MI Cable Thermocouple Assemblies

Style MTA8 Connection Head with 1/2" NPT Nipple, Union, Nipple

Design Features
- Tempo’s connection heads are gasketed to seal against moisture, dust and corrosive or hostile atmospheres.
- Screw covers are attached to body with a plated chain.
- Covers have lugs for tightening or loosening with a screwdriver or wrench.
- Available in single (2-wire) or duplex (4-wire).
- Tempo’s connection heads are available in die cast aluminum, Bakelite and cast iron in a variety of sizes from miniature for confined areas to the large universal head designed for heavy process and industrial applications. See sensor accessories on pages 14-98 through 14-100 for complete information.
- Nipple-Union-Nipple is galvanized steel.

Ordering Information
Thermocouples are offered with the options listed in the worksheet below. Create an ordering code by filling in the boxes with the appropriate number and/or letter designation for your requirements, and a part number will be assigned.

Ordering Code:
MTA8 _______ _______ _______ _______ _______ _______ _______ _______ _______ _______ _______ _______ _______  

Calibration Code BOX 1
ANSI Standard J K E T N R S B
Tolerances 3 4 5 6 7

Number of Conductors BOX 2
2 = Single (Standard)
4 = Duplex

Insulation BOX 3
M = 96% min. MgO (Standard)
H = 99.4% min. MgO

Sheath Material BOX 4
A = Alloy 600
B = 304 SS
C = 316 SS

Sheath O.D. BOX 5
F = .125" ±.002
G = .188" ±.002
H = .250" ±.003/.002
J = .313" ±.003/.002
K = .375" ±.003/.002

Sheath Length “L1” BOX 6
Whole inches 01 to 99
For lengths over 99 in. consult TEMPCO.

Sheath Length “L2” Dimension (in.) BOX 10
Nipple, Union, Nipple
Whole inches 03 to 99
Standard Lengths S1 = 3-1/2", S2 = 6-1/2", S3 = 12-1/2"

Spring-Loaded Probe BOX 11
O = Not required
Y = Required

Special Requirements BOX 12
X = Specify
0 = None


⚠️ WARNING: Cancer and Reproductive Harm - www.P65Warnings.ca.gov.

(800) 323-6859 • Email: sales@tempco.com

14-25
Rev 2 (2-20)
Temperature Sensing

MI Cable Thermocouple Assemblies

Mineral Insulated Metal-Sheathed Cable

Thermocouple Assemblies are made from TEMPCO’s high quality Tempco-Pak and will incorporate all the same outstanding features.

Important Features:

✴ Accurate
✴ High Temperature Rating
✴ Fast Response
✴ Moisture Proof
✴ Thermal Shock Resistant
✴ Can Be Formed
✴ Weldable
✴ High Pressure Rated
✴ Compact
✴ Durable

Typical Applications

➻ Bearing Temperature
➻ Diesel Engines
➻ Food Processing
➻ Furnaces
➻ Glass Manufacturing
➻ Heat Treating
➻ Kilns
➻ Metal Processing
➻ Oil Processing
➻ Ovens
➻ Petrochemicals
➻ Power Stations
➻ Refineries
➻ Research Laboratories
➻ Steam Generators
➻ Turbines

View Product Inventory @ www.tempco.com
Selecting the Correct Tempco-Pak Thermocouple Assembly

Thermocouples must be selected to meet the conditions of each particular application. The environment, operating temperature and atmosphere, response time and length of service must be considered when selecting the sheath, insulation, calibration, junction and termination of the thermocouple assembly.

Sheath Materials

The most commonly used sheath materials and their maximum continuous operating temperatures in an oxidizing atmosphere are as follows:

<table>
<thead>
<tr>
<th>Sheath Material</th>
<th>Max. Operating Temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alloy 600</td>
<td>2150°F (1177°C)</td>
</tr>
<tr>
<td>304 Stainless Steel</td>
<td>1650°F (899°C)</td>
</tr>
<tr>
<td>316 Stainless Steel</td>
<td>1650°F (899°C)</td>
</tr>
<tr>
<td>310 Stainless Steel</td>
<td>2100°F (1150°C)</td>
</tr>
</tbody>
</table>

*Note:* For temperatures exceeding 2200°F (1204°C), Noble or Refractory metal sheaths are normally used.

Formability

Because Tempco-Pak is fully annealed it can normally be formed around a mandrel 4 times the sheath diameter. Consult TEMPCO if special forming is required.

Weldability

The thermocouple sheath can be brazed, soldered or welded. Welding the thermocouple sheath in the field is not recommended on diameters less than .093 in. All welding should be done in an inert atmosphere.

Assembly Tolerances:
Sheath Length Dimensions

<table>
<thead>
<tr>
<th>Sheath Length</th>
<th>“L” Tolerance</th>
<th>“L” Tolerance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Up to .038&quot;</td>
<td>±1/8&quot;</td>
<td>±2%</td>
</tr>
<tr>
<td>.038&quot; to .065&quot;</td>
<td>±3/32&quot;</td>
<td>±1 1/2%</td>
</tr>
<tr>
<td>Larger than .065&quot;</td>
<td>±1/8&quot;</td>
<td>±1%</td>
</tr>
</tbody>
</table>

Flexible Lead Dimensions

<table>
<thead>
<tr>
<th>Lead Length (ft.)</th>
<th>Tolerance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Up to 5</td>
<td>+6&quot;, -1&quot;</td>
</tr>
<tr>
<td>5 to 10</td>
<td>+6&quot;, -2&quot;</td>
</tr>
<tr>
<td>over 10</td>
<td>+5%, -2%</td>
</tr>
</tbody>
</table>