF BOARD, WIRE INSERTED FROM
   UNDERSIDE OF BOARD.
2. STYLE RECOMMENDED FOR METAL CLAD BOARDS WHERE MAXIMUM
   CLEARANCE REQUIRED TO CONTACT AND MOUNTING PADS.
3. FOR FURTHER INFORMATION REFER TO ELCO SPECIFICATION 201-01-161
   AND APPLICATION NOTES 201-01-175.
4. MATERIAL: TIN PLATED PHOSPHOR BRONZE.
5. HOLE FOR WIRE INSERTION.
6. PACING IN TAPE AND REEL, 1600 PIECES PER REEL.
7. FOR WIRE TRIM DETAILS REFER TO PAGE 107.
8. UL REFERENCE E90723.
9. GENERAL TOLERANCE ±0.10.

PACKING DETAILS

UNREELED DIRECTION

QUANTITY 1600 PER REEL

330mm DIAMETER REEL

090517
9296 VERTICAL MOUNT SMT CONTACT
THROUGH BOARD CONTACT – TOP ENTRY WIRE (METAL BOARD)

NOTES:
1. CONTACT MOUNTS THROUGH THE BOARD, WIRE INSERTED FROM TOP SIDE OF BOARD.
2. STYLE RECOMMENDED FOR METAL CLAD BOARDS WHERE ADDITIONAL CLEARANCE REQUIRED TO CONTACT AND MOUNTING PADS.
3. FOR FURTHER INFORMATION REFER TO ELCO SPECIFICATION 201-01-161 AND APPLICATION NOTES 201-01-175.
4. MATERIAL: TIN PLATED PHOSPHOR BRONZE.
5. HOLE DIMENSIONS FOR CONTACT.
6. PACING IN TAPE AND REEL, 2000 PIECES PER REEL.
7. FOR WIRE TRIM DETAILS REFER TO PAGE 107.
8. UL REFERENCE E90723.
9. GENERAL TOLERANCE ±0.10.

PACKING DETAILS

QUANTITY 2000 PER REEL
330mm DIAMETER REEL

UNREELLED DIRECTION

UNREELLED DIRECTION
Poke-Home: Single Vertical Contact
18-24 AWG: WTB
70-9296

9296 VERTICAL MOUNT SMT CONTACT
WIRE TRIM DETAILS

4.50 ± 0.50

WIRE STRIP LENGTH, ALL STYLES

NOTES:
1. FOR FULL ASSEMBLY PROCEDURE REFER TO APPLICATION NOTES 201-01-175.
2. THE SAME WIRE STRIP LENGTH APPLIES TO ALL STYLES.
3. STRANDED WIRES SHOULD BE TWISTED TO PREVENT SINGLE STRANDS BECOMING DETACHED WHEN INSERTED INTO CONTACT.