Pool Heater with Touchscreen
Start Up Guide

Sizes 500 - 2000

This Start Up Guide is intended to be supplemental to this product's 'Installation and Operating Manual' which is also included with the product, or can be found online.

H2392001-

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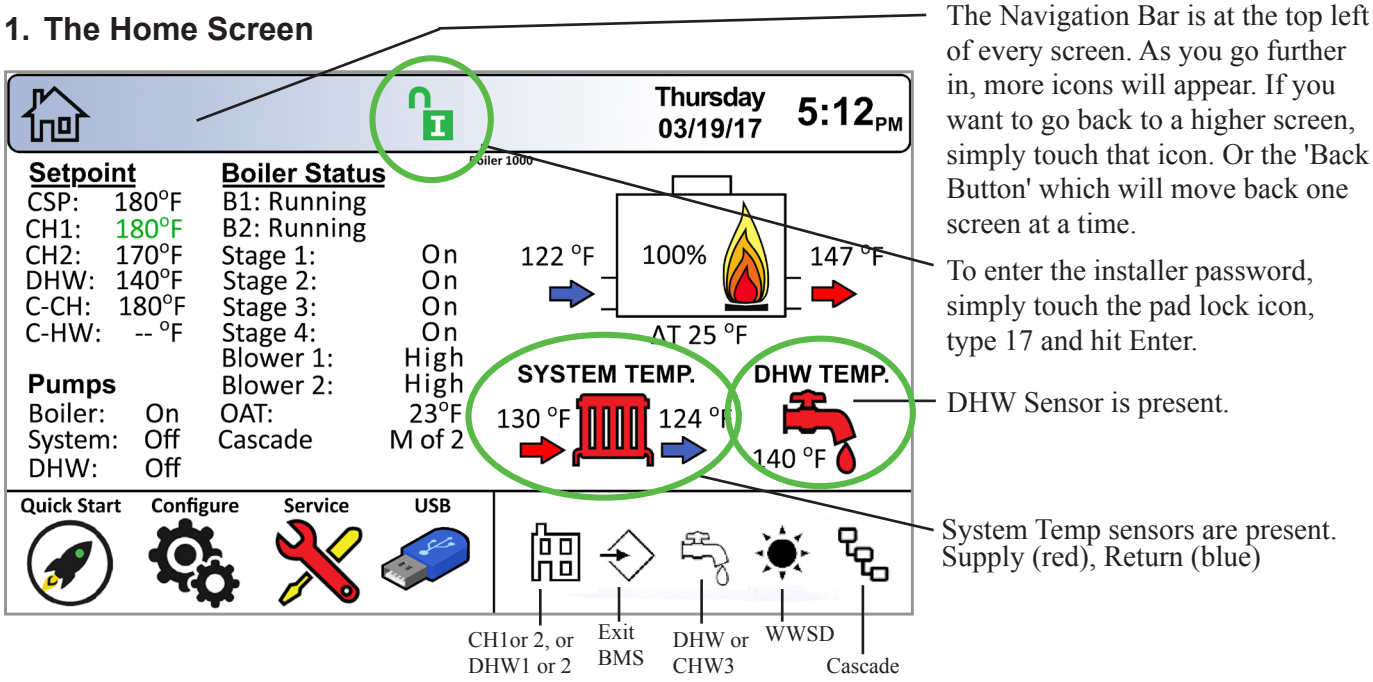
1. The Home Screen



The Navigation Bar is at the top left of every screen. As you go further in, more icons will appear. If you want to go back to a higher screen, simply touch that icon. Or the 'Back Button' which will move back one screen at a time.

To enter the installer password, simply touch the pad lock icon, type 17 and hit Enter.

DHW Sensor is present.

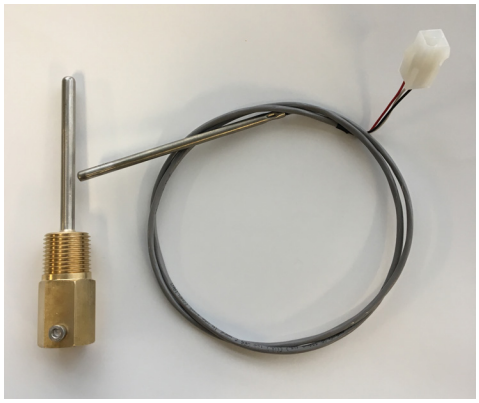
System Temp sensors are present. Supply (red), Return (blue)

1.A Home Screen Active Icons

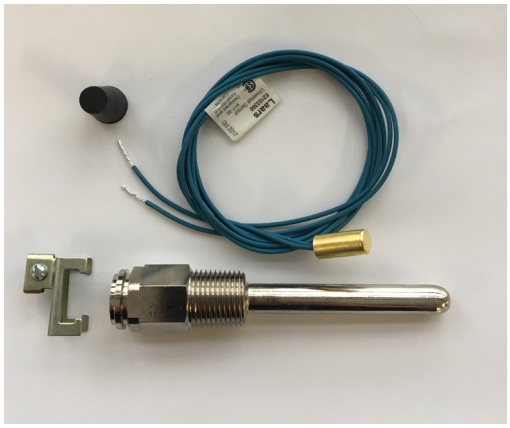
Icons will appear, if they are available.

Name	Icon	Description
Security		Displays the current lock status. Touch the lock icon to lock or unlock the Touchscreen Display.
Quick Start		Provides quick touch access to the most commonly used parameters for easy installation.
Configure		Will take you to ALL of your configurations and parameters for a detailed setup of the unit. This is the largest group of menu screens.
Service		Allows the service technician to access the basic diagnostic and troubleshooting information.
Messages		Will show an 'Exclamation' when there is a message. Clicking onto the Message icon will take you to the message itself. The USB functionality will show the USB Icon at this location, if being used.
Active Demands		Will show icons that indicate the active parameters that are currently in demand.
Navigation Bar		The Navigation Bar is the constant indicator of where you are as you navigate into and out of the touchscreens. **ERROR** Codes also show in the ***Navigation Bar*** when there is one of several unit errors or shut-downs that have occured.
Date & Time	Thursday 03/19/17 5:12PM	For Display Only. To change date and time, go to the Configuration menu.

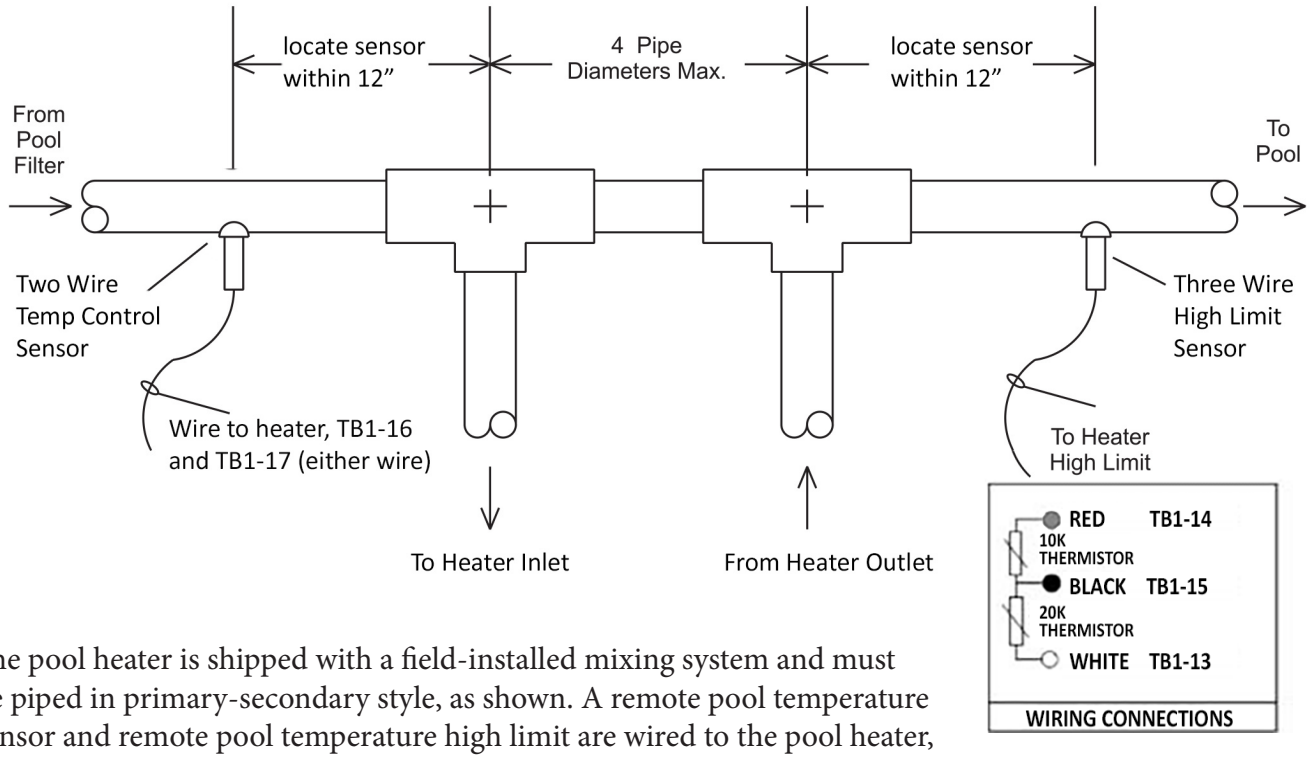
2. Sensor Installation: Pool Heater



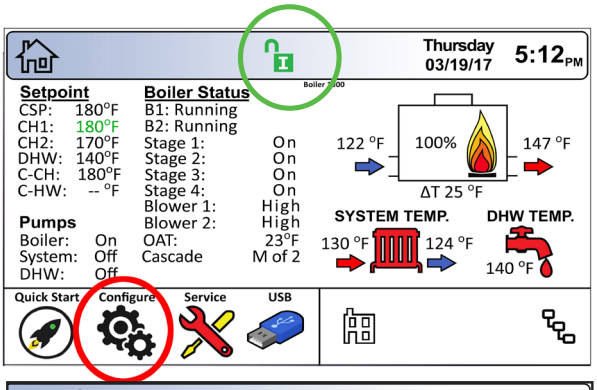
Install the System Supply Well into the pool system loop within 12" of the outlet tee from the heater.
Install the System Supply Sensor into the well. Run wires back to the heater terminal block located on the right side of the boiler. Using the provided insertion tool install the wires as follows: the white wire to TB1-13, the red to TB1-14 and the black to TB1-15 (Early units may have a harness plug which will need to be cut off and wires stripped back a ¼").



Install the System Return Sensor Well into the pool system loop within 12" of the inlet tee to the heater.
Install the System Return Sensor into the well. Run the wires to the TB1-16 and TB1-17 (either wire) of the System Return terminals of the heater.



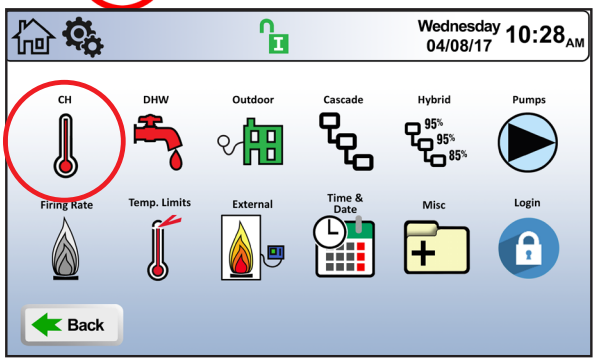
The pool heater is shipped with a field-installed mixing system and must be piped in primary-secondary style, as shown. A remote pool temperature sensor and remote pool temperature high limit are wired to the pool heater, to be mounted in the pool water loop, as shown.



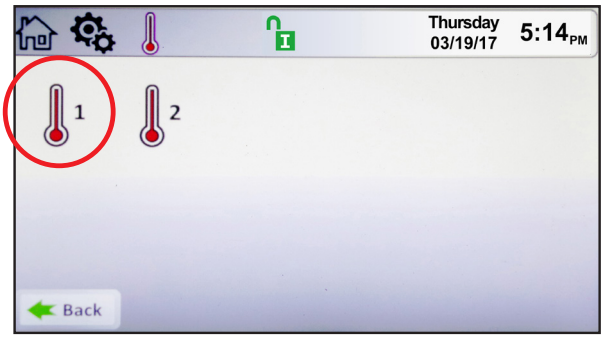
3. Configuration

If your screen is locked, touch the lock icon, type in 17, touch Enter.

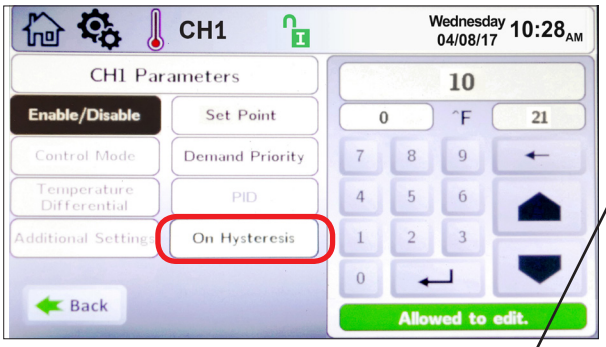
STEP 1. Touch the Configure Icon.



STEP 2. Touch the CH Function Icon.

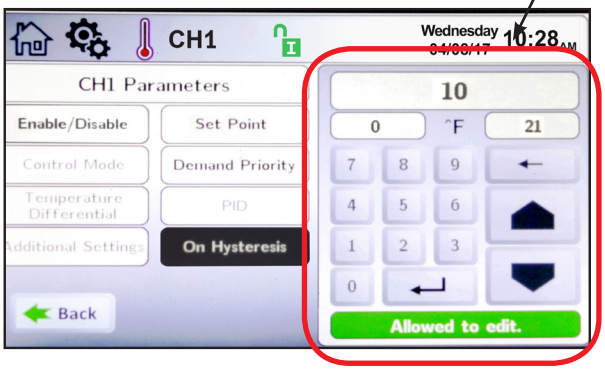


STEP 3. Touch the CH1 Function Icon.



STEP 4. Select the item that you want to adjust.

Hysteresis IS the differential. The On Hysteresis is therefore the temperature at which the unit will re-fire after it reached set point. For example: A set point of 80F and an On Hysteresis of 1 will cause the unit to run until the pool reaches 80F. The unit will shut down and not re-fire until the pool drops to 79F.

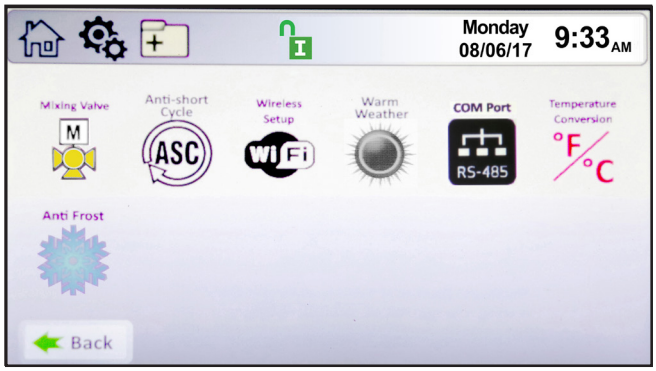


Make adjustments with the Up and Down arrows or Backspace.

Hit enter to save the changes.

After setting each parameter to desired settings, use the Nav Bar or the Back Button to go back to previous screens and set other parameters.

3.A Miscellaneous Features



Miscellaneous Features Screen

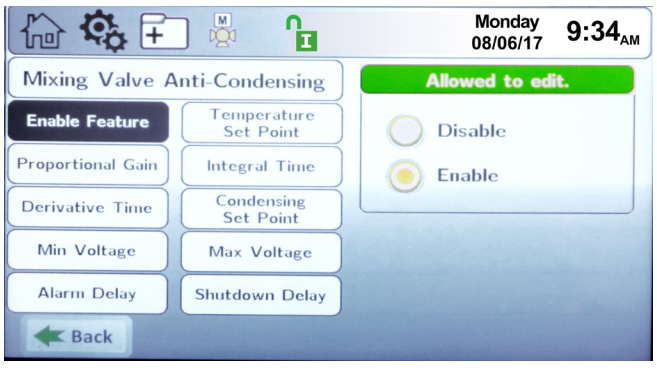
The Miscellaneous Features screen provides navigation for the following items:

- **Mixing Valve –** This feature applies to Low-Temp Models and Pool Heaters.
- **Anti-short Cycle * –** This icon navigates to the Anti-short Cycle Configuration Screen.
- **Wireless Setup * –** This icon navigates to the Wireless Setup Screen, not available at this time.
- **Warm Weather –** This feature does not apply to Pool Heaters.
- **COM Port * –** This Icon navigates to a selection menu for either Modbus or BACnet MSTP protocols.
- **Temperature Conversion *–** This icon navigates to the Temperature Conversion Configuration Screen.
- **Anti-Frost *–** This icon navigates to the Anti-Frost Configuration Screen.

*See Installation Manual for more information.

3.A.1 The Mixing Valve

To navigate to the Mixing Valve Anti-Condensing Screen, touch the Configure Screen, then touch the Mixing Valve Icon on the Miscellaneous Features screen.



Mixing Valve Anti-Condensing Screen

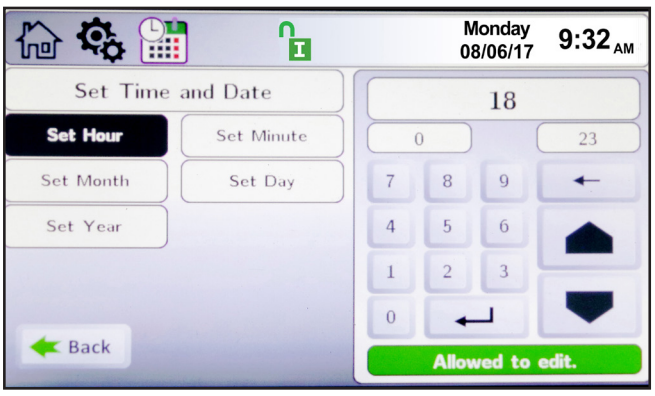
The Mixing Valve Configuration Screen allows adjustment of the following parameters:

- **Enable Feature** – This allows the mixing valve to be enabled or disabled.
- **Temperature Set Point** – The mixing valve will maintain this temperature at the inlet to the boiler/heater.
- **Proportional Gain** – This value is the corrective action that is proportional to the error (set point – control temperature).
- **Integral Time** – This value is applied to the sum of the error over a period of time.
- **Derivative Time** – The value is applied to the rate of change of the error.
- **Condensing Set Point** – The condensing alarm and shutdown are based on this set point.
- **Min Voltage** – The minimum voltage the controller will send the mixing valve.
- **Max Voltage** – The maximum voltage the controller will send the mixing valve.
- **Alarm Delay** – If the boiler/heater inlet temperature is below Condensing Set Point for the duration of the Alarm Delay time, the controller will annunciate a condensing alarm.
- **Shutdown Delay** – If the boiler/heater inlet temperature is below the Condensing Set Point for the duration of the Shutdown Delay time, the boiler/heater will shut down and annunciate a condensing shutdown condition.

NOTE: Mixing Valve Max Voltage increases the internal temperature of the heat exchanger. Recommended high of 7500mV to avoid high limit tripping.

3.B Setting the Time and Date

To navigate to the Time & Date Configuration Screen, touch the Time & Date Icon on the Configure Screen.

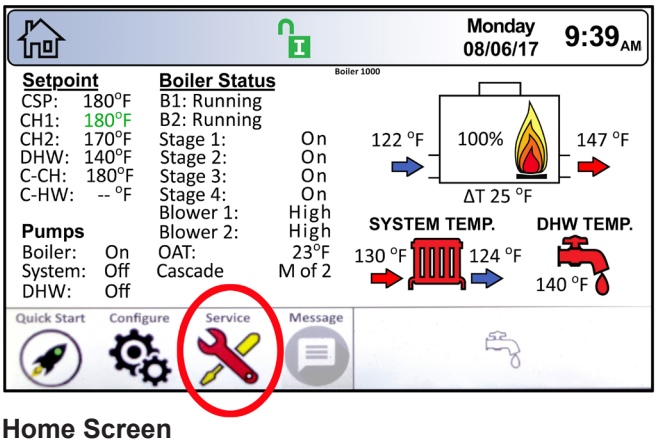


Time & Date Configuration Screen

NOTE: The Time is set in a 24 hour parameter, but displays only as a 12 hour clock with the AM/PM automatically added.

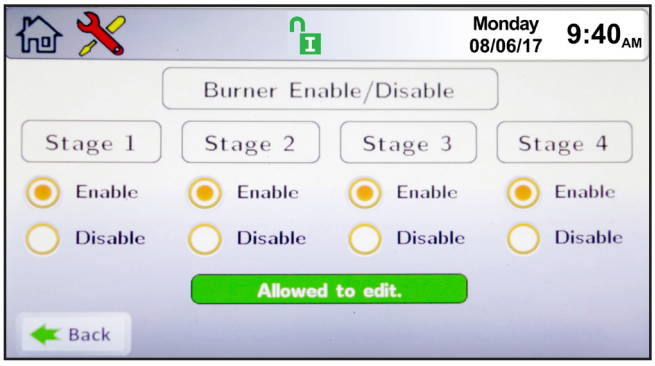
4. Service Screens

To navigate to the Service Screen, touch the Service Icon in the lower left-hand portion of the Home Screen.



Home Screen

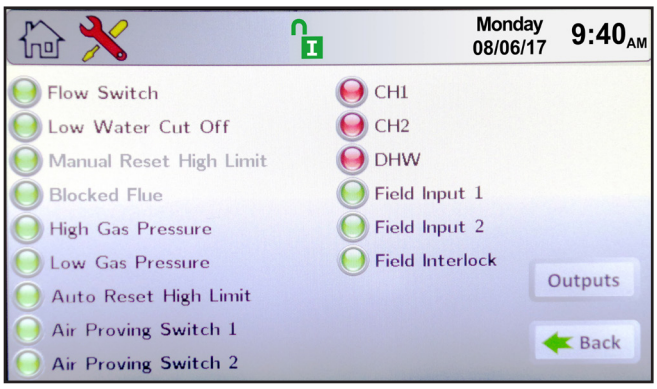
4.A Burner



The Burner Screen

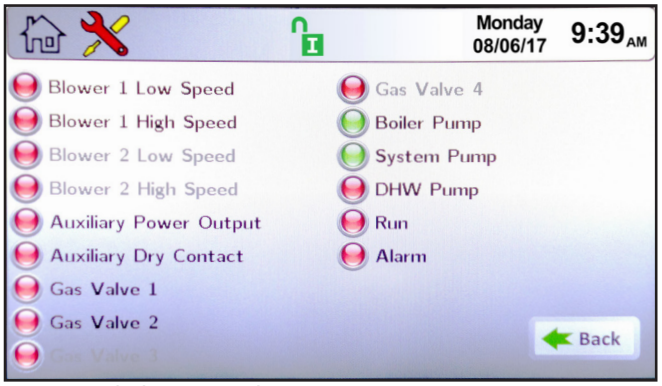
Control will only allow safe conditions for disabled stages.

4.B Digital I/O (Input / Output)



Digital I/O Screen - Inputs

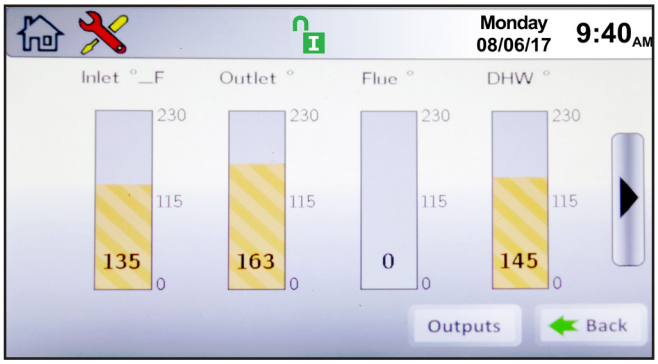
Green indicates closed switch.



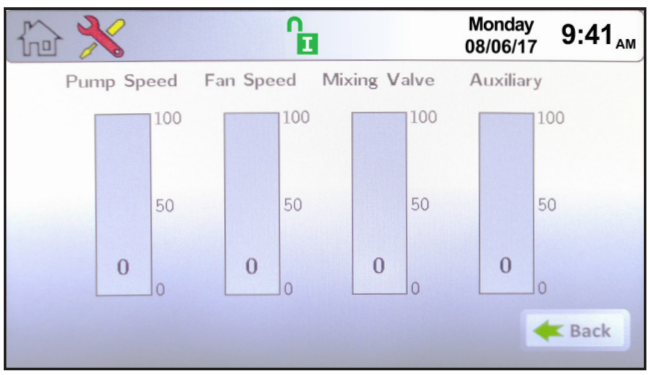
Digital I/O Screen - Outputs

Green indicates active devices.

4.C Analog I/O

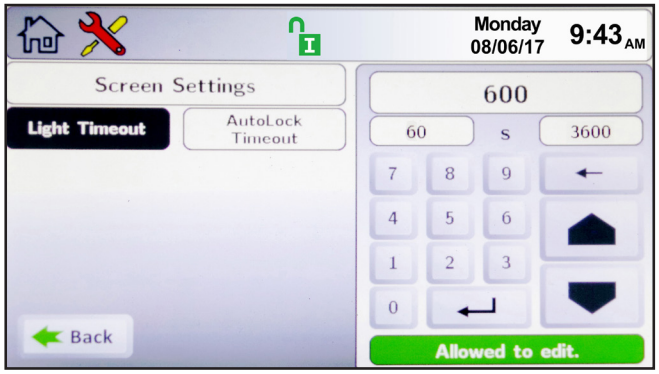


Analog I/O Screen - Inputs



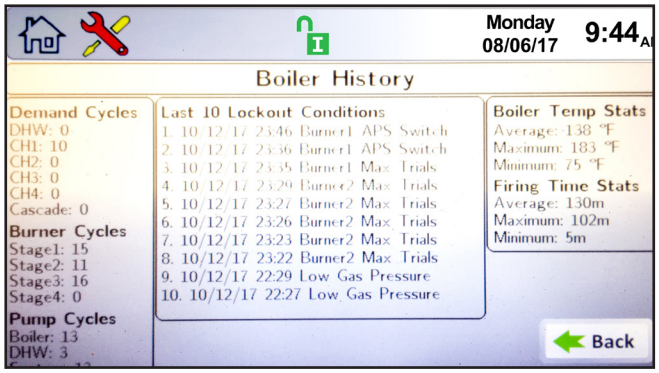
Analog I/O Screen - Outputs

4.D Screen Settings



Screen Settings Screen

4.E History



History Screen

4.F Restart

To recalibrate the touch screen. After pressing the Restart Button, promptly touch the touch screen and follow the calibration procedure as shown on the touch screen.

4.G Factory Reset

Factory Reset Screen

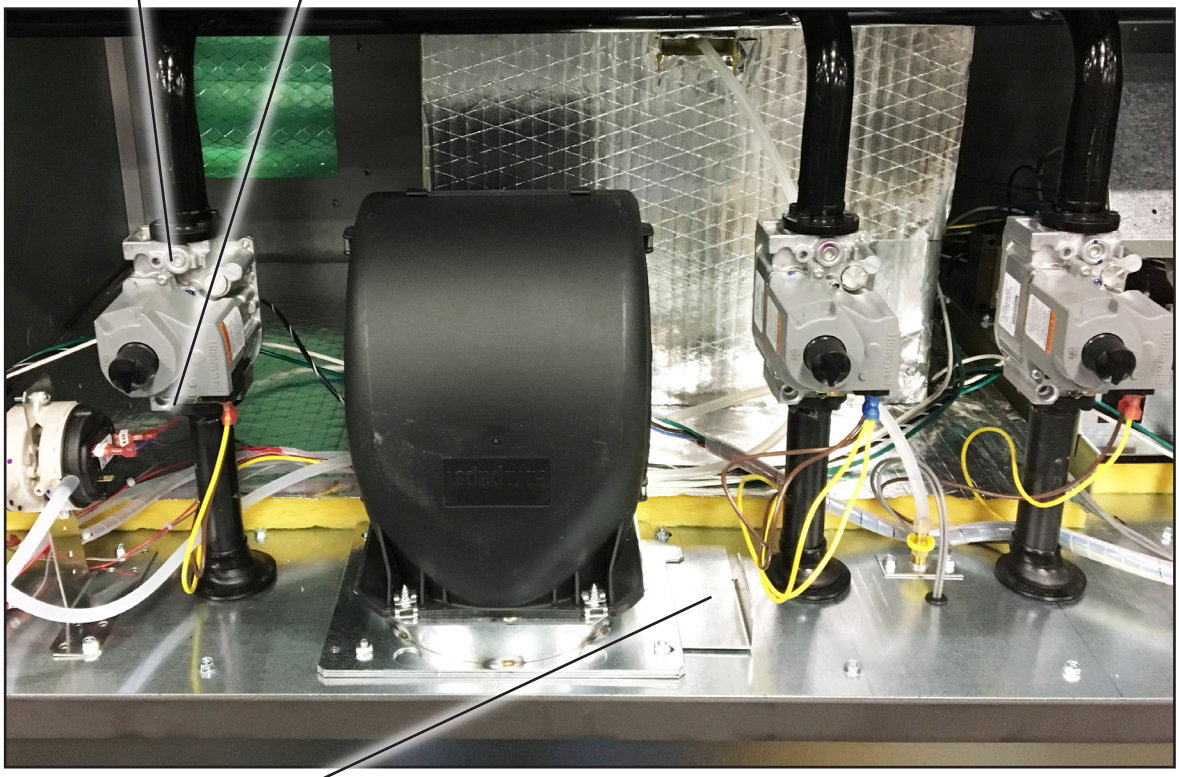
Touching the Factory Reset Button on the Service Screen resets all touch screen adjustable parameters back to the factory default setting.

5. Combustion Setup

1: Fire the boiler at 100% (all stages on) with enough load (call for heat) to keep the unit running throughout this combustion setup. It may be helpful to raise the CH1 set point and reduce the staging hysteresis to provide the maximum range of operation to ensure all burners are functioning during this process.

2: Check supply gas pressure.

3: Check manifold gas pressure at each of the gas valves and ensure they fall within the proper range, as shown in the table below.



4: Locate the air damper located below the combustion fan. Loosen the two fasteners to the right of the blower to allow the damper to slide. Check the CO2 via a test hole drilled in the venting. Be sure to plug this hole after exhaust sampling is complete. Ensure the CO2 falls within the proper range. If the CO2 is too low, reduce the amount of air by closing the air damper. If it is too high, open the damper. Slight adjustments are typically all that is needed. Allow about 90 seconds for your analyzer to stabilize before each adjustment.
Re-tighten the screws when CO2 is adjusted properly.

		Natural Gas	Propane
Supply Gas Pressure	Typical	7" w.c. (1.7kPa)	11" w.c. (2.7kPa)
	Range	4" w.c. ≤ (supply pressure) ≤ 13" w.c.	
Manifold Gas Pressure		2.5" w.c. (0.62 kPa)	
	CO_2	8%	9.2%

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