

# Installation Instructions

Part No. 33WIFISTAT43

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## INTRODUCTION

The Wi-Fi thermostat is a thermistor-based wireless thermostat that can sense a 10K Type II OAT or a remote space or return air sensor and can control up to 4 heating and 3 cooling stages.

The Wi-Fi thermostat package includes:

- Thermostat
- Mounting Hardware - two screws with drywall anchors and one security screw
- Quick Start Guide

Some of the features:

- Supporting standard air conditioning and heat pump roof-top and split units
- 7-day scheduling with up to 4 periods per day
- Holiday scheduling
- Full-color touchscreen that's easy to navigate
- Remote programming and monitoring using secure Apple® or Android® mobile app or Web portal
- Text and email service alerts
- Automatic software updates via Wi-Fi

## SPECIFICATIONS

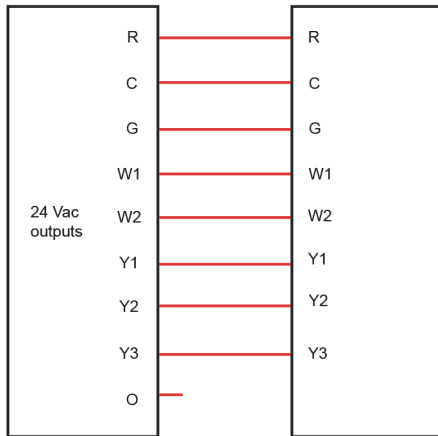
|                               |                                                                                                                                                                  |                   |
|-------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|
| Power requirements            | 24 Vac +/- 10% @ 3VA                                                                                                                                             |                   |
| Network Requirements          | Wi-Fi connectivity supports Wi-Fi: 802.11 a/b/g/n standards on 2.4 GHz networks                                                                                  |                   |
| Environmental Operating Range | 32° to 104°F (0° to 40°C), 10 to 95% relative humidity, non condensing                                                                                           |                   |
| Mounting                      | Standard 4 x 2 in. electrical box using the 6-32 x 1/2 in. mounting screws provided                                                                              |                   |
| Overall Dimensions            | Width:                                                                                                                                                           | 5.13 in. (13 cm)  |
|                               | Height:                                                                                                                                                          | 3.23 in. (8.2 cm) |
|                               | Depth:                                                                                                                                                           | 0.94 in. (2.4 cm) |
| BACnet Support                | Conforms to the BACnet Application Specific Controller (B-ASC) Device Profile as defined in ANSI/ASHRAE Standard 135-2012 (BACnet) Annex L, Protocol Revision 14 |                   |
| Listed By                     | FCC Part 15, Subpart J compliant                                                                                                                                 |                   |

NOTE: This service account must have appropriate privileges to export room lists and room reservations, but no more.

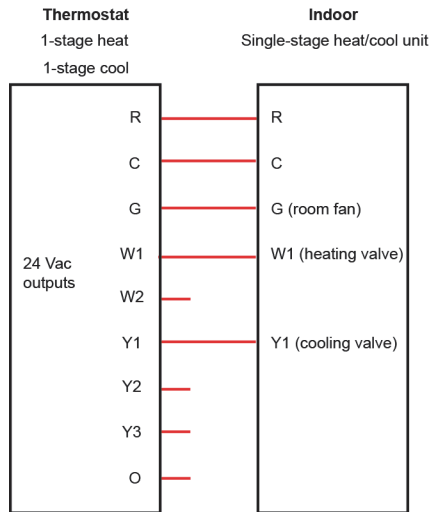
## WIRING THE WIFI THERMOSTAT

### To Wire the Thermostat to Equipment

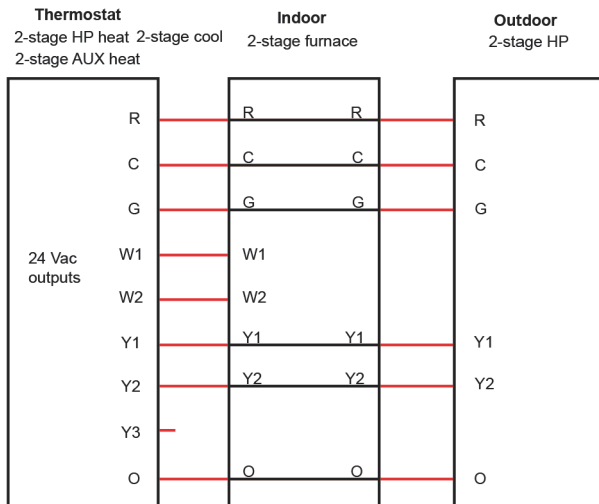
See Fig. 1-7 for wiring details.



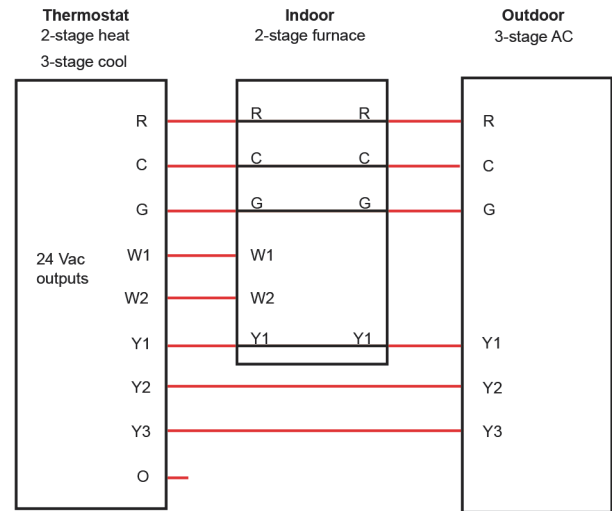
**Fig. 1 — Packaged Rooftop Units**



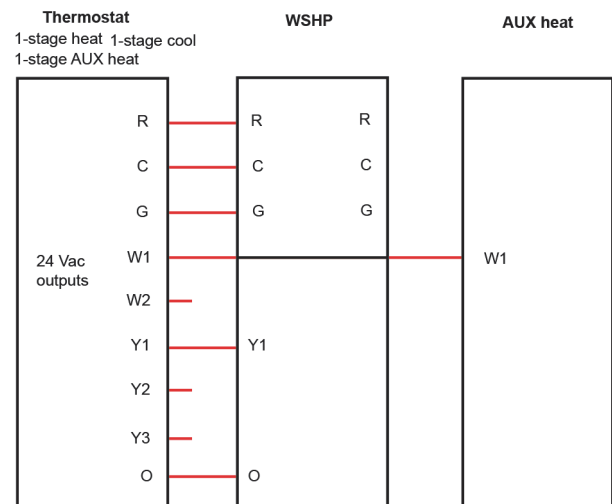
**Fig. 2 — Hydronic Fan Coil**



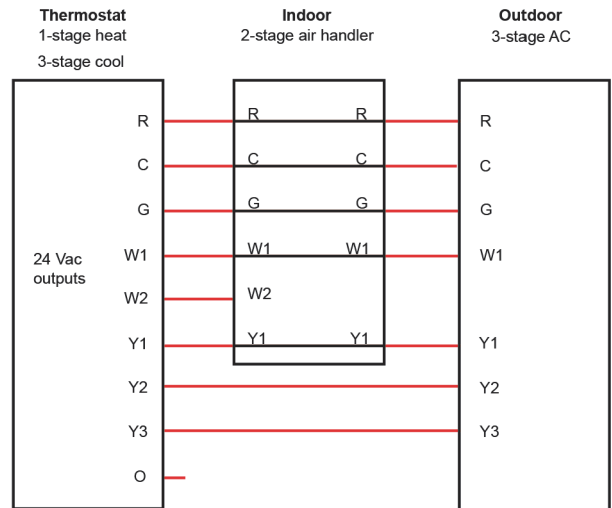
**Fig. 3 — Dual Fuel Systems  
(Furnace and Heat Pumps)**



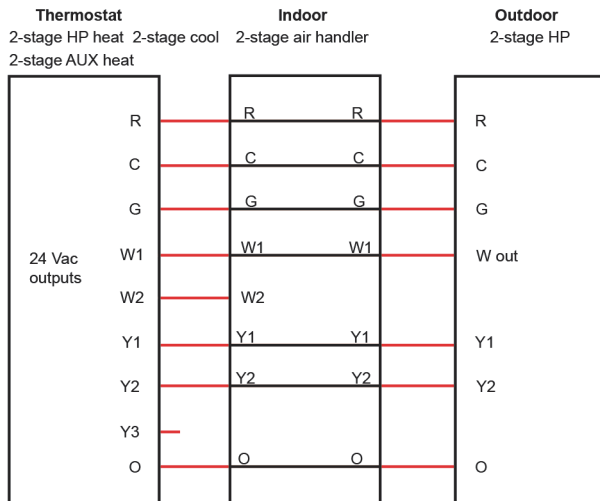
**Fig. 4 — Furnace/AC System**



**Fig. 5 — Water Source Heat Pump**



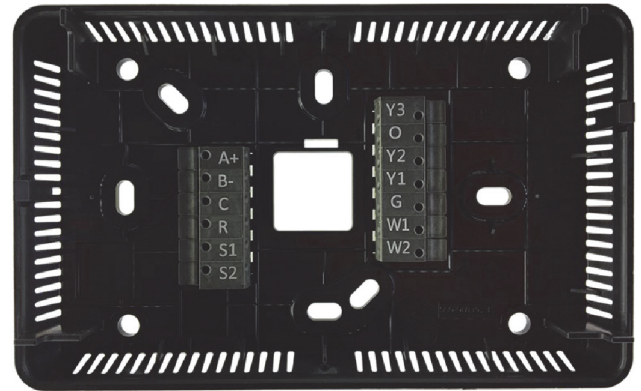
**Fig. 6 — Air Handler or CDX Fan Coil/AC Split System**



**Fig. 7 — Air Handler or DX Coil/Heat Pump Split System**

### To Wire and Mount the Thermostat

1. Turn off 24 Vac power at the equipment circuit breaker or the system switch.
2. Place the thermostat base against your wall to mark drill holes. See Fig. 10 for dimensional information.
3. Drill the anchor holes or use existing holes to mount the wall-plate.
  - Drywall. Drill 3/16 in. hole for the anchor.
  - Plaster. Drill 7/32 in. hole for the anchor.
4. Pull wires through opening in base.
5. Attach the base to the wall with the provided screws.
6. Straighten the wires and match your wire configuration to the terminals on the base, see Fig. 8.



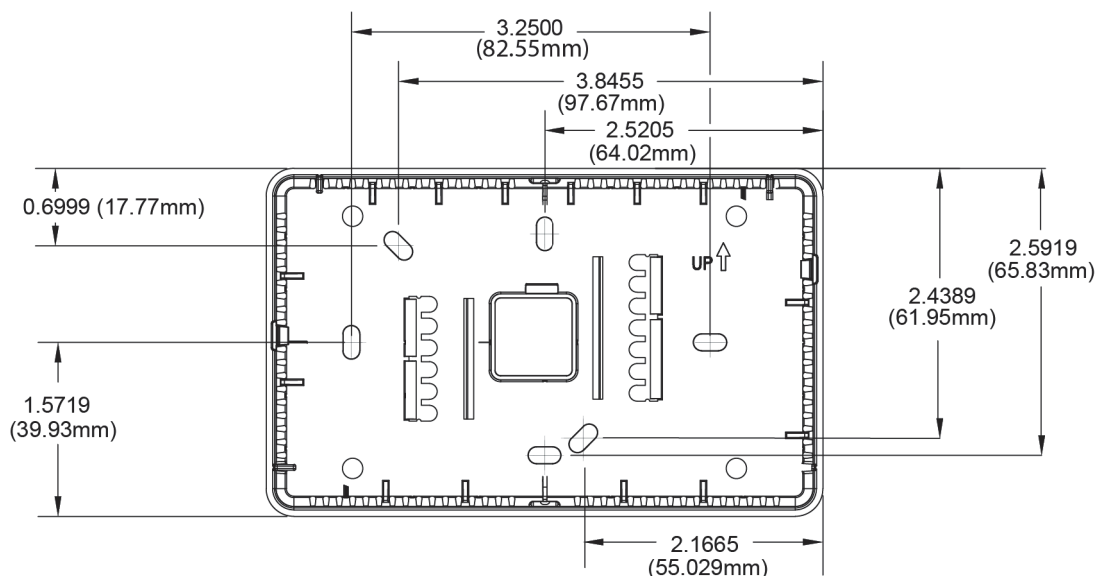
**Fig. 8 — Thermostat Base Terminals**

7. Connect each wire individually by pushing down on the quick connect tab, inserting it into the connector opening, and then releasing the tab.
8. Attach the thermostat face by aligning it with the hinge guide on top of the back.
9. Turn on the 24 Vac power. The thermostat displays the HOME screen, see Fig. 9. See HOME for details.



**Fig. 9 — Home Screen**

10. Configure your system as described in this document.



**Fig. 10 — Thermostat Base Dimensional Information**

## To Wire for BACnet Communication

See Fig. 11 for BACnet wiring terminal locations.

NOTE: Use the specified type of wire and cable for maximum signal integrity.

|                       |                                                                        |
|-----------------------|------------------------------------------------------------------------|
| <b>Cable</b>          | 22 or 24 AWG, low-capacitance, twisted, stranded, shielded copper wire |
| <b>Maximum Length</b> | 2000 feet (610 meters) per segment                                     |
| <b>Baud Rate</b>      | 9600 bps, 19.2 kbps, 38.4 kbps, or 76.8 kbps, 115.2 kbps               |



**Fig. 11 — BACnet Communication Wiring**

Connect communication wiring to terminals A+ and B-. Do not terminate shield at the thermostat.

### CAUTION

Maintain the same polarity.

## REGISTERING AND SETTING UP A MOBILE DEVICE FOR ENHANCED ACCESS

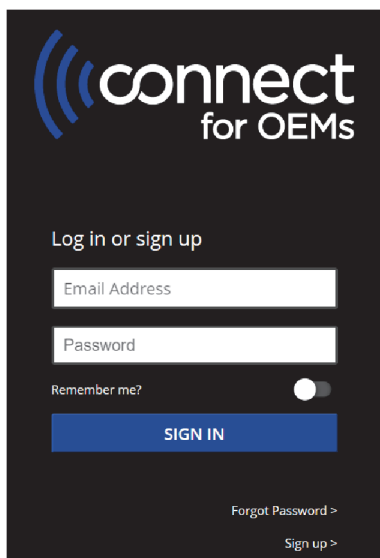
Downloading the WIFiStat App provides enhanced access to your device. The WIFiStat App is available for Apple IOS® at App Store® or at Google Play® for Android devices. Search for **Wi-Fi Thermostat**.

NOTE: Device compatibility: Apple IOS® 7.0 or later or Android 4.2 or later.

- After downloading the WIFiStat App, select **USER SETUP** and **Register New Account**.

NOTE: You can also register new accounts using the website mywifistat.com.

- Enter an email address that you can access on your mobile device and receive the confirmation email to complete the registration process. See Fig. 12.



**Fig. 12 — Login Screen**

- Select **SETUP NEW THERMOSTAT** and follow the WIFiStat App instructions.
- After registering the thermostat, enter servicing contractor's name and phone number on the **SERVICE INFO** screen.
- On the **THERMOSTATS** screen, select the thermostat from list and the mobile app's **HOME** screen appears.

## Using the WIFiStat Website or App

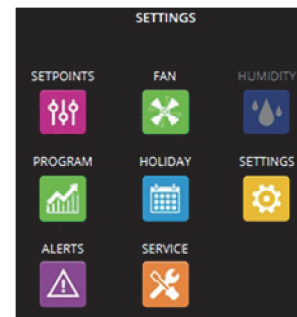
After you register for an account, you can access the thermostat by using the app directly or through the Web at mywifistat.com.

You can:

- Monitor the thermostat operation
- Set up occupied and unoccupied (holiday) schedules
- Adjust setpoints
- Share thermostat access with other users
- Create groups of thermostats that you have registered
- Create groups of thermostats that other owners have shared with you
- Get online product information
- Find local dealer support

### To navigate

- On a touchscreen device, use any of the following:
    - swipe the screen
    - tap the arrow on the side
    - tap a dot on the bottom of the screen on either side of the HOME button
  - On a non-touchscreen device, click on the gray arrow ◀ on either the side of the screen.
  - You can press or click ☰ to access the following drop-down list:
    - My Systems
    - My Account
    - Shared Systems
    - Product Information
    - Find and Expert
    - Logout
- After logging in, a list appears of thermostats that you have registered and that have been shared with you.
  - Click **CONFIGURE**
  - Swipe or click to navigate to the **SETTINGS** screen.



**Fig. 13 — Settings Menu**

### NOTES:

- Navigate by clicking or pressing the buttons such as **SETPOINTS**, **FAN**, **PROGRAM**, etc.
- Grayed out function buttons indicate that feature is not being used on the thermostat.
- See Table 1 for a list of screen functions.

**Table 1 — Screen Functions**

| SCREENS                                                                                                                | USE TO                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>SETPOINTS</b>                                                                                                       | Adjust the occupied and unoccupied setpoints by selecting each temperature.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>FAN</b>                                                                                                             | View and modify fan settings. <ul style="list-style-type: none"> <li>The default setting for fan operation is <b>AUTO</b> for both Occupied and Unoccupied periods. When operating in <b>AUTO MODE</b>, the fan only runs when there is an active heating or cooling demand.</li> <li>When you select <b>ON</b>, the fan runs continuously, except during the <b>Blower On Delay</b> when a heat cycle is starting. There is a 30-second minimum on/off timer when changing the <b>FAN MODE</b>.</li> </ul>                                                                                                                                                                                                                                                                                 |
| NOTE: The following selections are not available if the thermostat has been configured for non-programmable operation. |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>HUMIDITY</b>                                                                                                        | Adjust the thermostat's humidify and dehumidify setpoints.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>PROGRAM</b>                                                                                                         | You can: <ul style="list-style-type: none"> <li>Set Occupied and Unoccupied start times, depending on the configured number of periods and the user's security level.</li> <li>Select the time at the bottom of the screen to adjust the start or stop time of each period in 15 minute increments.</li> <li>Select <b>Copy</b> to apply that schedule to other days of the week.</li> <li>Adjust the setpoints for each period.</li> </ul>                                                                                                                                                                                                                                                                                                                                                 |
| <b>HOLIDAY</b>                                                                                                         | <ul style="list-style-type: none"> <li>Set <b>HOLIDAY</b> (same as unoccupied) periods with the following options:</li> <li>Length of time from 1 to 365 days.</li> <li>Same day of each week of the month.</li> <li>Specific day of specific week(s) of the month.</li> </ul> NOTE: Requires advanced security level to edit these settings <ul style="list-style-type: none"> <li>Select <b>+ADD HOLIDAY</b> to add start month, day, and number of days.</li> <li>Select <b>ADVANCED</b> to configure same day of each week(s) of that month.</li> <li>To delete a holiday on the: <ul style="list-style-type: none"> <li>Mobile app - swipe the selected holiday to the left and select <b>Delete</b>.</li> <li>Web app - select x on right side of the holiday.</li> </ul> </li> </ul> |
| <b>SETTINGS</b>                                                                                                        | Enter the name and location of the thermostat for the user's reference. The user can enter an email address for alerts and a mobile phone number to receive text alert messages.<br>NOTE: Requires advanced security level to edit these settings.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>ALERTS</b>                                                                                                          | Displays a list of alerts that have been flagged in the thermostat.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>SERVICE</b>                                                                                                         | Displays the name and phone number of the service company or individual who is responsible for servicing the system.<br>NOTE: Requires advanced security level to edit these settings.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

## CONFIGURING THE SYSTEM

- On the thermostat, not a mobile device, swipe the **HOME** screen twice to the left to navigate to the **MODE** screen and ensure the **MODE** is **OFF**.

NOTE: The yellow line above a button indicates the current **MODE**.

- Swipe to go to the **FAN** screen and then press and hold the Fan Button for 5 seconds to get to the **SYSTEM SETTINGS** screen.

NOTE: You can **ONLY** access the **SYSTEM SETTINGS** screens from the thermostat itself, not the app or web.

- Enter the 3-digit security PIN code, if applicable, to open the **SYSTEM SETTINGS** screen.
- Use the advanced options on the **SYSTEM SETTINGS** screens to configure and setup your system, change, and view options.

NOTES:

- The yellow **Row Indicator** at the right side of the screen indicates the current location in the list of advanced settings options. Swipe up or down to navigate through options and then tap to select one.
- Swipe on any of the **SYSTEM SETTINGS** sub-screens to return to the **SYSTEM SETTINGS** main screen.

### To Configure Advanced System Settings

You can only adjust the **SYSTEM SETTINGS** screens and parameters on the thermostat itself. You cannot access them on a mobile device. You can select **FACTORY DEFAULTS** to restore all default settings to the original values. See Table 2 for a list of parameters.

**Table 2 — Parameters**

| PARAMETER NAME/DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | DEFAULT AND RANGE                                                                              |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| <b>HEAT EQUIP TYPE</b> — The equipment heating type. If you select <b>GAS HEAT</b> and the <b>COMPRESSOR TYPE</b> for <b>HP</b> , then the defined <b>DUAL FUEL</b> thermostat operation is used for heating.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | D: Gas Heat<br>R: Gas Heat/Electric                                                            |
| <b>HEATING EQUIP STAGES</b> — The number of gas heating stages or E-heating stages in the equipment<br>NOTE: If set to 2, the W2 relay output is not available for optional functions, such as:<br><ul style="list-style-type: none"> <li>- Humidifier</li> <li>- Humid-MiZer™/Perfect Humidity™/Hot Gas Reheat dehumidification</li> <li>- Occupancy Output</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | D: 1<br>R: 1 to 2                                                                              |
| <b>COMPRESSOR TYPE</b> — The type of the unit's compressor(s)<br>NOTE: Select <b>HP</b> for the <b>HEAT EQUIP TYPE</b> to define the auxiliary heat type.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | D: A/C<br>R: None, A/C, HP                                                                     |
| <b>COMPRESSOR STAGES</b> — The numbers of compressors<br>NOTES:<br>If <b>COMPRESSOR TYPE</b> is set to <b>HP</b> , the number of stages also defines the number of HP heating stages.<br>If set to 3, the Y3 relay output is used for the third-stage compressor and the thermostat configuration is limited for the following:<br><ul style="list-style-type: none"> <li>- Humidifier</li> <li>- Humid-MiZer™/Perfect Humidity™/Hot Gas Reheat dehumidification</li> <li>- Occupancy Output</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | D: 2<br>R: None, 1 to 3                                                                        |
| <b>AUTO ALLOWED</b> — Enables and disables the thermostat to automatically switch from heating to cooling to maintain the temperature between the setpoints.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | D: Yes<br>R: Yes/No                                                                            |
| <b>PROG OR NON-PROG</b> — Allows the thermostat to operate as a non-programmable (simplified) thermostat or a programmable thermostat with two or four time periods per day.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | D: Prog<br>R: Prog / Non-Prog                                                                  |
| <b>MAX HOLD TIME</b> — The thermostat setpoints cannot be overridden by the user. When the <b>SCHEDULE PAUSED</b> button is pressed on the <b>SETPOINTS</b> screen ( <b>SCHEDULE IS RUNNING</b> ), and the user changes the setpoint, the <b>MAXIMUM TEMPORARY HOLD TIMER</b> is started with this value and displayed in the clock location.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | D: 2 hours<br>R: Off<br>1 - 6 hours                                                            |
| <b>FAHRENHEIT OR CELSIUS</b> — The temperature scale                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | D: °F<br>R: °F / °C                                                                            |
| <b>SMART RECOVERY</b> — Transitions the conditioned space from one programmable temperature period to the next with 1°F increments of the heating setpoint or with 1°F decrements of the cooling setpoint, so that by the time the next period starts, the setpoints are at the desired temperature. The purpose of the gradual transition is to use less energy by preventing staging up (because of a higher demand) to higher stages. The transitions occur in a linear fashion over the smart recovery time period.<br>If you start a temporary hold in the middle of a smart recovery, the setpoints of the temporary hold are used.<br>If a temporary hold is already active during the time that smart recovery would have been started, a smart recovery does not start.<br>If the temporary hold ends in the middle of what would have been a smart recovery, the smart recovery starts where it would have been in the linear progression at the same time as when the temporary hold was not active.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | D: 30<br>R: No, 30, 60, 90 Min                                                                 |
| <b>FAN ON WITH W</b> — Supplies a fan output demand as soon as a W1 or W2 output demand is active.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | D: Yes<br>R: Yes/No                                                                            |
| <b>REVERSING VALVE</b> — Defines whether the <b>ON</b> state of the reversing valve is used for heating or cooling when <b>COMPRESSOR TYPE</b> is set to <b>HP</b> .<br>When the <b>ON</b> state of the reversing valve is used for cooling, the signal is typically referred to as a <b>O</b> .<br>When the <b>ON</b> state of the reversing valve is used for heating, the signal is typically referred to as a <b>B</b> demand.<br>If <b>COMPRESSOR TYPE</b> is set to <b>HP</b> , the thermostat configuration may be limited for the following:<br><ul style="list-style-type: none"> <li>- Humidifier</li> <li>- Humid-MiZer™/Perfect Humidity™/Hot Gas Reheat dehumidification</li> <li>- Occupancy Output</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | D: Cool<br>R: Cool/Heat                                                                        |
| <b>SPACE TEMP OFFSET</b> — Calibrates the internal space temperature sensor.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | D: 0° F<br>R: -5° to 5° F                                                                      |
| <b>SPACE HUM OFFSET</b> — Calibrates the internal relative humidity sensor.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | D: 0° F<br>R: -9° to 9° F                                                                      |
| <b>AUTO CHANGEOVER</b> — The minimum time between switching from heat-to-cool or from cool-to-heat demands, when in <b>AUTO MODE</b> . The timer begins when the <b>MINIMUM OFF TIMER</b> expires.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | D: 30 Min<br>R: 5, 10, 15, 20, 25, 30 Min                                                      |
| <b>REMOTE SENSOR</b> — Determines whether the remote sensor hardware input is<br><ul style="list-style-type: none"> <li>• <b>NONE</b> — Not used</li> <li>• <b>NONE</b> or <b>SPACE</b> — The outdoor temperature is acquired by Wi-Fi through the server, based on the location of the mobile device used to connect the thermostat to a router, or based on the ISP location, if a computer connects the thermostat to a router.</li> <li>• <b>OUTDOOR</b> — Senses the outdoor temperature<br/>NOTE: The outdoor temperature is not available if the thermostat is not connected to Wi-Fi or if you do not select <b>OUTDOOR</b>.</li> <li>• <b>AVERAGE</b> — Space temperature results from averaging the internal and the external sensor</li> <li>• <b>OCCUPANCY</b> — An external source is accessed to determine if the setpoints are Occupied or Unoccupied. When Normally Open contacts close, the Occupied setpoints are used.<br/>NOTE: When selected, <b>NON-PROG</b> is automatically set and is not displayed in the Installer Settings until this parameter is changed.</li> <li>• <b>FAULT INPUT</b> — An external source is used to detect a fault, as determined by the attached Economizer.</li> <li>• <b>SAT</b> — A sensor to provide a means of monitoring supply air temperature<br/>NOTE: <b>SAT</b> is a monitor-only point and has no effect on unit operation.</li> <li>• <b>FILTER</b> — Used to detect a dirty filter. Contact closure causes <b>FILTER REMINDER</b> message on home screen banner</li> </ul> NOTE: This selection disables the timed air filter reminder functionality. | D: None<br>R: None<br>Space<br>Outdoor<br>Average<br>Occupancy<br>Fault Input<br>SAT<br>Filter |
| <b>SAT TEMP OFFSET</b> — Allows temperature offsets from -5° to 5°.<br>NOTE: Only available when <b>Remote Sensor Input &gt; SAT</b> is enabled.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | D: 0° F<br>R: -5° to 5° F<br>(1° increments)                                                   |
| <b>MAX SETPOINT ERROR</b> — Allows a temperature deviation from setpoint of between 2 and 30°, to determine fault conditions ( <b>ID TEMP RANGE HIGH</b> or <b>LOW</b> ).<br>NOTE: This value is added to the cooling setpoint or subtracted from the heating setpoint.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | D: 10° F<br>R: 2° to 30° F<br>(1° increments)                                                  |

**Table 2 — Parameters (cont)**

| PARAMETER NAME/DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | DEFAULT AND RANGE                                                         |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|
| <b>ID TEMP FLT INHIBIT</b> — Allows a time delay applied to the <b>ID TEMP</b> fault. The range is adjustable from 10 to 240 minutes (60 default).<br><b>NOTE:</b> Allow for recovery time when transitioning from unoccupied to occupied periods.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | D: 60 mins<br>R: 10 to 240 mins<br>(10 min increments)                    |
| <b>COOL LOCKOUT</b> — Delays the cooling equipment demands if the outdoor air temperature is below the selected value. There is a <b>SYSTEM EVENT</b> warning if the mode and space temperature dictate that there should be a cooling demand and the outdoor temperature is preventing this demand.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | D: 55° F<br>R: Off<br>0° to 80° F<br>(5° increments)                      |
| <b>LOW COOL LOCKOUT</b> — (Heat pump operation only) Enables the thermostat to start all cooling stages on a demand for cooling based on the configured value. Normal cooling always starts with first stage compressor (Y1) and stages up to the second (Y2), when the demand is sufficient and staging and cycle timer constraints are satisfied.<br>If the outdoor temperature is equal to or greater than the configured value of 80 to 110°F, all stages of cooling are energized. If set to <b>ON</b> , all stages are energized on a call for cooling. The outdoor temperature must also be greater than the <b>COOL LOCKOUT</b> value. When a cooling cycle starts under a high cool latch, it finishes the cooling cycle on <b>HIGH STAGE</b> . If the cooling equipment is energized to satisfy a dehumidify demand only (no cooling demand), the latch is not applied.                                                                                                                                                                                                                                        | D: Off<br>R: Off<br>80° to 110° F<br>(5° Increments)<br>On                |
| <b>LOW HEAT LOCKOUT</b> — (Heat Pump operation only) Enables the thermostat to start all compressor heating stages on a demand for heating, based on the configured value. When the <b>COMPRESSOR TYPE</b> is set to <b>HP</b> and compressor heat is requested, it always starts with the first compressor stage (Y1) and stages up to second stage (Y1 and Y2) when the demand is sufficient and staging and cycle timer constraints have been satisfied.<br>If the outdoor temperature is equal to or less than the configured value of 20 to 50°F, both the first and second stages of the compressor are energized to satisfy all heat pump heating demands. If set to <b>ON</b> , both compressors are energized on a call for heating. The outdoor temperature must also be greater than the <b>HP LOCKOUT</b> value. When a cycle starts under a high heat latch, it finishes the heating cycle on <b>HIGH STAGE</b> .                                                                                                                                                                                           | D: Off<br>R: 20° to 50° F<br>(5° Increments)<br>On                        |
| <b>TIME BETWEEN FUEL TYPES</b> — The minimum time limit between switching from one fuel type to another (other staging rules may also be in effect). Use only if the <b>COMPRESSOR TYPE</b> is set for <b>HP</b> .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | D: 15 min<br>R: 10, 15, 20, 25 min                                        |
| <b>CYCLE TIMER</b> — The maximum number of heat cycles per hour.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | D: 4<br>R: 2, 4, 6, 8                                                     |
| <b>HUMIDIFIER</b> — The output relay enables a field-installed humidifier. The humidifier is on if there is humidity demand and any heating equipment is on. If set to <b>YES</b> , the thermostat cannot be configured for Humid-MiZer™/Perfect Humidity™/Hot Gas Reheat or Dehumidification. See <b>HUM/DEHUM OUTPUT</b> in this table for output relay details.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | D: No<br>R: Yes/No                                                        |
| <b>DEHUMIDIFIER</b> — Sets the output relay to enable a factory-installed Humid-MiZer™/Perfect Humidity™/Hot Gas Reheat for dehumidification or to use the first stage of cooling.<br><ul style="list-style-type: none"> <li>If HUMIDIMIZER, the output relay energizes the Humid-MiZer™/Perfect Humidity™/Hot Gas Reheat on the unit.</li> <li>If YES, the Y1 relay is energized. A new space temp setpoint is calculated to force cooling operation.</li> </ul> <b>NOTE:</b> For details about this calculation, see HUMIDITY.<br><ul style="list-style-type: none"> <li>If OVRCL(2), it uses the first stage of cooling to satisfy a dehumidification demand, but will not overcool the space by more than 2°F.</li> <li>If dehumidification is configured, the thermostat cannot also be configured for a humidifier. Additional optional functions may be limited, based on the flex outputs available.</li> </ul>                                                                                                                                                                                                  | D: No<br>R: No<br>Yes<br>OVRCL(2)<br>Humidizer                            |
| <b>MAX HEAT SETPOINT</b> — The maximum heating setpoint available on the Heat Setpoint Wheel and the maximum heating setpoint that can be used during the occupied program schedule.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | D: 88° F<br>R: 50° to 88° F                                               |
| <b>MIN COOL SETPOINT</b> — The minimum cooling setpoint that is available on the Cool Setpoint Wheel and the minimum cooling setpoint that can be used during the occupied program schedule.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | D: 52° F<br>R: 52° to 90° F                                               |
| <b>AUX HEAT LOCKOUT</b> — The outdoor temperature value that lockouts the auxiliary heat. If the <b>AUX HEAT LOCKOUT</b> temperature setting is not OFF, and the outdoor air temperature is greater than <b>AUX HEAT LOCKOUT</b> value, then the <b>Aux Heat</b> (W1 and W2) outputs are not energized. Once the output is energized, it remains energized until the demand algorithm no longer requires the capacity of the auxiliary heat, regardless of the value of the outdoor air temperature.<br><b>NOTE:</b> If the <b>MODE</b> is emergency heat ( <b>E-HEAT</b> ), the auxiliary heat is allowed to be energized regardless of the outdoor temperature.                                                                                                                                                                                                                                                                                                                                                                                                                                                        | D: Off<br>R: Off<br>5° to 55° F<br>(5° Increments)                        |
| <b>HP LOCKOUT</b> — If you select <b>OFF</b> , the heating equipment cycle always starts with the heat pump, regardless of the outdoor air temperature.<br><ul style="list-style-type: none"> <li>If you select a lockout temperature and the outdoor air temperature is less than the selected temperature, the heating cycle is started with the <b>AUX HEAT</b> source.</li> <li>If the outdoor air temperature is equal to or greater than the selected temperature, the heating cycle is started with the heat pump.</li> <li>If the outdoor temperature is not available, all heating cycles start with compressor heat. Once the heat pump is energized, it remains energized until the heating demand no longer requires heat pump heating, regardless of the outdoor air temperature.</li> <li>When the heat pump is not energized, but there is sufficient demand to request heat pump heating, the heat pump lockout temperature is checked against the outdoor air temperature, and if the outdoor air temperature is greater than the heat pump lockout temperature, the heat pump is energized.</li> </ul> | D: Off<br>R: Off<br>5° to 55° F<br>(5° Increments)                        |
| <b>STAGE DELAY</b> — The minimum amount of time the current stage must be energized before staging up to the next stage of capacity.<br><b>NOTE:</b> If the system demand is greater than 3°F, then this configuration is ignored for the current heating or cooling cycle because the staging timers are canceled to allow full equipment capacity to meet the large demand.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | D: 10 min<br>R: 2 to 15 min                                               |
| <b>FORCED STAGE UP</b> — The amount of time another stage of heat or cool is enabled if the space temperature conditions are not improving. If the time in a current demanded stage reaches the selected forced stage-up time, the thermostat stages up to the next available stage of capacity, even if <b>DIFFERENTIAL</b> demand is not met.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | D: 30 min<br>R: Off<br>10 to 120 min<br>(10 min increments)               |
| <b>DIFFERENTIAL</b> — The required difference between the current space temperature and the setpoint, before demand is initiated. This value is additive for each new stage of equipment being demanded.<br><b>EXAMPLE:</b> A chosen <b>DIFFERENTIAL</b> value of 0.5°F requires 0.5°F difference between setpoint and space temperature before first stage is turned on. Then, 1°F of difference between setpoint and space temperature is necessary before the second stage is turned on.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | D: 1.0° F<br>R: 0.3° to 2.0° F<br>(0.1° increments)                       |
| <b>AIR FILTER REMINDER</b> — The number of hours before a <b>SYSTEM EVENT</b> reminds the occupant to change the indoor air filter.<br><ul style="list-style-type: none"> <li>If set to <b>OFF</b>, a <b>SYSTEM EVENT</b> will not occur to remind the homeowner to change the indoor air filter.</li> <li>Decrements to the timer happen each hour of total equipment runtime.</li> <li>Minutes are not stored in non-volatile memory, so a power reset clears out the minutes within each hour of run time.</li> <li>Once the number of hours is initially set or later changed, the filter timer must be reset on the <b>SETTINGS</b> screen.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                              | D: 3000 hours<br>R: Off<br>500 hrs to 15,000 hrs<br>(500 hour increments) |

**Table 2 — Parameters (cont)**

| PARAMETER NAME/DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                       | DEFAULT AND RANGE                                                    |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------|
| <b>OCCUPANCY OUTPUT</b> — When set to <b>ON-Y3</b> , <b>ON-O/B</b> , or <b>ON-W2</b> , selected relay output equals current Occupancy state. Can be used for ECON Enable.<br>NOTE: The <b>OCCUPANCY OUTPUT</b> option is not displayed or available if <b>Y3</b> , <b>O</b> , and <b>W2</b> relays are being used; i.e. Humidification/ Heat Pump/ 3-stage cooling/ etc.                                                                                                         | D: Off<br>R: Off<br>On-Y3<br>On-W2<br>On-O/B                         |
| <b>OCCUPANCY INPUT</b> — This setting changes the current heating and cooling setpoints to the option selected for <b>MAX HOLD TIME</b> . This occurs when the short is detected on the Remote Space Sensor for the duration of 2 to 5 seconds.                                                                                                                                                                                                                                  | D: Occupied<br>R: Occupied<br>Unoccupied                             |
| <b>HUM OUTPUT</b> — Select which output to use for humidifier.<br>NOTE: Only unassigned outputs are available.                                                                                                                                                                                                                                                                                                                                                                   | D: Off<br>R: On-Y3<br>On-W2<br>On-O/B                                |
| <b>DEHUM OUTPUT</b> — Select the unassigned output to use for dehumidifier (Humid-MiZer™/Perfect Humidity™/Hot Gas Reheat).<br>NOTE: Only unassigned outputs are available.                                                                                                                                                                                                                                                                                                      | D: Off<br>R: On-Y3<br>On-W2<br>On-O/B                                |
| <b>LINE FREQUENCY</b> — Used to increment operational timers within the thermostat to ensure timing accuracy.                                                                                                                                                                                                                                                                                                                                                                    | D: 60HZ<br>R: 50HZ<br>60HZ                                           |
| <b>DEALER NAME</b> — (Optional) This setting identifies the name of the installing contractor and could be carried forward from the sensor if input through the local display.                                                                                                                                                                                                                                                                                                   | D:<br>R:                                                             |
| <b>DEALER PHONE</b> — (Optional) This setting identifies the phone number of the installing contractor and can be carried forward from the sensor if input through the local display.                                                                                                                                                                                                                                                                                            | D:<br>R:                                                             |
| <b>MSTP MAX MASTERS</b> — Used to identify max number of masters for token passing on the MS/TP network.                                                                                                                                                                                                                                                                                                                                                                         | D: 127<br>R: 1 to 127                                                |
| <b>MSTP BAUD RATE</b> — The protocol's baud rate (communication speed) on the MS/TP network. The baud rate must be the same for all controllers on the network.                                                                                                                                                                                                                                                                                                                  | D: 76,800<br>R: 9,600<br>19,200<br>38,400<br>76,800<br>115,000       |
| <b>MSTP MAC ADDRESS</b> — Unique identifier for this thermostat on the MSTP network                                                                                                                                                                                                                                                                                                                                                                                              | D: 1<br>R: 1 to 127                                                  |
| <b>BACNET UTC OFFSET</b> — Offset applied to UTC time                                                                                                                                                                                                                                                                                                                                                                                                                            | D: 5 hrs / 0 min<br>R: -13 to 13 hrs / 0 min                         |
| <b>DEVICE ID</b> — This is a unique identifier for this thermostat. The default is the BACnet identifier (16) and the last 4 digits of the thermostat serial number.                                                                                                                                                                                                                                                                                                             | D: 16xxxx<br>R: 1 to 4194302                                         |
| <b>DEVICE OBJECT NAME</b> — Assign a unique alpha-numeric string. The default is the BACnet identifier (16) and the last 4 digits of the thermostat serial number. This parameter is limited to a maximum of 16 characters.                                                                                                                                                                                                                                                      | D: 16xxxx<br>R:                                                      |
| <b>DEVICE LOCATION</b> — (Optional) Use to provide details about thermostat location.                                                                                                                                                                                                                                                                                                                                                                                            | D: (Location)<br>R:                                                  |
| <b>DEVICE DESCRIPTION</b> — (Optional) Use to provide additional details about this thermostat.                                                                                                                                                                                                                                                                                                                                                                                  | D: (Description)<br>R:                                               |
| <b>BACNET BMS OCC</b> — Use to enable or disable BACnet occupancy control.<br>NOTE: Occupancy is determined by 1 of 3 methods. You cannot have BACNET BMS OCC with both PROGRAMMABLE MODE and REMOTE SENSOR set to OCCUPANCY. Setting BACNET BMS OCC to YES forces PROG OR NON-PROG to NON-PROG and switches REMOTE SENSOR to NONE if set to OCCUPANCY.                                                                                                                          | D: No<br>R: No<br>Yes                                                |
| <b>BACNET CONFIG WRITE</b> — If <b>YES</b> , allows BACnet to write to <b>GATED_WRITE</b> points. See Appendix BACnet Points List.                                                                                                                                                                                                                                                                                                                                               | D: No<br>R: No<br>Yes                                                |
| <b>NET GP OUT TIMEOUT</b> — Used to timeout Network General Purpose Outputs.<br>NOTES:<br>• Sets the maximum time to lapse between writes to the present_value property of the output object before it returns to INACTIVE.<br>• Accessible only if Y3, W2, or O/B output is available as a GP OUTPUT.                                                                                                                                                                           | D: 2 min<br>R: 2 min<br>20 min<br>1 hr<br>Unlimited                  |
| <b>NET GP Y3 MODE</b> — Controls the Y3 output over the BACnet network.<br>• DISABLED sets the Present_Value of the BACnet object to INACTIVE and READ_ONLY and the corresponding output relay will be in a de-energized state<br>• Selecting ENERGIZE ACTIVE allows BACnet writes and energizes the output relay when the Present_Value is ACTIVE.<br>• Selecting ENERGIZE INACTIVE allows BACnet writes and will energize the output relay when the Present_Value is INACTIVE. | D: Disabled<br>R: Disabled<br>Energized Active<br>Energized Inactive |
| <b>NET GP W2 MODE</b> — Controls the W2 output over the BACnet network.<br>• DISABLED sets the Present_Value of the BACnet object to INACTIVE and READ_ONLY and the corresponding output relay will be in a de-energized state<br>• Selecting ENERGIZE ACTIVE allows BACnet writes and energizes the output relay when the Present_Value is ACTIVE.<br>• Selecting ENERGIZE INACTIVE allows BACnet writes and will energize the output relay when the Present_Value is INACTIVE. | D: Disabled<br>R: Disabled<br>Energized Active<br>Energized Inactive |
| <b>NET GP OB MODE</b> — Controls the Y3 output over the BACnet network.<br>• DISABLED sets the Present_Value of the BACnet object to INACTIVE and READ_ONLY and the corresponding output relay will be in a de-energized state<br>• Selecting ENERGIZE ACTIVE allows BACnet writes and energizes the output relay when the Present_Value is ACTIVE.<br>• Selecting ENERGIZE INACTIVE allows BACnet writes and will energize the output relay when the Present_Value is INACTIVE. | D: Disabled<br>R: Disabled<br>Energized Active<br>Energized Inactive |

**Table 2 — Parameters (cont)**

| PARAMETER NAME/DESCRIPTION                                                                                                                                                                                                                  | DEFAULT AND RANGE |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|
| <b>DISCONNECT WIFI</b> — Disconnects the thermostat from the Wi-Fi network.<br>NOTE: Disconnecting the Wi-Fi requires setting up the WIFiStat Thermostat using the WIFiStat mobile application in order to re-establish Wi-Fi connectivity. | D:<br>R:          |
| <b>INSTALLATION TEST</b> — See Installation Test for detailed instructions.                                                                                                                                                                 | D:<br>R:          |
| <b>RESTORE DEFAULTS</b> — Press and hold the <b>5</b> button for 5 seconds to initiate and restore all system setting defaults. Press the <b>CANCEL</b> button to go back to <b>SYSTEM SETTINGS</b> screen.                                 | D:<br>R:          |

## OPERATING YOUR SYSTEM USING THE WIFISTAT

The thermostat supports the following types of constant volume units:

- Standard heat/cool unit types with up to 3 stages of mechanical cooling, up to 2 stages of gas or electric heating.
- Heat pump units utilizing a reversing valve output for heating and cooling control.
- Heat pump unit with an OEM defrost control board.

### NOTES:

- Humidification or dehumidification control strategies are available for appropriately equipped units.
- The following configurations have interdependencies that may preclude the use of others:
  - Reversing valve
  - Third-stage cooling
  - Humidification
  - Dehumidification
  - Occupancy Output
  - The flex outputs, Y3, O, and W2, may be available for optional functions.

EXAMPLE: In a single stage heating system, the W2 output could be used as the Occupancy output to enable the ECON during occupied periods.

## Occupancy

Configure the thermostat to operate in a programmable or non-programmable mode. Non-programmable operates continuously in occupied mode. Programmable operates as a 7-day programmable thermostat for either 2 or 4 periods per day. You can set each period as occupied or unoccupied.

If you configure **Smart Recovery** for 30 to 90 minutes, the occupied start time increases up to the maximum time, in order to bring the space to the occupied setpoints at actual occupied time.

## Supply Fan

Configure the supply fan for **ON** or **AUTO**, in either occupied or unoccupied mode.

- **ON** – Fan runs continuously regardless of demand
- **AUTO** – Fan cycles heat or cool demand if there is a demand for humidity or dehumidification

## Cooling

The thermostat's application and configuration determine the specific cooling sequence. It can control up to 2 stages of cooling, with an additional output for a reversing valve, or up to 3 stages of cooling for non-heat pump applications.

NOTE: The cooling stages are controlled based on a drift algorithm and the configurable **DIFFERENTIAL** value (0.5°F default).

The following conditions must be true for the cooling to operate:

- The OAT must be above the **COOL LOCKOUT** (55°F default), if enabled

- The cooling stage 5-minute minimum off-timer has expired
- The space temperature has exceeded the cooling setpoint by the **DIFFERENTIAL** value (0.5°F default)

Additional stages are added and dropped, based on demand using the **DIFFERENTIAL** value, **STAGE DELAY** timer, and **FORCED STAGE UP** timer configuration values. If the **LOW COOL LOCKOUT** is configured for **ON**, or between 80 and 110°F, and the OAT is equal to or greater than that value, cool stages 1 and 2 are energized on a demand for cooling and remain on until the cooling demand is satisfied.

NOTE: Once a cooling stage is energized, it remains on for a minimum of 5 minutes, regardless of demand.

## Econ Enable

The thermostat's application and configuration determine the specific cooling sequence. It can control up to 2 stages of cooling, with an additional output for a reversing valve or up to 3 stages of cooling for non-heat pump applications.

NOTE: The cooling stages are controlled based on a drift algorithm and the configurable **DIFFERENTIAL** value (0.5°F default).

The following conditions must be true for the cooling to operate:

- The OAT must be above the **COOL LOCKOUT** (55°F default), if enabled
- The cooling stage 5-minute minimum off-timer has expired
- The space temperature has exceeded the cooling setpoint by the **DIFFERENTIAL** value (0.5°F default)

Additional stages are added and dropped, based on demand using the **DIFFERENTIAL** value, **STAGE DELAY** timer, and **FORCED STAGE UP** timer configuration values. If the **LOW COOL LOCKOUT** is configured for **ON**, or between 80 and 110°F, and the OAT is equal to or greater than that value, cool stages 1 and 2 are energized on a demand for cooling and remain on until the cooling demand is satisfied.

NOTE: Once a cooling stage is energized, it remains on for a minimum of 5 minutes, regardless of demand.

## Heating

The thermostat's application and configuration determine the specific heating sequence. It can control up to 4 stages of heating when configured for heat pump applications, or up to 2 stages of heating for non-heat pump applications. When applied to a commercial heat pump, **HEAT TYPE** must be set to **GAS**. **HEAT TYPE** set to **ELECTRIC** supports a 3-stage heat operation using 2 outputs. See Outputs based on demand and configuration.

NOTE: The heating stages are controlled, based on a drift algorithm and the configurable **DIFFERENTIAL** value (0.5°F default).

The following conditions must true for heating to operate:

- The OAT must be below the **HEAT LOCKOUT** (55°F default), if enabled
- The heating stage 5-minute minimum off-timer has expired

- The space temperature has exceeded the heating setpoint by the **DIFFERENTIAL** value (0.5°F default)

Additional stages are added and dropped, based on demand, using the **DIFFERENTIAL** value, **STAGE DELAY** timer, and **FORCED STAGE UP** timer configuration values. If the **LOW HEAT LOCKOUT** is configured for **ON**, or between 20 and 5°F, and the OAT is equal to or less than that value, heat stages 1 and 2 are energized on a demand for heating and remain on until the heating demand is satisfied.

NOTE: Once a heating stage is energized, it will remain on for a minimum of 5 minutes, regardless of demand.

## Dehumidification

There is occupied and unoccupied dehumidification on units that are equipped with the Humid-MiZer™/Perfect Humidity™/Hot Gas Reheat from the factory, or by energizing the first stage of cooling and over-cooling by 2°F.

The following conditions must be true for dehumidification to operate:

- For the Humid-MiZer™/Perfect Humidity™/Hot Gas Reheat option, **DEHUMIDIFY** must be set to **HUMIDIMIZER**
- For over-cooling, **DEHUMIDIFY** must be set to **OVRCL 2°F**
- For non-Humid-MiZer™/Perfect Humidity™/Hot Gas Reheat units, **DEHUMIDIFY** must be set to **YES** and must not have an active call for heating or cooling
- Setpoint range is 35 to 65%
- Humidity must be 2% greater than the dehumidify setpoint

Dehumidification ends when **DEHUMIDIFY** is set to:

- **HUMIDIMIZER** and humidity drops 3% below the dehumidify setpoint
- **OVRCL2°** and space temperature drops below the cooling setpoint by more than 2°F
- **YES** and space temperature drops below the calculated setpoint or there is a demand for heat or cool.

NOTE: For details about this calculation, see Humidity.

## Humidification

There is occupied and unoccupied dehumidification on units that are equipped with the Humid-MiZer™/Perfect Humidity™/Hot Gas Reheat from the factory, or by energizing the first stage of cooling and over-cooling by 2°F.

The following conditions must be true for dehumidification to operate:

- For the Humid-MiZer™/Perfect Humidity™/Hot Gas Reheat option, **DEHUMIDIFY** must be set to **HUMIDIMIZER**
- For over-cooling, **DEHUMIDIFY** must be set to **OVRCL 2°F**
- For non-Humid-MiZer™/Perfect Humidity™/Hot Gas Reheat units, **DEHUMIDIFY** must be set to **YES** and must not have an active call for heating or cooling
- Setpoint range is 35 to 65%
- Humidity must be 2% greater than the dehumidify setpoint

Dehumidification ends when **DEHUMIDIFY** is set to:

- **HUMIDIMIZER** and humidity drops 3% below the dehumidify setpoint
- **OVRCL2°** and space temperature drops below the cooling setpoint by more than 2°F
- **YES** and space temperature drops below the calculated setpoint or there is a demand for heat or cool.

NOTE: For details about this calculation, see Humidity.

## Filter Status

**FILTER STATUS** is based on a supply fan runtime or Filter Status input. The run time can be configured from 500 to 3000 hours.

A filter status alert  displays when the filter timer exceeds the configured number of hours. Press the icon to see the message.

## Holidays

There is a maximum of 24 holiday periods. You can program each holiday period based on a start and stop month date, or day of the month and week, with duration up to 365 days. The holiday schedule uses the first unoccupied period setpoints for temperature control.

## BACnet Integration

There are two points that act as gateways, allowing or prohibiting BACnet writes to configuration items (**BACNET CONFIG WRITE**) and occupancy control (**BACNET BMS OCC**). These variables are only accessible via the local screen.

See “To Configure Advanced System Settings” on page 5.

A write to the Active Heat or Cool Setpoint (AV:409 or AV:410) places the thermostat into temporary override. This override will remain in effect until the MAX Temperature Hold Time (AV:502) expires. Default is 2 hours. Long-term setpoint adjustment is accomplished by writing to the baseline setpoints (AV:400- AV:403).

## USING THE WIFISTAT SCREENS

The thermostat supports the following types of constant volume units:

- Standard heat/cool unit types with up to 3 stages of mechanical cooling, up to 2 stages of gas or electric heating, and up to 4 stages for heat pumps
- Heat pump units utilizing a reversing valve output for heating and cooling control
- Heat pump unit with an OEM defrost control board

NOTES:

- Humidification or dehumidification control strategies are available for appropriately equipped units.
- The following configurations have interdependencies that may preclude the use of others:
  - Reversing valve
  - Third-stage cooling
  - Humidification
  - Dehumidification
  - Occupancy Output
  - The flex outputs, Y3, O, and W2, may be available for optional functions.

EXAMPLE: In a single stage heating system, the W2 output could be used as the occupancy output to enable the ECON during occupied periods.

## Home

The **HOME** screen is typically what the end user sees.

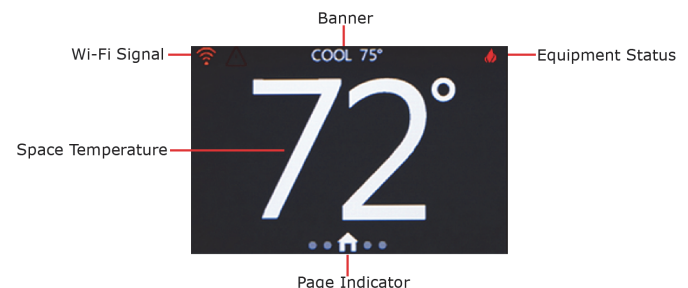


Fig. 14 — Home Screen

## SCREEN FUNCTIONS

### • Banner

- Press the center of the scrolling Banner to switch to the screen indicated by the displayed text. You can swipe the banner to change options, or, every 3 seconds, a different screen name scrolls across the top that you can navigate to.

NOTE: On the thermostat itself, you can select those screens on the **SYSTEM SETTINGS > BANNER** screen.

- **Page Indicator** — You can tap the **HOME**  icon at any time to go to the **HOME** screen. You can either swipe or tap the dots to the left or right to navigate. The dot turns from gray to white to indicate the page you are on.

### • Wi-Fi Signal

-  The more green bars, the stronger the signal
-  Red indicates it is not currently connected to a router
- Pressing the **Wi-Fi Signal** displays a screen with connectivity details

- **Space Temperature** — The center portion of the screen displays the sensed space temperature, in whole numbers only. Fahrenheit is the default scale but you can change to Celsius in **SYSTEM SETTINGS**. See To configure advanced System Settings.

- **Equipment Status** — The icon displays the current **Mode** selected. If the selected **Mode** icon is flashing, the equipment associated with the current Mode is operating.

- If you tap the **Fan mode/operation**  icons, the screen switches to the **FAN** screen.

If you tap the **Heat**  or **Cool**  icons, the screen switches to the **MODE** screen.

## Setpoint

Use this screen to view, adjust, or hold heat and cool setpoints. Use the wheels to adjust setpoints. Drag a wheel up or down or tap the top or bottom of the wheel to increase or decrease by 1 increment.

There are 2 different buttons that can appear in the center of this screen. Press to switch buttons and functions.

- **OCCUPIED/UNOCCUPIED** button
- **PLAY** button allows you to either play (use as is) or alter the program schedule
- Text on top of the button is the current state
- Text beneath the button is what will happen when you press the button

If the schedule is running, the Occupancy button and the text display whether the schedule is currently running **OCCUPIED** or **UNOCCUPIED** setpoints. Press the button to switch heat and/or cool setpoints between occupied and unoccupied settings and then the **Occupancy** button changes to the **PLAY** button.

When the schedule is not running, the text above the Play button says **OCCUPIED** if the heat and cool setpoints are the same as the **OCCUPIED** setpoints or **UNOCCUPIED** if the heat and cool setpoints match the Unoccupied setpoints. If neither is true, **HOLD** displays. When the schedule is paused, the remaining hold time shows in the lower right corner.

## Mode

See Fig. 15 for an example of the Mode screen.

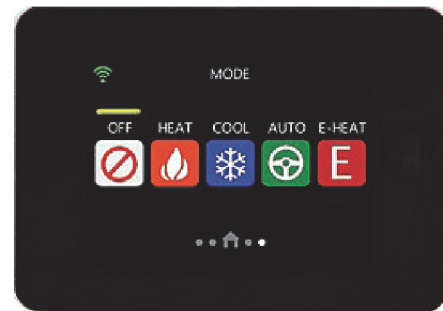


Fig. 15 — Mode Screen

Use this screen to view and change the current **MODE**, including:

- Off
- Heat
- Cool
- Auto
- E-Heat

NOTE: The horizontal yellow bar always appears above the current mode.

The thermostat does not change until the newly selected **MODE** has been on for at least 10 seconds.

EXAMPLE:

When changing the **MODE** from **HEAT** to **COOL**, the thermostat must first satisfy any **Minimum ON** Timer requirements and then restart the **Minimum OFF Timer** that must expire before the equipment IS turned on in the new **MODE**. Going from any **HEAT** or **COOL** to **OFF**, immediately shuts off any active equipment after the 10 second delay.

## Settings

Use this screen to change or view the options in the thermostat. The advanced **SYSTEM SETTINGS** screens are only available from the thermostat. See *To configure advanced SYSTEM SETTINGS*.

Press a button or scroll the vertical yellow **Row Indicator** to see more buttons. When you press a button, the corresponding screen appears so you can view status and make adjustments.

## Humidity

To adjust the thermostat's humidify and dehumidify setpoints:

- Drag the wheel up or down
- Tap the top of the wheel to decrease the setpoint by 1%
- Tap the bottom to increase the setpoint by 1%.

If cooling equipment is not available, **COOL TO DEHUMIDIFY** is not adjustable on the thermostat and the blue Dehum Setpoint wheel is not adjustable.

**HUMIDIFY** — Not adjustable on the thermostat (the orange Hum Setpoint wheel is not adjustable) unless configured to use one of the following outputs:

- O/B
- Y3
- W2

**DEHUMIDIFY = YES** — When humidity is above the dehumidify target, the cooling setpoint is adjusted downward, increasing cooling demand, according to the equations in the following table, when you select **YES** for **DEHUMIDIFY** (not true for **OVERCOOL (2)** or **HUMIDIMIZER** selections).

| COOLING SETPOINT | ALGORITHM                                                                                                                                          |
|------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| < = 70° F        | Use the cooling setpoint only                                                                                                                      |
| 70.1° - 74.9° F  | Cooling setpoint = Cooling Setpoint – (Cooling Setpoint - 70°F) x (Dehumidify Error / 10) with maximum dehumidify Error of 6% (i.e. use 6% if >6%) |
| > = 75°          | Cooling setpoint = Cooling Setpoint – (Dehumidify Error / 2) with maximum dehumidify Error of 6%                                                   |

When cooling to dehumidify, the minimum ON timer increases to 5 minutes and the second stage (or greater) is not started unless there is also a cooling demand.

**OVERCOOL 2°** commands the system to operate the compressor, within limits, when there is a dehumidification demand, even if there is no cooling demand. The system may overcool up to 2°F and no more, when satisfying a dehumidification demand.

### Humid-MiZer™/Perfect Humidity™/Hot Gas Reheat

When configured as a **HUMIDIMIZER** output, and the humidity level is above the dehumidify target, 24V is output at the selected terminal. When the humidity level is below the dehumidify target, 0 Vac is output on the selected terminal. There is a +1/-4% hysteresis around the dehumidify target to prevent rapid on/off cycling of the selected output.

This output may be connected to compressor outputs on commercial equipment. If the selected output is energized without any compressors being energized, the 5-minute time guard must be enforced.

Use the following table to determine values for the terminal outputs to the equipment, when specific demands are present.

#### NOTES:

- The value of X denotes that the setting may be **Off** or **On**, depending on the state of the **FAN ON WITH W** set on advanced **SYSTEM SETTINGS** screen.
- \*Represents Y3, W2, or O/B, based on the item available and selected in **HUM/DEHUM OUTPUT** configuration. See “To Configure Advanced System Settings” on page 5.

|                             | Y1  | Y2  | W1  | W2  | G  | *   |
|-----------------------------|-----|-----|-----|-----|----|-----|
| <b>Fan</b>                  | Off | Off | Off | Off | On | Off |
| <b>Cool (1)</b>             | On  | Off | Off | Off | On | Off |
| <b>Cool (2)</b>             | On  | On  | Off | Off | On | Off |
| <b>Dehum / (Humid)</b>      | Off | Off | Off | Off | On | On  |
| <b>Cool (1) &amp; Dehum</b> | On  | Off | Off | Off | On | On  |
| <b>Cool (2) &amp; Dehum</b> | On  | On  | Off | Off | On | On  |
| <b>Heat (1)</b>             | Off | Off | On  | Off | X  | Off |
| <b>Heat (2)</b>             | Off | Off | On  | On  | X  | Off |
| <b>Heat (1) &amp; Humid</b> | Off | Off | On  | Off | X  | On  |
| <b>Heat (2) &amp; Humid</b> | Off | Off | On  | On  | X  | On  |

### Fan

Use this screen to adjust fan operation. The default setting for fan operation is **AUTO** for both **OCCUPIED** and **UNOCCUPIED** periods. When operating in **AUTO MODE**, the fan only runs when there is an active heating or cooling demand. When you select **ON**, the fan runs continuously, except during the **BLOWER ON DELAY** when a heat cycle is starting. There will be a 30-second minimum on/off timer when changing the **FAN MODE**.

These selections are not available if the thermostat has been configured for non-programmable operation.

### ⚠ CAUTION

The **AUTO** selection is a violation of the ASHRAE 90.1 and California Title 24, but is a feature of the thermostat for building owners that mandate auto fan operation during occupied periods for energy conservation purposes.

### Program

The top center of the screen displays the program schedule day of the week. Swipe up or down to move from one day to the next on the program schedule. The vertical yellow Row Indicator moves up and down at the same time.

- The horizontal blue lines show the cool setpoints above, for each of the 4 programmable periods of the day (up to 3 occupied periods and 1 unoccupied period, if configured).
- The horizontal red lines show the heat setpoints below, for each of the 4 programmable periods of the day.
- Occupied and Unoccupied appear at the top of each period.
- The vertical dashed lines separate the program time changes throughout the day.
- The times at the bottom of the dashed lines show the schedule. Click on time to edit transition time.
- The vertical yellow dashed line displays the current time of day.
- The yellow lines show up only when viewing the current day of the week.

### Holiday

- This screen displays the current year's holiday schedule. On a holiday, the setpoints for the first **UNOCCUPIED** time range are used for the entire day. Scroll the vertical yellow **Row Indicator** to see more holidays. Click on the holiday to make edits.

### Banner

Press the center of the scrolling Banner to switch to the screen indicated by the text. You can swipe the banner to change options, or, every 3 seconds a different screen name scrolls across the top that you can navigate to.

On the thermostat itself, you can select which screens you want on the Banner by pressing the buttons to check the ones you want and then uncheck the ones you do not want.

The default screens are:

- Date & Time
- Fan Status
- Outdoor Temp
- Cool Setpoint
- Humidity
- Heat Setpoint

### Date and Time

On this screen, scroll or tap the Orange Hour wheel or Blue Minute wheel to adjust the date and time on the thermostat.

Switch to the **Date Adjust** screen and the **Time Adjust** screen using the green icon button at the right side of the screen. Scroll or tap the Orange Month wheel or Blue Day wheel.

Drag a wheel up or down or tap the top or bottom of the wheel to increase or decrease by 1 increment.

When the thermostat is first registered and connected to a Wi-Fi router, both the date and time are synced with the server (based on the location of the phone/tablet used to connect the thermostat to a router or based on the ISP location if a computer is used to connect the thermostat to a router). The time and date are synced at the top of each hour automatically, unless the **Sync Time To Server** option in the **SETTINGS > ADVANCED** screen is set to **NO**.

## Software Screen and Backlight Screen

**SOFTWARE** — Displays the current software's status.

**BACKLIGHT** — Use to change the backlight intensity in Active and Dormant modes.

- The blue Active Backlight wheel adjusts the backlight intensity from 10 to 100%, (75% is the default and recommended) when the thermostat is in an active state (being accessed or viewed by the end user).
- The purple Dormant Backlight wheel adjusts backlight intensity from 0 to 25%, (25% is the default and

recommended) when the thermostat is in a dormant state (not being viewed or adjusted by the end user).

Drag a wheel up or down or tap the top or bottom of the wheel to increase or decrease by 1 increment.

### Filter

Use this screen to access and change more advanced settings. See Table 3 for Parameter Names and Ranges.

**Table 3 — Filter Screen Advanced Settings**

| PARAMETER NAME/DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                 | DEFAULT AND RANGE                             |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|
| <b>SYNC TIME TO SERVER</b> — Sync time and date with cloud server based on thermostat location, which is determined by your mobile app or ISP during setup                                                                                                                                                                                                                                                 | D: Yes<br>R: No / Yes                         |
| <b>SCREEN TIMEOUT</b> — The maximum amount of time the <b>BACKLIGHT</b> stays active when no activity is sensed at the thermostat                                                                                                                                                                                                                                                                          | D: 15 sec<br>R: 5 to 30 sec (5 sec intervals) |
| <b>PROXIMITY</b> — Enable or disable proximity sensing that changes the screen backlighting from Dormant to Active when a person is sensed in front of the thermostat                                                                                                                                                                                                                                      | D: Yes<br>R: No / Yes                         |
| <b>PROX SENSITIVITY</b> — Change the proximity sensing feature from HIGH to MEDIUM to LOW. Increasing the sensitivity increases the range the sensor can detect presence, but also increases the possibility of a false presence.                                                                                                                                                                          | D: Medium<br>R: High / Medium / Low           |
| <b># PROGRAM DAY PARTS</b> — Number of periods per day for programming occupancy                                                                                                                                                                                                                                                                                                                           | D: 2<br>R: 2 or 4                             |
| <b>DST</b> — Enable or disable automatic Daylight Saving Time change in the thermostat                                                                                                                                                                                                                                                                                                                     | D: Enabled<br>R: Disabled / Enabled           |
| <b>WIRELESS</b> — Enable or disable Wi-Fi for the thermostat. If disabled, then the Wi-Fi radio in this product is turned off and functions, such as the following, are not available: <ul style="list-style-type: none"> <li>• Sync Time To Server</li> <li>• Outdoor Temperature via Wi-Fi Geo location</li> <li>• Server &amp; Wi-Fi Errors</li> <li>• Remote Access Services via app or Web</li> </ul> | D: Enabled<br>R: Disabled / Enabled           |
| NOTE: If you disable this function after the thermostat has been set up and connected to the local Wi-Fi network, you must set it up again using the mobile App.                                                                                                                                                                                                                                           |                                               |
| <b>SOUND</b> — Adjust the sound made when touching the thermostat                                                                                                                                                                                                                                                                                                                                          | D: Click<br>R: Off, Click, or Beep            |

## Lockout

Locks out unauthorized changes made on the touchscreen. All touch interaction is locked out without the unlock code. After 5 failed attempts, a notification (fault) is sent to the registered owner of the thermostat through Wi-Fi. More unlock attempts are blocked for 15 minutes.

To set up a new PIN or change the current PIN, select the **ENABLE** button or the **CHANGE PIN** button, which displays on the **SET PIN** screen. If the thermostat does not already have a PIN, the **CHANGE PIN** button cannot be used.

- On the **SET PIN** screen, use the 3 blue-digit **PIN** wheels to set the PIN. Set the 3-digit **PIN** and press the orange **Save** button to save the PIN and return to the **LOCKOUT** screen. Press the **DISABLE** button to cancel the **LOCKOUT** function and reset the **PIN** to **000**. The default is **000** and the range is **1** to **999**.

## Clean

Stops touchscreen interaction for 10 seconds to allow cleaning the screen with a dry nonabrasive cloth. A 10-second countdown shows on the **CLEAN** screen and then resumes normal operation.

## Log

You can use this screen to view software update history, fault history, and system events. Swipe up or down on the vertical yellow Row Indicator to scroll through logged events.

The log includes:

- Startup
- Software Update Events
- Power Cycle Events
- Parameter Out-Of-Range Events
- Server Connectivity Events
- Non-volatile Memory Faults
- Temperature Faults

The list displays the 5 most recent logged events, with the most recent at the top. The last line in the list includes the **RESET LOG** command to clear the list. Pressing an event item displays a screen with more information. Press the **BACK** button to return to the **LOG** screen.

## Status

Displays the current status of

- Thermostat Outputs
- Timers
- Stages
- Lockouts

Current timer status is displayed and can be cleared for testing and troubleshooting by pressing and holding the **TIMERS** text for 5 seconds. Press and hold **LOCKOUT TIMERS** for 5 seconds to clear timer values for **COOL**, **E-HEAT**, and **HP HEAT**.

- Scroll the vertical yellow **Row Indicator** to see more options.

## Service

- Displays the dealer/installer service contact information. This information is editable using the mobile app, LAN mode transfer, and Wi-Fi transfer.

## INSTALLATION TEST

Complete the following to field test the WIFiStat Thermostat's outputs.

1. Press the **CHANGE** button to cycle the **MODE** screen through the following settings:
  - **HEATING** (default) — not available in a cooling-only configuration
  - **EM HEAT** — not available unless a heat pump is configured
  - **COOLING** — not available in a heating-only configuration
  - **FAN**
2. Press the **START** button.
  - a. The first stage of **HEATING**, **EM HEAT**, **COOLING**, or **FAN** starts running and the text reads **1ST STAGE: 180** or **FAN ON** and 180 seconds starts counting down.
  - b. The **START** button is replaced with a **STOP** button and the **CHANGE** button disappears.
  - c. Once the countdown reaches 0, if another stage exists, it starts and the text changes to **2ND STAGE: 180**.
  - d. If no other stage exists, the cycle ends, the text disappears, and the **START** button reappears.
  - e. If a third stage exists, it starts running after the second stage countdown reaches 0.
  - f. While the **HEATING** and **EM HEAT MODES** are running, if a humidifier has been configured, a **HUM** button appears below the **STOP** button. If you press the **HUM** button, the text **HUMIDIFYING** appears and turns on the humidifier.
  - g. While the **COOLING MODE** is running, if a dehumidifier has been configured, a **DEHUM** button appears below the **STOP** button and, if pressed, the text **DEHUMIDIFYING** appears and the dehumidifier turns on.
  - h. Pressing the **STOP** button turns off running equipment, the **STOP** button is replaced with the **START** button, the **CHANGE** button reappears, and the second (stage running and countdown time) and third lines (humidifying or dehumidifying), are erased.
  - i. When you press the **CANCEL** button, any equipment that is running is turned off and the **SYSTEM SETTINGS** screen displays.
  - j. When you press the **HOME** icon, any equipment that is running is turned off and the **HOME** screen displays.

After 15 minutes of inactivity (no button presses), the installer test stops and the **HOME** screen displays.

## TROUBLESHOOTING

If the display does not turn on:

1. Check terminals R and C on the thermostat base.
2. Verify power is 24 Vac +/-10%.
3. Verify that the green LED on the base is flashing at 1 Hz.

NOTE: If the green LED is not flashing and you do have 24 Vac on terminals R and C, you need to replace the thermostat.

See Table 4 for Outputs Based on Demand and Configurations.

**Table 4 — Outputs Based on Demand and Configuration**

| <b>Demands Stages</b>  | <b>Y1</b> | <b>Y2</b> | <b>W1</b> | <b>W2</b> | <b>G</b> | <b>Y3</b> | <b>*Rev Val=0</b> | <b>*Rev Val=B</b> |
|------------------------|-----------|-----------|-----------|-----------|----------|-----------|-------------------|-------------------|
| Fan Only               | Off       | Off       | Off       | Off       | On       | Off       | X                 | X                 |
| Cool 1 (A/C)           | On        | Off       | Off       | Off       | On       | Off       | X                 | X                 |
| Cool 2 (A/C)           | On        | On        | Off       | Off       | On       | On        | X                 | X                 |
| Cool 3 (A/C)           | On        | On        | Off       | Off       | On       | X         | X                 | X                 |
| Cool 1 (Heat Pump)     | On        | Off       | Off       | Off       | On       | X         | On                | Off               |
| Cool 2 (Heat Pump)     | On        | On        | Off       | Off       | On       | X         | On                | Off               |
| Dehumidify             | On        | Off       | Off       | Off       | On       | X         | X                 | X                 |
| Cool 1 and Dehumidify  | On        | Off       | Off       | Off       | On       | X         | X                 | X                 |
| Cool 2 and Dehumidify  | On        | On        | Off       | Off       | On       | X         | X                 | X                 |
| Heat 1 (A/C)           | Off       | Off       | On        | Off       | On       | X         | X                 | X                 |
| Heat 2 (A/C)           | Off       | Off       | On        | On        | On       | X         | X                 | X                 |
| Heat 1 (Heat Pump)     | On        | Off       | Off       | Off       | On       | X         | Off               | On                |
| Heat 2 (Heat Pump)     | On        | On        | Off       | Off       | On       | X         | Off               | On                |
| Heat 3 (HP w/Emerg Ht) | On        | On        | On        | On        | On       | X         | Off               | On                |
| Heat 4 (HP w/Emerg Ht) | On        | On        | On        | On        | On       | X         | Off               | On                |
| Heat 1 and Dehumidify  | Off       | Off       | On        | Off       | On       | X         | X                 | X                 |
| Heat 2 and Dehumidify  | Off       | Off       | On        | On        | On       | X         | X                 | X                 |
| Heat Low               | Off       | Off       | On        | Off       | On       | X         | X                 | X                 |
| Heat Med               | Off       | Off       | Off       | On        | On       | X         | X                 | X                 |
| Heat High              | Off       | Off       | On        | On        | On       | X         | X                 | X                 |

NOTE: Use this table along with the HUM/DEHUM table, if either of those functions are enabled. See HUMIDITY.

## Fault Definitions

Table 5 shows a list of Fault messages which are displayed and logged in the banner during the fault condition and then sent to the Cloud server.

**Table 5 — Fault Definitions**

| <b>FAULTS</b>                  | <b>CONDITION</b>                                                                                                                                                                                                                            |
|--------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>ID TEMP SENSOR HIGH</b>     | Temperature reading > 122°F<br>When this fault occurs, the thermostat uses the temperature reading from the temperature/humidity sensor as the space temperature.                                                                           |
| <b>ID TEMP SENSOR LOW</b>      | <ul style="list-style-type: none"> <li>Temperature reading = 0</li> <li>Reading not available</li> </ul> When this fault occurs, the thermostat uses the temperature reading from the temperature/humidity sensor as the space temperature. |
| <b>REMOTE SENSOR HIGH</b>      | Remote temperature > 122°F<br>NOTE: Displayed only if <b>REMOTE SENSOR</b> is set to <b>INDOOR</b> or <b>AVERAGE</b> .                                                                                                                      |
| <b>REMOTE SENSOR LOW</b>       | Remote temperature = 0<br>NOTE: Displayed only if <b>REMOTE SENSOR</b> is set to <b>INDOOR</b> or <b>AVERAGE</b> .                                                                                                                          |
| <b>HUM TEMP SENSOR HIGH</b>    | Humidity sensor temperature > 122°F<br>NOTE: Displayed only if using humidity temperature as a backup source during a fault condition with the primary temperature sensor.                                                                  |
| <b>HUM TEMP SENSOR LOW</b>     | Humidity sensor temperature = 0<br>NOTE: Displayed only if using humidity temperature as a backup source during a fault condition with the primary temperature sensor.                                                                      |
| <b>ID TEMP RANGE HIGH</b>      | Indoor Temp above cooling setpoint plus <b>MAX SETPOINT ERROR</b>                                                                                                                                                                           |
| <b>ID TEMP RANGE LOW</b>       | Indoor Temp below heat setpoint minus <b>MAX SETPOINT ERROR</b>                                                                                                                                                                             |
| <b>HUM SENSOR FAILURE</b>      | Any of the following: <ul style="list-style-type: none"> <li>Humidity sensor timed out</li> <li>Humidity reading is &gt; 99%</li> <li>Humidity reading is 0</li> </ul>                                                                      |
| <b>HUMIDITY RANGE HIGH</b>     | Humidity reading is > 90%                                                                                                                                                                                                                   |
| <b>HUMIDITY RANGE LOW</b>      | Humidity reading is < 10%                                                                                                                                                                                                                   |
| <b>OUTDOOR SENSOR FAILURE</b>  | OD temp > 127 or < -60                                                                                                                                                                                                                      |
| <b>NOT CONNECTED TO SERVER</b> | Not connected to Ayla server                                                                                                                                                                                                                |
| <b>NOT CONNECTED TO ROUTER</b> | Router signal strength is 0 = no bars = not connected                                                                                                                                                                                       |
| <b>WI-FI HARDWARE FAULT</b>    | Communications error occurred with Wi-Fi module (resets after valid message received)                                                                                                                                                       |
| <b>ECONOMIZER FAULT</b>        | Contact closure on remote sensor input, as determined by Economizer                                                                                                                                                                         |
| <b>LOCKOUT</b>                 | User has entered incorrect pin 5 consecutive times                                                                                                                                                                                          |

## Recovering from a Power Outage

The WIFiStat Thermostat stores the following critical information in a non-volatile flash memory:

- Installer settings
- Owner settings
- Program schedule
- Software information
- Dealer information
- Fault and system event information
- Date and time

The WIFiStat Thermostat uses a capacitor to maintain date and time for approximately 2 hours, in order to maintain data during short power interruptions. If the power outage is longer than 2 hours, the date and time will automatically be updated once network connection is re-established.

## Resetting Wi-Fi Access

To assign a new Wi-Fi access point or transfer the WIFiStat Thermostat to a new account, follow these steps.

On the thermostat, not a mobile device, swipe the **HOME** screen twice to the left to navigate to the **MODE** screen and ensure the **MODE** is **OFF**.

NOTE: The yellow line above a button indicates the current **MODE**.

Swipe to go to the **FAN** screen and then press and hold the Fan button for 5 seconds to get to the **SYSTEM SETTINGS** screen.

NOTE: You can **ONLY** access the **SYSTEM SETTINGS** screens from the thermostat itself, not the app or web.

Enter the 3-digit security PIN code, if applicable, to open the **SYSTEM SETTINGS** screen.

1. Scroll down to **DISCONNECT WIFI**.

### ⚠ CAUTION

Disconnecting the Wi-Fi requires setting up the WIFiStat Thermostat using the WIFiStat mobile application.

2. Select **YES**.
3. Use the mobile app on your phone or tablet to connect the thermostat to the desired Wi-Fi Access point. See the section of this guide titled “Registering and setting up a mobile

device for enhanced access” on page 4. Follow the instructions within the app.

## COMPLIANCE

### FCC Compliance

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation.

### ⚠ CAUTION

Any changes or modifications not expressly approved by manufacturer could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a residential installation. This equipment generates, uses, and can radiate radio frequency energy, and if it is not installed and used in accordance with this document, it may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

### BACnet Compliance

Compliance of listed products to requirements of ASHRAE Standard 135 is the responsibility of BACnet International. BTL® is a registered trademark of BACnet International.

## APPENDIX A: BACNET POINTS LIST

| POINT NAME                     | POINT ACCESS   | UNITS                     | BACNET POINT NAME | BACNET OBJECT ID |
|--------------------------------|----------------|---------------------------|-------------------|------------------|
| Indoor Space Temperature       | WRITE WHEN_OOS | DEGREES_FAHRENHEIT        | ID_SPACE_TEMP     | AI:100           |
| Indoor Space Humidity          | WRITE WHEN_OOS | PERCENT_RELATIVE_HUMIDITY | ID_SPACE_HUM      | AI:101           |
| Remote Space Temperature       | READ_ONLY      | DEGREES_FAHRENHEIT        | REM_SPACE_TEMP    | AV:100           |
| Outdoor Temperature            | READ_ONLY      | DEGREES_FAHRENHEIT        | OD_TEMP           | AV:101           |
| Supply Air Temperature         | READ_ONLY      | DEGREES_FAHRENHEIT        | SAT               | AV:102           |
| Network Space Temperature      | READ_WRITE     | DEGREES_FAHRENHEIT        | NET_SP_TEMP       | AV:103           |
| Space Temperature for Control  | READ_ONLY      | DEGREES_FAHRENHEIT        | SP_TEMP_CTRL      | AV:104           |
| Network Space Humidity         | READ_WRITE     | PERCENT_RELATIVE_HUMIDITY | NET_SP_HUM        | AV:105           |
| Space Humidity for Control     | READ_ONLY      | PERCENT_RELATIVE_HUMIDITY | SP_HUM_CTRL       | AV:106           |
| Air Filter Hours Left          | READ_ONLY      | HOURS                     | AIR_FLTR_HRS_LFT  | AV:300           |
| Override Time Remaining        | READ_ONLY      | SECONDS                   | OVRD_TIME         | AV:301           |
| Occupied Heat Setpoint         | READ_WRITE     | DEGREES_FAHRENHEIT        | OCC_HT_SP         | AV:400           |
| Occupied Cool Setpoint         | READ_WRITE     | DEGREES_FAHRENHEIT        | OCC_CL_SP         | AV:401           |
| Unoccupied Heat Setpoint       | READ_WRITE     | DEGREES_FAHRENHEIT        | UNOCC_HT_SP       | AV:402           |
| Unoccupied Cool Setpoint       | READ_WRITE     | DEGREES_FAHRENHEIT        | UNOCC_CL_SP       | AV:403           |
| Dehumidification Setpoint      | READ_WRITE     | PERCENT_RELATIVE_HUMIDITY | DEHUM_SP          | AV:406           |
| Humidification Setpoint        | READ_WRITE     | PERCENT_RELATIVE_HUMIDITY | HUM_SP            | AV:407           |
| Screen Timeout                 | READ_WRITE     | MINUTES                   | SCRN_TMT          | AV:408           |
| Heat Setpoint                  | READ_WRITE     | DEGREES_FAHRENHEIT        | HEAT_SP           | AV:409           |
| Cool Setpoint                  | READ_WRITE     | DEGREES_FAHRENHEIT        | COOL_SP           | AV:410           |
| Active Backlight               | READ_WRITE     | PERCENT                   | ACTV_BCKLT        | AV:411           |
| Dormant Backlight              | READ_WRITE     | PERCENT                   | DRMNT_BCKLT       | AV:412           |
| Indoor Equip Stages            | GATED_WRITE    | PERCENT_RELATIVE_HUMIDITY | ID_STAGES         | AV:500           |
| Outdoor Equip Stages           | GATED_WRITE    | DEGREES_FAHRENHEIT        | OD_STAGES         | AV:501           |
| Max Temperature Hold Time      | GATED_WRITE    | HOURS                     | MAX_HOLD_TIME     | AV:502           |
| Auto Changeover Delay          | GATED_WRITE    | MINUTES                   | AUTO_XOVR         | AV:503           |
| Cool Lockout Temperature       | GATED_WRITE    | DEGREES_FAHRENHEIT        | COOL_LOCKOUT      | AV:504           |
| Low Cool Lockout (HP only)     | GATED_WRITE    | DEGREES_FAHRENHEIT        | LO_CL_LCKOUT      | AV:505           |
| Low Heat Lockout (HP only)     | GATED_WRITE    | DEGREES_FAHRENHEIT        | LO_HT_LCKOUT      | AV:506           |
| Delay Between Fuel (HP)        | GATED_WRITE    | MINUTES                   | DLY_BW_FUEL       | AV:507           |
| Cycles Per Hour                | GATED_WRITE    | CYCLES_PER_HOUR           | CYCLES_HR         | AV:508           |
| Max Heat Setpoint              | GATED_WRITE    | DEGREES_FAHRENHEIT        | MAX_HT_SP         | AV:509           |
| Min Cool Setpoint              | GATED_WRITE    | DEGREES_FAHRENHEIT        | MIN_CL_SP         | AV:510           |
| Aux Heat Lockout (HP only)     | GATED_WRITE    | DEGREES_FAHRENHEIT        | AUX_HT_LCKOUT     | AV:511           |
| Heat Pump Lockout              | GATED_WRITE    | DEGREES_FAHRENHEIT        | HP_LCKOUT         | AV:512           |
| Stage Delay                    | GATED_WRITE    | MINUTES                   | STG_DELAY         | AV:513           |
| Forced Stage Up Delay          | GATED_WRITE    | MINUTES                   | FRCD_STG_UP       | AV:514           |
| Stage Change Temp Differential | GATED_WRITE    | DELTA_DEGREES_FAHRENHEIT  | DIFFERENTIAL      | AV:515           |
| Line Frequency                 | GATED_WRITE    | HERTZ                     | LINE_FREQ         | AV:516           |
| Indoor Temperature Offset      | GATED_WRITE    | DELTA_DEGREES_FAHRENHEIT  | ID_TEMP_OFF       | AV:517           |
| Indoor Humidity Offset         | GATED_WRITE    | PERCENT_RELATIVE_HUMIDITY | ID_HUM_OFF        | AV:518           |
| SAT Temp Offset                | GATED_WRITE    | DELTA_DEGREES_FAHRENHEIT  | SAT_OFFSET        | AV:519           |
| Air Filter Hours               | READ_ONLY      | HOURS                     | AIR_FLT_HRS       | AV:520           |
| Max Setpoint Error             | GATED_WRITE    | DELTA_DEGREES_FAHRENHEIT  | MAX_SP_ERR        | AV:521           |
| AV:521                         | GATED_WRITE    | MINUTES                   | ID_TMP_FLT_INHBT  | AV:522           |
| 1st Stage Cooling Out Status   | READ_ONLY      | 0=OFF<br>1=ON             | Y1_OUT            | BV:200           |
| 2nd Stage Cooling Out Status   | READ_ONLY      | 0=OFF<br>1=ON             | Y2_OUT            | BV:201           |
| 3rd Stage Cooling Out Status   | READ_ONLY      | 0=OFF<br>1=ON             | Y3_OUT            | BV:202           |
| 1st Stage Heating Out Status   | READ_ONLY      | 0=OFF<br>1=ON             | W1_OUT            | BV:203           |
| 2nd Stage Heating Out Status   | READ_ONLY      | 0=OFF<br>1=ON             | W2_OUT            | BV:204           |
| Fan Out Status                 | READ_ONLY      | 0=OFF<br>1=ON             | G_OUT             | BV:205           |
| Reversing Valve Out Status     | READ_ONLY      | 0=OFF<br>1=ON             | OB_OUT            | BV:206           |
| Occupancy Out Status           | READ_ONLY      | 0=OFF<br>1=ON             | OCC_OUT           | BV:208           |
| Humidifier Out Status          | READ_ONLY      | 0=OFF<br>1=ON             | HUM_OUT           | BV:209           |

## APPENDIX A: BACNET POINTS LIST

| POINT NAME                     | POINT ACCESS | UNITS                                        | BACNET POINT NAME | BACNET OBJECT ID |
|--------------------------------|--------------|----------------------------------------------|-------------------|------------------|
| Dehumidifier Out Status        | READ_ONLY    | 0=OFF<br>1=ON                                | DEHUM_OUT         | BV:210           |
| Network General Purpose Out Y3 | READ_WRITE   | 0=OFF<br>1=ON                                | NET_GP_Y3_OUT     | BV:211           |
| Network General Purpose Out W2 | READ_WRITE   | 0=OFF<br>1=ON                                | NET_GP_W2_OUT     | BV:212           |
| Network General Purpose Out OB | READ_WRITE   | 0=OFF<br>1=ON                                | NET_GP_OB_OUT     | BV:213           |
| Wi-Fi Time Synchronization     | READ_WRITE   | 0=DISABLED<br>1=ENABLED                      | WIFI_TIME_SYNC    | BV:400           |
| Proximity Sensor Enable        | READ_WRITE   | 0=DISABLED<br>1=ENABLED                      | PROXIMITY_EN      | BV:401           |
| Auto DST Time Shift            | READ_WRITE   | 0=DISABLED<br>1=ENABLED                      | AUTO_DST          | BV:402           |
| Wi-Fi Enable                   | READ_WRITE   | 0=DISABLED<br>1=ENABLED                      | WIFI_ENABLE       | BV:403           |
| Setpoint Override              | READ_WRITE   | 0=DISABLED<br>1=ENABLED                      | SETPT_OVERRIDE    | BV:404           |
| BACnet BMS Occupancy           | GATED_WRITE  | 0=DISABLED<br>1=ENABLED                      | BMS_OCC           | BV:405           |
| Filter Timer Reset             | READ_WRITE   | 0=DISABLED<br>1=ENABLED                      | FLTR_TMR_RST      | BV:406           |
| Network Space Temp Enable      | READ_WRITE   | 0=DISABLED<br>1=ENABLED                      | NET_SP_TEMP_EN    | BV:407           |
| Network Space Hum Enable       | READ_WRITE   | 0=DISABLED<br>1=ENABLED                      | NET_SP_HUM_EN     | BV:408           |
| Occupancy Input Polarity       | GATED_WRITE  | 0=DISABLED<br>1=ENABLED                      | OCC_IN_POL        | BV:500           |
| Auto Mode Allowed              | GATED_WRITE  | 0=DISABLED<br>1=ENABLED                      | ALLOW_AUTO        | BV:501           |
| Prog Mode Allowed              | GATED_WRITE  | 0=DISABLED<br>1=ENABLED                      | ALLOW_PROG        | BV:502           |
| Celsius Display                | GATED_WRITE  | 0=F°<br>1=C°                                 | CELSIUS_DISP      | BV:503           |
| Fan On with W                  | GATED_WRITE  | 0=NO<br>1=YES                                | FAN_WITH_W        | BV:504           |
| Rvs Vlv Energized Ht           | GATED_WRITE  | 0=ENERGIZED FOR COOL<br>1=ENERGIZED FOR HEAT | RVS_VLV_DIR       | BV:505           |
| Humidifier Installed           | GATED_WRITE  | 0=NO<br>1=YES                                | HUM_INST          | BV:506           |
| BMS Occupancy Enable           | GATED_WRITE  | 0=DISABLED<br>1=ENABLED                      | BMS_OCC_EN        | BV:507           |
| BACnet Config Write Enable     | GATED_WRITE  | 0=DISABLED<br>1=ENABLED                      | CFG_WR_EN         | BV:511           |
| ID TEMP SENSOR HIGH            | READ_ONLY    | 0=DISABLED<br>1=ENABLED                      | ID_TEMP_SENS_HI   | BV:900           |
| ID TEMP SENSOR LOW             | READ_ONLY    | 0=INACTIVE<br>1=ACTIVE                       | ID_TEMP_SENS_LO   | BV:901           |
| REMOTE SENSOR HIGH             | READ_ONLY    | 0=INACTIVE<br>1=ACTIVE                       | REM_TEMP_HI       | BV:902           |
| REMOTE SENSOR LOW              | READ_ONLY    | 0=INACTIVE<br>1=ACTIVE                       | REM_TEMP_LO       | BV:903           |
| HUM TEMP SENSOR HIGH           | READ_ONLY    | 0=INACTIVE<br>1=ACTIVE                       | HUM_TEMP_HI       | BV:904           |
| HUM TEMP SENSOR LOW            | READ_ONLY    | 0=INACTIVE<br>1=ACTIVE                       | HUM_TEMP_LO       | BV:905           |
| ID TEMP RANGE HIGH             | READ_ONLY    | 0=INACTIVE<br>1=ACTIVE                       | ID_TEMP_RNG_HI    | BV:906           |
| ID TEMP RANGE LOW              | READ_ONLY    | 0=INACTIVE<br>1=ACTIVE                       | ID_TEMP_RNG_LO    | BV:907           |
| HUM SENSOR FAILURE             | READ_ONLY    | 0=INACTIVE<br>1=ACTIVE                       | HUM_SENS_FAIL     | BV:908           |
| HUMIDITY RANGE HIGH            | READ_ONLY    | 0=INACTIVE<br>1=ACTIVE                       | HUM_TOO_HI        | BV:909           |
| HUMIDITY RANGE LOW             | READ_ONLY    | 0=INACTIVE<br>1=ACTIVE                       | HUM_TOO_LO        | BV:910           |
| OUTDOOR SENSOR FAILURE         | READ_ONLY    | 0=INACTIVE<br>1=ACTIVE                       | OD_TEMP_FAIL      | BV:911           |
| NOT CONNECTED TO SERVER        | READ_ONLY    | 0=INACTIVE<br>1=ACTIVE                       | SRVR_CONN_FAIL    | BV:912           |
| NOT CONNECTED TO ROUTER        | READ_ONLY    | 0=INACTIVE<br>1=ACTIVE                       | RTR_CONN_FAIL     | BV:913           |

## APPENDIX A: BACNET POINTS LIST

| POINT NAME                       | POINT ACCESS | UNITS                                                                                | BACNET POINT NAME | BACNET OBJECT ID |
|----------------------------------|--------------|--------------------------------------------------------------------------------------|-------------------|------------------|
| WIFI HARDWARE FAULT              | READ_ONLY    | 0=INACTIVE<br>1=ACTIVE                                                               | WIFI_CONF_FAIL    | BV:914           |
| ECONOMIZER FAULT                 | READ_ONLY    | 0=INACTIVE<br>1=ACTIVE                                                               | ECON_FAULT        | BV:915           |
| LOCKOUT-5 BAD PIN ENTRIES        | READ_ONLY    | 0=INACTIVE<br>1=ACTIVE                                                               | LOCKOUT_FAIL      | BV:916           |
| Current Mode Status              | READ_ONLY    | 1=OFF<br>2=HEAT<br>3=COOL                                                            | CURRENT_MODE      | MSV:300          |
| User Mode                        | READ_WRITE   | 1=OFF<br>2=HEAT<br>3=COOL<br>4=AUTO<br>5=E-HEAT                                      | USER_MODE         | MSV:400          |
| IR Proximity Sensitivity         | READ_WRITE   | 1=HIGH<br>2=MEDIUM<br>3=LOW                                                          | PROX_SENS         | MSV:401          |
| Sound Effect                     | READ_WRITE   | 1=OFF<br>2=CLICK<br>3=BEEP                                                           | SOUND             | MSV:402          |
| Number of Parts in Schedule Day  | READ_WRITE   | 1=2 PARTS<br>2=4 PARTS                                                               | SCHED_DAY_PARTS   | MSV:403          |
| Occupied Fan Mode                | READ_WRITE   | 1=AUTO<br>2=ON                                                                       | OCC_FAN           | MSV:404          |
| Unoccupied Fan Mode              | READ_WRITE   | 1=AUTO<br>2=ON                                                                       | UNOCC_FAN         | MSV:405          |
| Current Fan Mode                 | READ_WRITE   | 1=AUTO<br>2=ON<br>3=OVERRIDE AUTO<br>4=OVERRIDE ON                                   | FAN MODE          | MSV:406          |
| Equipment Type                   | READ_ONLY    | 1=NO INDOOR<br>2=FURNACE<br>3=AIR HANDLER                                            | ID_EQUIP_TYPE     | MSV:500          |
| Outdoor Equipment Type           | GATED_WRITE  | 1=NO OUTDOOR<br>2=A/C<br>3=HEAT PUMP                                                 | OD_EQUIP_TYPE     | MSV:501          |
| Remote Sensor Type               | GATED_WRITE  | 1=NONE<br>2=OUTDOOR<br>3=SPACE<br>4=AVERAGE<br>5=OCCUPANCY<br>6=FAULT_INPUT<br>7=SAT | REMOTE_SENSOR     | MSV:502          |
| Dehumidification Type            | GATED_WRITE  | 1=NO<br>2=YES<br>3=OVRCL(2F)<br>4=HUMIDIMIZER                                        | DEHUM_TYPE        | MSV:503          |
| Occupancy Output Terminal        | GATED_WRITE  | 1=OFF<br>2=Y3<br>3=O/B<br>4=W2                                                       | OCC_OUTPUT        | MSV:504          |
| Humidification Output Terminal   | GATED_WRITE  | 1=OFF<br>2=Y3<br>3=O/B<br>4=W2                                                       | HUM_OUTPUT        | MSV:505          |
| Dehumidification Output Terminal | GATED_WRITE  | 1=OFF<br>2=Y3<br>3=O/B<br>4=W2                                                       | DEHUM_OUTPUT      | MSV:506          |
| Smart Recovery                   | GATED_WRITE  | 1=NO<br>2=30 MIN<br>3=60 MIN<br>4=90 MIN                                             | SMART_RECOVERY    | MSV:507          |
| General Purpose Output Timeout   | GATED_WRITE  | 1=2 MIN<br>2=20 MIN<br>3=1 HR<br>4=UNLIMITED                                         | GP_OUT_TIMEOUT    | MSV:508          |
| Network GP Y3 Mode               | GATED_WRITE  | 1=DISABLED<br>2=ENERGIZED_ACTIVE<br>3=ENERGIZED_INACTIVE                             | NET_GP_Y3_MODE    | MSV:509          |
| Network GP W2 Mode               | GATED_WRITE  | 1=DISABLED<br>2=ENERGIZED_ACTIVE<br>3=ENERGIZED_INACTIVE                             | NET_GP_W2_MODE    | MSV:510          |
| Network GP OB Mode               | GATED_WRITE  | 1=DISABLED<br>2=ENERGIZED_ACTIVE<br>3=ENERGIZED_INACTIVE                             | NET_GP_OB_MODE    | MSV:511          |

