WIRELESS SERVICE TOOL

APPLICATION, OPERATION & MAINTENANCE MANUAL

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Models:
WST

Table of Contents

3 Overview
5 Connect the Wireless Service Tool
6 Link a Wi-Fi Enabled Device
7 Use the Wireless Service Tool Web App with a WSHP
13 Update the Wireless Service Tool
16 Revision History

Overview

Models:
WST

OVERVIEW

The Wireless Service Tool (WST) is a gateway into the ClimateMaster water-source heat pump, iGate 2 Communicating (AWC) Thermostat, and Refrigeration Detection System (RDS). It provides the user access on a Wi-Fi enabled device for setup, troubleshooting, data logging, startup, and commissioning. The user can configure items such as airflow, heat pump options, configuration, pump or modulating valve operation, unit family, unit size etc.

1. Power LED indicated the WST is powered
2. Modbus TX/RX LEDs indicate the WST is communcating with the WSHP
3. Status LED indicates the WST is communicating with a Wi-Fi enabled device
4. Fault LED flashes every 5 seconds during normal status and fast flashes during an OTA update

Models:
WST

Overview

ABOUT YOUR WIRELESS SERVICE TOOL

- Power supplied by the water source heat pump control or by a USB-C port
- 2.4Ghz Wi-Fi antenna
- WST is **NOT** water resistant.
- Can communicate with **ONE** Wi-Fi enabled device that is up to 20 feet from the WST

GENERAL OPERATING PARAMETERS:

The following are general operating parameters for the WST:

- **Operating Environment:** -40°F to 150°F (-40°C to 65°C) and up to 95% relative humidity, non-condensing
- **Storage Environment:** -40°F to 185°F (-40°C to 85°C) and up to 95% relative humidity, non-condensing

CONNECT THE WIRELESS SERVICE TOOL TO A WATER-SOURCE HEAT PUMP (WIRED)

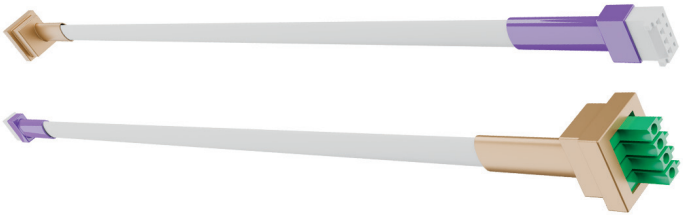
If connecting to the port outside the unit located on the corner post (Figure 1), use harness part number 11B0100N79 (Figure 2).

1. Plug the green connector into the WST
2. Remove power from the WSHP
3. Plug the white connector into the port on the corner post of the WSHP
4. Power up the WSHP
5. The RX/TX LEDs on the WST illuminate indicating the WST is communicating with the unit control board

Figure 1: Service Tool Port

Figure 2: WSHP Service Port Connector (11B0100N79)

Figure 3: CXM2/DXM2.5 Connector (11B0100N80)



Connect the Wireless Service Tool

Models:
WST

CONNECT THE WIRELESS SERVICE TOOL TO A CXM2/DXM2.5 (WIRED)

If connecting to the port located on the CXM2 or DXM2.5, use harness part number 11B0100N80 (Figure 3).

1. Disconnect power from the WSHP, remove the unit front access panel, and open the control panel
2. Plug the green connector into the WST
3. Plug the white connector into the communications port on the CXM2 or DXM2.5 per Figure 4.
4. Power on the WSHP
5. The RX/TX LEDs on the WST illuminate indicating the WST is communicating with the unit control board

Figure 4: CXM2 Connection to WST

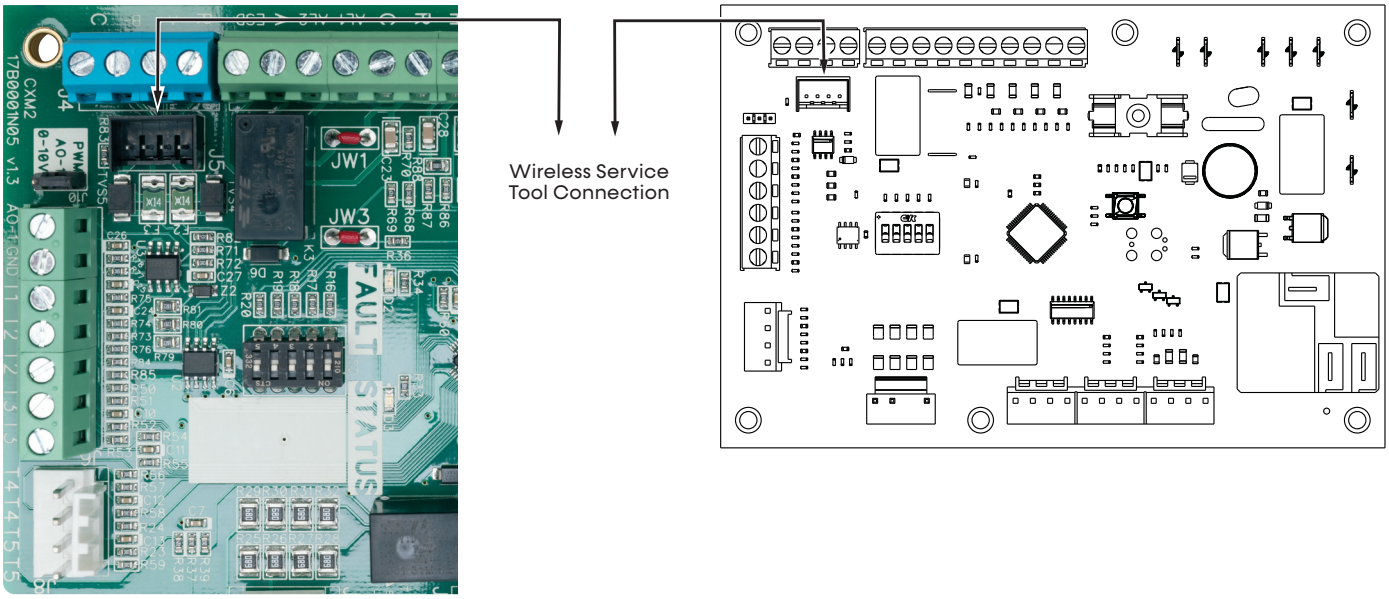
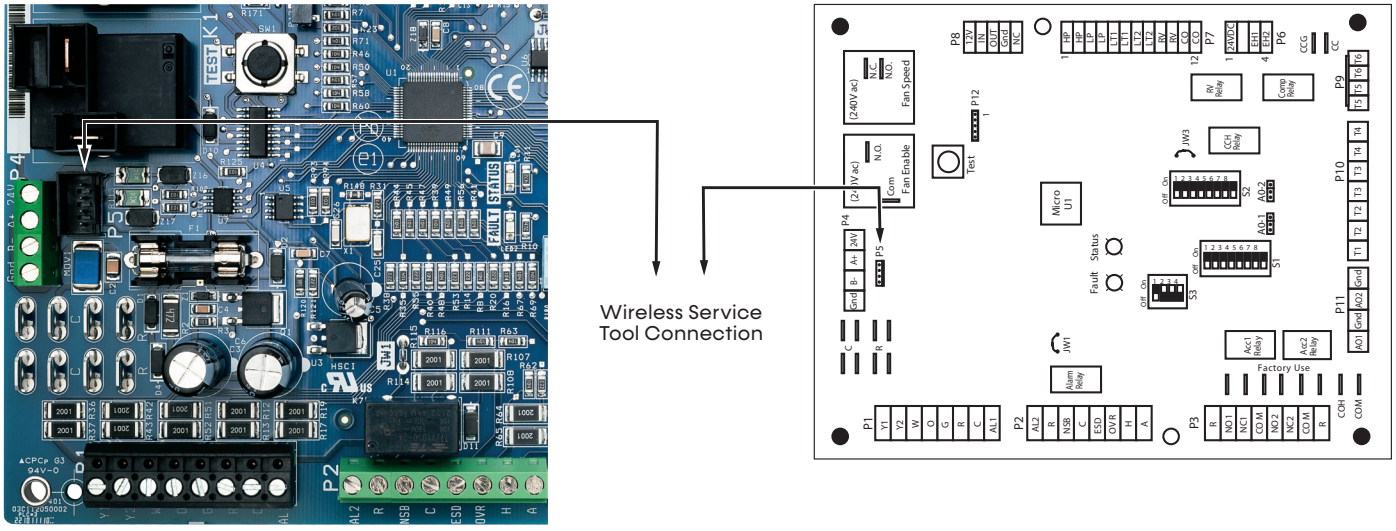


Figure 5: DXM2.5 Connection to WST



Models:
WST

Link a Wi-Fi Enabled Device

LINK A WI-FI ENABLED DEVICE TO THE WIRELESS SERVICE TOOL

Before you begin, ensure the RX/TX lights on the WST are flashing. Choose one of the following methods to access the WST web application:

NOTE: The WST Wi-Fi passcode is *12345678*

- **Automatic method:** Using the camera on your Wi-Fi enabled device, scan the QR code on the back of the WST
- **Manual method:**
  1. Open the Wi-Fi settings on your device
  2. Find **WSTXXX** in available networks then select it

NAVIGATE TO THE WEB APP

1. The green status LED illuminates and remains solid indicating that the WST is communicating with your Wi-Fi enabled device
2. Open the browser on your Wi-Fi enabled device
3. If the WST Web App does not display in the browser, enter the following address: **service_tool.local**

Use the Wireless Service Tool Web App with a WSHP

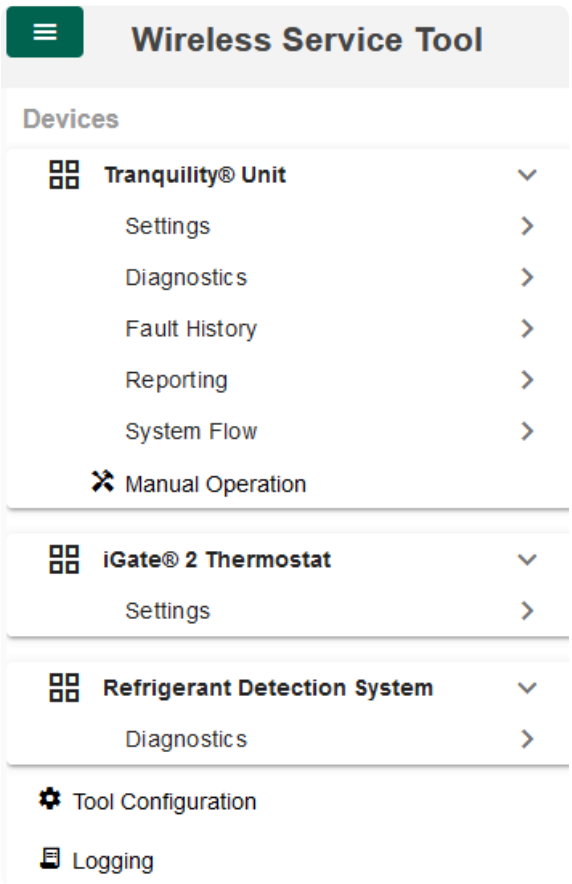
Models: WST

NAVIGATION

From the Home screen, select ≡ to access the menu. The following is a list of options that may display:

- Settings
- Diagnostics
- Fault History
- Reporting
- System Flow
- Manual Operation
- Refrigerant Detection System
- Tool Configuration
- Logging
- iGate® 2 Thermostat (if using an AWC99U01 thermostat)

Figure 6: Home Screen



The product connected to the WST determines the options that display in the Home screen. For example, Refrigerant Detection System does not display in the WST Web App if an RDS is not detected. The following examples illustrate Home screen behavior based on the connected product.

Figure 7: Home Screen: Single Unit

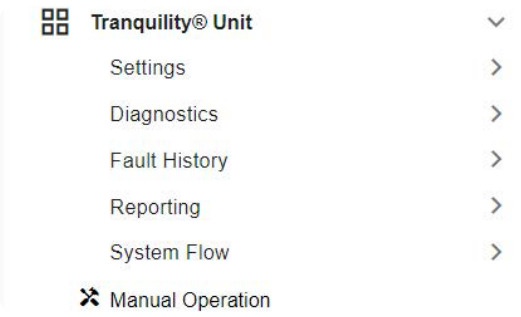
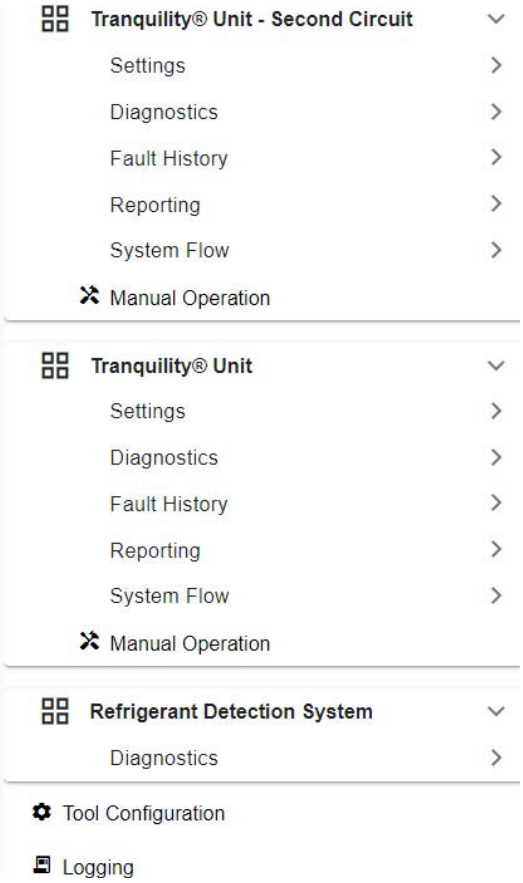


Figure 8: Home Screen: Dual Circuit WSHP

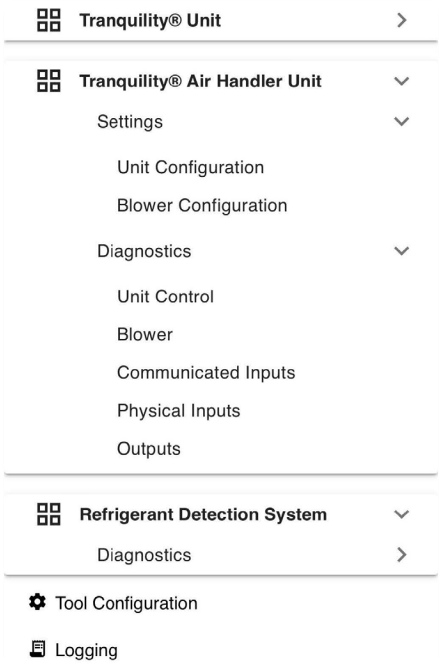


NOTE: In Leader/Follower applications, *Tranquility Unit* is the lead unit. *Tranquility Unit - Second Unit* is the follower unit.

Models:
WST

Use the Wireless Service Tool Web App with a WSHP

Figure 9: Web App - Home Screen: Air Handler



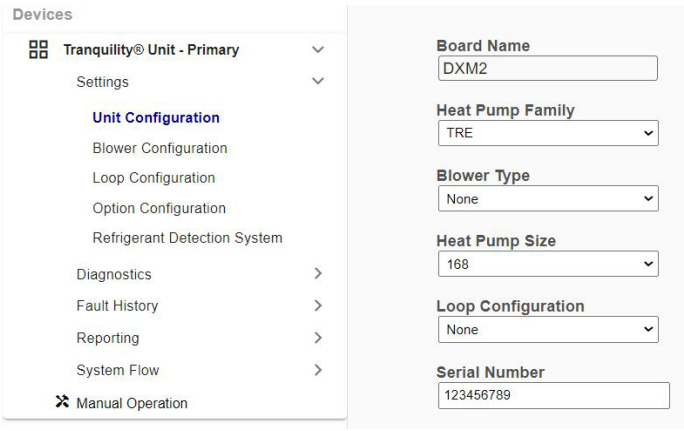
Settings

In the **Settings** menu, you can view the unit's Serial Number or view and modify the following:

- Unit Configuration
- Blower Configuration
- Loop Configuration
- Option Configuration
- Refrigerant Detection System

NOTE: Refer to the unit's Part Number and Model Nomenclature located in the unit IOM to determine the unit's correct configuration.

Figure 10: Settings



Use the Wireless Service Tool Web App with a WSHP

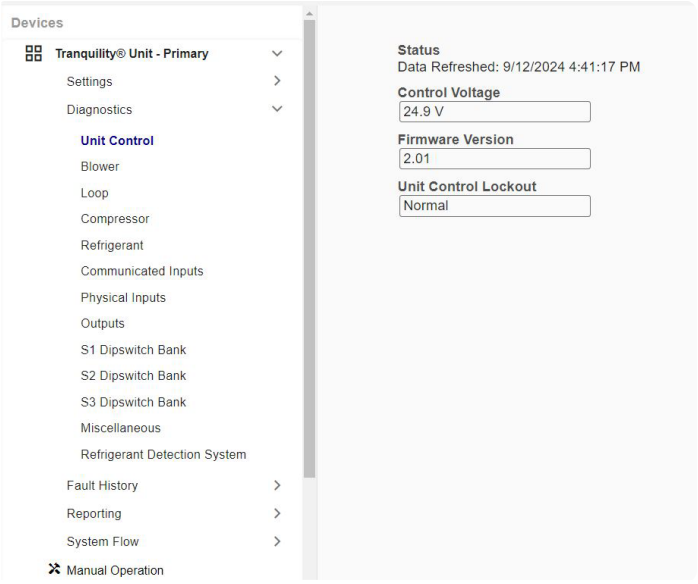
Models: WST

Diagnostics

In the **Diagnostics** menu, you can see the real-time status of the following:

- Blower
- Loop
- Compressor
- Control Serial Number
- Control Firmware Version
- Control Voltage
- Unit Control Lockout
- Refrigerant
- Communicated Input
- Physical Inputs
- Outputs
- S1 Dipswitch Bank
- S2 Dipswitch Bank (DXM2.5 only)
- S3 Dipswitch Bank (DXM2.5 only)
- Miscellaneous
- Refrigerant Detection System

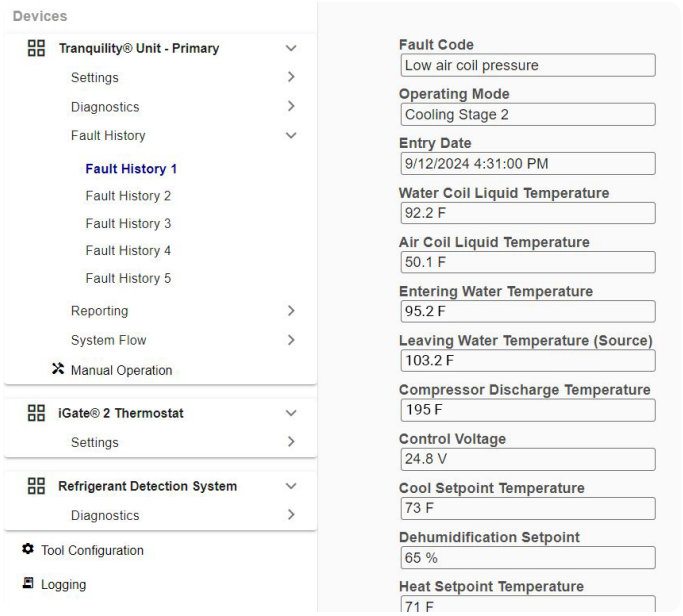
Figure 11: Diagnostics



Fault History

In **Fault History**, you can view the last five faults and the status of each parameter of the water-source heat pump at the time of the fault. If the WST is connected to a device that is in fault, a red banner with the name of the fault displays at the top of the WST Web App.

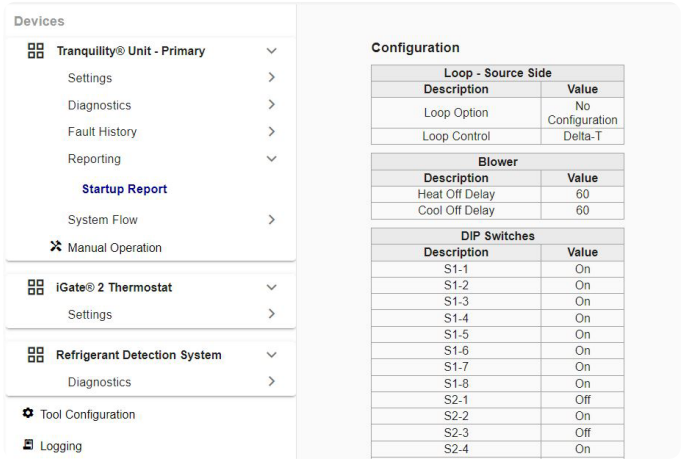
Figure 12: Fault History



Reporting

In **Reporting > Startup Report**, you can view a complete Startup report.

Figure 13: Reporting



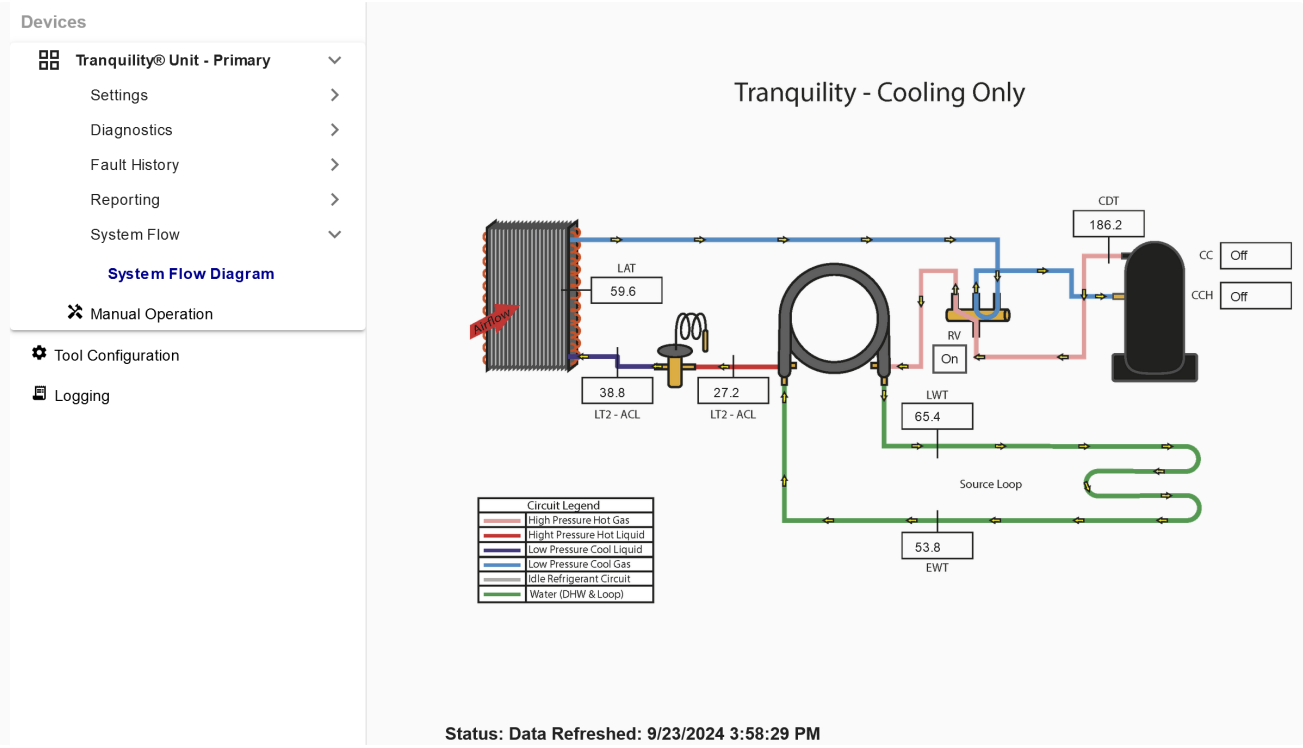
Models:
WST

Use the Wireless Service Tool Web App with a WSHP

System Flow

In **System Flow > System Flow Diagram**, you can view the complete refrigeration system and the real-time readings of all the sensors in the system.

Figure 14: System Flow > System Flow Diagram



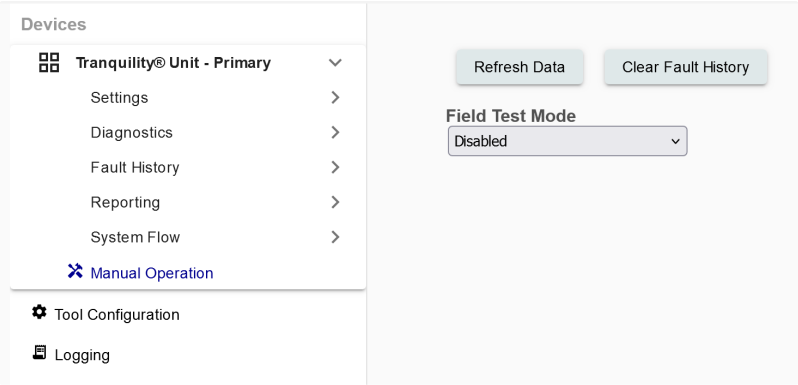
Use the Wireless Service Tool Web App with a WSHP

Models: WST

Manual Operation

In **Manual Operation** you can enter Test Mode, adjust Target Airflow, and manually activate the water-source heat pump inputs.

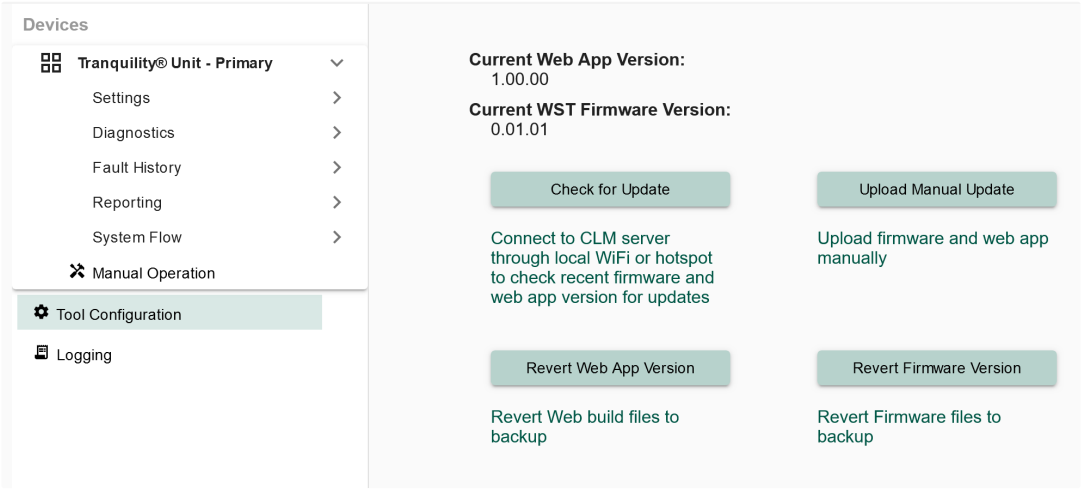
Figure 15: Manual Operation



Tool Configuration

In **Tool Configuration**, you can update the WST firmware and update the version of the WST Web Application.

Figure 16: Tool Configuration



Models:
WST

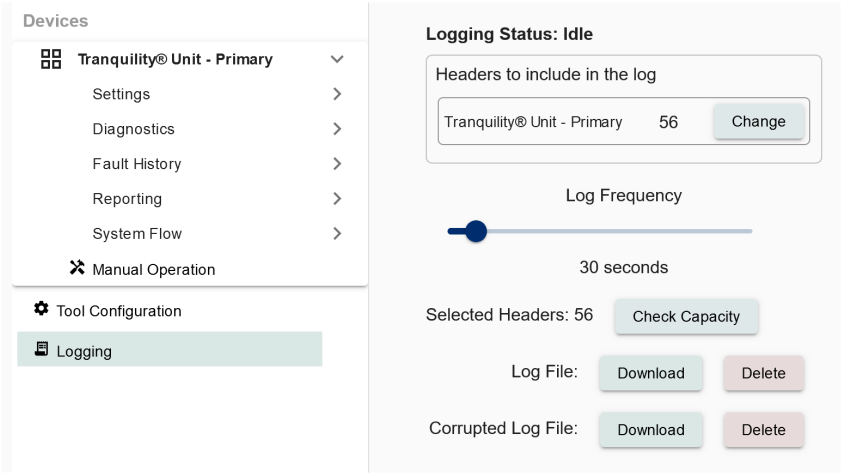
Use the Wireless Service Tool Web App with a WSHP

Logging

In **Logging** you can enable data logging and download the data log when the WST is used as a data-logging device. You can choose data points and the frequency at which the data is logged. Select **Check Capacity** to display the amount of time the WST can log data based on the number of data points and frequency of collection. Larger numbers of data points and shorter log frequency results in a shorter period of logging. Users must check capacity to start logging. While WST is logging data, normal functionality is paused.

You can download and save the log file on the device communicating with the WST. The file is named **history-export.csv** and is saved to the downloads folder on your Wi-Fi enabled device. The WST stores only the latest log file. When a new log is started, the last log file is no longer available on the WST.

Figure 17: Logging



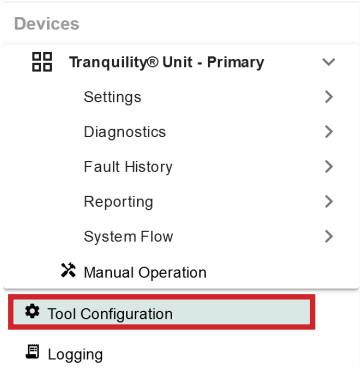
Update the Wireless Service Tool

Models: WST

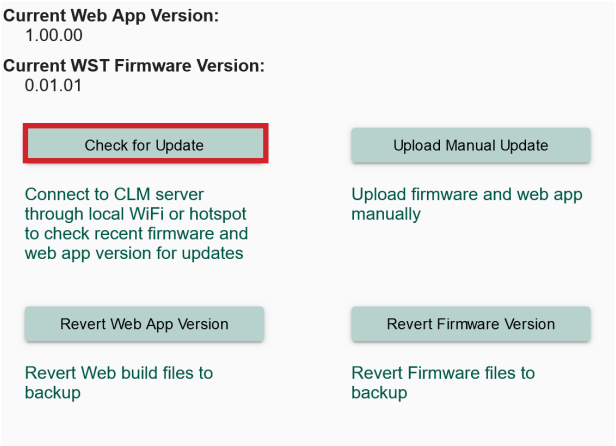
UPDATE THE WST OVER-THE-AIR

Use the following steps to perform an over-the-air (OTA) update on the WST:

1. Connect to the WST using a Wi-Fi enabled device.
2. From the WST Web Application, select **Tool Configuration.**



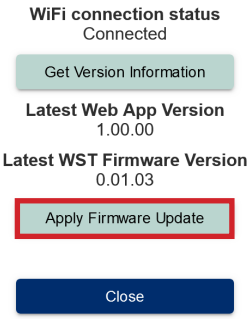
3. Select **Check for Update**. A screen detailing the current versions of the Web App and WST Firmware displays. Note the **Current Web App Version** and **Current WST Firmware Version**.



4. Select **Connect WiFi.**

5. Enter your SSID (the name of your Wi-Fi network) and password then select **Connect.**
6. After successfully connecting to Wi-Fi, reload the page then select **Check for Update.** A screen detailing the current versions of the Web App and WST Firmware displays.
7. Select **Get Version Information**.

8. After the WST retrieves the available version, select **Apply Firmware Update**.



9. After the update is complete, the dialog screen activates (the dialog screen is no longer greyed out). Reload the page after the dialog screen activates.

Models:
WST

Update the Wireless Service Tool

10. When the Web App is reloaded, select **Tool Configuration > Check for Update** to verify that the current firmware version of the WST is updated and matches the **Latest WST Firmware Version**.

Figure 18: Current Version

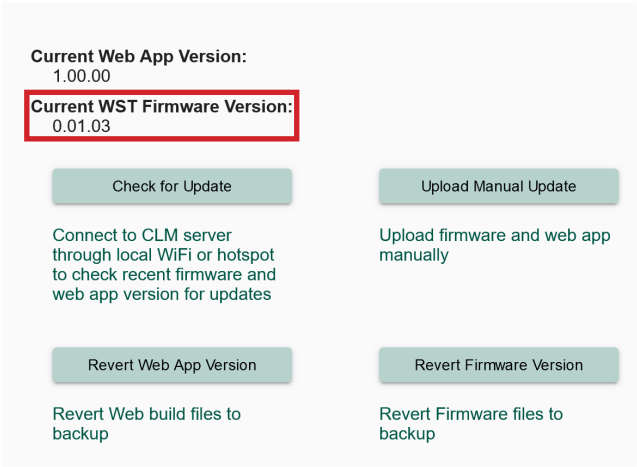


Figure 19: Latest Version

Notes

Models:
WST

Models:
WST

Revision History

Date	Section	Description
01/20/25	All	Created

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