VENSTAR®

COMMERCIAL MODEL T4900

DIGITAL THERMOSTAT
Up To 4 Heat & 2 Cool Stages
with **Humidity Control**
Time Period Programming

VOYAGER

Simply connected.
Anytime. Anywhere.*

Optional accessories
available, including Wi-Fi

WiFi

Z WAVE PLUS

ZigBee®
Control your world

Skyport

YOUR NAME
11:39ᴬᴹ   72°
WE   COOL

73

Outdoor   Heat
83°   70°

OWNER'S MANUAL
AND
INSTALLATION INSTRUCTIONS

HEAT
COOL &
HEAT
PUMP

⚠ CAUTION

Follow the Installation Instructions before proceeding. Set the thermostat mode to "OFF" prior to changing settings in setup or restoring Factory Defaults.

FCC Compliance Statement

This equipment has been tested and found to comply with the limits for an intentional radiator, pursuant to Part 15, subpart C of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference in radio communications. However, there is no guarantee that the 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 of the receiver.
- Consult the dealer or an experienced radio or TV technician for help.

Notice: Only peripherals complying with FCC limits may be attached to this equipment. Operation with noncompliant peripherals or peripherals not recommended by Venstar, is likely to result in interference to radio and TV reception. Changes or modifications to the product, not expressly approved by Venstar could void the user's authority to operate the equipment.

FCC - INDOOR Mobile Radio Information:
To comply with FCC/IC RF exposure limits for general population / uncontrolled exposure, the antenna(s) used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter.

This Device complies with Industry Canada License-exempt RSS standard(s). Operation is subject to the following two conditions: 1) this device may not cause interference, and 2) this device must accept any interference, including interference that may cause undesired operation of the device.

Under Industry Canada regulations, this radio transmitter may only operate using an antenna of a type and maximum (or lesser) gain approved for the transmitter by Industry Canada. To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (e.i.r.p.) is not more than that necessary for successful communication.

Cet appareil est conforme avec Industrie Canada, exempts de licence standard RSS(s). Son fonctionnement est soumis aux deux conditions suivantes: 1) ce dispositif ne doit pas causer d'interférences, et 2) ce dispositif doit accepter toute interférence, y compris les interférences qui peuvent causer un mauvais fonctionnement de l'appareil.

En vertu des règlements d'Industrie Canada, cet émetteur de radio ne peut fonctionner en utilisant une antenne d'un type et maximale (ou moins) Gain approuvé pour l'émetteur par Industrie Canada. Pour réduire les interférences radio potentielles aux autres utilisateurs, le type d'antenne et son gain doivent être choisis afin que la puissance isotrope rayonnée équivalente (PIRE) ne est pas plus de ce qui est nécessaire pour une communication réussie.

We, Venstar, declare under our sole responsibility that the device to which this declaration relates: Complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

FCC ID: MUH-SKYPORT3

IC: 12547A-SKYPORT3

These numbers can be located on the inside of the thermostat backplate, in the upper right corner.

This Voyager thermostat has the ability to receive updates to its firmware. Periodically firmware updates are released by the manufacturer to add features and/or performance enhancements. This manual was produced reflecting the most current firmware/feature set at the time of publication, firmware rev. 1.0. Firmware releases after rev. 1.0 may not be adequately depicted in this manual. Please refer to the appropriate website or contact your place of purchase to learn about changes to the thermostat after firmware release 1.0.

Glossary of Terms

Auto-Changeover: A mode in which the thermostat will turn on the heating or cooling based on room temperature demand.

Cool Setpoint: The warmest temperature that the space should rise to before cooling is turned on (without regard to deadband).

Deadband: The number of degrees the thermostat will wait, once a setpoint has been reached, before energizing heating or cooling.

Dehumidify: To reduce the amount of moisture in the air.

Differential: The forced temperature difference between the *heat setpoint* and the *cool setpoint*.

Heat Setpoint: The coolest temperature that the space should drop to before heating is turned on (without regard to deadband).

Humidify: To increase the amount of moisture in the air.

Icon: The word or symbol that appears on the thermostat display.

Mode: The current operating condition of the thermostat (i.e. Off, Heat, Cool, Auto).

Non-Programmable Thermostat: A thermostat that does not have the capability of running *Time Period Programming.*

Override: During programmed unoccupied periods, pressing the Override button will force the thermostat into occupied settings. During programmed occupied periods, pressing the Override button will force the thermostat into unoccpied settings.

Programmable Thermostat: A thermostat that has the capability of running *Time Period Programming.*

Reheat: Running the cooling and 2nd stage strip heaters at the same time in order to *dehumidify* the air without significantly cooling down the room temperature.

Temperature Swing: *Same as Deadband.*

Time Period Programming: A program that allows the thermostat to automatically adjust the *heat setpoint* and/or the *cool setpoint* based on the time of the day.

Table of Contents

Get To Know Your Thermostat

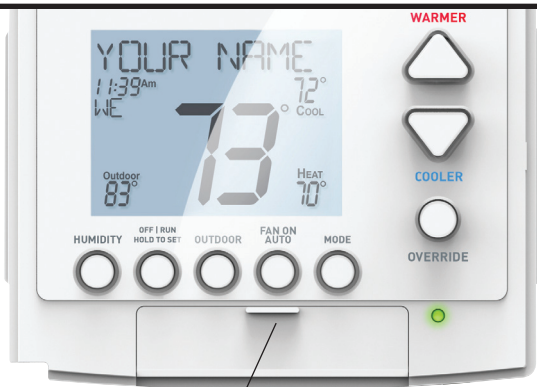Ambient Light Sensor
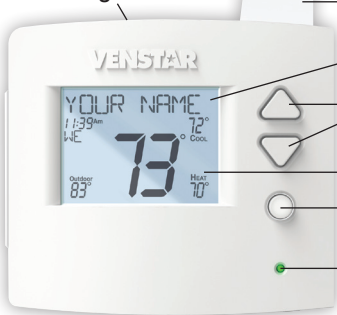
Optional Wireless Module

Backlit, Scrolling Display

Backlit Cooler & Warmer Buttons

Backlit LCD Display

Override Button

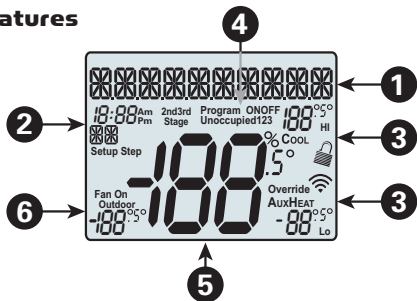Heat or Cool Demand Indicator
Red = Heat, Green = Cool

WARMER

COOLER

OVERRIDE

HUMIDITY

OFF | RUN
HOLD TO SET

OUTDOOR

FAN ON
AUTO

MODE

Setup Buttons Behind Door

1

Setup Buttons

Get To Know Your Thermostat

Display Features

1 The scrolling display will be used to help you easily navigate the setup screens in the thermostat.

2 Clock with Day of the Week

Indicates the current time and day. This clock is also used to program the time period schedules.

3 Mode Indicators

Selects the operational mode of the equipment.

   HEAT - Indicates the heating mode.

   COOL - Indicates the air conditioning mode.

   HEAT & COOL - Indicates the system will automatically change-over between heat and cool modes as the temperature varies.

   OFF - Indicates heating and cooling is turned off.

4 **Program** icon

Indicates that Time Period Programming is running or is enabled to be set.

5 Room Temperature Display

Indicates the current room temperature and displays the outdoor temperature when selected.

6 **Outdoor** icon

Indicates the temperature displayed is from the optional outdoor sensor.

3

Get To Know Your Thermostat

Display Features
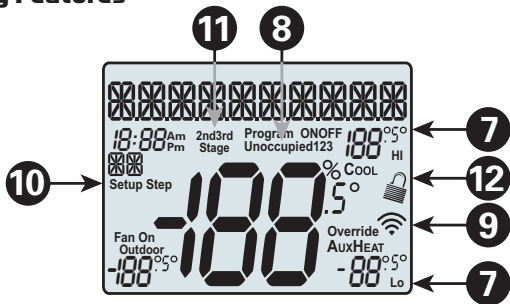
7 Desired Set Temperature
Indicates <u>desired</u> room temperature(s). Also displays
the highest and lowest temperatures for the day.

8 Occupied & Unoccupied icons
Indicates the program number: Occupied 1, 2, 3 or Unoccupied

9 **Wi-Fi** icons
One dot indicates the thermostat recognizes the wireless module.
The "pull" icon indicates the thermostat is currently connected to
the Local access point, via the optional Wi-Fi Module.

10 **Setup Step** icon
Indicates the step number when the thermostat
is in the setup mode.

11 **2nd and 3rd Stage** icons
Indicates what stage of cooling or heating is currently energized.

12 🔒 icon
Indicates the keypad has been locked.

4

Get To Know Your Thermostat

Display Features
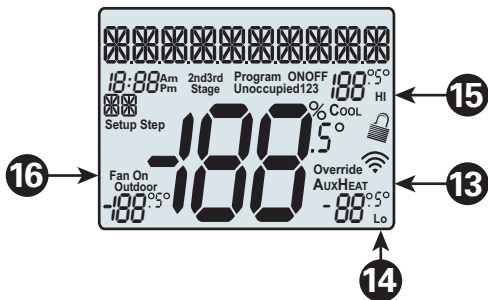
13 AuxHeat icon

Indicates 2nd stage electric strip heat is being used when the thermostat is programmed for Heat Pump operation. Only the Aux icon will appear during Cool to Dehumidify to indicate Reheat operation.

14 Lo icon

Indicates the lowest recorded outdoor temperature for the day.*

15 Hi icon

Indicates the highest recorded outdoor temperature for the day.*

16 Fan On icon

Indicates constant, continuous fan operation. When **Fan On** is not lit - indicates the fan will only operate when necessary to heat or to cool.

* Hi and Lo Temperatures for the day, reset at midnight.

Quick Start

During Setup and Programming:

Press the WARMER or COOLER buttons to modify the selection.
Press the MODE button to advance and <u>confirm</u> through the setup steps.

Setting the Clock and Day

Not available when connected to a Skyport Account

Press the SET CLOCK button. Adjust the clock using the WARMER or COOLER buttons. Press MODE to advance to the day setting. Adjust the day using the WARMER or COOLER buttons. Press the SET CLOCK button to confirm settings.

TIP: To adjust the time by hours press and hold the FAN button while pressing the WARMER or COOLER buttons.

Selecting the Heat or Cool Mode

Select mode by pressing the MODE button.

Heating Only - Only the heating operation will be controlled by the thermostat in this mode.

Cooling Only - Only the cooling operation will be controlled by the thermostat in this mode.

Heating or Cooling (Auto-Changeover) - AUTO will automatically select heat or cool based on room temperature demand.

OFF - OFF indicates both heating and air conditioning systems are turned off.

Quick Start

Selecting your desired temperature

AUTO-CHANGEOVER MODE - Pressing the WARMER or COOLER buttons in Auto mode will adjust <u>both</u> the heat and cool setpoints simultaneously. To adjust heat and cool setpoints individually, choose HEAT mode to adjust the heat setpoint and COOL mode to adjust the cool setpoint, then return to AUTO mode.

HEAT OR COOL MODE - Pressing the WARMER or COOLER buttons in Heat or Cool mode will adjust only the heat **or** cool setpoints individually displayed.

Using the Fan Button

FAN ON
AUTO

Fan On indicates constant fan operation. Fan On is not allowed when the thermostat is in the OFF mode. Pressing the FAN button toggles this feature on or off. Fan auto will allow the fan to run only when there is a heat or cool demand.

Using the Override Button

NOTE: Override may only be used when the thermostat is set to PROGRAM ON.

OVERRIDE

UNOCCUPIED OPERATION -
During programmed, unoccupied

periods, pressing the OVERRIDE button will force the thermostat into Occupied 1 settings for 30 minutes. Each press of the OVERRIDE button will add another 30 minutes of time for up to 4 hours. If the maximum time has been set, the next press of the OVERRIDE button will reset the timer and return the thermostat to the correct time period program for the day

Occupied Operation - During programmed, occupied periods, pressing the OVERRIDE button will force the thermostat into an unoccupied period for the rest of the day. During this forced unoccupied period the OVERRIDE button will operate as described above.

Quick Start

Viewing the Temperature Sensors

OUTDOOR

OUTDOOR TEMP - Press the OUTDOOR button to view the current outdoor temperature. The high and low temperatures for the day will also be displayed. The high and low temperatures reset at 12:00 am. If connected to a Skyport account, pressing outdoor button will show the temperatures for your location if you don't have a wired sensor connected.

Note: If no outdoor sensor is connected, and there isn't outdoor temperature via Wi-Fi, then 2 dashes [- -] will appear with the first button press.

REMOTE/SUPPLY TEMP - Press the **Accessory Status** button to view linked wireless and wired sensors and other accessories. Press the **Accessory Status** button to return to the main screen. Setup step #40 selects the use of the wired temperature sensor.

ACCESSORY STATUS

Viewing the Indoor Humidity Sensor

HUMIDITY

IMPORTANT: Allow at least 2 minutes after the thermostat is powered on for the humidity to read correctly.

Press the HUMIDITY button then the mode button to display the current humidity measured at the thermostat. The room's relative humidity is displayed in the top left corner. The humidification setpoint appears in the larger, center display and can be adjusted using the WARMER or COOLER buttons. Press the MODE button again to view and adjust the dehumidification setpoints. Press the HUMIDITY or MODE button again to confirm settings and return to normal operation.

Note: Due to variations in environmental and equipment conditions, it is not always possible to achieve the desired humidification or dehumidification setpoint.

Installation Instructions

Remove and Replace the old thermostat

To install the thermostat properly, please follow these step by step instructions. If you are unsure about any of these steps, call a qualified technician for assistance.

- Assemble tools: Flat blade screwdriver, wire cutters and wire strippers.

- Make sure your Heater/Air Conditioner is working properly before beginning installation of the thermostat.

- Carefully unpack the thermostat. Save the screws, any brackets, and instructions.

- Turn off the power to the Heating/Air Conditioning system at the main fuse panel. Most residential systems have a separate breaker for disconnecting power to the furnace.

- Remove the cover of the old thermostat. If it does not come off easily, check for screws.

- Loosen the screws holding the thermostat base or subbase to the wall and lift away.

- If you have a smart phone handy, take a photo of the wiring for future reference.

- Disconnect the wires from the old thermostat. Tape the ends of the wires as you disconnect them, and mark them with the letter of the terminal for easy reconnection to the new thermostat.

- Keep the old thermostat for reference purposes, until your new thermostat is functioning properly.

Installation Instructions

Wire Connections

If the terminal designations on your old thermostat do not match those on the new thermostat, **refer to the chart below or the wiring diagrams that follow.**

| Wire from the old thermostat terminal marked	Function	Install on the new thermostat connector marked
G or F	Fan	G
Y1, Y	Cooling	Y1
W1, W	Heating	W1/0/B
Rh, R, M, Vr, A	Power	R
C	Common	C
O/B	Rev. Valve	W1/O/B*
W2	2nd Stage Heat	W2
Y2	2nd Stage Cooling	Y2
W3	3rd Stage Heat	W3
H, Hum	Humidity	HUM
D, Dehum	Dehumidity	DEHUM
Ck1	Dry Contact Switch	DRY CONTACT
CKGND	Dry Contact Switch	DRY CONTACT

* O/B is used if your system is a Heat Pump.

Installation Instructions

The Voyager Thermostat Backplate
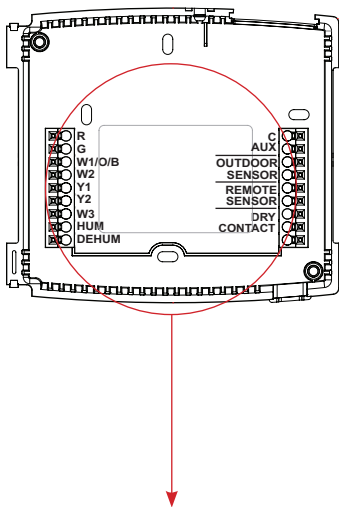
To remove the thermostat backplate:
Gently separate the display from the base by pulling first from one side, then the other until the two pieces unsnap. A small screwdriver may be used, very carefully, to start seperating the two pieces.
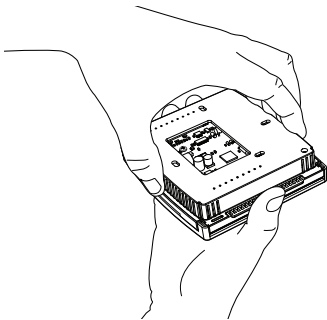
R	24 VAC return		**C**	24 VAC common
G	Fan relay		**AUX**	Aux output
W1/O/B	1st stage heat circuit		**OUTDOOR SENSOR**	Outdoor sensor connections
W2	2nd stage heat circuit			
Y1	1st stage compressor relay		**REMOTE SENSOR**	Remote sensor connections
Y2	2nd stage compressor relay			
W3	3rd stage heat circuit		**DRY CONTACT**	Dry Contact connections
HUM	Humidifier control circuit			
DEHUM	Dehumidifier control circuit			

IMPORTANT: This thermostat requires <u>both</u> R (24 VAC Return) and C (24 VAC Common) be connected to the backplate terminals.

Installation Instructions

Check Dip Switch

Ensure which switch is correct for your system. Dip switches are located on the back of the thermostat.
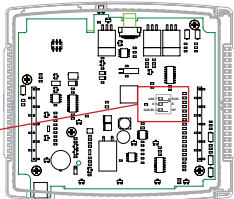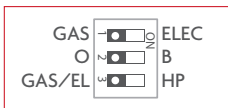
1. When GAS/EL or HP is set for GAS/EL: This switch (GAS or ELEC) controls how the thermostat will control the Fan (G) terminal in heating mode. When GAS is chosen, the thermostat will not energize the Fan (G) terminal in heating. When ELEC is chosen the thermostat will energize the fan in heating.

2. When GAS/EL or HP is set for HP: This switch (GAS or ELEC) defines the Aux Heat type. When GAS is chosen, the auxiliary heat will not be allowed to run during heat pump operation. When using a Dual Fuel system, set this switch for GAS. When ELEC is chosen, up to two stages of auxiliary strip heat will be allowed to run.

For Heat Pump Only
When the GAS/EL or HP dip switch is configured for HP, this dip switch (O or B) must be set to control the appropriate reversing valve. If O is chosen, the W1/O/B terminal will energize in cooling. If B is chosen, the W1/O/B terminal will energize in heating.

This dip switch configures the thermostat to control a conventional gas/electric system or a heat pump. If your system is anything other than a heat pump, leave this switch set for GAS/EL.

Installation Instructions

Sample Wiring Diagrams

Conventional Heating and Cooling Systems

3 Wire, Heat Only
Residential & Commercial 1 Stage Heating with **no Fan.**

R	24VAC Power
C	24VAC Common
W1/O/B	1st Stage Heat

```
GAS ⌐■□⌐ ELEC
  O  ⌐■□⌐ B
GAS/EL ⌐■□⌐ HP
```

4 Wire, Cool Only
Residential & Commercial 1 Stage Cooling.

R	24VAC Power
C	24VAC Common
Y1	1st Stage Cool
G	Fan

```
GAS ⌐■□⌐ ELEC
  O  ⌐■□⌐ B
GAS/EL ⌐■□⌐ HP
```

5 Wire, 1 Stage Cooling, 1 Stage Heat
Residential & Commercial 1 Stage Cooling, with 1 stage **Gas Heat.**

R	24VAC Power
C	24VAC Common
W1/O/B	1st Stage Heat
Y1	1st Stage Cool
G	Fan

```
GAS ⌐■□⌐ ELEC
  O  ⌐■□⌐ B
GAS/EL ⌐■□⌐ HP
```

5 Wire, 1 Stage Cooling, 1 Stage Heat
Residential & Commercial 1 Stage Cooling, with 1 stage **Electric Heat.**

R	24VAC Power
C	24VAC Common
W1/O/B	1st Stage Heat
Y1	1st Stage Cool
G	Fan

```
GAS ⌐■□⌐ ELEC
  O  ⌐■□⌐ B
GAS/EL ⌐■□⌐ HP
```

8 Wire, 2 Stage Cooling, 3 Stage Heat
Residential & Commercial 2 Stage Cooling, with 3 stage **Gas Heat.**

R	24VAC Power
C	24VAC Common
W1/O/B	1st Stage Heat
W2	2nd Stage Heat
W3	3rd Stage Heat
Y1	1st Stage Cool
Y2	2nd Stage Cool
G	Fan

```
GAS ⌐■□⌐ ELEC
  O  ⌐■□⌐ B
GAS/EL ⌐■□⌐ HP
```

Installation Instructions

Sample Wiring Diagrams

Heat Pump Systems

---

5 Wire, 1 Stage Cooling, 1 Stage Heat
Residential & Commercial **Heat Pump** with
'O' Reversing Valve

R	24VAC Power
C	24VAC Common
W1/O/B	Reversing Valve
Y1	1st Stage Compressor (Cool or Heat)
G	Fan

GAS ⊣☐■☐⊢ ELEC
O ⊣☐■☐⊢ B
GAS/EL ⊣☐■☐⊢ HP

---

6 Wire, 1 Stage Cooling, 2 Stage Heat
Residential & Commercial **Heat Pump** with
'O' Reversing Valve

R	24VAC Power
C	24VAC Common
W1/O/B	Reversing Valve
Y1	1st Stage Compressor (Cool or Heat)
W2	Aux Heat
G	Fan

GAS ⊣☐■☐⊢ ELEC
O ⊣☐■☐⊢ B
GAS/EL ⊣☐■☐⊢ HP

---

7 Wire, 2 Stage Cooling, 3 Stage Heat
Residential & Commercial **Heat Pump** with
'O' Reversing Valve.

R	24VAC Power
C	24VAC Common
W1/O/B	Reversing Valve
W2	3rd Stage Heat
Y1	1st Stage Compressor (Cool or Heat)
Y2	2nd Stage Compressor (Cool or Heat)
G	Fan

Setup Step 24 is set to 2
(Number of Compressor Stages)

GAS ⊣☐■☐⊢ ELEC
O ⊣☐■☐⊢ B
GAS/EL ⊣☐■☐⊢ HP

---

8 Wire, 2 Stage Cooling, 4 Stage Heat
Residential & Commercial **Heat Pump** with
'O' Reversing Valve.

R	24VAC Power
C	24VAC Common
W1/O/B	Reversing Valve
W2	3rd Stage Heat
W3	4th Stage Heat
Y1	1st Stage Compressor (Cool or Heat)
Y2	2nd Stage Compressor (Cool or Heat)
G	Fan

Setup Step 24 is set to 2
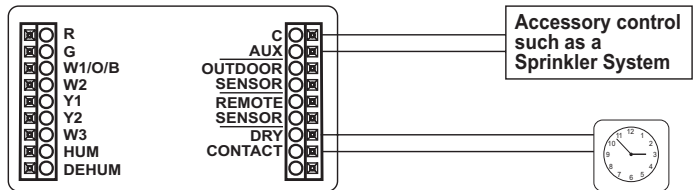**(Number of Compressor Stages)**

GAS ⊣☐■☐⊢ ELEC
O ⊣☐■☐⊢ B
GAS/EL ⊣☐■☐⊢ HP

Sample Wiring Diagrams

Humidification or Dehumidification
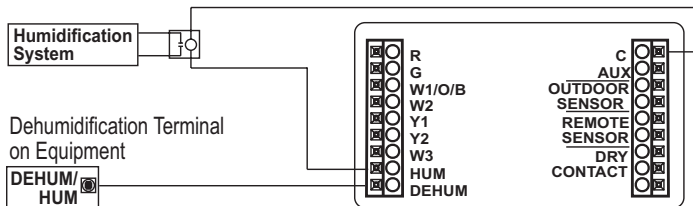
Dry Contact and Aux Output

Accessory such as a
Time Clock or door switch

Installation Instructions: Test Operation

The Voyager thermostat has a diagnostic feature that enables testing of all outputs. This feature is contained in **Technician Setup**.

To enter Technician Setup, press and hold the SETUP button for 10 seconds until all the icons appear. Follow the next steps to view settings and test equipment.

1. Press MODE to view the version numbers of the thermostat.

2. Press MODE again to view the jumper settings and current state of the Dry Contact terminal.

3. Press MODE again and the scrolling display will read "TURN ON EQUIPMENT?" Press WARMER for Yes or COOLER for No.

   If Yes is chosen, press WARMER to turn on heat or COOLER to turn on Cooling. The scrolling display will read "NOTHING ON." Next:

   Press WARMER to turn on and cycle up through the heating stages.
   Press COOLER to turn the heating stages off. Press MODE to exit.

   Press COOLER to turn on and cycle down through the cooling stages.
   Press WARMER to turn the cooling stages off. Press MODE to exit.

4. Press MODE until "CALIBRATE SENSORS?" appears on the scrolling display. Press WARMER for Yes or COOLER for No. Press MODE to select which sensor to calibrate. Use WARMER or COOLER to modify your selection.

5. Press MODE until "CONTROL HUM?" appears on the scrolling display. Press WARMER for On or COOLER for Off. Press MODE to continue.

6. Press MODE until "CONTROL DEHUM?" appears on the scrolling display. Press WARMER for On or COOLER for Off. Press MODE to continue.

7. Press MODE until "CONTROL AUX OUT?" appears on the scrolling display. Press WARMER for On or COOLER for Off. Press MODE to exit.

To exit Technician Setup at any time, press the SETUP button. Technician Setup will automatically exit after 10 minutes if no buttons are pressed.

How to Change Settings in the Setup Screens

To enter Advanced Setup, press the SETUP button, then press MODE. Use the WARMER or COOLER buttons to adjust the value of your selection. Press MODE to advance to the next setup step. Press SETUP again to leave the setup screens.

Backlight (setup step 3-8)

Backlight (setup step 3)

Off - Backlight turns on with any button press and turns off after 8 seconds.

On - Backlight is on continuously.

Backlight Intensity Level (setup step 4)

The backlight can be adjusted between Off and seven levels of brightness.

Night Dimmer (setup step 5) - Selecting **On** allows for automatic dimming of the display at night.

Night Dimmer Brightness (setup step 6)

Off through seven levels of brightness

Night Dimmer Start Time (setup step 7) - 12:00 am to 12:00 am

Night Dimmer Stop Time (setup step 8) - 12:00 am to 12:00 am
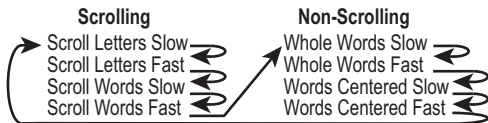
Language (setup step 21)

Setup step instructions on the scrolling display can be set for English, Spanish, or French.

Press the SETUP button, then press MODE repeatedly until the Language setup step appears. Use the WARMER or COOLER buttons to make selection. Press MODE to advance to the next step. Press SETUP to leave the setup screens.

Scrolling Display Method (Setup Step 22)

This option allows the user to choose how the scrolling text is displayed. Options are:

Scrolling	Non-Scrolling
Scroll Letters Slow	Whole Words Slow
Scroll Letters Fast	Whole Words Fast
Scroll Words Slow	Words Centered Slow
Scroll Words Fast	Words Centered Fast

Press the SETUP button, then press MODE repeatedly until the Scrolling Method setup step appears. Use the WARMER or COOLER buttons to make selection. Press MODE to advance to the next step. Press SETUP to leave the setup screens.

SETUP → MODE → COOLER WARMER

Example of "Whole Words Centered":

A

```
SERVICE
12:00 Am        74°
mo         78°  Cool Set
Outdoor         Heat Set
85°             68°
```

B

```
FILTER
12:00 Am        74°
mo         78°  Cool Set
Outdoor         Heat Set
85°             68°
```
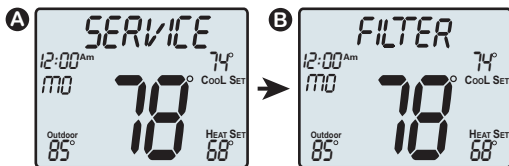
User Setup

Holiday

The Holiday feature allows the thermostat to use temporary, energy saving settings without having to change regular programming.

HOLIDAY

Holiday setup/programming at the local thermostat is limited to the number of days employing Holiday settings. When the optional Wi-Fi module is detected in the thermostat, local Holiday programming at the thermostat of the Holiday setup is not allowed. In this case Holiday setup and programming is accomplished with the Skyport Web App. Skyport gives the user extensive control over Holiday settings.

Press the HOLIDAY button to enter Holiday programming.
(no Wi-Fi Module detected).

If there is not a Holiday period active:

Use the WARMER and COOLER buttons to choose the number of days desired to run the Holiday feature. To confirm your setting press the HOLIDAY button again.

When the thermostat is programmed for Holiday operation, and the thermostat is in the Program On mode (running an Occupied/Unoccupied time period schedule), Holiday settings will take effect at 12:00AM of the next day. The thermostat will use the unoccupied mode and setpoints (see page 26) during the holidays.

If the Holiday button is pressed during an active Holiday period:

The active Holiday period may be cancelled by pressing the Mode button.

Emergency Heat

**The Emergency Heat function is only available if your thermostat is set to control a Heat Pump.**

EMERGENCY HEAT

To initiate the Emergency Heat feature, Press the EMERGENCY button. During Emergency Heat operation the thermostat will turn on the fan and auxiliary stages of heat when there is a demand for heat. The 1st stage of heating and all stages of cooling will be unavailable. To exit Emergency Heat, press the EMERGENCY button.

19

User Setup

Wireless Module
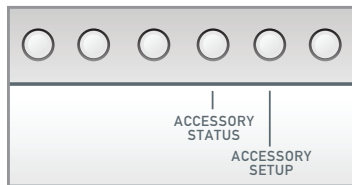
Wireless Module

The **Accessory Status** button allows the user to view the status of wired and wireless accessories. For many of the wireless devices this status includes: Battery Level, Signal Strength & Last Time Updated.

If there is an optional wireless module installed, the **Accessory Setup** button allows the user to link or connect wireless devices to the thermostat, or the thermostat to the network.

Voyager theremostats may use 1 of 4 different types of modules. They are:

1. Wi-Fi Module
2. Z-Wave Module
3. ZigBee Module
4. Venstar RF Module

VENSTAR RF Module

Please follow the instructions included with the wireless accessory to start the linking process. The general instructions are below.

Press the Accessory Setup button to enter the linking/un-linking mode.
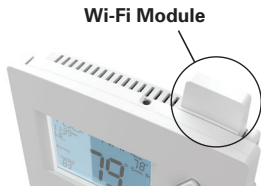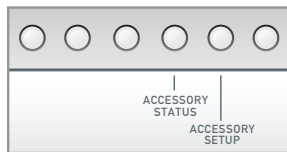Press the Mode button to initiate the linking or un-linking process.
At any time press the Accessory Setup button to return to the main screen.

NOTE: A wired outdoor sensor is updated every 1 minute, a wireless outdoor sensor is updated every 5 minutes to conserve battery life.

20

User Setup

Wi-Fi Module

Wi-Fi Module

Please follow the instructions included with the Wi-Fi module to connect to an Access Point or view status. The general instructions are below.

Wi-Fi Module

If the 🛜 is present on the display then the thermosat is connected to the Wi-Fi Access Point. If just the "dot" of this icon appears, then just the Wi-Fi module is recognized.

Press the **Accessory Status** button, then press either the <u>Cooler</u> button to view connected Wi-Fi sensors, OR press the <u>Warmer</u> button to view the Wi-Fi status and settings.

Press the <u>Mode</u> button to step through the connected sensors or the Wi-Fi status screens listed below.

a. Wi-Fi status (connecting, connected with duration of connection, etc.)
b. Signal strength
c. Access point name
d. IP address
e. MAC address
f. Skyport status (connecting, connected with duration of connection, etc.)
g. Local API status (Enabled, Disabled)
h. Module version

• At any time press the **Accessory Status** button to leave the status screens.

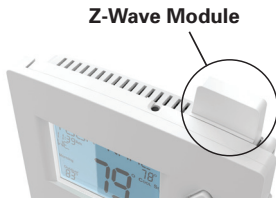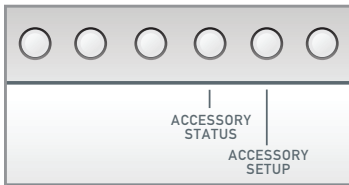Press the <u>Accessory Setup</u> button to enter Wi-Fi or Skyport setup:
Press the <u>Cooler</u> button to configure Wi-Fi settings.

Press the Warmer button to join this thermostat to a Skyport account. If the theremostat is connected to Wi-Fi and the Internet, a Device ID will appear on the scrolling display of the thermostat. You will enter this code to add this thermostat to your Skyport account via a browser or the Skyport mobile app.

Note: *To connect to Skyport Cloud Services, Setup Step #71 must be set to on.*

21

User Setup

Z-Wave Module

Z-Wave Module

Please follow the instructions included with the Z-Wave module to join the Network or view status. The general instructions are below.

Z-Wave Module

Press the **Accessory Status** button to view the status of the thermostat's connection to the Network.

Press the **Accessory Setup** button to enter the Z-Wave Network setup:

Press the <u>Cooler</u> button to join the Z-Wave Network and start the connection process on the Z-Wave controller.

Press the <u>Warmer</u> button to remove this thermostat from the Z-Wave network. When prompted, press the Mode button to remove the thermostat from a connected controller. If the controller is not present, press the Fan button to remove the thermostat forcefully from the network.

Please use this procedure only in the event that the network primary controller is missing or otherwise inoperable.

Notes regarding Voyager's Z-Wave plus module:

- The Voyager Z-Wave thermostat supports association group 1.
- This group supports up to 5 devices and is used for reporting setpoint changes performed by the user on the thermostat, and for reporting when the thermostat was reset locally by the user.
- The Z-Wave command set allows for the implementation of the thermostat's Home/Away and Vacation settings as described on page 19.
- Products from different manufactures and product categories can be part of the same network and non-battery powered nodes may act as repeaters, regardless of manufacturers.

22

User Setup

ZigBee Module
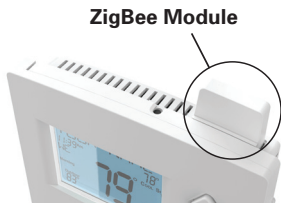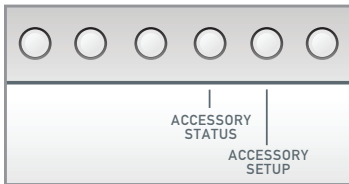
ZigBee Module

Please follow the instructions included with the ZigBee module to join the Network or view status. The general instructions are below.

ZigBee Module

Press the **Accessory Status** button to view the status of the thermostat's connection to the Network.

Press the **Accessory Setup** button to enter the ZigBee Network setup:
Press the Cooler button to join the ZigBee Network and start the connection process on the Z-Wave controller.

Press the Warmer button to remove this thermostat from the Network. When prompted, press the Warmer button again to confirm thermostat removal from the ZigBee network.

Note for WiFi, Z WAVE and Zigbee: *In order for 3rd party devices (such as home automation systems) to communicate with your thermostat through its local API, Setup Step #67 must be set to ON.*

If desired both Skyport access and API access may be both set to on, allowing 3rd party device access as well as Skyport access.

User Setup - Service Filter

These setup steps allow the user to monitor equipment runtimes and program service alerts. Service alerts are displayed in the scrolling marquee.

Runtime hours or days appear in the clock display.

```
RUNTIME
30
05
Setup Step
```

FAN ON
AUTO

Press and hold FAN to clear service alert messages from the scrolling marquee.

Service Filter Runtime (setup steps 9-10, 17-18)

Current Service Filter Runtime Hours (Setup Step 9) - This counter keeps track of the number of hours of fan runtime in the Heating mode, Cooling mode, and in stand alone Fan operation. Press FAN to reset.

Current Service Filter Calendar Days (Setup Step 10) - This counter displays the total number of calendar days that have elapsed since the counter was reset to help the user track Fan runtime. Press FAN to reset.

Set Service Filter Runtime Hours (Setup Step 17) - This timer allows the user to specify the number of hours the fan will run before the "Replace Filter" alert will be displayed. Press COOLER continuously until **0** is displayed to disable this alert.

Set Service Filter Calendar Days (Setup Step 18) - This timer allows the user to specify the number of calendar days that will elapse before the "Replace Filter" alert will be displayed. Press COOLER continuously until **0** is displayed to disable this feature.

Press the **SETUP** button, then press **MODE** repeatedly until the desired setup step appears. Use the **WARMER** or **COOLER** buttons to make selection. Press **MODE** to advance to the next step. Press **SETUP** to leave the setup screens.

SETUP → MODE → COOLER → WARMER

User Setup - System Runtimes

To view, set, or reset System Runtimes, press the SETUP button, then press MODE. Press MODE to advance to the desired setup step. Use the WARMER or COOLER buttons to adjust the value of your selection. Press SETUP again to leave the setup screens.

Heating and Cooling System Runtime - Energy Watch

(setup steps 11-13)

Current Heat Runtime Hours (Setup Step 11) - This counter keeps track of the number of hours the system has run in Heating. Press FAN to reset.

Current Aux Strip Heat Runtime Hours (Setup Step 12) - This counter keeps track of the number of hours the system has run in Auxiliary Heating. This setup step is only available when the thermostat jumpers are configured for Heat Pump and Electric Heat. Press FAN to reset.

Current Cool Runtime Hours (setup step 13) - This counter displays the number of hours the system has run in Cooling. Press FAN to reset.

Current Override Hours (setup step 14)

This counter keeps track of the number of hours that the thermostat is overridden into Occupied settings. Press FAN to reset.

UV Lamp Runtime (setup steps 15, 19)

Current UV Lamp Calendar Days (setup step 15) - This counter displays the total number of calendar days that have elapsed since last reset to help the user track UV lamp runtime. Press FAN to reset.

Set UV Lamp Calendar Days (setup step 19) - This timer allows the user to specify the number of calendar days the UV Lamp will operate before the "Replace UV Lamp" alert will be displayed. Press COOLER continuously until **0** appears to disable this alert.

Humidifier Runtime (setup steps 16, 20)

Current Humidifier Calendar Days (setup step 16) - This counter displays the total number of calendar days that have elapsed since last reset to help the user track the Humidifier run-time. Press FAN to reset.

Set Humidifier Calendar Days (setup step 20) - This timer allows the user to specify the number of calendar days the Humidifier will run before the "Service Humidifier" alert will be displayed. Press COOLER continuously until **0** appears to disable this alert.

Selecting Your Time Period Schedule (setup step 1)

This thermostat may be configured to be programmable or non programmable.

7 Day Program - Allows all seven days to be programmed independently.

Non Program - No advanced time period programming available.

1 Day Program - Allows one 24 hour day to be programmed. This same schedule will be repeated every day the program is set to run.

5/1/1 Day Program - Allows weekdays, Saturday, and Sunday to be programmed independently.

Selecting Your Available Modes (setup step 2)

Auto-Changeover - Allows the thermostat to turn on heating or cooling based on room temperature demand. Also allows the manual selection of HEAT only or COOL only and OFF.

Heat and Cool - Allows the thermostat to turn on heating or cooling depending on which one has been manually selected. Auto-Changeover is not available when this is selected.

Heat Only - Allows the thermostat to only turn on HEAT or OFF modes.

Cool Only - Allows the thermostat to only turn on COOL or OFF modes.

Programming a Daily Time Period Schedule

To enable (RUN) or turn ON the Time Period Schedule press the Program button momentarily.

To turn Off the Time Period Schedule stored program press this button again.

To alter the Time Period Schedule settings; press & hold this button for 5 seconds until the "Set Program" prompt appears. Modify the settings with the Warmer and Cooler buttons. Use the Mode button to advance through the steps. Press the Program button again to leave the setup screens.

Program Button

OFF | RUN
HOLD TO SET

⭘ → `SET PROGRAM` → **ADJUST** WARMER / COOLER → **NEXT** MODE

Programming a Daily Schedule (continued)

Once the Set Program prompt appears the Mode button will step you through the settings as follows:

Set the Unoccupied Mode – Press the Warmer or Cooler buttons to choose the mode for the Unoccupied period. The thermostat is in Unoccupied when the Time Period Schedule is running and there is not an active Occupied period. The choices are: Off, Heat only, Cool only and AUTO changeover.

Adjust the Unoccupied Cool Setpoint – Press the Warmer or Cooler buttons to adjust the Cooling setpoint for times when the thermostat is in Unoccupied.

Adjust the Unoccupied Heat Setpoint – Press the Warmer or Cooler buttons to adjust the Heating setpoint for times when the thermostat is in Unoccupied.

Select the number of Occupied time periods – Press the Warmer or Cooler buttons to choose the maximum number (up to 3 maximum) of Occupied time periods in a day.

Select the Mode for the Occupied period – Press the Warmer or Cooler buttons to choose the mode for the occupied period. The choices are: Off, Heat only, Cool only and AUTO changeover.

Adjust the Occupied Cool Setpoint – Press the Warmer or Cooler buttons to adjust the Cooling setpoint for comfort.

Adjust the Occupied Heat Setpoint – Press the Warmer or Cooler buttons to adjust the Heating setpoint for comfort.

   The following steps determine when the Occupied period(s) will be active.

Enable Occupied 1 – Press the Warmer or Cooler buttons to enable (On) or to disable (Off) Occupied 1 on Monday.

Adjust the Start Time for Occupied 1 – Press the Warmer or Cooler buttons to adjust the start time for Occupied 1 on Monday.

Adjust the Stop Time for Occupied 1 – Press the Warmer or Cooler buttons to adjust the stop time for Occupied 1 on Monday.

Upon pressing Mode after the above step; you will be prompted to Save and Exit or Copy this Occupied schedule to another day.

   To save and exit – Press the Program button.

   To Copy Monday's settings/schedule to Tuesday – Press Up and then Mode. *Press Mode again to copy the Monday Settings/schedule to subsequent days.*

   To Program Another Day – Press Down and then press the Mode button to select the day to program. Repeat the above steps for each day you would like to program.

Installer Setup

Setpoint Limits (setup step 23) When this feature is at any setting other than no setpoint limits', the heat and cool setpoints can be restricted to preset levels, set in steps 24 and 25.

This feature allows the user to set 3 different levels of security: (0 - 3).

No Setpoint Limits (0) - When this level is selected, no restrictions are activated.

Use Setpoint Limits (1) - When this level is selected, the heat and cool setpoints can be restricted to preset levels, set in setup steps 20 and 21.

    Maximum Heat Setpoint (setup step 24) - (35˚ - 99˚).

    Minimum Cool Setpoint (setup step 25) - (35˚ - 99˚).

Force Program Mode (2) - When this level is selected, the heat and cool setpoints can be restricted to preset levels, set in setup steps 20 and 21 <u>and</u> the thermostat is locked into the current mode and time period program setting and the FAN button is locked out.

Setpoints Frozen (3) - When this level is selected, the heat and cool setpoints, the current mode, the FAN button and time period program settings are locked.

Cycles Per Hour (setup step 26) The Cycles Per Hour setting may limit the number of times per hour your HVAC unit may energize. For example, at a setting of 6 cycles per hour the HVAC unit will only be allowed to energize once every 10 minutes. The Cycles Per Hour limit may be overridden and reset by pressing the WARMER or COOLER buttons on the thermostat. Settings are No Limit, 2, 3, 4, 5, or 6.

Compressor Minimum Off Minutes (setup step 27) This feature allows the user to set a minimum off time for the compressor. Settings are 5 mins., 3 mins., or 0 mins.

Minimum Heat/Cool Setpoint Difference (setup step 28) This feature allows the user to set the minimum gap between Heat and Cool setpoints in **AUTO** mode. Select from 0 to 6. If setup step 2 is not set for **AUTO-CHANGEOVER**, this step will not appear.

Number of Heat Stages (setup step 29) This setting assures proper stage callouts on the thermostat display for non-heat pump applications.

Number of Cool Stages (setup step 30) This setting assures proper stage callouts on the thermostat display for non-heat pump applications.

Number of Compressor Stages (setup step 31) *This feature is for heat pump application only.* This feature allows the thermostat to control 1 or 2 compressor stages when configured for heat pump.

Number of Aux Stages (setup step 32) *This feature is for heat pump application only.* This feature allows for proper Aux Heat Staging. (0-2 stages)

Installer Setup

Deadband Settings (setup steps 33 - 42)

The Deadband is the number of degrees or minutes that the thermostat waits before it initiates the stages of heating or cooling.

1st Stage Deadband (setup step 33) - Specifies the minimum temperature difference between the room temperature and the desired setpoint before the first stage of heating or cooling is allowed to turn on. (1 - 6 degrees) For example, if the heat setpoint is 68˚ and the 1st Stage deadband is set to 2 degrees, the room temperature will need to reach **66˚** before the heat turns on.

2nd Stage Deadband (setup step 34) - Specifies the additional minimum temperature difference after the first stage turns on before the second stage is activated. (0˚ - 10˚)

3rd Stage Deadband (setup step 35) - Specifies the additional minimum temperature difference after the second stage turns on before the third stage is activated. (0˚ - 10˚)

4th Stage Deadband (setup step 36) - *(Two Stage heat pump only)* - Specifies the additional minimum temperature difference after the third stage turns on before the final stage of strip heat is activated. (0˚ - 10˚)

Minutes Between 1st and 2nd Stage (setup step 37) - Specifies the *minimum* time (in minutes) after the first stage turns on before the second stage can turn on. (0 - 60)

Minutes Between 2nd and 3rd Stage (setup step 38) - Specifies the *minimum* time (in minutes) after the second stage turns on before the third stage can turn on. (0 - 60)

Minutes Between 3rd and 4th Stage (setup step 39) - Specifies the *minimum* time (in minutes) after the third stage turns on before the final stage can turn on. (0 - 60)

Second Stage Turnoff Point (setup step 40) - Specifies whether second stage will turn off at first stage deadband or remain on until the room temperature demand is satisfied. Choose between Deadband or Setpoint.

Third Stage Turnoff Point (Setup Step 41) - Specifies whether third stage will turn off at second stage deadband or remain on until the room temperature demand is satisfied. Choose between Deadband or Setpoint.

Fourth Stage Turnoff Point (Setup Step 42) - Specifies whether fourth stage will turn off at third stage deadband or remain on until the room temperature demand is satisfied. Choose between Deadband or Setpoint.

Minutes of Fan Purge (setup step 43)

When this feature is activated, the fan will turn on during an unoccupied period at a preset amount of time prior to Occupied 1. This preoccupancy fan purge timer may be set from zero to three hours, in 15 minute increments. Zero means this feature is turned off.

Fan Off Delay in Seconds (setup step 52)

This feature allows the user to increase the cooling or electric strip heating efficiency of the system. The thermostat may be programmed to continue running the fan after a call for cooling or electric strip heating has been satisfied. This delay can be set for 0, 30, 60, 90, or 120 seconds. If set to 0, the fan will not run after a call for cooling or electric strip heating has been satisfied.

Comfort Recovery (setup step 63)

With Comfort Recovery on, the thermostat will attempt to reach the Occupied 1 setpoint temperature at the exact time programmed into the thermostat. Comfort Recovery, only works when the thermostat enters the Occupied mode from the Unoccupied mode. For example, if the Occupied program is set for 6am at 72°F heating and 75°F cooling, the thermostat will turn the system on before 6am in an effort to bring the temperature to its correct setting at exactly 6am. The thermostat learns from experience, so please allow 4-8 days after a program change or after initial installation to give Comfort Recovery time to adjust. If used with a heat pump, electric strip heat will be disabled while Comfort Recovery is active.

Installer Setup

Humidity and Dehumidity (setup steps 46-51, 75-77)

Humidity Only With Heat (Setup Step 46) - When this step is set to ON, Humidity will not run without a demand for Heat.

Fan With Humidity Demand (Setup Step 47) - Specifies if the fan should be turned on with a demand for Humidity. (This step will only appear if step 42 is set to OFF.)

Fan with Dehumidify (Set up Step 48) - Specifies if the fan should be turned on with a demand for Dehumidify. (This step will only appear if step 42 is set to OFF.)

Cool To Dehumidify (Setup Step 49) - Specifies if the cooling equipment is allowed to turn on exclusively to lower room humidity. (If set to OFF the following two steps will not appear.)

Max Dehum Overcool (Setup Step 50) - Specifies how many degrees below the Cool setpoint the air conditioning will run to satisfy a Cool to Dehumidify demand. (0° - 20°)

Reheat Operation With Cool To Dehumidify (Setup Step 51) - Specifies if electric strip heat is allowed to turn on during a Cool to Dehumidify demand to help maintain desired room temperature. This step is not available if Electric Heat is not present.

Humidity Output Polarity (setup step 66)

Humidity Output Normally Open - means no voltage is sent to the HUM output when there is no demand for humidity.

Humidity Output Normally Closed - means voltage is sent to the HUM output when there is no demand for humidity.

Dehumidify Output Polarity (setup step 67)

Dehumidify Output Normally Open - means no voltage is sent to the DEHUM output when there is no demand to dehumidify.

Dehumidify Output Normally Closed - means voltage is sent to the DEHUM output when there is no demand to dehumidify.

Dehumidify Only with Cooling (setup step 68)

When set to ON, Dehumidify will only turn on with a 1st stage cooling demand.

Installer Setup

Dry Contact Operation (setup step 64 - 65)

Dry Contact Polarity (setup step 64)

Open (Normally Open) - The dry contact is open until the connected device closes the circuit.

 'Idle'   'Active'

Closed (Normally Closed) - The dry contact is closed until the connected device opens the circuit.

 'Idle'   'Active'

Dry Contact Use (setup step 65)

CONDENSATE - If CONDENSATE is selected when the dry contact is active, the thermostat will lockout the compressor terminal(s) and "CONDENSATE PAN OVERFLOW" will appear on the display.

OCCUPIED - If OCCUPIED is selected when the dry contact is active, the thermostat will be forced into Occupied 1. This setting may be used with time clocks or twist timers to force the thermostat from Occupied to Unoccupied, or from Unoccupied to Occupied depending on the dry contact polarity.

FDD - If FDD is selected when the dry contact is active, "EQUIPMENT FAULT" will appear on the display.

HOLIDAY - The Holiday feature allows the thermostat to use temporary, energy saving settings without having to change regular programming. Holiday setup/programming at the local thermostat is limited to the number of days employing Holiday settings. When the optional Wi-Fi module is detected in the thermostat, local Holiday programming at the thermostat of the Holiday setup is not allowed. In this case Holiday setup and programming is accomplished with the Skyport Web App. Skyport gives the user extensive control over Holiday settings.

Press the Holiday button to enter Holiday programming (no Wi-Fi Module detected).

If there is not a Holiday period active:

Use the Warmer and Cooler buttons to choose the number of days desired to run the Holiday feature. To confirm your settings and advance to the next step, press the Holiday button again. Choose the desired Holiday Cool set point. Press Holiday. Then choose the desired Holiday Heat set point. Press Holiday to return to the main screen.

Installer Setup

Wired Sensor Type (setup step 44) **-** Specifies the use of the connected, wired sensor. The choices are: Remote or Supply. The remote option allows control to the sensor, the supply does not.

Control To Temp Source (setup step 45)

This feature allows the user to specify which temperature sensor source the thermostat will use to measure room temperature.

Thermostat: Uses the internal thermostat sensor only.

Remote Sensor: Uses wireless or wired sensors only.

Average of Remote Sensor and Thermostat: Averages the temperatures of the remote sensor(s) and the thermostat.

NOTE: If a remote sensor is being used, the degree icon on the large room temperature display will blink.

Fahrenheit or Celsius (setup step 53)

This feature allows the thermostat to display temperature in Fahrenheit or Celsius.

Light Activation Sensitivity (setup step 69)

With the lights on in the space, press the FAN button to set the sensitivity of the light sensor. This light level will be the minimum light level needed to switch the thermostat to Occupied 1 settings. If the light level falls below this level the thermostat will revert to Unoccupied settings.

Upon pressing the FAN button; the scrolling display will read "Light sensor set".

Note: The Skyport web app can track "lights on" runtime. This is accomplished by accumulating the hours that the light sensor of the thermostat recognizes that the lights are on.

To use this feature of Skyport, adjust the light activation sensitivity.

Step 66 below does not need to be On for Skyport to accumulate "lights on" runtime.

Light Activation to Occupied (setup step 70)

This feature allows the thermostat to go from Occupied settings to Unoccupied settings when the room lights are turned off and the program is unoccupied. It also allows the thermostat to return to the Occupied 1 settings once the lights come back on.

OFF = Light Activation not used.   ON = Light Activation is used.

Installer Setup

Auxiliary Output

The Premier Thermostat is equipped with a programmable auxiliary output.
This output can be configured to be controlled from a variety of sources.

Aux Output Polarity (setup step 54)

Specifies if the Auxiliary output will be Open (Normally Open) or Closed
(Normally Closed).

Aux Output (setup step 55)

Specifies which source will control the Aux output.
Choices are:

Time - Uses the internal clock of the thermostat.

Temp - Uses one of three temperature sources.

External - The Auxiliary Output is controlled from an external source, such as a
a mobile app.

Economizer - Used to control an economizer, the Aux Output is active when
program is in any occupied time.

Auxiliary Output Programming By Time

If TIME is selected for the Aux Output, the following setup steps will appear:

Aux Output Days (setup step 56) - Specifies if the Aux Output will be single day
(1 DAY), weekday/weekend (5/1/1 DAY), or seven day (7 DAY) programmable.

Day Of Week To Program (setup step 57) - Specifies which day of week to
program.

Aux Output Start Time (setup step 58) - Specifies the time of each day when the
Aux output will turn on.

Aux Output Stop Time (setup step 59) - Specifies the time of each day when the
Aux output will turn off.

Copy (setup step 60) - This step only appears if Aux Output Days (Setup Step
59) is set for 7 programmable output days. Press COOLER and then OUTDOOR
to copy. Press WARMER and then OUTDOOR to program another day with a
different setting.

Installer Setup

Auxiliary Output Programming By Temp

If TEMP is selected for the Aux Output, the following setup steps will appear:

Aux Output Temp Source (setup step 61) - Specifies what temperature source will be monitored for controlling the programmable output. The options are:

Thermostat - Temperature is monitored from the thermostat sensor.

Outdoor Sensor - Temperature is monitored from the Outdoor temperature sensor.

Wired Remote - Temperature is monitored from a wired sensor connected to the Remote Sensor terminals.

Aux Output Trigger Point Temp (setup step 62) - Specifies the temperature from the above selected source **above** which the Aux Output is triggered. A non-adjustable two degree deadband is applied to avoid frequent triggering. The 'N.O.' (Normally Open) or 'N.C.' (Normally Closed) function (Setup Step 60) can be altered to make the output trigger **below** the set temperature. Temps are adjustable from 0 - 120 degrees Fahrenheit.

Press Fan To Clear All Messages (setup step 73)

This feature allows the user to clear all current error messages from the display.

Installer Setup

Locking/Unlocking the Keypad

To prevent unauthorized use of the thermostat, the front panel buttons may be disabled. To disable, or 'lock' the keypad, press and hold the MODE button. While holding the MODE button, press the WARMER and COOLER buttons together. The 🔒 icon will appear on the display, then release the buttons.

Press all three buttons in the order outlined above for keypad lockout
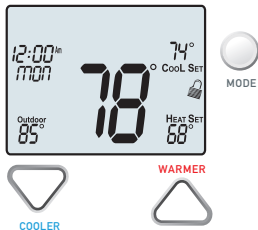
To *unlock* the keypad, press and hold the MODE button. While holding the MODE button, press the WARMER and COOLER buttons together. The 🔓 icon will disappear from the display, then release the buttons.

Installer Setup

Resetting the Thermostat to the Factory Default Settings

(for default values see page 39-40)

If, for any reason, you desire to return all the stored settings back to the factory default settings, follow the instructions below.

WARNING: This will reset all Time Period and Advanced Programming to the default settings. Any information entered prior to this reset may be permanently lost. Additionally, if a Z-Wave module is installed, resetting the thermostat will not reset the Z-Wave module. To reset the Z-Wave module, please follow the instructions on Page 22.

1 Press and hold SETUP for 10 seconds. All icons will appear on the display.

Keep pressing the SETUP button until you see this screen.

SETUP →

2 After all the icons appear, release SETUP. Press and hold FAN for 5 seconds. DEFAULTS will appear on the display.

Keep pressing the FAN button until you see this screen.

FAN ON AUTO →
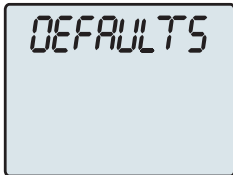
DEFAULTS

3 After DEFAULTS appears, release FAN. Press SETUP to return to normal operation.

SETUP

Technician Setup

*To enter Technician Setup, press and hold the SETUP button for 5 seconds. After all the icons appear, press MODE. The version number of the thermostat will appear in the scrolling text. Press MODE to advance to the next step. Use the WARMER or COOLER buttons to adjust the value of your selection. To leave Technician Setup, press SETUP.*

Hold for 5 seconds   All icons appear   Press MODE to advance through the setup steps
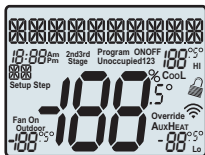
Press WARMER or COOLER to adjust the selection

Technician Setup is for diagnostic and testing purposes and is intended for use by a qualified technician. See page 14 for more detailed instructions.

Technician Setup contains the following options:

- View the version number of the thermostat.
- View the Dip Switch equipment type settings.
- View the state of the Dry Contact.
- Turn on equipment outputs for testing.
- Calibrate thermostat, remote, and humidity sensors.
- Control HUM output (On or Off)
- Control DEHUM output (On or Off)
- Control AUX output (On or Off)

Advanced Setup Table

Default = Factory Default Setting

Step#	Description	Pg#	Range	Default
1	Prog Mode	26	Non, 1 Day, 5/1/1 Day, 7	Day 7
2	Available Modes	26	Heat/Cool/Auto/Off, Heat/Cool/Off, Heat/Off, Cool/Off	Heat/Cool/Auto/Off
3	Backlight	17	On, Off, 6pm-6am	Off
4	Backlight Level	17	Off thru 7 levels of brightness	Level 5
5	Night Dimmer	17	On/Off	Off
6	Night Dimmer Brightness	17	Off thru 7 levels of brightness	2 (20%)
7	Night Dimmer Start Time	17	12A-12A	8:00P
8	Night Dimmer Stop Time	17	12A-12A	6:00A
9	Current Service Filter Runtime Hours	24	0-1999 Hours	0
10	Current Service Filter Calendar Days	24	0-720 Days	0
11	Current Heat Runtime Hours	25	0-1999 Hours	0
12	Current Aux Heat Runtime Hours	25	0-1999 Hours	0
13	Current Cool Runtime Hours	25	0-1999 Hours	0
14	Current Override Hours	25	0-1999 Hours	0
15	Current UV Lamp Calendar Days	25	0-720 Days	0
16	Current Humidifier Calendar Days	25	0-720 Days	0
17	Set Service Filter Runtime Hours	24	0-1950 hours	0
18	Set Service Filter Calendar Days	24	0-720 Days	0
19	Set UV Lamp Calendar Days	25	0-720 Days	0
20	Set Humidifier Calendar Days	25	0-720 Days	0
21	Language	17	English, Espanol, Francais	English
22	Scrolling Method	18	"L-R Slow, L-R Fast, Word L-R Slow, Word L-R Fast, Whole Word L Slow, Whole Word R Slow, Whole Word Ctr. Fast, Whole Word Ctr. Slow"	English
23	Setpoint Limits	28	No, Use	No
24	Max Heat Setpoint	28	35 - 99 Degrees	74
25	Min Cool Setpoint	28	35 - 99 Degrees	70
26	Cycles Per Hour	28	No Limit, 2, 3, 4, 5, 6	6
27	Compressor Minimum Off Minutes	28	0, 3, 5 Minutes	5
28	Min. Heat/Cool Setpoint Difference	28	0 - 6 Degrees	2
29	Number of Heat Stages	28	0 - 3	2
30	Number of Cool Stages	28	0 - 2	1
31	Number Of Compressor Stages	28	1, 2	1
32	Number of Aux Stages	28	0, 1, 2	0
33	1st Stage Deadband	29	1 - 6 Degrees	2
34	2nd Stage Deadband	29	0 - 10 Degrees	2
35	3rd Stage Deadband	29	0 - 10 Degrees	2

Advanced Setup Table

Default = Factory Default Setting

Step#	Description	Pg#	Range	Default
36	4th Stage Deadband	29	0 - 10 Degrees	2
37	Minutes Between 1st and 2nd Stage	29	0 - 60 Minutes	2
38	Minutes Between 2nd and 3rd Stage	29	0 - 60 Minutes	2
39	Minutes Between 3rd and 4th Stage	29	0 - 60 Minutes	2
40	2nd Stage Turnoff Point	29	Deadband, Setpoint	Deadband
41	3rd Stage Turnoff Point	29	Deadband, Setpoint	Deadband
42	4th Stage Turnoff Point	29	Deadband, Setpoint	Deadband
43	Minutes of Fan Purge	30	0 - 3:00, 15 min. increments - 0 = off	0
44	Wired Sensor Type	8	Remote, Supply	Remote
45	Control to Temp Source	32	Tstat, Remote, Average	Tstat
46	Humidity Only With Heat	31	On, Off	Off
47	Fan With Humidity Demand	31	Fan On, Fan Off	Fan Off
48	Fan With Dehumidify Demand	31	Fan On, Fan Off	Fan Off
49	Cool To Dehumidify	31	On, Off	Off
50	Maximum Dehum Overcool	31	0 - 20 Degrees	2
51	Reheat Operation W/Cool To Dehum.	31	On, Off	Off
52	Fan Off Delay	30	0 - 120 Seconds	0
53	F/C	32	Fahrenheit (F), Celsius (C)	F
54	Aux Output Polarity	33	Open, Closed	Open
55	Aux Output	33	Time, Temperature, External, Economizer, Y4	Time
56	Aux Output Program Days	33	1 Day, 5/1/1 Day, 7 Day	1
57	Day Of Week To Program	33	Sunday - Monday (S - M)	MTWTFSS
58	Aux Output Start Time	33	12am - 12am	7am
59	Aux Output Stop Time	33	12am - 12am	9pm
60	Copy	33	Yes, No	No
61	Aux Output Temp Source	34	Tstat, Outdoor, Remote, Ext.	Remote
62	Aux Output Trigger Point Temp	34	0 - 120 Degrees	65
63	Comfort Recovery	30	On, Off	Off
64	Dry Contact Polarity	32	Open, Closed	Open
65	Dry Contact Use	32	Cond. Pan, Occupied, FDD, Holiday	
66	Humidity Polarity	31	Open, Closed	Open
67	Dehumidify Polarity	31	Open, Closed	Open
68	Dehumidify only with Cooling	31	On, Off	On
69	Light Activation Sensitivity	32	Press Fan button to set current light level	
70	Light Activation to Occupied	32	On/Off	Off
71	Skyport	21	On, Off	On
72	Local API	23	On, Off	Off
73	Press Fan To Clear All Messages	34		

Troubleshooting

- **SYMPTOM:** The air conditioning does not attempt to turn on.
  CAUSE: The compressor timer lockout may prevent the air conditioner from turning on for a period of time.
  REMEDY: Consult the Owner's Manual in the Installer Setup section to defeat the Cycles Per Hour *(page 22)*.

- **SYMPTOM:** The display is blank.
  CAUSE: Lack of proper power.
  REMEDY: Make sure the power is on to the furnace and that you have 24vac between **R & C.**

- **SYMPTOM:** The air conditioning does not attempt to turn on.
  CAUSE: The cooling setpoint is set too high.
  REMEDY: Lower the cooling setpoint or lower the cooling set-point limit. *See Setpoint Limits (page 22).*

- **SYMPTOM:** The heating does not attempt to turn on.
  CAUSE: The heating setpoint is set too low.
  REMEDY: Raise the heating setpoint or raise the heating set-point limit. *See Setpoint Limits (page 22).*

- **SYMPTOM:** When controlling a residential heat pump, and asking for cooling, the heat comes on.
  CAUSE: The thermostat reversing valve jumper is set for **"B".**
  REMEDY: Set the reversing valve jumper for **"O".**

- **SYMPTOM:** When calling for cooling, both the heat and cool come on.
  CAUSE: The thermostat equipment jumper is configured for **"HP"** and the HVAC unit is a Gas/Electric.
  REMEDY: Set the equipment jumper for **"Gas".**

- **SYMPTOM:** When the Program button is pressed, the display reads "DISABLED".
  CAUSE: Program mode is set to **"NON PROGRAM".**
  REMEDY: Set Program Mode (Setup 1) to 1, **5/2,** or **7 Day.**
  See Selecting Your Program Mode (page 21).

Index

A

Alerts
see Runtime

Auto
adjust temperature, 6
changeover, 7
fan, 5, 7
mode, 3, 7

Aux Icon, 5

AuxHeat icon, 5

Auxiliary Output, 15, 34, 35

Average
thermostat sensor, 33

B

b reversing valve, 10, 11, 12, 14

Backplate, 11

Buttons
accessory, 2, 20, 21, 22, 23
cooler (down) 1, 7
emergency heat, 2, 19
front panel, 1
humidity, 1, 8
mode, 1, 6

outdoor, 1, 8
override 1, 7
program 1, 26
set clock, 1, 6
setup, 1, 17
up (warmer), 1, 7

C

C, 27

Calibration, 32

Celsius, 27

Clock
display, 2
setting, 5

Comfort Recovery, 24

Cool
1st stage deadband, *see Deadband*
dehum, 25
minutes of runtime, 23
2nd stage deadband, *see Deadband*
dehum, 25
min. of runtime, 23
turn off temp., 23
droop, *see Deadband*
electric/heat pump, 10
icon, 2
indicator, 1
mode, 2, 5
overcool, *see Overcool*
program, *see Program*

runtime, *see Runtime*
setpoint, 3, 6, 20
to dehumidify, *see Dehumidify*

Condensate Drain Pan, 26

Copy Function
see Program

Cycles Per Hour, 22

D

Deadband
balance point, 23
1st stage, 23
2nd stage, 23
3rd stage, 23

Dehumidify
Aux icon, 2
cool to, 25
dehum settings, 25
setpoint, 25

Delay
fan-off, see Fan
time between stages, *see Time Delay*

Differential
heat and cool, 22

42

Index

Index

Index

P

Pan, Service
see Dry Contact

Polarity, *see Dry Contact*

Program
Copy, 20, 28
daily schedule, 20
mode, 21
worksheet, *back page*

Purge Fan, 24

Auxiliary Output
economizer, 28
external control, 28
error, 28
temperature-based
control, 28, 29
time-based control, 28

**Programmable
Thermostat, 21**

**Programming a Daily
Schedule, 20**

R

Reheat
during cool to
dehumidify, 25
electric heating, 25
function, 25

Remote Sensor
averaging with
Thermostat, 27
calibrate, 32
control to, 27
outdoor temperature,
see Outdoor
read to, 6
viewing, 6

Reset
Alert Messages, 18
thermostat settings,
see Factory Defaults
runtime
fan/filter, 18
humidify, 19
UV light, 19

Reversing Valve, 10

Runtime
resetting, *see Reset*
setting,
humidifier, 19
service filter, 18
UV light, 19
viewing,
cool, 19
heat, 19
humidification, 19
UV lamp, 19

S

Schedule
Daily, *see Program*

**2nd stage turn off
temperature, 23**

Sensor
outdoor, *see Outdoor*
remote, *see Remote*
thermostat, *see
Thermostat*

Service
filter icon, *see Reset*
humidify icon, see
Reset
pan icon, *see Dry
Contact*
UV light, *see Reset*

Set Clock, *see Clock*

Setpoint
Auxiliary Output, 28
cool, *see Cool*
dehumidification, 25
heat, *see Heat*
holiday, 17
humidification, 25

Simplest Operation, 5

Stages
number of heat
stages, 28
number of cool
stages, 28

Index

Warranty

One-Year Warranty - This Product is warranted to be free from defects in material and workmanship. If it appears within one year from the date of original installation, whether or not actual use begins on that date, that the product does not meet this warranty, a new or remanufactured part, at the manufacturer's sole option to replace any defective part, will be provided without charge for the part itself provided the defective part is returned to the distributor through a qualified servicing dealer.

THIS WARRANTY DOES NOT INCLUDE LABOR OR OTHER COSTS incurred for diagnosing, repairing, removing, installing, shipping, servicing or handling of either defective parts or replacement parts. Such costs may be covered by a separate warranty provided by the installer.

THIS WARRANTY APPLIES ONLY TO PRODUCTS IN THEIR ORIGINAL INSTALLATION LOCATION AND BECOMES VOID UPON REINSTALLATION.

LIMITATIONS OF WARRANTIES – ALL IMPLIED WARRANTIES (INCLUDING IMPLIED WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE AND MERCHANTABILITY) ARE HEREBY LIMITED IN DURATION TO THE PERIOD FOR WHICH THE LIMITED WARRANTY IS GIVEN. SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE MAY NOT APPLY TO YOU. THE EXPRESSED WARRANTIES MADE IN THIS WARRANTY ARE EXCLUSIVE AND MAY NOT BE ALTERED, ENLARGED, OR CHANGED BY ANY DISTRIBUTOR, DEALER, OR OTHER PERSON WHATSOEVER.

ALL WORK UNDER THE TERMS OF THIS WARRANTY SHALL BE PERFORMED DURING NORMAL WORKING HOURS. ALL REPLACEMENT PARTS, WHETHER NEW OR REMANUFACTURED, ASSUME AS THEIR WARRANTY PERIOD ONLY THE REMAINING TIME PERIOD OF THIS WARRANTY.

THE MANUFACTURER WILL NOT BE RESPONSIBLE FOR:

1. Normal maintenance as outlined in the installation and servicing instructions or owner's manual, including filter cleaning and/or replacement and lubrication.

2. Damage or repairs required as a consequence of faulty installation, misapplication, abuse, improper servicing, unauthorized alteration or improper operation.

3. Failure to start due to voltage conditions, blown fuses, open circuit breakers or other damages due to the inadequacy or interruption of electrical service.

4. Damage as a result of floods, winds, fires, lightning, accidents, corrosive environments or other conditions beyond the control of the Manufacturer.

5. Parts not supplied or designated by the Manufacturer, or damages resulting from their use.

6. Manufacturer products installed outside the continental U.S.A., Alaska, Hawaii, and Canada.

7. Electricity or fuel costs or increases in electricity or fuel costs for any reason whatsoever including additional or unusual use of supplemental electric heat.

8. ANY SPECIAL INDIRECT OR CONSEQUENTIAL PROPERTY OR COMMERCIAL DAMAGE OF ANY NATURE WHATSOEVER. Some states do not allow the exclusion of incidental or consequential damages, so the above may not apply to you.

This warranty gives you specific legal rights and you may also have other rights which may vary from state to state.

DAY	PERIOD	START TIME	COOL	HEAT
MONDAY	Unoccupied			
	Occupied 1			
	Occupied 2			
	Occupied 3			
TUESDAY	Unoccupied			
	Occupied 1			
	Occupied 2			
	Occupied 3			
WEDNESDAY	Unoccupied			
	Occupied 1			
	Occupied 2			
	Occupied 3			
THURSDAY	Unoccupied			
	Occupied 1			
	Occupied 2			
	Occupied 3			
FRIDAY	Unoccupied			
	Occupied 1			
	Occupied 2			
	Occupied 3			
SATURDAY	Unoccupied			
	Occupied 1			
	Occupied 2			
	Occupied 3			
SUNDAY	Unoccupied			
	Occupied 1			
	Occupied 2			
	Occupied 3			

Copy Mon to Tues
☐ *No*
☐ *Yes*

Copy Tues to Wed
☐ *No*
☐ *Yes*

Copy Wed to Thurs
☐ *No*
☐ *Yes*

Copy Thurs to Fri
☐ *No*
☐ *Yes*

Copy Fri to Sat
☐ *No*
☐ *Yes*

Copy Sat to Sun
☐ *No*
☐ *Yes*

Patent Pending

VENSTAR®