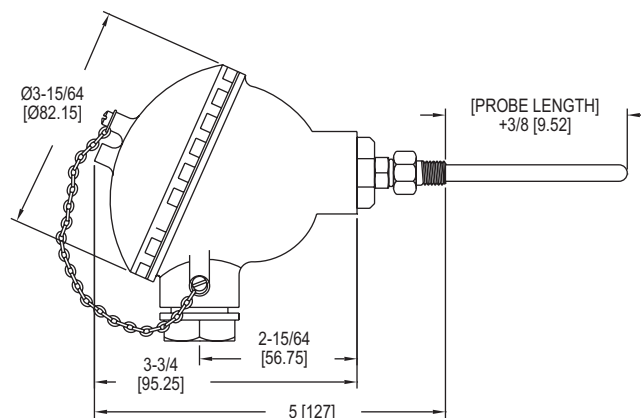




## Series TTW Weatherproof Immersion Temperature Transmitter

### Specifications - Installation and Operating Instructions



The **Series TTW Weatherproof Immersion Temperature Transmitter** combines three popular products into a single package. Our TBU series head mounted temperature transmitter is factory mounted into our A-709 enclosure. A Pt100RTD version of our TE series is wired to the transmitter, giving insertion lengths up to 18". Each transmitter is factory programmed and calibrated to output a 4 to 20 mA signal proportional to the 32 to 212°F (0 to 100°C) temperature range.

MODEL CHART	
Model	Probe Length
TTW-104	4"
TTW-106	6"
TTW-108	8"
TTW-112	12"
TTW-118	18"

#### OPERATION

The sensor offset can be adjusted through the software. The USB cable may be connected to the transmitter without causing any measurement errors.

The user must select the sensor and most suitable range to the process. The chosen range must not exceed the maximum range specified for that sensor and should not be narrower than the minimum range for that same sensor.

It is important to note that the transmitter accuracy is based on the maximum range of the sensor used, even when a narrower range is programmed.

**Note:** When Pt100 simulators are used with the transmitter, make sure the excitation current is compatible with the Pt100 excitation current of the transmitter, which is 0.8 mA.

#### SPECIFICATIONS

##### TEMPERATURE SENSOR

**Accuracy:**  $\pm 3^\circ\text{F}$  ( $\pm 1.7^\circ\text{C}$ ).

**Temperature Limits:** Operating: -40 to 302°F (-40 to 150°C).

**Sensor Curves:** Pt100 RTD (TE Series Curve D).

##### TEMPERATURE TRANSMITTER

**Input Range:** -328 to 986°F (-200 to 530°C).

**Output:** Two-wire 4 to 20 mA.

**Output Impedance:** 600  $\Omega$  @ 24 VDC.

**Power Requirements:** 12 to 35 VDC.

**Accuracy:**  $\pm 0.2\%$  FS.

**Temperature Limits:** -40 to 185°F (-40 to 85°C).

**Response Time:** <100 ms.

##### ENCLOSURE

**Temperature Limits:** -40 to 212°F (-40 to 100°C).

**Rating:** NEMA 4X (IP65).

**Material:** Painted aluminum housing.

### CONFIGURATION

The factory configuration for the transmitter is sensor Pt100 with a 2-wire set up and a range of 0 to 100°C with upscale error condition. If this configuration fits the system requirement, no further action is required and the transmitter is ready to be installed. Changes to the configuration are possible through the software. The 2-wire configuration of the Pt200 sensor is shown below in Figure 1.

**NOTICE** The USB connection port (interface) is not electrically isolated from the transmitter's input.

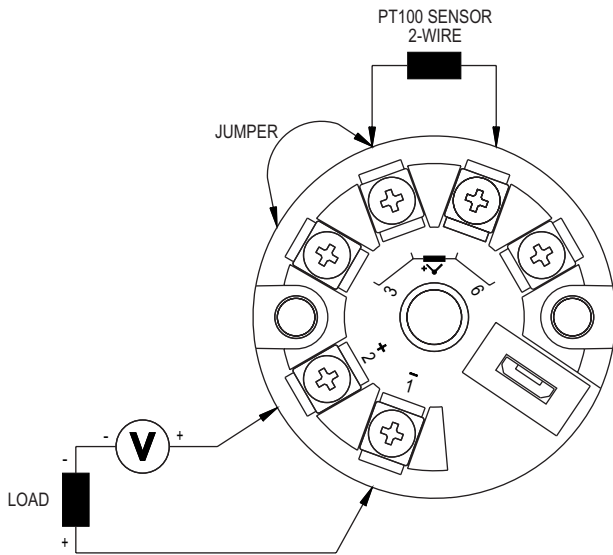


Figure 1

### CONFIGURATION

During the setup, the transmitter is powered by the USB, not requiring an external power supply.

The transmitter setup can also be made by connecting it to the loop using the loop power supply. There is no electrical insulation between the transmitter and the communication port (interface), therefore it is not recommended to configure it with the sensor inlet connected to the process. See Figure 2 for the USB cable connections when it is loop powered.

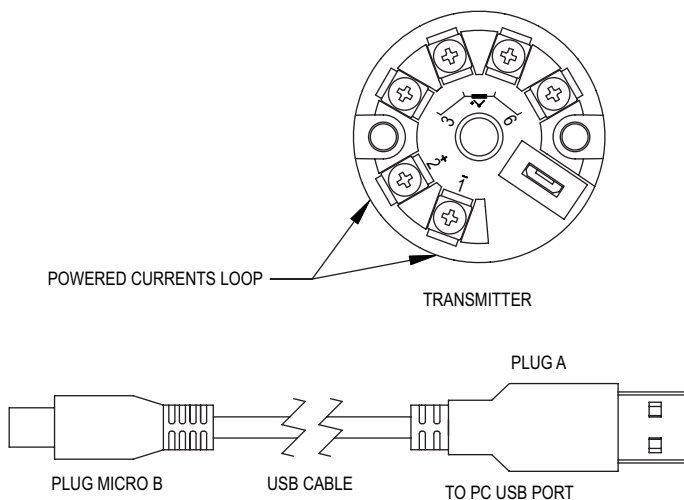


Figure 2

### INSTALLATION KEYNOTES

Section of the cable used: 0.14 to 1.5 mm<sup>2</sup>.  
Recommended torque in the terminal: 0.8 Nm.

**NOTICE** Sensor signals conductors must go through the plant system separate from power leads (loop), if possible in grounded conduits.

**NOTICE** The instruments must be powered from the instrumentation power supply circuit.

**NOTICE** In control and monitoring applications, it is essential to consider what can happen when any part of the system fails.

**NOTICE** It is recommended to use suppressors in contact coils, solenoids and any inductive load.

### SAFETY INFORMATION

Any control system design should take into account that any part of the system has the potential to fail. This product is not a protection or safety device and its alarms are not intended to protect against product failures. Independent safety devices should always be provided if personnel or property are at risk.

Product performance and specifications may be affected by its environment and installation. Its user's responsibility to assure proper grounding, shielding, cable routing and electrical noise filtering, in accordance with local regulations, EMC standards and good installation practices.

### MAINTENANCE/REPAIR

Upon final installation of the Series TTW, no routine maintenance is required. The Series TTW is not field serviceable and is not possible to repair the unit. Field repair should not be attempted and may void warranty.

### WARRANTY/RETURN

Refer to "Terms and Conditions of Sale" in our catalog and on our website. Contact customer service to receive a Return Goods Authorization number before shipping the product back for repair. Be sure to include a brief description of the problem plus any additional application notes.