INDUSTRIAL THERMOCOUPLES

### CONNECTION HEAD

<table>
<thead>
<tr>
<th>CODE</th>
<th>MATERIAL</th>
<th>CONNECTION</th>
<th>TYPE</th>
<th>NEMA</th>
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</thead>
<tbody>
<tr>
<td>A</td>
<td>ALUMINUM</td>
<td>WATER PROOF</td>
<td>4</td>
<td>4.4X</td>
</tr>
<tr>
<td>B</td>
<td>STAINLESS STEEL</td>
<td>WATER PROOF, CORROSION RESISTANT</td>
<td>4</td>
<td>4.4X</td>
</tr>
<tr>
<td>AE</td>
<td>ALUMINUM</td>
<td>EXPLOSION PROOF (NOTE 2)</td>
<td>4</td>
<td>4.4X</td>
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<tr>
<td>AD</td>
<td>STAINLESS STEEL</td>
<td>EXPLOSION PROOF, CORROSION RESISTANT (NOTE 2)</td>
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<td>4.4X</td>
</tr>
<tr>
<td>AX</td>
<td>ALUMINUM, LARGE DEVICE, EPOXY COATED</td>
<td>EXPLOSION PROOF, ATEX APPROVED (NOTE 5)</td>
<td>4</td>
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### TUBE OPENING

<table>
<thead>
<tr>
<th>CODE</th>
<th>TUBE OPENING</th>
<th>CODE</th>
<th>&quot;A&quot; LENGTH</th>
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<tbody>
<tr>
<td>D</td>
<td>1/2 or 3/4 NPT (NOTE 4)</td>
<td>E</td>
<td>IN INCHES</td>
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### ELEMENT CONSTRUCTION

<table>
<thead>
<tr>
<th>CODE</th>
<th>DIAMETER</th>
<th>WIRE SIZE (AWG)</th>
<th>INSULATION</th>
<th>SPRING LOADED</th>
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<tbody>
<tr>
<td>A14</td>
<td>AD14</td>
<td>1/4&quot;</td>
<td>18</td>
<td>TIG-SHEATH</td>
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<tr>
<td>A16</td>
<td>AD16</td>
<td>5/16&quot;</td>
<td>16</td>
<td>TIG-SHEATH</td>
</tr>
<tr>
<td>B16</td>
<td>AD16</td>
<td>5/16&quot;</td>
<td>16</td>
<td>TIG-SHEATH</td>
</tr>
<tr>
<td>A38</td>
<td>AD38</td>
<td>3/8&quot;</td>
<td>15</td>
<td>TIG-SHEATH</td>
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<tr>
<td>A38</td>
<td>AS38</td>
<td>3/8&quot;</td>
<td>15</td>
<td>TIG-SHEATH</td>
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<tr>
<td>B14</td>
<td>BB14</td>
<td>.25&quot;</td>
<td>14</td>
<td>CERAMIC BEAD</td>
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<tr>
<td>B08</td>
<td>BB08</td>
<td>.25&quot;</td>
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<td>CERAMIC BEAD</td>
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### MEASURING JUNCTION

<table>
<thead>
<tr>
<th>CODE</th>
<th>MEASURING JUNCTION</th>
<th>CODE</th>
<th>ELEMENT SHEATH MATERIAL</th>
<th>STANDARD CALIBRATIONS</th>
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</thead>
<tbody>
<tr>
<td>D</td>
<td>SINGLE GROUNDED, GROUNDED TO SHEATH</td>
<td>P</td>
<td>304 STN. STL.</td>
<td>J, K, T, E, N</td>
</tr>
<tr>
<td>U</td>
<td>SINGLE UNGROUNDED, ISOLATED FROM SHEATH</td>
<td>R</td>
<td>316 STN. STL.</td>
<td>J, K, E, F</td>
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<tr>
<td>DU</td>
<td>DUPLEX GROUNDED, GROUNDED TO SHEATH</td>
<td>Q</td>
<td>310 STN. STL.</td>
<td>J, K, E, F</td>
</tr>
<tr>
<td>DUG</td>
<td>DUPLEX UNGROUNDED, ISOLATED FROM SHEATH</td>
<td>J</td>
<td>INCOCONEL 600</td>
<td>K, N, KKS, EES (NOTE 6)</td>
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### TUBE SCHEDULE (INSIDE DIAMETER)

<table>
<thead>
<tr>
<th>CODE</th>
<th>TUBE SCHEDULE (INSIDE DIAMETER)</th>
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<tbody>
<tr>
<td>601</td>
<td>1/2 NPT</td>
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<tr>
<td>602</td>
<td>1/4&quot; NPT</td>
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<tr>
<td>603</td>
<td>1/8&quot; NPT</td>
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<td>604</td>
<td>3/16&quot; NPT</td>
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<tr>
<td>605</td>
<td>1/4&quot; NPT</td>
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<tr>
<td>606</td>
<td>3/8&quot; NPT</td>
</tr>
<tr>
<td>607</td>
<td>1/2&quot; NPT</td>
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<tr>
<td>501</td>
<td>1&quot; NPT</td>
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<tr>
<td>611</td>
<td>3/4&quot; NPT</td>
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<tr>
<td>612</td>
<td>1&quot; NPT</td>
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<td>613</td>
<td>1 1/4&quot; NPT</td>
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<tr>
<td>614</td>
<td>1 1/2&quot; NPT</td>
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### MATERIAL

<table>
<thead>
<tr>
<th>CODE</th>
<th>MATERIAL</th>
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<tbody>
<tr>
<td>P</td>
<td>304 STAINLESS STEEL</td>
</tr>
<tr>
<td>Q</td>
<td>310 STAINLESS STEEL</td>
</tr>
<tr>
<td>R</td>
<td>316 STAINLESS STEEL</td>
</tr>
<tr>
<td>F</td>
<td>304 X 316 S. S. (LOW CARBON)</td>
</tr>
<tr>
<td>N</td>
<td>CARBON STEEL</td>
</tr>
<tr>
<td>J</td>
<td>INCOCONEL 600</td>
</tr>
<tr>
<td>H</td>
<td>HASTELLOY C276</td>
</tr>
</tbody>
</table>

### "F" LENGTH

- 600 or 800 inches (if S/D)
- 100 or 300 inches

### "U" LENGTH

- IN INCHES

**Example:** 3 AE 1/2-2-3 – ASL14 K UR 611 - 80 - R - 3 - 48 (N)

**Notes:**

2. OPTIONAL STAINLESS STEEL Nipples - 304 or 316 Stainless Steel, Schedule 40 or 80.
3. Unions - 304 or 316 Stainless Steel. Example Ordering Code: 3AE 3/4 1/2 (R or R80).
4. Rated NEC class 1, Groups B, C and D.
5. ATEX approved EEEx d IIC T6.
6. For 1/4" and 1/2" pipe size a reducing bushing or enlarger will be used to fit tube opening, spec 1/2 for 1/4" pipe size and 3/4" for 1/2" pipe size.
7. Contact factory for other calibration and sheath combinations.
8. For an item that does not fall within the catalog description an "SP" can be added to the ordering code as part of a custom construction.

**USE ONLY IF BUSHING MATERIAL IS NOT THE SAME AS TUBE MATERIAL.**