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84632 Trin & Stor Tank Sensor Installation Instructions

Applicable Trin & Stor Tank Models:

- S, SL, ST & S-SR

Applicable Trinity Boiler Models:

- Lx, Tft & Tx Series

Introduction

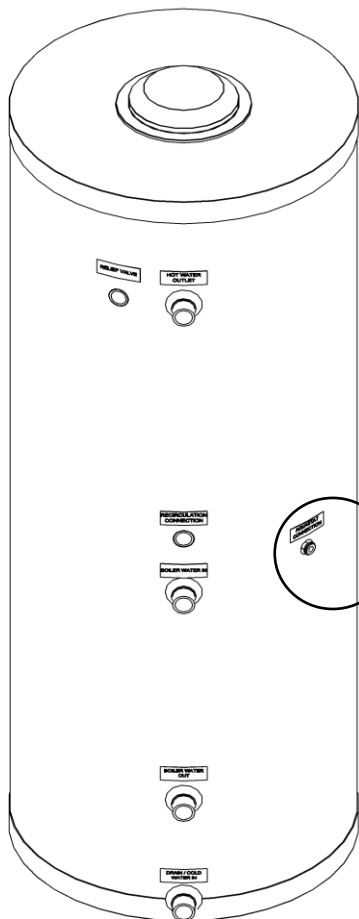
The Trin&Stor Tank Sensor, part number 84632, is a 10kOhm NTC Thermister designed for installation into a tank Thermal-Well with an internal diameter of 10 mm (3/8”) and a minimum internal length of 120 mm (4-3/4”). The Tank Sensor provides a temperature reading to an NTI-Trinity Tft, Lx or Tx series boiler, eliminating the need for a separate controller (e.g. tank thermostat or aquastat)*. The Tank Sensor incorporates a UL353 rated thermal cutoff switch designed to open at a temperature of 90°C (194°F).

It is the installer’s responsibility to ensure the Tank Sensor is installed in accordance with these instructions and that the Tank and Boiler are installed in accordance with their respective installation instructions. Contact NTI if assistance is required.

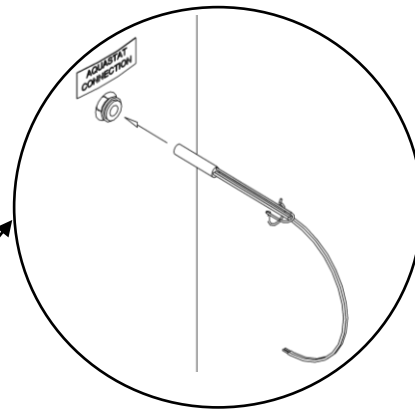
**NTI-Trinity Ti and Ts series boilers are not designed to accept the Tank Sensor reading, therefore a separate controller (e.g. tank thermostat or aquastat) must be used.*

Installation Instructions

1 LOCATE THERMAL WELL

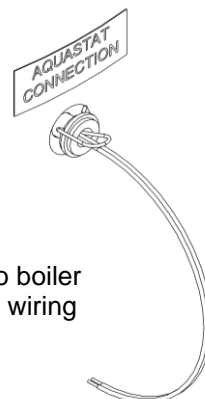


2 INSERT TANK SENSOR



3 SECURE TANK SENSOR

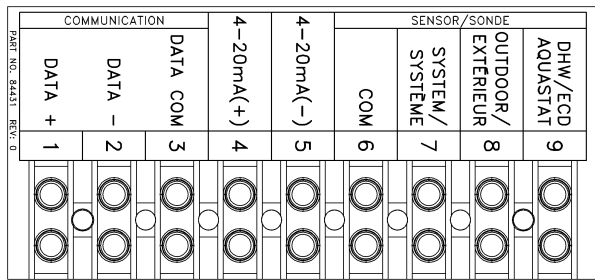
Hook wire retainer to the back of the Thermal-Well rib; pull to ensure it will not fall-out.



Connect to boiler using field wiring

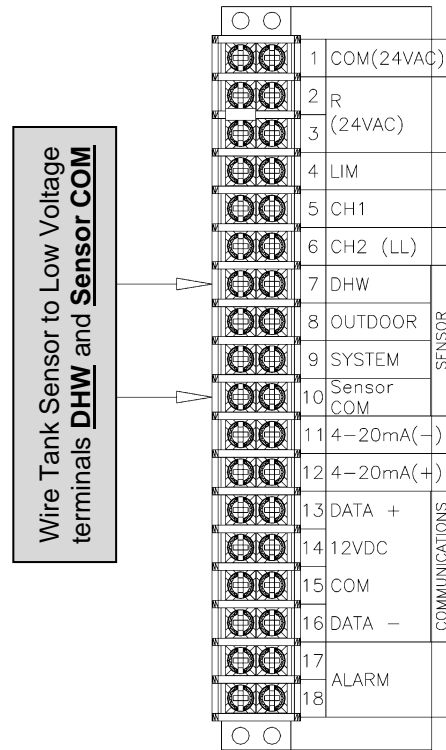
4 WIRE TANK SENSOR TO BOILER

Figure 1 – Tank Sensor to Trinity Tft Boiler



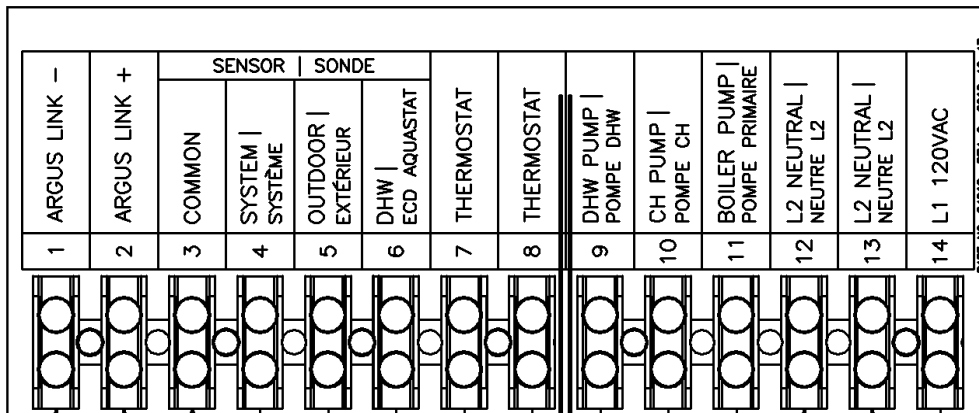
Wire Tank Sensor to terminals **COM** and **DHW AQUASTAT**

Figure 2 – Tank Sensor to Trinity Lx Boiler



Wire Tank Sensor to Low Voltage terminals **DHW** and **Sensor COM**

Figure 3 – Tank Sensor to Trinity Tx Boiler



Wire Tank Sensor to terminals **COMMON** and **DHW AQUASTAT**

5 ADJUST BOILER CONTROL SETTINGS

In order for the boiler to operate correctly with the Tank Sensor, some control settings need to be adjusted.

Trinity Tft & Lx Series Boilers

Navigate to the Domestic Hot Water Configuration screen and make the following adjustments to the settings; see Figure 4 (note: you must login before adjustments can be made):

1. **Demand switch** – change setting to “DHW sensor with On/Off temperatures”
2. **Modulation sensor** – maintain factory setting of “Outlet sensor”
3. **Setpoint** – set to the desired boiler operating temperature during a DHW demand. Typical setting = 170°F to 190°F.
4. **Demand On temperature** – tank temperature where a DHW demand is initiated, must be set lower than the “Demand Off temperature. Typical setting = 120°F to 140°F.
5. **Demand Off temperature** – tank temperature where a DHW demand is ended, must be set higher than the “Demand On temperature. Typical setting = 125°F to 145°F.

Figure 4 – Trinity Tft & Lx Series Control Adjustments

The screenshot shows the 'TFT 110 Domestic Hot Water Configuration' screen. A red circle highlights the login icon in the top right corner, with a callout box stating 'Must be logged in'. The settings are as follows:

DHW enable	Enabled
Demand switch	DHW sensor with On/Off temperature
Modulation sensor	Outlet sensor
Setpoint	180°F
Off hysteresis	10°F
On hysteresis	10°F
Demand On temperature	135°F
Demand Off temperature	140°F
DHW priority override time	2 hours

Callout boxes on the right side of the screen provide instructions for the highlighted settings:

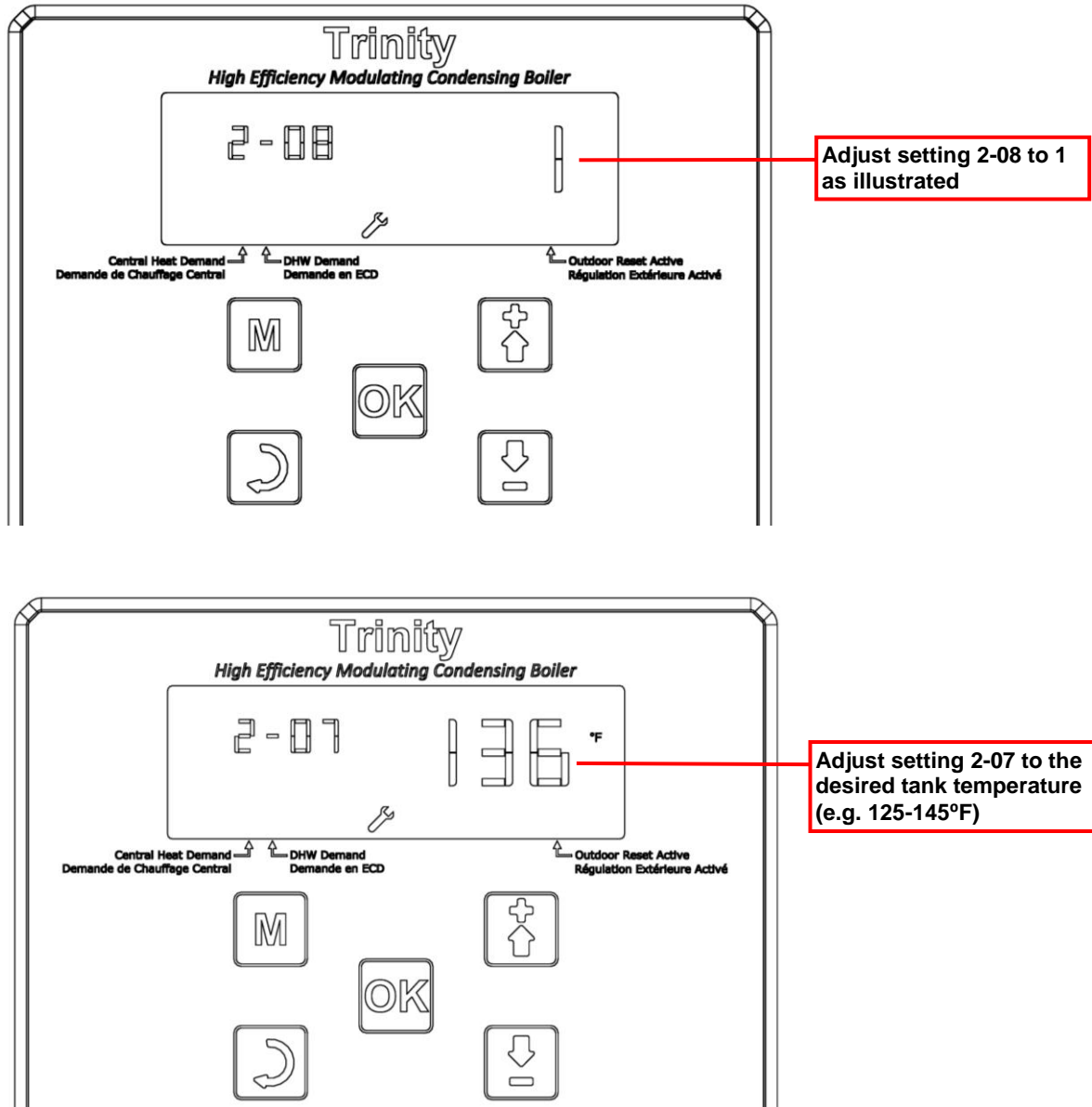
- 'Set as illustrated' points to the Demand switch setting.
- 'Adjust to desired boiler temperature' points to the Setpoint setting.
- 'Adjust to desired tank temperature' points to the Demand On and Demand Off temperature settings.

For more information on adjusting the boiler control settings, refer to: APPENDIX A – CONTROLLER AND TOUCHSCREEN DISPLAY INSTRUCTIONS FOR TRINITY Tft & Lx SERIES included with the boiler.

Trinity Tx Series Boilers

Access the Installer Menu and navigate to setting 2-08 (DHW mode); adjust setting to “1” for the controller function with a Tank Sensor. Set Installer Menu setting 2-07 (DHW setpoint) to the desired tank temperature. See Figure 5.

Figure 5 Trinity Tx Series Control Adjustments



For more information on adjusting the boiler control settings, refer to: INSTALLATION AND OPERATION INSTRUCTIONS FOR TRINITY Tx BOILER included with the boiler.