SERIES 5900 Temperature Transmitter

The SERIES 5900 temperature transmitter from Watlow® offers remarkably accurate temperature measurement and improves reliability to reduce downtime and costs.

Programming Instructions

To ensure proper operation and optimal performance, it is necessary to program the unit with parameters that best match your application's need.

Below is an image of the SERIES 5900 transmitter showing the temperature sensor terminals, data and power supply connections.

To utilize the USB port you must use Watlow transmitter programming software version 4.32 or greater. The legacy 9-pin serial port can still be used but only with software version 4.31 or older.

Software Installation

The required software to program the Watlow SERIES 5900 transmitter can be downloaded from www.watlow.com under Download Center/Software and Demos. Look for Watlow 5900 transmitter programming software.

Start downloading the installation software before connecting any cables. You will be instructed to connect the transmitter cables at the appropriate time during the installation.

Navigate to your download folder and double click on the software file to start the installation. The window below should appear.

Watlow transmitter programming software requires the installation of the appropriate USB driver. To begin installation click on the USB driver program button shown below. Accept the default locations. If you have already installed the USB driver you may skip this step.

If desired you can also install the help files from this screen so that they can be directly accessed from the configuration screen as shown later.

After the USB driver program is complete, click on the WG5900 button to begin configuration of your Watlow SERIES 5900 transmitter.

Watlow transmitter programming software is compatible with all versions of Windows® XP or newer, utilizing the appropriate USB cables and interface box shown below. The legacy 9-pin serial port is typically utilized with PCs running Windows® XP or older. Watlow recommends upgrading to the USB standard since support for the legacy 9-pin will be ending July 31, 2015.

The connection components needed include:
1. Main cable with USB to interface box, part number 51002501
2. Interface box, part number 51002601
3. Mini USB and green 3-pin connector to transmitter, part number 51002701

Note: Power must be applied to the transmitter during the configuration. This can be performed with a 9VDC battery; 12VDC, 24VDC or the output loop power.
The following screen will appear to lead you through the installation steps.

Installation is complete when you see the screen below. Click the Exit button to complete the installation.

Click on the WG5900 button to begin programming your transmitter.

Click OK to enter the programming screen.

To access the miscellaneous menu to change Celsius to Fahrenheit and other settings you must first close the Edit window.
To re-open the Edit window click on Configuration and Edit.

Transmitter Type: Check to ensure WG5900 is in the transmitter field.

Click on the Input tab and fill out the fields with the appropriate information. For more detailed information on programming see the included help files.

Select the appropriate Input Type based on your sensor.

The Linearization tab can be used to create custom sensor response curves (advanced).
When parameters have been entered, click on the (Trans Down) button to transfer settings to the SERIES 5900 transmitter. A dialog box will appear with the following warning: **Warning! Do not remove cable. Data transmission.** This dialog box will disappear when transfer is complete and a confirmation message will appear. To verify that the settings have been programmed to the transmitter, click on the (Trans Up) button to load the current settings into the on-screen fields. You will be asked if you want to change the settings on the screen; click OK to continue. Again, there will be a dialog box with the following warning statement: **Warning! Do not remove cable. Data transmission.** When this warning disappears and the configuration message appears, the screen will reflect the stored settings from the SERIES 5900 transmitter.

**Additional Information**

For more detailed instructions on setting parameters and other help topics, install help files using the installation program. Once the help files are installed, they can be accessed directly from the help menu in the configuration software. This is a one-time installation. The installation screen is shown below with the Help Files button.

Select your operating system and if it is a 32- or 64-bit machine.
Protocol

Sensor
- Connection: 3 wires
- Linearization: Temperature
- Sensor error, InMin(±): 0 °F
- Sensor error, InMax(±): 0 °F

Transmitter
- Tag: None
- Filter: No Filter
- Sensor Break: Max (>21 mA)

Calibration protocol

<table>
<thead>
<tr>
<th>In (%)</th>
<th>In (°F)</th>
<th>Theoretical Out (mA)</th>
<th>Measured Out (mA)</th>
<th>Diff (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12.5</td>
<td>12.5</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>25</td>
<td>8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>37.5</td>
<td>37.5</td>
<td>10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>50</td>
<td>50</td>
<td>12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>62.5</td>
<td>62.5</td>
<td>14</td>
<td></td>
<td></td>
</tr>
<tr>
<td>75</td>
<td>75</td>
<td>16</td>
<td></td>
<td></td>
</tr>
<tr>
<td>87.5</td>
<td>87.5</td>
<td>18</td>
<td></td>
<td></td>
</tr>
<tr>
<td>100</td>
<td>100</td>
<td>20</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Signature: ____________________________