The SERIES 5900 (isolated) temperature transmitter from Watlow® delivers remarkably accurate temperature measurement and improves reliability to reduce downtime and costs.

The 5900 SERIES two-wire signal conditioner uses surface mount and digital technology with non-volatile memory. It is designed to fit directly into universal aluminum or universal iron connection heads with a separate mounting kit.

The transmitter is programmed using a separate connection cable and an easy-to-use Windows®-based software program. There is no need to use a separate thermocouple/RTD calibrator or individual resistors.

The SERIES 5900 is isolated to 1500VAC and features full linearization between temperature sensor input signal and the 4-20mA output signal. Isolated transmitters provide isolation from input to output thus eliminating ground loops and signal integrity.

Additional options include insulation resistance monitoring between sensor and ground to prevent inaccurate measurements due to insulation breakdown.

Contact Watlow’s customer service department to integrate this transmitter into a Watlow Style AR or AT thermocouple sensor or a Watlow Style RR or RT RTD sensor.

**Features and Benefits**

**Full temperature to thermocouple signal linearization throughout the complete operation temperature span**
- Ensures signal accuracy

**Full isolation from input to output**
- Eliminates ground loops for high data integrity

**Fits directly into connection head**
- Easy to install

**Programmable**
- Ensures greater convenience for future changes and inventory efficiency

**User selectable input types**
- Thermocouple calibration Types B, C, E, J, K, N, R, S and T; RTD Pt100 and Pt1000 including four-wire

**Optional insulation resistance monitoring**
- Prevents inaccurate measurements due to insulation breakdown

**CE marked**
- Compliant to electromagnet interference
Specifications

• Isolation: 1500VAC for one minute
• Operating voltage: 6.5 to 36 volts (the 5900 is protected against voltage surges and reverse polarity)
• Sensor burn out protection: A pulsed current continuously checks all sensor leads for disconnect. The output will go upscale or downscale.
• Minimum input signal: RTDs: 10°C, Thermocouples: 2mV
• Operating temperature: -40 to 85°C
• Response time approx.: 0.5 seconds
• RFI sensitive: 20 - 1000 MHZ, 10V/m typical <0.1% (of end value)
• Permissible ripple of supply: 4V p-p
• Long term stability: 0.1% per year
• Calibration inaccuracy, thermocouples: max. of 20µ volts or 0.01%
• Temperature effect: cold junction compensation 0.02% C/C
• Housing: PC, ABS/VO connection polyamid / V2
• Mounting: DIN B

Dimensional Drawings

Wiring Diagram
## Ordering Information

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Sensor Type</th>
<th>Low Temp. Sign</th>
<th>Low Temp.</th>
<th>High Temp. Sign</th>
<th>High Temp.</th>
<th>Unit of Measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 2 3 4</td>
<td>SERIES</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Sensor Type</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B, C, E, J, K, N, R, S, T</td>
<td>Type B/T/C, Type C/T/C, Type E/T/C, Type J/T/C, Type K/T/C, Type N/T/C, Type R/T/C, Type S/T/C, Type T/T/C</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0, 1, 2, 3</td>
<td>Sensor Type</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4, 5*</td>
<td>Sensor Type</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4, 5*</td>
<td>Sensor Type</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Low Temperature Sign</td>
<td>Enter + or - sign</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7, 8, 9</td>
<td>Low Temperature</td>
<td>Enter lowest limit temperature required</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Low Temperature</td>
<td>Enter highest limit temperature required</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11, 12, 13, 14</td>
<td>High Temperature</td>
<td>Enter highest limit temperature required</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>Unit of Measure</td>
<td>Enter °F or °C</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

**Note:** All accessories are subject to minimum purchase quantities.