High Reliability Sensors
For Demanding Heat Treat Market

High temperature heat treating processes require temperature accuracy and consistency. Watlow® provides the most precise temperature measurement devices in the industry. With over 75 years’ experience in manufacturing specialized heat treating sensors, Watlow is vertically integrated and manufactures its own mineral insulated thermocouples. The company also insulates its own wire and controls uniformity to insure a highly accurate and reliable sensor. Watlow complies with the calibration requirements of AMS 2750 specifications.

Watlow has full service lab services that include tensile, vibration, micro-hardness, high temperature, cycle and drift and radiographic inspection, along with a staff of qualified engineers to develop temperature sensing solutions to meet even the most challenging, unique requirements.

Typical Applications
• Cryogenic
• Quenching
• Carbonizing
• High temperature
• Vacuum/vacuum brazing
• Salt baths
• Stress relieving
• Nitriding
• Annealing
• Hardening

Features and Benefits
End-to-end calibration
• Offers reliable batch processing
Material lot control
• Reduces scrap and saves on costs
Vertical integration
• Ensures consistency of products
NIST traceable
• Ensures accurate temperature measurements
Coil identification
• Offers cost savings with calibration off-sets
Testing and certification services
• Complies with AMS 2750 calibration requirements
• Meets ISO-9001 compliance for quality
Full laboratory testing in house
• Allows quick material analysis
Low drift insulations
• Meets long-term measurement objectives
### Ordering Information

**Load Sensors**

**Part Number — SERIES 61, up to 1300°F (704°C)**

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
</tr>
</thead>
<tbody>
<tr>
<td>61</td>
<td>Diameter X</td>
<td>Calibration</td>
<td>Lead Protection</td>
<td>Junction E</td>
<td>Lead Length (in.)</td>
<td>Term.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **Diameter**
  - X = Not applicable

- **Calibration**
  - J = Type J
  - K = Type K
  - T = Type T

- **Lead Protection**
  - P = Fiberglass (20 gauge solid) 900°F (482°C)
  - B = Fiberglass with SS overbraid (20 gauge solid) 900°F (482°C)
  - J = Extruded FEP (20 gauge solid) 400°F (205°C)
  - F = Fiberglass (24 gauge solid) 900°F (482°C)
  - S = Fiberglass with SS overbraid (24 gauge solid) 900°F (482°C)
  - 7 = High temperature Fiberglass 1300°F (704°C)

- **Junction**
  - E = Exposed

- **Lead Length (in.)**
  - Whole inches: 006 to 999

- **Terminations**
  - A = Standard 2 1/2 inch split leads
  - D = Standard male plug, quick disconnect
  - E = Standard female jack, quick disconnect
  - F = Miniature male plug, quick disconnect

*Note: Contact the factory for AMS-2750 calibration.*

---

### Ordering Information

**Part Number — High Temperature, up to 2700°F (1482°C)**

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
<th>15</th>
</tr>
</thead>
<tbody>
<tr>
<td>HC</td>
<td>Sheath O.D. (in.)</td>
<td>Connector Type</td>
<td>Insulation</td>
<td>Sheath Material</td>
<td>Sheath Length “L” (in.)</td>
<td>Sheath Length “L” (fract. in.)</td>
<td>Junction U</td>
<td>Calibration S</td>
<td>Special Reqmts</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>J</td>
<td>0.250</td>
<td>0</td>
<td>B</td>
<td>0</td>
<td>0</td>
<td>00</td>
<td>000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **Sheath O.D. (in.)**
  - J = 0.250

- **Connector Type**
  - A = Standard plug 400°F (205°C)
  - L = High temperature plug 1000°F (538°C)

- **Insulation**
  - B = Al2O3—Loose pack

- **Sheath Material**
  - B = Alumina
  - 3 = Molybdenum

- **Sheath Length L (in.)**
  - Whole inches: 01 to 99

- **Sheath Length “L” (fractional in.)**
  - 0 = 0
  - 1 = 1/8
  - 2 = 3/8
  - 3 = 1/4
  - 5 = 5/8
  - 6 = 3/4
  - 7 = 7/8

- **Junction (Un grounded)**
  - U = Single

- **Calibration (S)**
  - S = Standard limits
  - 7 = Special limits

- **Special Requirements**
  - If none, enter “0”. If required, contact factory
  - *Note: Contact the factory for AMS-2750 calibration.*

---

To be automatically connected to the nearest North American Technical Sales Office:

1-800-WATLOW2 • www.watlow.com • inquiry@watlow.com

International Technical Sales Offices: Australia, +61 3 9335 6449 • China, +86 21 3532 8532 • France, +33 1 41 32 79 70
Germany, +49 (0) 72 53 / 94 00-0 • India, +91 40 6661 2700 • Italy, +39 024588841 • Japan, +81 3 3532 8532 • Korea, +82 2 2628 5770
Malaysia, +60 3 8076 8745 • Mexico, +52 442 217 6235 • Singapore, +65 6773 9488 • Spain, +34 91 675 12 92
Taiwan, +886 7 288 5168 • United Kingdom, +44 (0) 115 964 0777