

# VENSTAR®

## DIGITAL THERMOSTAT



### RESIDENTIAL THERMOSTAT T1800

## 7-DAY PROGRAMMABLE UP TO 3-HEAT & 2-COOL



- Control up to 3 Heat & 2 Cool Stages
- 3 Configurable Outputs
- Adjustable 2nd & 3rd Stage Timers & Deadbands
- Backlit Display & Button Legends
- Aux Heat Indicator
- Outdoor Sensor Ready with High/Low Readouts for the Day
- Accepts Optional Humidity Module: Controls Humidification and Dehumidification
- Accepts EZ Programmer™
- Accepts Optional IR Remote Control
- Accepts Comfort Call Phone Control Accessory™

• Use with most Air Conditioning & Heating Systems including: 1 or 2 Stage Electric Cooling & 3 Stage Gas Heating, Heat Pump, Electric or Hydronic Heat.



## OWNER'S MANUAL

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**VENSTAR®**



### CAUTION

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



### CAUTION

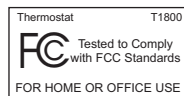
NEVER PUT MORE THAN ONE  
JUMPER ON THE SAME MISC  
JUMPER BLOCK!

THIS MAY DAMAGE YOUR  
THERMOSTAT AND VOID  
YOUR WARRANTY.



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

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, and (2) this device must accept any interference  
received, including interference that may cause undesired operation.



## How to Use This Manual

**VENSTAR®**

The Table of Contents divides the thermostat features into sections making it easier to quickly find information.

The first page of each section contains a more detailed Contents of each section, such as the example page shown below.

The diagram illustrates the layout of a section header and its contents page. It features a header bar with the section number and title, followed by a detailed table of contents for that section. Callouts with arrows point to specific elements: the header bar, the section contents list, a visible section tab on the side of the page, and the page number at the bottom.

**SECTION 14**  
*Timers and Deadbands* **VENSTAR®**

**Section 14 Contents:**

- *Adjusting the Heat/Cool Differential.....14.2*
- *Adjusting the Cycles Per Hour.....14.3*
- *Adjusting the Deadband.....14.4*
- *Adjusting the Minutes of Run-Time Before the Next Stage.....14.6*
- *Selecting 2nd Stage Turn Off Temperature.....14.7*

**14**

Page 14.1

Header shows section # and title of section

Section contents

Visible section tab on the side of the page

Section and page #

In addition, this manual also has an Index to help you find any information regarding this thermostat quickly.

## Glossary of Terms

VENSTAR®

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

**Configurable Output Jumper:** Using jumpers on the thermostat you can configure the MISC1, MISC2, and MISC3 terminals to operate with regards to humidification, dehumidification, 2nd stage cooling, 3rd stage heating, and a programmable output.

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

**Deadband:** The number of degrees the thermostat will wait, once 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 regards 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, Program On).

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

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

**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 day.



## *Table of Contents*

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Setting Clock and Day	<b>3</b>
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## **SECTION 1** *Getting to Know Your Thermostat*

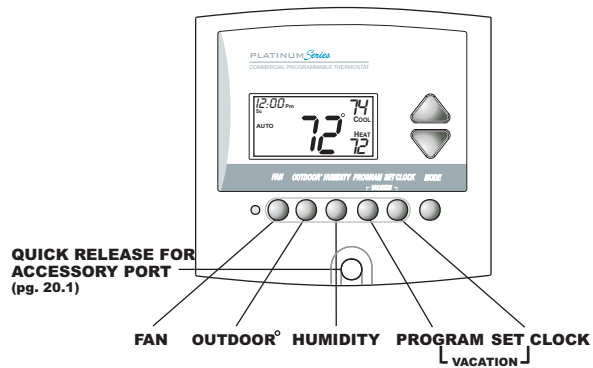
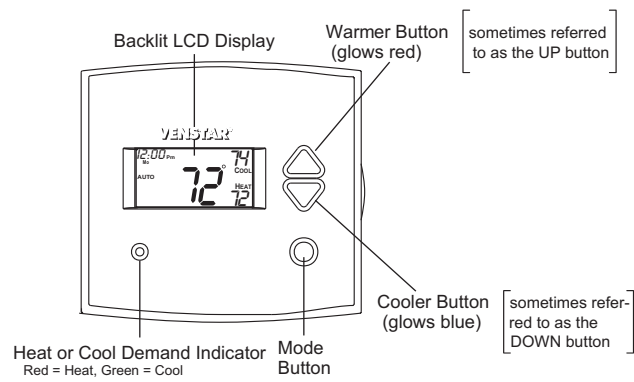
**1**

**VENSTAR®**

### **Section 1 Contents:**

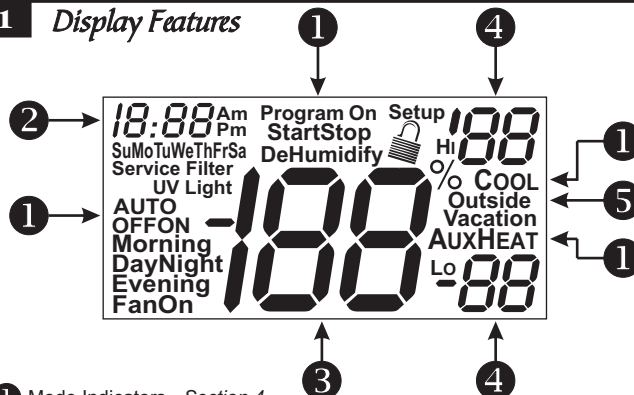
- *Front Panel Buttons.....1.2*
- *Display Features.....1.3*

*Front Panel*



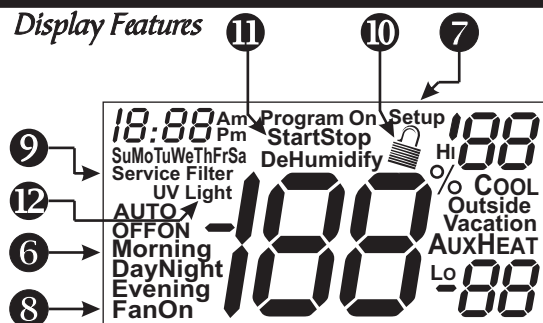


# 1 Display Features

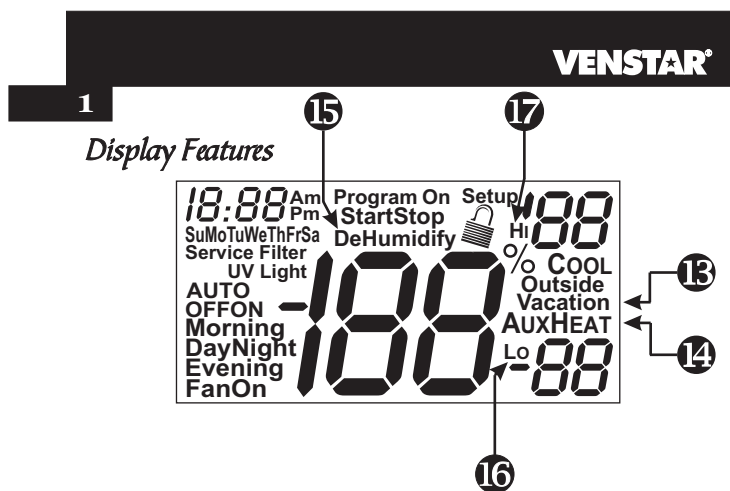


- 1 Mode Indicators - Section 4**  
 Selects the operational mode of the equipment.
  - HEAT** - Indicates the heating mode.
  - COOL** - Indicates the air conditioning mode.
  - AUTO** - Indicates the system will automatically changeover between heat and cool modes as the temperature varies.
  - OFF** - Indicates heating and cooling is turned off.
  - PROGRAM ON** - Indicates the time period program is enabled to run.
- 2 Clock with Day of the Week - Section 3**  
 Indicates the current time and day. This clock is also used to program the time period schedule.
- 3 Room Temperature Display - Section 5**  
 Indicates the current room temperature and displays the outdoor temperature when selected.
- 4 Desired Set Temperature - Section 4/5**  
 Indicates desired room temperature(s). Also displays the highest and lowest temperatures for the day.
- 5 Outside icon - Section 5**  
 Indicates the temperature displayed is from the optional outdoor sensor.

# *Display Features*

**1**


- 6** **Morning, Day, Evening & Night** icons - *Section 6*  
Indicates the day part of the time period program.
- 7** **Setup** icon - *Sections 6-17*  
Indicates the thermostat is in the setup mode.
- 8** **Fan On** icon - *Section 7*  
Indicates constant, continuous fan operation.  
When **Fan On** is not lit - indicates the fan will only operate when necessary to heat or to cool.
- 9** **Service Filter** icon - *Section 16*  
Appears when the filter should be serviced under normal conditions.  
Adjustable from 0 - 1950 hours of blower operation.
- 10** icon - *Section 8*  
Indicates the keypad has been locked.
- 11** **StartStop** icon - *Section 6*  
Appears when programming timer functions.
- 12** **UV Light** icon - *Section 19*  
Appears when the UV bulb should be serviced under normal conditions. Adjustable from 0 - 1990 days of operation.



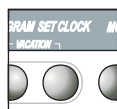
- 13** **Vacation** icon - *Section 17*  
 Indicates the thermostat has Vacation setpoints in use.
- 14** **AuxHeat** icon - *Page 13.4*  
 Indicates 2nd stage electric strip heat is being used when the thermostat is programmed for Heat Pump operation.
- 15** **Humidify/DeHumidify** icon - *Sections 9/10*  
 Indicates the system is currently humidifying/dehumidifying the air.
- 16** **Lo** icon - *Section 5*  
 Indicates the lowest recorded outdoor temperature for the day.
- 17** **Hi** icon - *Section 5*  
 Indicates the highest recorded outdoor temperature for the day.

**Section 2 Contents:**

- *Setting the Clock and Day.....2.2*
- *Selecting the Heat or Cool  
Mode.....2.3*
- *Selecting Your Desired  
Temperature.....2.4*
- *Using the Fan Button.....2.4*

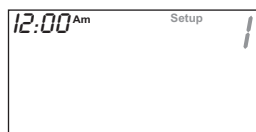
**Note:** *Following the instructions in this section will allow you to operate your thermostat using the factory default settings. These settings are depicted in the illustrations throughout this manual.*

**2**



Press the **SET CLOCK** button

### Setting the Clock



*During Setup & Programming:*

*Pressing the UP or DOWN buttons will modify the flashing selection.*

### Setting the Day



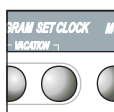
Press  
**MODE**

To adjust the Clock or Day use



buttons.

Press the **SET CLOCK** button to return to normal operation.



To adjust the time by hours press and hold the **FAN** button while pressing the UP or DOWN buttons.

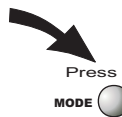
## Selecting the Heat or Cool Mode

**2**

### Select Mode by Pressing the MODE Button

#### Heating Only

The **HEAT** setting indicates the temperature the room has to reach before the furnace will turn on to heat the room.



#### Cooling Only

The **COOL** setting indicates the temperature the room has to reach before the air conditioner will turn on to cool the room.



#### Heating or Cooling

**AUTO** will automatically select heat or cool based on room temperature demand.



#### Time Schedule for Heating or Cooling

The **Program On** setting will activate the time period programming for the cooling or heating setpoint **ONLY** (Morning, Day, Evening & Night Periods).



#### Off

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



## Selecting Your Desired Temperature (adjusting the setpoints)

**2**

### AUTO OR PROGRAM MODE

Pressing the UP or DOWN buttons in Auto or Program mode will adjust **both** the heat and cool set temperatures simultaneously.



Adjust the desired set temperature with the



buttons.

### HEAT OR COOL MODE

Pressing the UP or DOWN buttons in Heat or Cool mode will adjust only the heat or cool set temperature.



Adjust the desired set temperature with the



buttons.

## Using the Fan Button



Press  
FAN

**Fan On** indicates constant fan operation. You may turn the fan on even if the thermostat is in the **Off** mode. Pressing the FAN button toggles this feature on or off.

## **SECTION 3** *Setting the Clock and Day* **VENSTAR®**

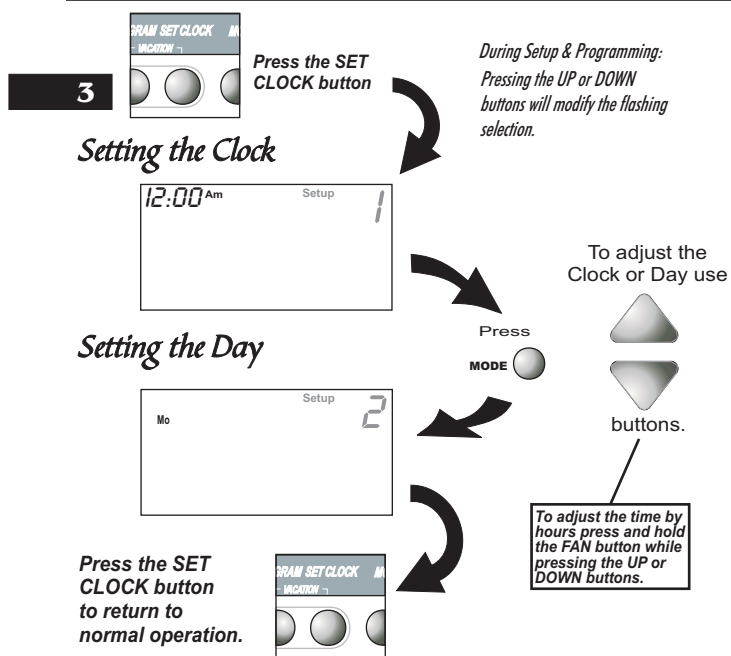
**3**

### **Section 3 Contents:**

- *Setting the Clock*.....3.2
- *Setting the Day*.....3.2

**Note:** During setup & programming pressing the UP or DOWN buttons will modify the flashing selection.





**Section 4 Contents:**

- *Programmable or Non-  
Programmable Thermostat.....4.2*
- *Manual or Auto-Changeover  
Thermostat.....4.3*
- *Selecting the Operating Mode....4.4*
- *Selecting Your Desired  
Temperature.....4.8*

**Note:** During setup & programming pressing the UP or DOWN buttons will modify the flashing selection.

## *Programmable or Non-Programmable Thermostat*

**4**

When the very simplest operation is desired, this thermostat may be configured to be non-programmable, with or without Auto-Changeover. Follow the step below.

If 'NO' is selected, the thermostat will lockout the Program On screen; only the Off, Heat, Cool, and Auto screens may be accessed by pressing the MODE button.

Select 'YES' if you would like your thermostat to be **programmable**, then the Program mode will be accessible through the use of the MODE button.

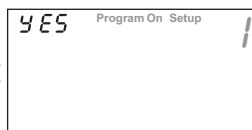


**Press the MODE button. While holding the MODE, press the PROGRAM button to enter Setup screens.**

*Note: Press the MODE button momentarily to move through the setup screens. Press and hold the MODE button to move backwards through the setup screens.*



Select Yes if you would like the thermostat to be programmable or No for non-programmable.




Press the PROGRAM button to leave the Setup screens. If no buttons are pressed, the display will leave the setup screens after 30 seconds.


## Manual or Auto-Changeover Thermostat


When the very simplest operation is desired, this thermostat may be configured to be a manual heat and cool thermostat, with or without time period programmability. Follow the step below.

**4**


The thermostat may be programmed to function as a Heat Only or Cool Only thermostat by selecting 'NO' in the setup screen below. This will lockout the Auto-Changeover screen and only allow the Off, Heat, Cool, and Program On screens to be accessed.

**MODE**  *Press the **MODE** button. While holding the **MODE**, press the **PROGRAM** button to enter Setup screens.*


**PROGRAM** 

**MODE**  *Press the **MODE** button repeatedly until this setup screen appears.*

*Note: Press the **MODE** button momentarily to move through the setup screens. Press and hold the **MODE** button to move backwards through the setup screens.*

**YES** 

Select Yes if you would like the thermostat to be Auto-Changeover or No for a Heat Only and Cool Only Thermostat.


**NO** 

Setup

YES

2

AUTO



Press **PROGRAM**

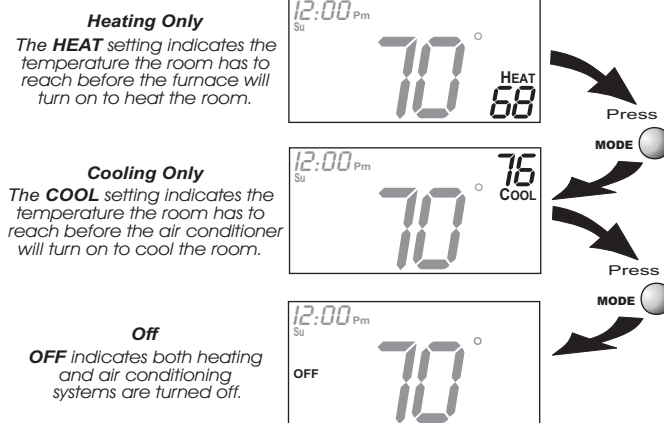
Press the **PROGRAM** button to leave the Setup screens. If no buttons are pressed, the display will leave the setup screens after 30 seconds.

## *Operating Mode when the Thermostat is Configured to be:*

**4**

NON-PROGRAMMABLE WITH MANUAL-CHANGEOVER - If the thermostat is configured to be a non-programmable thermostat with Manual-Changeover, the following screens will be available by pressing the MODE button.

### **Select the Mode by Pressing the MODE Button**



## Operating Mode when the Thermostat is Configured to be:

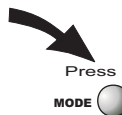
NON-PROGRAMMABLE WITH AUTO-CHANGEOVER - If the thermostat is configured to be a non-programmable thermostat with Auto-Changeover, the following screens will be available by pressing the MODE button

**4**

### Select the Mode by Pressing the MODE Button

#### Heating Only

The **HEAT** setting indicates the temperature the room has to reach before the furnace will turn on to heat the room.



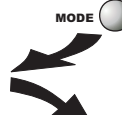
#### Cooling Only

The **COOL** setting indicates the temperature the room has to reach before the air conditioner will turn on to cool the room.



#### Heating or Cooling

**AUTO** will automatically select heat or cool based on room temperature demand.



#### Off

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



## Operating Mode when the Thermostat is Configured to be:

PROGRAMMABLE WITH MANUAL-CHANGEOVER - If the thermostat is configured to be a programmable thermostat with Manual-Changeover, the following screens will be available by pressing the MODE button.

**4**

### Select the Mode by Pressing the MODE Button

#### Heating Only

The **HEAT** setting indicates the temperature the room has to reach before the furnace will turn on to heat the room.



#### Cooling Only

The **COOL** setting indicates the temperature the room has to reach before the air conditioner will turn on to cool the room.



#### Time Schedule for Heating Only

The **HEAT Program On** setting will activate the time period program for the heating setpoint ONLY (Morning, Day, Evening & Night Periods).



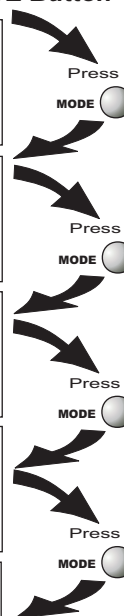
#### Time Schedule for Cooling Only

The **COOL Program On** setting will activate the time period program for the cooling setpoint ONLY (Morning, Day, Evening & Night Periods).



#### Off

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



## Operating Mode when the Thermostat is Configured to be:

PROGRAMMABLE WITH AUTO-CHANGEOVER - If the thermostat is configured to be a programmable thermostat with Auto-Changeover, the following screens will be available by pressing the MODE button.

**4**

### Select the Mode by Pressing the MODE Button

#### Heating Only

The **HEAT** setting indicates the temperature the room has to reach before the furnace will turn on to heat the room.



Press  
MODE

#### Cooling Only

The **COOL** setting indicates the temperature the room has to reach before the air conditioner will turn on to cool the room.



Press  
MODE

#### Heating or Cooling

**AUTO** will automatically select heat or cool based on room temperature demand.



Press  
MODE

#### Time Schedule for Heating or Cooling

The **Program On** setting will activate the time period programming for the cooling or heating setpoint ONLY (Morning, Day, Evening & Night Periods).



Press  
MODE

#### Off

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



Press  
MODE



## *Selecting Your Desired Temperature (adjusting setpoints)*

### **AUTO OR PROGRAM MODE**

**4** Pressing the UP or DOWN buttons in Auto or Program modes will adjust **both** the heat and cool set temperatures simultaneously. For more information on this see page 13.2.



Adjust the desired set temperature with the



buttons.

---

### **HEAT OR COOL MODE**

Pressing the UP or DOWN buttons in Heat or Cool modes will adjust only the heat or cool set temperature.



Adjust the desired set temperature with the



buttons.

**SECTION 5**  
*Viewing the Temperature and Humidity Sensors*

**VENSTAR®**

**5**

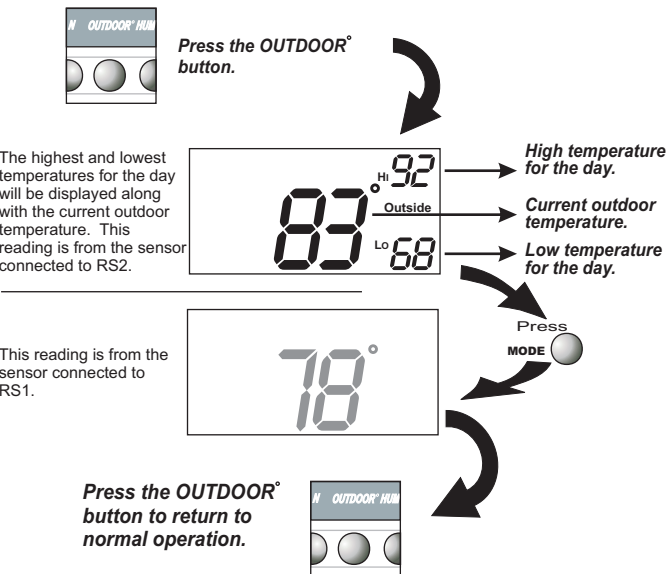
**Section 5 Contents:**

- *Viewing the Outdoor  
Temperature.....5.2*
- *Viewing the Indoor  
Humidity.....5.3*

### Viewing the Outdoor Temperature

This requires an outdoor sensor (optional accessory) to be installed (see page 14.2 for wiring instructions). To read the temperature from the outdoor sensor, press the OUTDOOR° button. The display will then show the current outdoor temperature along with the

highest and lowest temperatures for the day. The day starts at 12:00 am.



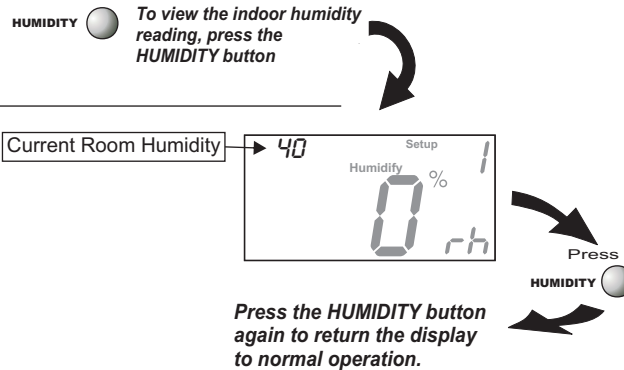
*Note: If no sensors are connected 2 dashes [- -] will appear on the display.*

## Viewing the Indoor Humidity

Requires the Humidity Module (optional accessory) to be installed. To display the current humidity at the thermostat, press the HUMIDITY button of the thermostat. The display will then show the current indoor humidity along with the humidification setpoint (Section 9).

**5**

**Note:** The humidity reading will not appear unless the Humidity Module has been installed. If a sensor has not been installed dashes will appear in place of the humidity reading.



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

**SECTION 6**  
*Programming the Daily Schedule*

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**Section 6 Contents:**

<b>6</b>	■ <i>Programming a Daily Schedule.....</i>	<b>6.2</b>
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## Programming a Daily Schedule

Press  
**PROGRAM**



Press the **PROGRAM** button to enter time period programming.

Use the Programming Worksheet on the back cover to help with this section.



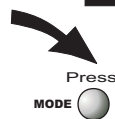
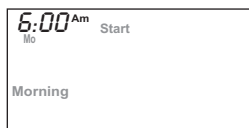
Select the day of week  
(Mo - Su)



**6**



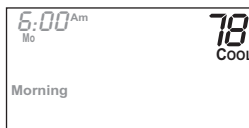
Adjust the start time  
for Morning.



Press  
**MODE**



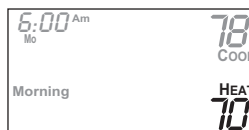
Adjust the cooling  
setpoint for Morning.  
(35° - 99°)



Press  
**MODE**



Adjust the heating  
setpoint for Morning.  
(35° - 99°)

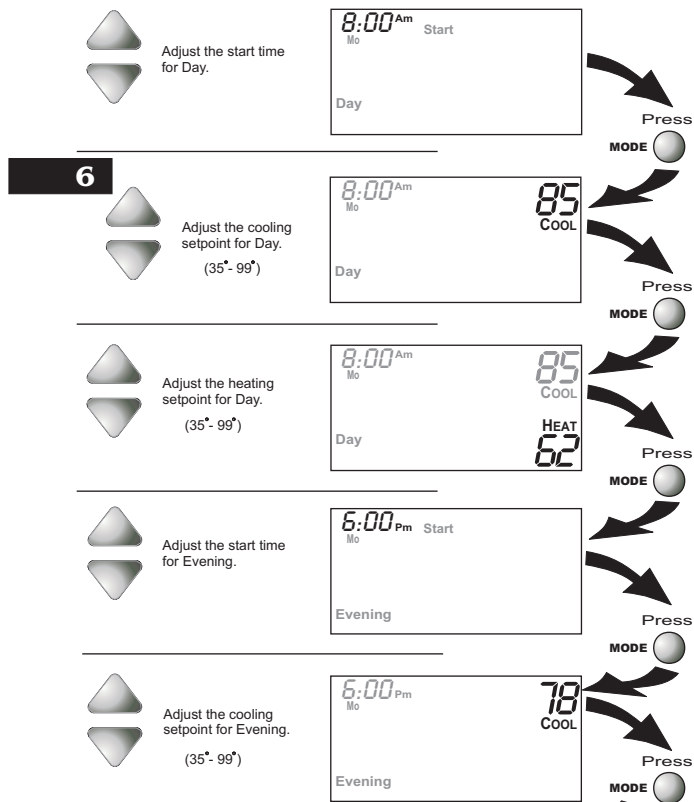


Press  
**MODE**

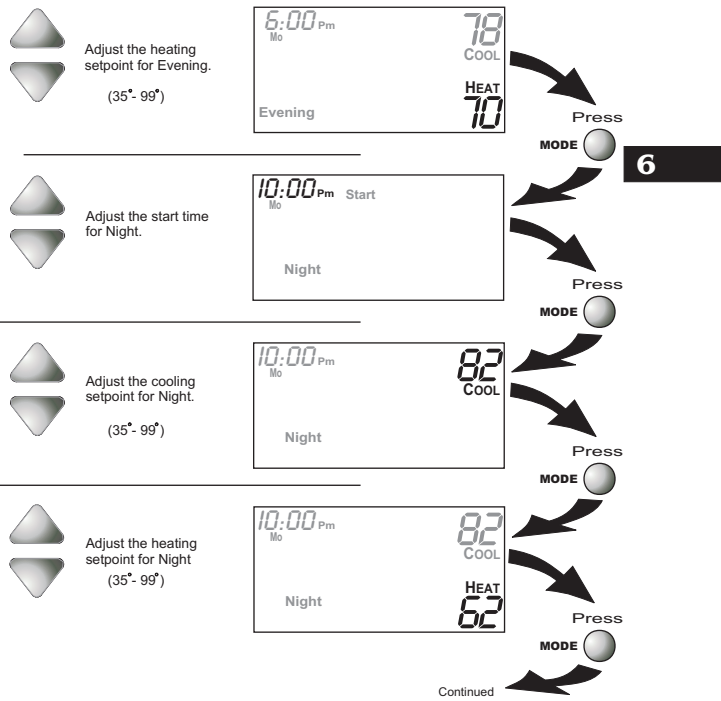


Press  
**MODE**

Continued

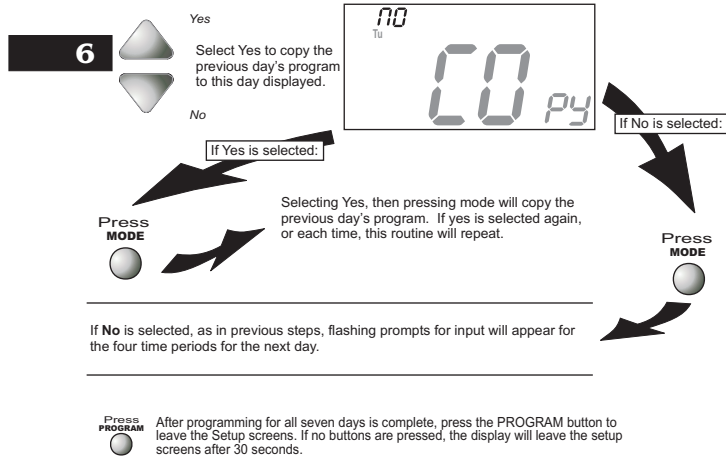


Continued





The copy command becomes available after programming the entire previous day.



## **SECTION 7** *Programming the Fan Operation*

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### **Section 7 Contents:**

**7**

- *Using the Fan Button.....7.2*
- *Programming the Fan.....7.3*
- *Setting the Fan-Off Time  
Delay.....7.4*

### *Using the Fan Button*

When the fan is set for automatic operation it will energize any time there is a call for heating or cooling, otherwise the fan will remain off. Pressing the FAN button will energize the fan and display the **FanOn** icon on the thermostat display. To operate the fan in the automatic mode, press the FAN button again and the FanOn icon will disappear.

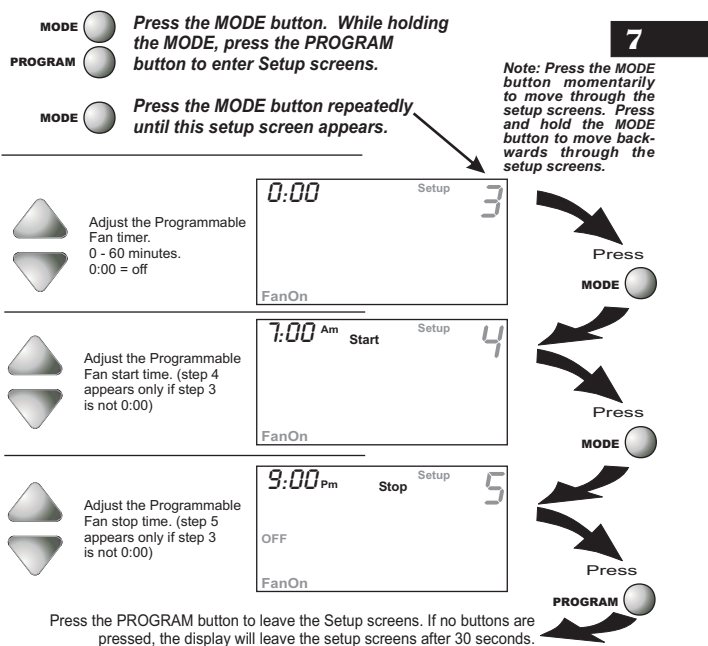
**7**



**Fan On** indicates constant fan operation. You may turn the fan on even if the thermostat is in the **Off** mode. Pressing the FAN button toggles this feature on or off.

## Programming the Fan


This timer will start the fan at the top of each hour and the fan will run for the number of minutes selected in step #3. Steps 4 & 5 restrict the hours during which the programmable fan may operate; step #4 is the start time and step #5 is the stop time. Selecting the same start and stop times will cause the fan to operate 24 hours a day.





## Setting the Fan-Off Time Delay

To increase the cooling efficiency of your unit, the thermostat may be programmed to continue running the fan after a call for cooling has been satisfied. This delay may be set for 30, 60, or 90 seconds. If the Fan Off Delay is set for zero seconds, the fan will not energize after a call for cooling has been satisfied.


**7**

**MODE**  *Press the MODE button. While holding the MODE, press the PROGRAM button to enter Setup screens.*

**PROGRAM** 

**MODE**  *Press the MODE button repeatedly until this setup screen appears.*

*Note: Press the MODE button momentarily to move through the setup screens. Press and hold the MODE button to move backwards through the setup screens.*




Set the Fan Off Delay to 0, 30, 60, or 90 seconds.

:00 Setup 6

FanOn

Press





Press the PROGRAM button to leave the Setup screens. If no buttons are pressed, the display will leave the setup screens after 30 seconds.


**Section 8 Contents:**

- *Turning On/Off the Backlight.....8.2*
- *Programming the Thermostat to Display Temperature in Fahrenheit or Celsius.....8.2*
- *Locking/Unlocking the Keypad.....8.3*

## Turning On/Off the Backlight

**MODE**  Press the **MODE** button. While holding the **MODE**, press the **PROGRAM** button to enter Setup screens.

**PROGRAM** 


**MODE**  Press the **MODE** button repeatedly until this setup screen appears.

**8**

Select backlight operation:  
**AUTO** - Light from 6pm to 6am nightly.  
**ON** - Light continuously.  
**OFF** - Light for 8 seconds after a button press.


Setup 7


AUTO

Press 

Note: Press the **MODE** button momentarily to move through the setup screens. Press and hold the **MODE** button to move backwards through the setup screens.


## Programming the Thermostat to Display Temperature in Fahrenheit or Celsius

**C**  
 Select thermostat operation in degrees Fahrenheit or Celsius.

**F**  



Setup 8

F


Press 

Press the **PROGRAM** button to leave the Setup screens. If no buttons are pressed, the display will leave the setup screens after 30 seconds.

### *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 UP and DOWN buttons together. The  icon will appear on the display, then release the buttons.



To **unlock** the keypad, press and hold the MODE button. While holding the MODE button, press the UP and DOWN buttons together. The  icon will disappear from the display, then release the buttons.



**Section 9 Contents:**

	■ <i>Installing the Humidity Module.....</i>	<i>9.2</i>
	■ <i>Configuring a Thermostat Output Jumper for Humidity Operation.....</i>	<i>9.3</i>
<b>9</b>	■ <i>Adjusting the Humidification Setpoint.....</i>	<i>9.4</i>
	■ <i>Energizing the Fan with Humidification.....</i>	<i>9.5</i>

**NOTE:** The humidification functions described in this section will only be available if a Humidity Module has been properly installed.

**Disclaimer:**

The manufacturer of this thermostat cannot be liable for misinstallation, improper connection or improper programming of the humidity functions of this thermostat that may result in water damage or mold growth.

Additionally, the manufacturer of this thermostat is not responsible for the fitness of the humidifier and/or installation of said humidifier connected to this thermostat. Furthermore, the maintenance of the humidifier components, including but not limited to, the filters and pads are not the responsibility of the thermostat manufacturer.

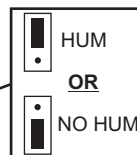
The Humidifier Service icon is only a suggestive reminder and should not take the place of the humidifier manufacturer's required maintenance requirements and schedule.

## *Installing the Humidity Module*

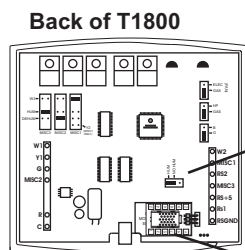
To install the Humidity Module the thermostat must be detached from the back plate. Plug the Humidity Module into the Humidity Module connector as shown in Figure 2 below. Follow the detailed instructions included with the Humidity Module accessory. Once the Humidity Module has been installed, you must adjust the Humidity jumper setting to HUM as shown in Figure 1 below. This will allow you to access the humidification and dehumidification setup steps.

**For proper humidity operation, this jumper must be set for HUM.**

**Figure 1**

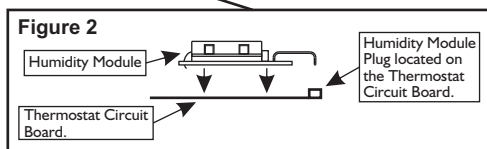


**9**



**Install the Humidity Module**  
(see Humidity Module Instruction Sheet for more detailed information).

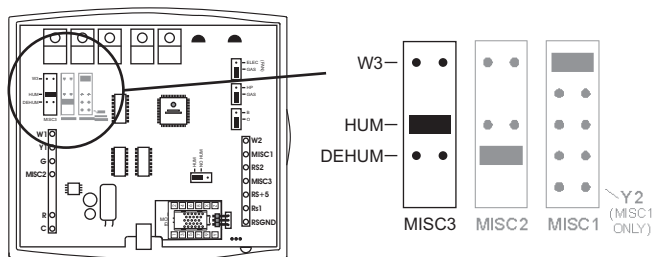
**Figure 2**



### ***Setting a Thermostat Output Jumper for Humidity Operation***

To control a MISC output for humidification, install the Humidity Module and place the Humidity Jumper on HUM (see *previous page*). Then place the MISC1, MISC2, or MISC3 jumper on the terminal labeled HUM (see *diagram below*). This will supply 24VAC to the selected MISC terminal based on the humidification programming in the following pages. Only one of the three outputs (MISC1, MISC2, or MISC3) is required to have this jumper. For more information regarding the MISC1, MISC2, and MISC3 outputs, please see section 18.

**9** In the diagram below, the MISC3 jumper has been set for HUM (humidify) operation.



#### **IMPORTANT CAUTION**



**NEVER PUT MORE THAN ONE JUMPER  
ON THE SAME MISC JUMPER BLOCK!**

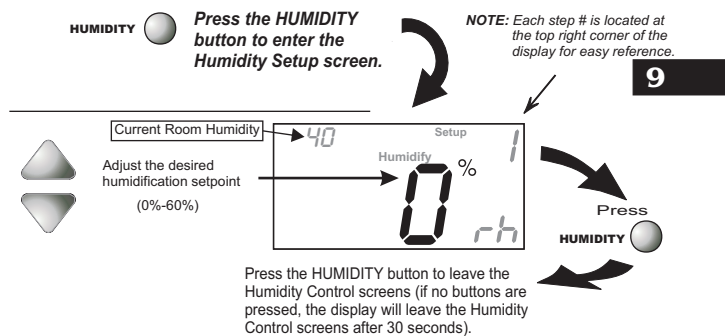
**THIS MAY DAMAGE YOUR THERMOSTAT  
AND VOID YOUR WARRANTY**



## *Adjusting the Humidification Setpoint*

If your HVAC unit is equipped with a humidification system and the Humidity Module has been installed, the thermostat will provide power to the appropriate terminal on the backplate of the thermostat when the humidity in the home falls below the setpoint you have chosen. The value for this setpoint ranges from 0% to 60%.

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




**Humidification Notes:** Press the  button to set the humidity setpoint to 0% for no humidification operation.


You cannot set the dehumidify setpoint any lower than the humidify setpoint; a 5% differential is forced between the humidify and dehumidify setpoints.

## ***Energizing the Fan with Humidification***

Selecting YES for this setup step will enable the Fan to automatically energize any time there is a call for humidity. The HUM/NO HUM jumper must be set for HUM in order to access this setup step. If NO is selected, the Fan will not automatically energize on a call for humidity.

**MODE**  *Press the **MODE** button. While holding the **MODE**, press the **PROGRAM** button to enter Setup screens.*

*Note: Press the **MODE** button momentarily to move through the setup screens. Press and hold the **MODE** button to move backwards through the setup screens.*

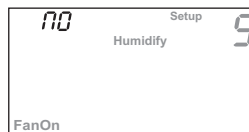
**9** **MODE**  *Press the **MODE** button repeatedly until this setup screen appears.*


*Step 9 only appears if the HUM/NO HUM jumper is set for HUM (see page 9.2) and the Humidification setpoint is not 0% (see page 9.4).*



Select fan operation with a call for humidification:  
**NO:** Fan will not energize when there is a call for humidification.

**YES:** Fan will energize when there is a call for humidification.



**Press**  


Press the **PROGRAM** button to leave the Setup screens. If no buttons are pressed, the display will leave the setup screens after 30 seconds.

**Section 10 Contents:**

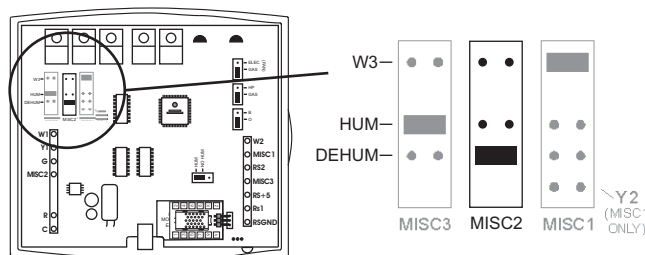
- *Configuring a Thermostat Output  
Jumper for Dehumidification  
Operation.....10.2*
- *Adjusting the Dehumidification 10  
Setpoint.....10.3*
- *Using Your Air Conditioner  
to Dehumidify.....10.4*
- *Using the DEHUM  
Terminal.....10.5*

**NOTE:** The dehumidification functions described in this section will only be available if a Humidity Module has been properly installed. For instructions on installing the Humidity Module please see page 9.2.

### *Setting a Thermostat Jumper for Dehumidification Operation*

To control a MISC output for dehumidification, install the Humidity Module and place the Humidity Jumper on HUM (see page 9.2). Then place the MISC1, MISC2, or MISC3 jumper on the terminal labeled DEHUM (see diagram below). This will supply 24VAC to the selected MISC terminal based on the dehumidification programming in the following pages. Only one of the three outputs (MISC1, MISC2, or MISC3) is required to have a jumper. For more information regarding the MISC1, MISC2, and MISC3 outputs, please see section 18.

**10** In the diagram below, the MISC2 jumper has been set for DEHUM (dehumidification) operation.



MISC3  
OK



#### **IMPORTANT CAUTION**



**NEVER PUT MORE THAN ONE JUMPER ON THE SAME MISC JUMPER BLOCK!**

**THIS MAY DAMAGE YOUR THERMOSTAT AND VOID YOUR WARRANTY**

## Adjusting the Dehumidification Setpoint

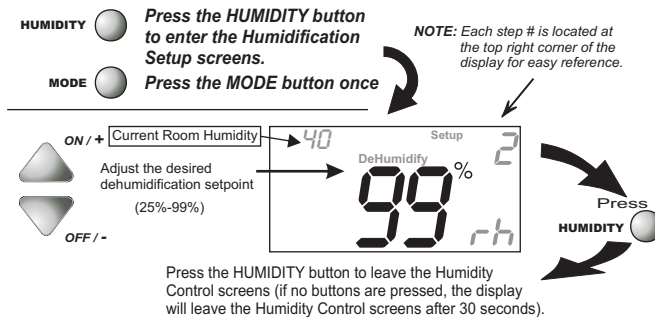
**Dehum Terminal:** If a MISC terminal selected for DEHUM operation (see page 10.2) then the thermostat will provide power to this terminal the when the humidity in the home is above the setpoint you have chosen. See page 10.6 for detailed programming instructions. To utilize this feature your HVAC unit must be equipped with a DEHUM terminal.

**Cool to Dehumidify:** If the thermostat is programmed for Cool to Dehumidify operation, then the thermostat will energize the cooling system any time the humidity in the home is above the setpoint you have chosen. See page 10.4 for detailed programming instructions.

In each case, when the indoor humidity falls below the setpoint you have selected, Cool to Dehumidify and the MISC terminal will be de-energized. The value for this setpoint ranges from 25% to 99%.

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

**10**



**Dehumidification Notes:** Press the button to set the dehumidification setpoint to 99% for no dehumidification operation. This will lockout Advanced Setup steps 10 and 11 (see page 10.4).


You cannot set the dehumidify setpoint any lower than the humidify setpoint; a 5% differential is forced between the humidify and dehumidify setpoints.



## Using Your Air Conditioner to Dehumidify

If Cool to Dehumidify is on and the Humidity Module is installed, the thermostat has the ability to initiate a cooling cycle for advanced dehumidification operation. When the thermostat detects the humidity percentage is above the setpoint for dehumidification, and heating or cooling is not on, the thermostat will force the compressor to run with the fan, thus reducing moisture in the air. The green LED will blink once every eight seconds to indicate this is taking place. This feature will also allow you to adjust the cooling overshoot of the setpoint, from 0° to 5° (adjustable in step #11). *For Example: If the cooling overshoot is set for 3°F and the cooling setpoint is set for 74°F, then as long as the room temperature reads between 71°F and 74°F this feature will energize the compressor and fan to dehumidify the air.*



**10**

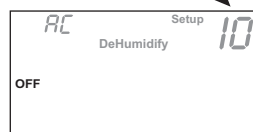
**MODE**  **Press the MODE button. While holding the MODE, press the PROGRAM button to enter Setup screens.**

**MODE**  **Press the MODE button repeatedly until this setup screen appears.**



*Note: Press the MODE button momentarily to move through the setup screens. Press and hold the MODE button to move backwards through the setup screens.*

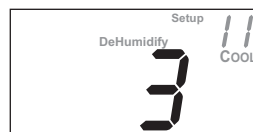
**Steps 10 and 11 only appear if the Dehumidification setpoint is not 99% (see page 10.3).**

**On**  
 Select Cool to Dehumidify feature.  
**Off**  




**Step 11 appears only if step 10 is set to "ON"**

 Adjust the maximum overshoot of the set temperature in Cool to Dehumidify mode.  
(0° - 5°)  




Press the PROGRAM button to leave the Setup screens. If no buttons are pressed, the display will leave the setup screens after 30 seconds.

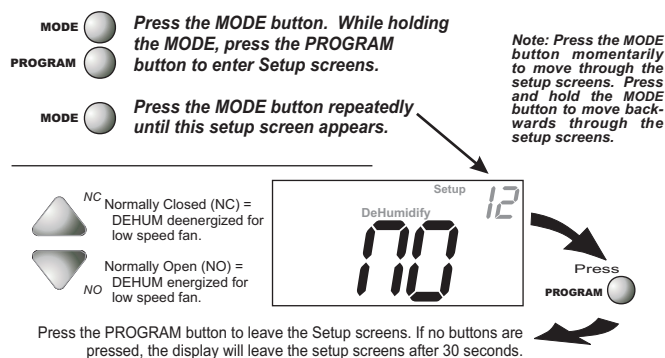
**Dehumidification Notes:** The thermostat must be in the Cool, Auto, or Program On mode for the Cool to Dehumidify feature to be available.

## Using the Dehum Terminal

If you configure a MISC output jumper for DEHUM, it may be programmed to operate in one of two ways:

- 1) **Normally Closed (NC):** The thermostat will de-energize the DEHUM terminal to allow the fan to run in low speed when there is a call for 1st stage cooling and the room humidity is greater than the dehumidification setpoint.
- 2) **Normally Open (NO):** The thermostat will energize the DEHUM terminal to allow the fan to run in low speed when there is a call for 1st stage cooling only and the room humidity is greater than the dehumidification setpoint.

**10**



**Dehumidification Notes:** The DEHUM terminal will “release” and allow the fan to operate normally if there is call for 2nd stage cooling or if the call for Cooling and/or Cool to Dehumidify has been satisfied.

**SECTION 11**  
*Viewing Equipment Run-Times*

**VENSTAR®**


**Section 11 Contents:**


- *Viewing the Humidifier  
Run-Time..... 11.2*
- *Viewing the UV Light  
Run-Time.....11.3*


**11**

## Viewing the Humidification Run-Time


After your humidification system has been operating for the number of days set in step #13 below, the Service Humidify icon will appear. This counter keeps track of the number of days since the Service Humidify icon was reset.

**MODE**  **Press the MODE button. While holding the MODE, press the PROGRAM button to enter Setup screens.**

**PROGRAM** 

**MODE**  **Press the MODE button repeatedly until this setup screen appears.**

*Note: Press the MODE button momentarily to move through the setup screens. Press and hold the MODE button to move backwards through the setup screens.*


Press  **FAN**

Counts the number of days the humidifier has been running. Press FAN to reset the Service Humidify counter and remove the icon from the display.

Setup

Service 0
Humidify 13

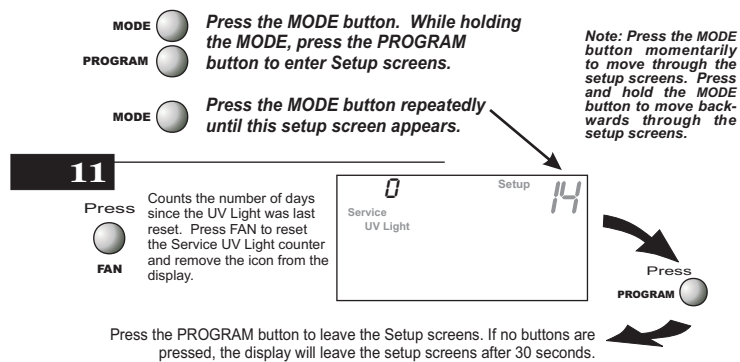
**11**

Press  **PROGRAM**

Press the PROGRAM button to leave the Setup screens. If no buttons are pressed, the display will leave the setup screens after 30 seconds.

## Viewing the UV Light Run-Time

After the UV light has been operating for the number of days set in step #14 below, the Service UV Light icon will appear. This counter keeps track of the number of days since the UV light icon was last reset.



**SECTION 12**  
*Electric Heat and Heat Pump Operation*

**VENSTAR®**




**Section 12 Contents:**

- *Viewing the Heat Pump and  
Reversing Valve Jumper  
Setting.....12.2*
- *Viewing the Electric Heat  
Jumper Setting.....12.3*
- *Using Emergency Heat.....12.4*

**12**

## Viewing the Heat Pump and Reversing Valve Jumper Settings

Steps 15 and 16 are 'Read Only' and may only be set with the jumpers on the circuit board of the thermostat.

- MODE**  Press the **MODE** button. While holding the **MODE**, press the **PROGRAM** button to enter Setup screens.
- PROGRAM** 
- MODE**  Press the **MODE** button repeatedly until this setup screen appears.

*Note: Press the **MODE** button momentarily to move through the setup screens. Press and hold the **MODE** button to move backwards through the setup screens.*

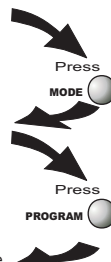
**12**



**ON** = Heat Pump operation  
**OFF** = Gas Electric operation



Indicates that the thermostat jumper is set for an **O** reversing valve (energize in cooling) or a **b** reversing valve (energize in heating).





Press the **PROGRAM** button to leave the Setup screens. If no buttons are pressed, the display will leave the setup screens after 30 seconds.

## Viewing the Electric Heat Jumper Setting

Placing the jumper on ELEC will cause the thermostat to turn on the fan immediately any time there is a heat demand. Since most gas furnaces control the fan, this feature should be off unless it is necessary for the thermostat to energize the fan with first stage heat.

Step 17 is 'Read Only' and may only be set with the jumpers on the circuit board of the thermostat (see page 5.3 of the *Installation Instructions*).

**MODE**  Press the **MODE** button. While holding the **MODE**, press the **PROGRAM** button to enter Setup screens.

**MODE**  Press the **MODE** button repeatedly until this setup screen appears.

*Note: Press the **MODE** button momentarily to move through the setup screens. Press and hold the **MODE** button to move backwards through the setup screens.*

**12**



**ON** indicates that the thermostat jumper is set for Electric Heat operation, or **OFF** for Gas/Electric or Heat Pump operation.



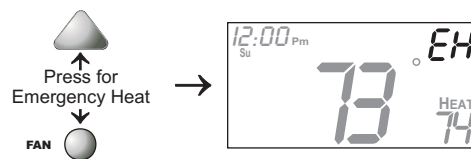
Press 

Press the **PROGRAM** button to leave the Setup screens. If no buttons are pressed, the display will leave the setup screens after 30 seconds.



## *Using Emergency Heat*

**ENTER EMERGENCY HEAT:** Only available if you have a Heat Pump installed. To initiate the Emergency Heat feature, press the FAN button. While holding the FAN button press the UP button. The Cool setpoint display will read 'EH' (emergency heat).



### **12**

**OPERATION:** During Emergency Heat operation the thermostat will turn on the fan and the 2nd stage of heat when there is a demand for heat. Also during Emergency Heat the 1st stage of heating or cooling will be unavailable.


**EXIT EMERGENCY HEAT:** Follow the same steps as entering Emergency Heat by pressing the FAN and UP buttons. During Emergency Heat, only OFF and HEAT modes are available by pressing the MODE button.


**Section 13 Contents:**

- *Adjusting the Heat/Cool  
Differential.....13.2*
- *Adjusting the Cycles  
Per Hour.....13.3*
- *Adjusting the Deadband.....13.4*
- *Adjusting the Minutes of  
Run-Time Before the  
Next Stage.....13.6*
- *Selecting 2nd Stage Turn  
Off Temperature.....13.7*


## Adjusting the Heat/Cool Differential

The Heat and Cool setpoints will not be allowed to come any closer to each other than the value in this step. This minimum difference is enforced during Auto-Changeover operation.

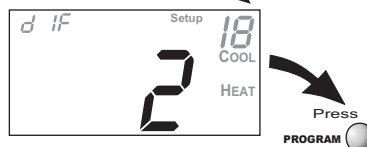
**MODE**  Press the **MODE** button. While holding the **MODE**, press the **PROGRAM** button to enter Setup screens.

**MODE**  Press the **MODE** button repeatedly until this setup screen appears.

*Note: Press the **MODE** button momentarily to move through the setup screens. Press and hold the **MODE** button to move backwards through the setup screens.*

 Adjust the minimum **difference** between cooling & heating setpoints.  
(0°-6°)

**13**

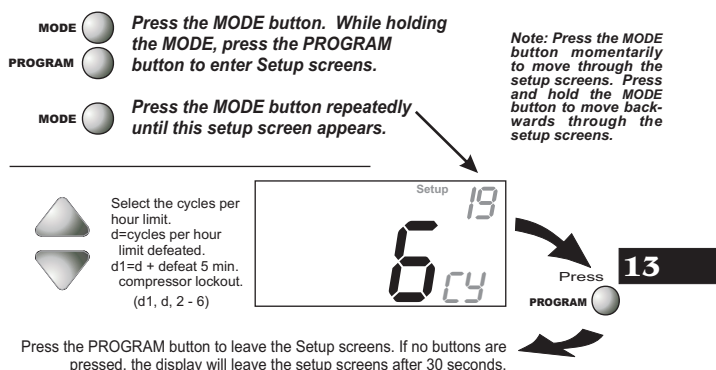


Press the **PROGRAM** button to leave the Setup screens. If no buttons are pressed, the display will leave the setup screens after 30 seconds.

**Note:** To increase the spread between the heating and cooling setpoints, press the **MODE** button until only the heat setpoint is displayed. Adjust the desired setpoint. Press the **MODE** button until only the cool setpoint is displayed. Adjust the desired setpoint. Press the **MODE** button again to enter the Auto-Changeover mode where both the heat and cool setpoints are displayed.

## *Adjusting the Cycles Per Hour*

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 UP or DOWN buttons on the thermostat.



## Adjusting the Deadband

MULTI-STAGE OPERATION - Controls up to three Heat and two Cool stages.

The **2nd Stage** of heat or cool is turned on when:

- (A) The 1st Stage has been on for the time required (*step #23, page 13.6*). It is adjustable from 0-60 minutes and the default is two minutes.

**And**

- (B) The temperature spread from the setpoint is equal to or greater than: *the setpoint plus the 1st stage deadband (step #20, next page), plus the 2nd stage deadband (step #21, next page)*. This 2nd stage deadband is adjustable from 0-10 degrees and the default is two degrees.

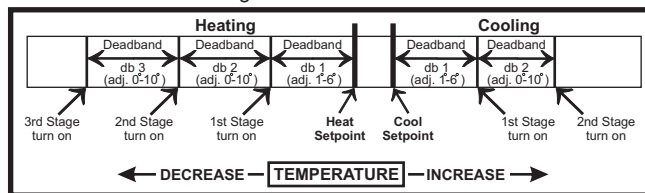
The **3rd Stage** of Heat is turned on when:

- (A) The 2nd stage has been on for the time required (*step #24, page 13.6*). It is adjustable from 0-60 minutes and the default is two minutes.

**And**

**13**

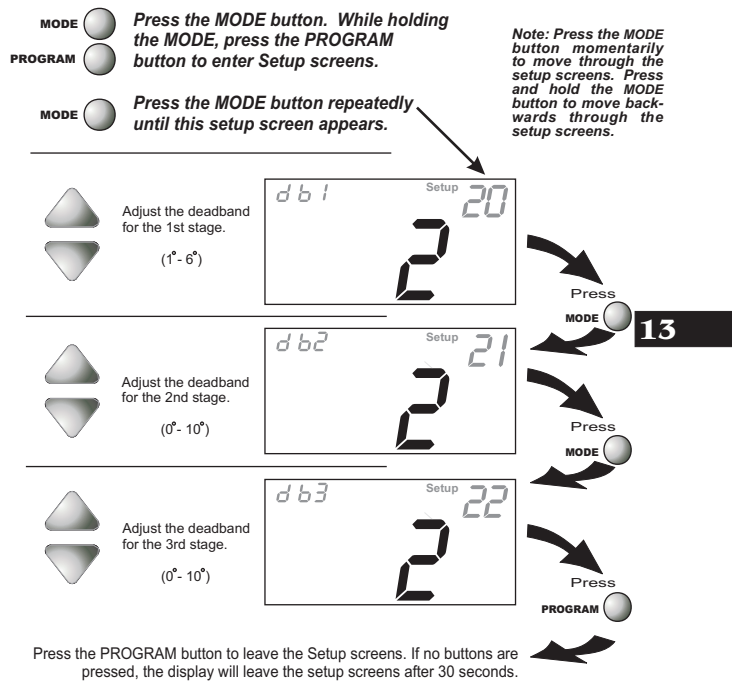
- (B) The temperature from the setpoint is equal to or greater than: *the setpoint plus the 1st stage deadband (step #20, next page), plus the 2nd stage deadband (step #21, next page) plus the 3rd stage deadband (step #22, next page)*. This 3rd stage deadband is adjustable from 0-10 degrees and the default is two degrees.



The above figure assumes the minimum on time for the prior stage has been met to allow the next stage to turn on, once the deadbands have been exceeded.




## Adjusting the Deadband

For more detailed information, please see the explanation on the previous page.



## Adjusting the Minutes of Run-Time Before the Next Stage

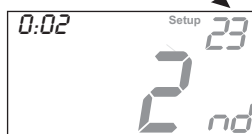
For more detailed information, please see the explanation on page 13.4.

- MODE**  Press the **MODE** button. While holding the **MODE**, press the **PROGRAM** button to enter Setup screens.
- PROGRAM** 
- MODE**  Press the **MODE** button repeatedly until this setup screen appears.

*Note: Press the **MODE** button momentarily to move through the setup screens. Press and hold the **MODE** button to move backwards through the setup screens.*



Adjust the amount of time stage 1 must be on before stage 2 turns on.  
(0 - 60 min.)



Press **MODE**

**13**



Adjust the amount of time stage 2 must be on before stage 3 turns on.  
(0 - 60 min.)



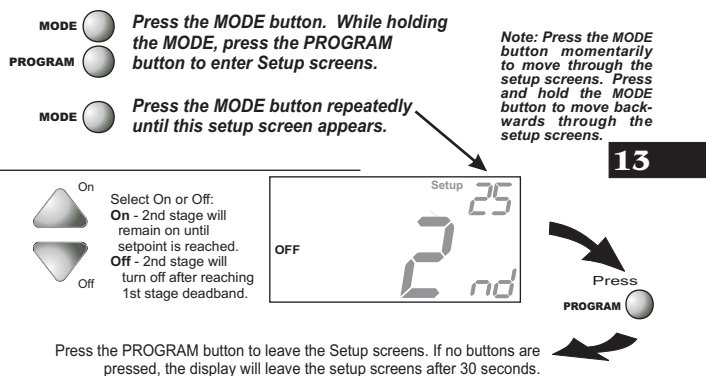
Press **PROGRAM**

Press the **PROGRAM** button to leave the Setup screens. If no buttons are pressed, the display will leave the setup screens after 30 seconds.

## Selecting 2nd Stage Turn Off Temperature

If ON is selected, the second stage of cooling or heating will remain energized until the thermostat reaches the setpoint on the thermostat display.

If OFF is selected, the second stage of cooling or heating will turn off after reaching the 1st stage deadband (see page 13.4 for more information).





## **SECTION 14** — *Programming Remote Sensor Operation*

**VENSTAR®**

### **Section 14 Contents:**

- *Installing the Remote  
Sensors.....14.2*
- *Controlling or Reading the  
Remote Temperature (RS1)...14.3*

### *Installing the Remote Sensors*

The Remote Sensor measures indoor air temperature and sends this information to the thermostat; it measures temperature with a range of 32° to 99° F.

The Remote Sensor should be connected to the thermostat using solid conductor CAT 5, CAT 5e, or CAT 6 type network communication cable. This is an unshielded cable with four twisted pairs of 24 gauge solid wire; *DO NOT use stranded cable*. The cable length should not exceed 250 feet. If less than 75 feet of cable is required to connect the thermostat to the Remote Sensor, a three conductor thermostat cable (18-24 gauge) may be used; this cable is NOT suitable for any length greater than 75 feet.

**IMPORTANT:** Do not use shielded wire. Do not run sensor wiring in the same conduit as the 24VAC thermostat wiring. Electrical interference may cause the sensor to give incorrect temperature readings.


## Controlling or Reading the Remote Temperature (RS1)


The thermostat may be programmed to only READ the remote sensor, or to CONTROL to the remote sensor. Refer to advanced setup step #26, below.


**Read Only Sensor (RS1):** If step #26 is set to only READ to the remote sensor, the thermostat will not use this sensor for temperature control. This sensor may be viewed by pressing the OUTDOOR° button on the thermostat and then pressing the MODE button.

**Control Sensor (RS1):** If step #26 is set to CONTROL to the remote sensor, the thermostat will ignore the reading of its internal temperature sensor and only display the temperature reading from the remote sensor. The degree icon on the thermostat will blink once per second to indicate that a remote sensor reading is being displayed.

**14**

**MODE** 


**PROGRAM** 


**MODE** 

**Press the MODE button. While holding the MODE, press the PROGRAM button to enter Setup screens.**

**Press the MODE button repeatedly until this setup screen appears.**

*Note: Press the MODE button momentarily to move through the setup screens. Press and hold the MODE button to move backwards through the setup screens.*


**YES** 

**NO** 

**Optional Remote Sensor:**

**YES** = Read Only Remote Sensor RS1.

**NO** = Control to Remote Sensor RS1.



Press the PROGRAM button to leave the Setup screens. If no buttons are pressed, the display will leave the setup screens after 30 seconds.

## SECTION 15

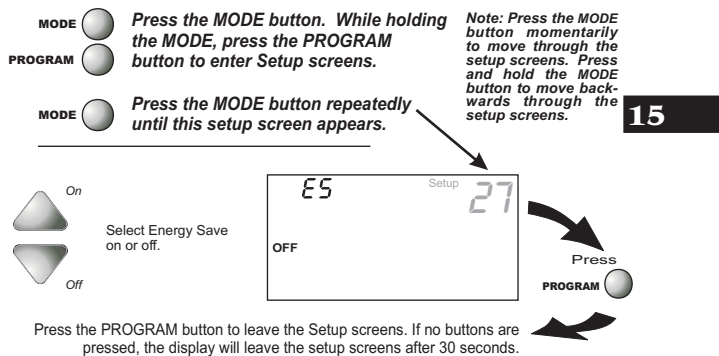
### Energy Save Operation

**VENSTAR®**

#### How to Use the Energy Save Feature

If the thermostat is configured to be programmable (Section 4), and Energy Save has been selected in step #27 (below), the room will attempt to reach the selected comfort temperature at the exact time programmed into the thermostat. Energy Save, or more commonly known as Smart Recovery, only works when the thermostat enters the Morning mode from the Night mode. For example, if the Night program is set for 11pm at 65°F heating and 85°F cooling, and the Morning 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 T1800 learns from experience, so please allow 4-8 days after a program change or after initial installation to give Energy Save time to adjust to local weather, the construction of your home, and your heating and cooling system.



## **SECTION 16**

### *Programming Run-Time Alerts*

**VENSTAR®**

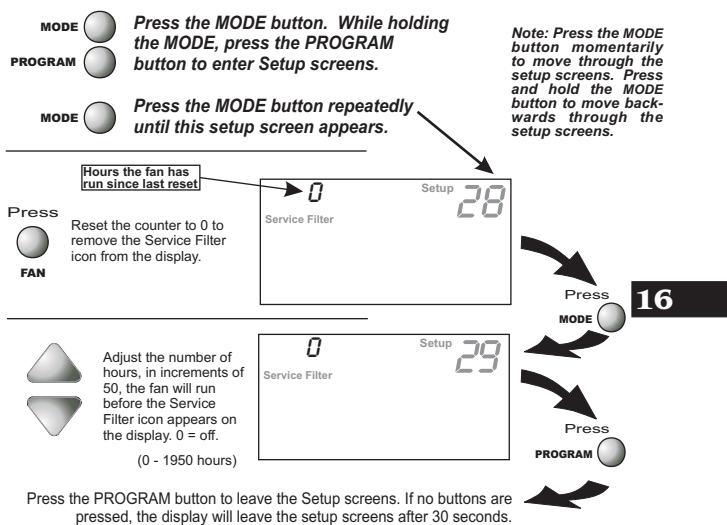
#### **Section 16 Contents:**

- *Setting and Resetting the  
Service Filter (Fan Run-Time)  
Alert.....16.2*
- *Setting and Resetting the UV  
Light Run-Time Alert.....16.3*
- *Setting and Resetting the  
Humidify Run-Time Alert.....16.4*

**16**




## *How to Set and Reset the Service Filter (Fan Run-Time) Alert*

This counter keeps track of the number of hours of fan run-time whether the fan is energized in the Heating or Cooling modes, or in stand alone fan operation. The Service Filter icon will appear after the preset number of hours of fan run-time in step #29 (below) has been achieved. Setting this counter to zero in step #29 will prevent the Service Filter icon from ever appearing.

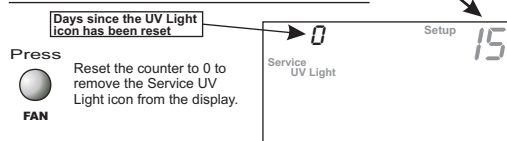


## *How to Set and Reset the UV Light Run-Time Alert*

This counter keeps track of the number of days since the UV Light counter has been reset. The UV Light icon will appear after the number of days has been achieved, as shown in step #30 (below). Setting the counter to zero in Step #30 will prevent the Service UV Light icon from ever appearing.

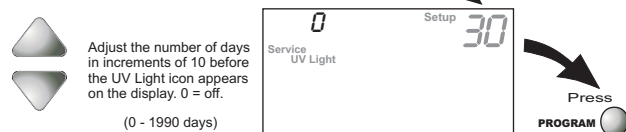
- MODE**  **Press the MODE button. While holding the MODE, press the PROGRAM button to enter Setup screens.**
- PROGRAM** 
- MODE**  **Press the MODE button repeatedly until this setup screen appears.**

*Note: Press the MODE button momentarily to move through the setup screens. Press and hold the MODE button to move backwards through the setup screens.*



**16**




- MODE**  **Press the MODE button repeatedly until this setup screen appears.**



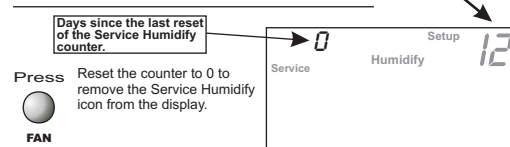
Press the PROGRAM button to leave the Setup screens. If no buttons are pressed, the display will leave the setup screens after 30 seconds.


## How to Set and Reset the Humidifier Run-Time Alert


This counter keeps track of the number of days since the Service Humidify icon was last reset; this icon will appear after the number of days set in step #31 (below) has elapsed. Setting this counter to zero in step #31 will prevent the Service Humidify icon from ever appearing.

- MODE**  Press the **MODE** button. While holding the **MODE**, press the **PROGRAM** button to enter Setup screens.
- PROGRAM**  Press the **MODE** button repeatedly until this setup screen appears.
- MODE**  Press the **MODE** button repeatedly until this setup screen appears.

*Note: Press the **MODE** button momentarily to move through the setup screens. Press and hold the **MODE** button to move backwards through the setup screens.*



- MODE**  Press the **MODE** button repeatedly until this setup screen appears.

-  Adjust the number of days in increments of 10 before the Service Humidify icon appears. 0 = Off  
(0 - 1990 days)


**16**

Press the **PROGRAM** button to leave the Setup screens. If no buttons are pressed, the display will leave the setup screens after 30 seconds.



*The humidifier run-time alert does not take the place of any humidifier manufacturer's recommended maintenance plan; it only serves as a helpful reminder.*




## SECTION 17


### Programming Vacation Mode


**VENSTAR®**


When the thermostat is programmed for Vacation mode, it will take effect at 12:00 am of the next day. The thermostat will control to the cooling and heating setpoints set in Vacation programming steps 2 and 3. Vacation setpoints will be enforced for the number of days specified in step #1 (0 - 99 days).







**Press the SET CLOCK button. While holding the SET CLOCK button, press the PROGRAM button to enter the Vacation programming setup steps.**


 Select the number of days that the Vacation schedule will be in effect. A value of 0 disables Vacation mode.  
(0 - 99 days)


 Adjust the cooling setpoint for Vacation mode.  
(35° - 99°)

**17**  Adjust the heating setpoint for Vacation mode.  
(35° - 99°)

Press 

Press 



Press the PROGRAM and SET CLOCK buttons to exit the setup screens. If no buttons are pressed, the display will leave the setup screens after 30 seconds.

You cannot set the Heat setpoint any higher than the Cool setpoint minus the deadband setting in Advanced Setup step #18 on page 13.2.

***Programming Vacation Mode (continued)***

VACATION DISPLAY - When the thermostat is placed into the Vacation mode, the thermostat will display the screen shown below.



To return the thermostat to normal operation from Vacation mode, press the PROGRAM and SET CLOCK buttons and adjust the days in step #1 to zero (*see previous page*).

Press the PROGRAM and SET CLOCK buttons to return to normal operation.

## **SECTION 18**

### *Configuring the MISC Outputs*

**VENSTAR®**

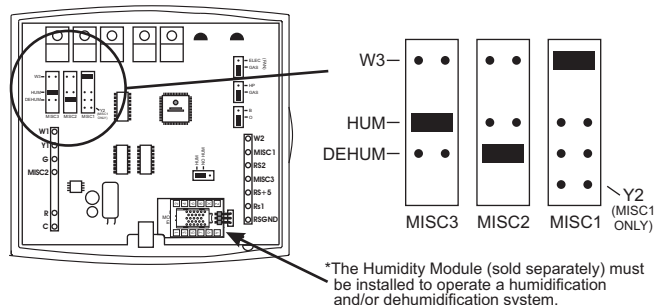
#### **Section 18 Contents:**

- *Configuring the Jumpers.....18.2*
- *Explanation of Jumper  
Settings.....18.3*

## Configuring the Jumpers

For additional flexibility, your thermostat has three configurable outputs. These outputs are designed to have different functions depending on how the jumpers are set (*below*). Each output, labeled MISC1, MISC2, and MISC3 may be set for one of the five choices available.

In the diagram below, the MISC3 jumper has been set for HUM\* (humidification) operation, the MISC2 jumper has been set for DEHUM\* (dehumidification) operation, and the MISC1 jumper has been set for W3 (3rd stage of heat) operation.



### CAUTION

**NEVER PUT MORE THAN ONE JUMPER ON THE SAME MISC JUMPER BLOCK!**

**DOING SO MAY DAMAGE YOUR THERMOSTAT AND VOID THE WARRANTY.**



## Explanation of Jumper Settings

### W3 JUMPER SETTING

If the jumper for MISC1, MISC2, or MISC3 is set to W3, the corresponding MISC screw terminal on the backplate will control a third stage of heat.

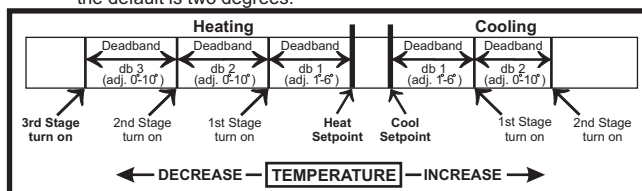
W3 MULTI-STAGE OPERATION EXPLAINED - PAGE 13.4

The 3rd Stage of Heat is turned on when:

(A) The 1st and 2nd stages have been on for the time required (steps #23 and #24 page 13.6). It is adjustable from 0-60 minutes and the default is two minutes.

And

(B) The temperature from the setpoint is equal to or greater than: the setpoint plus the 1st stage deadband (step #20, 13.5), plus the 2nd stage deadband (step #21, 13.5) plus the 3rd stage deadband (step #22, 13.5). This 3rd stage deadband is adjustable from 0-10 degrees and the default is two degrees.



### HUM JUMPER SETTING

If the jumper for MISC1, MISC2, or MISC3 is set to HUM, the corresponding MISC screw terminal on the backplate will control a humidification system.

## 18 HUMIDIFICATION OPERATION - SECTION 9

If your HVAC unit is equipped with a humidification system and the Humidity Module (sold separately) has been installed, the thermostat will provide power to the MISC1, MISC2, or MISC3 terminal of the thermostat when the humidity in the home falls below the humidity setpoint you have chosen. The value for this setpoint ranges from 0% to 60%. If no humidity is desired or if a humidification system has not been installed, set the value to 0%.

## *Explanation of Jumper Settings (continued)*

### **DEHUM JUMPER SETTING**

*If the jumper for MISC1, MISC2, or MISC3 is set to DEHUM, the corresponding MISC screw terminal on the backplate will be connected to the dehumidification terminal of a furnace board.*  
**NOTE:** Not all furnaces have a dehumidification terminal.

#### DEHUMIDIFICATION OPERATION - SECTION 10

If your HVAC unit is equipped with a dehumidification system the thermostat will operate in one of two ways.

- 1) **Normally Closed (NC):** The thermostat will **de-energize** the MISC1, MISC2, or MISC3 terminal of the thermostat (this MISC terminal is connected to the DEHUM terminal on your furnace) to allow the fan to run in low speed when the humidity in the home is above the dehumidify setpoint you have chosen and there is a call for 1st stage cooling.
- 2) **Normally Open (NO):** The thermostat will **energize** the MISC1, MISC2, or MISC3 terminal of the thermostat (this MISC terminal is connected to the DEHUM terminal on your furnace) to allow the fan to run in low speed when the humidity in the home is above the dehumidify setpoint you have chosen and there is a call for 1st stage cooling.

## Explanation of Jumper Settings (continued)

### Y2 JUMPER SETTING

If the jumper for MISC1 is set to Y2 the MISC1 screw terminal on the backplate will control a second stage of cooling.

Y2 OPERATION - PAGE 13.4

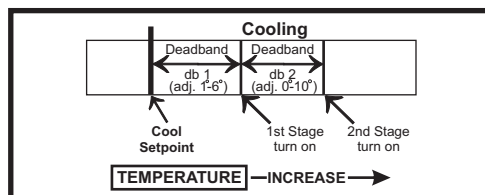
Control up to two Cool stages.

The **2nd Stage** of heat or cool is turned on when:

- (A) The 1st Stage has been on for the time required (*step #23, page 13.6*). It is adjustable from 0-60 minutes and the default is two minutes.

**And**

- (B) The temperature spread from the setpoint is equal to or greater than: *the setpoint plus the deadband (step #21, page 13.5), plus the 2nd deadband (step #22, page 13.5)*. This 2nd deadband is adjustable from 0-10 degrees and the default is two degrees.



## **SECTION 19** *Factory Defaults, Calibration, and Sensors*

**VENSTAR®**

### **Section 19 Contents:**

- *Resetting the Thermostat to the  
Factory Default Settings.....19.2*
- *Calibrating the Temperature  
and Humidity Sensors.....19.3*



## Resetting the Thermostat to the Factory Default Settings (for default values see page 21.1)

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.**

**1**

**MODE** 

Place the thermostat in the OFF mode.



**2**

**MODE** 

Press and hold the MODE button. While holding the MODE button, press and hold the FAN button for 5 seconds. All icons will appear on the display.

**FAN** 



**3**

**FAN** 

After all of the icons appear, release the MODE and FAN buttons. Then press and hold the FAN button for 5 seconds.



**19**

**4**

**MODE** 


After the letters Fd appear on the display (Factory Default), release the FAN button. Press the MODE button **once** to return to normal operation.





## Calibrating the Temperature and Humidity Sensors


Under normal circumstances it will not be necessary to adjust the calibration of the temperature and humidity sensors. If calibration is required, please contact a trained HVAC technician to correctly perform the following procedure.


- 1**



**MODE**  Place the thermostat in the OFF mode.


- 2**


**MODE**  Press and hold the MODE button. While holding the MODE button, press and hold the FAN button for 5 seconds. All icons will appear on the display.



**FAN** 



- 3**


**PRESS**  **THERMOSTAT SENSOR**  
 Press the UP and DOWN buttons at the same time twice. The thermostat temperature will be displayed and may be calibrated using the UP or DOWN buttons.



**TWICE**





**CALIBRATE**  
- 4**



**MODE**  **REMOTE SENSOR**  
Press the MODE button once. The remote sensor temperature will be displayed and may be calibrated using the UP or DOWN buttons. If a remote sensor is not installed, only dashes will appear.



**CALIBRATE**  
- 5**

**MODE**  **HUMIDITY SENSOR**  
Press the MODE button once. The relative humidity at the thermostat will be displayed and may be calibrated using the UP or DOWN buttons.



**CALIBRATE**  

After calibration is complete, press the MODE button **once** to return to normal operation.

## SECTION 20

### Accessories

**VENSTAR®**

**ACCESSORY PORT** - The RJ11 Jack is used to connect the T1800 to the IR Receiver (ACC0431) for wireless communication or the EZ Programmer (ACC0432) for easy downloading or uploading of thermostat information.

*The Accessory Port is located on the bottom of the thermostat.*



**IR RECEIVER / REMOTE CONTROL** (optional accessory) - When the IR Receiver is connected, the thermostat can be controlled using an IR Remote Control. The thermostat may also interface with other wireless systems in your home. For more information see the manual for the IR Receiver (ACC0431).

**EZ PROGRAMMER** (optional accessory) - When the EZ Programmer is connected, the thermostat Time Period Programming and Advanced Setup Programming can be stored into the EZ Programmer's memory. This information can then be uploaded to other T1800 thermostats. For more information see the manual for the (ACC0432).

**COMFORT CALL** (optional accessory) - When Comfort call is connected, the thermostat's Heating and cooling functionality may be accessed and controlled through the phone. For more information see the manual for Comfort Call (ACC0433).

SECTION 21					VENSTAR®				
Advanced Setup Table									
Step#	Description	Pg#	Range	Df *	Step#	Description	Pg#	Range	Df *
1	Programmable Thermostat	4.2	Yes/No	Yes	19	Cycles Per Hour	13.3	d1, d 2-6	6
2	Auto-Changeover Thermostat	4.3	Yes/No	Yes	20	Deadband/Temp. Swing 1st Stage	13.5	1° - 6°	2°
3	Programmable Fan	7.3	0:00-0:60	0	21	Deadband/Temp. Swing 2nd Stage	13.5	0° - 10°	2°
4	Programmable Fan Start Time	7.3	24 Hour	7am	22	Deadband/Temp. Swing 3rd Stage	13.5	0° - 10°	2°
5	Programmable Fan Stop Time	7.3	24 Hour	9pm	23	Minutes Between Stage 1 & 2	13.6	0-60min	2
6	Fan Off Delay	7.4	0, 30, 60, 90	0	24	Minutes Between Stage 2 & 3	13.6	0-60min	2
7	Thermoglow Backlight	8.2	Auto/On/Off	Auto	25	2nd Stage turn off at setpoint	13.7	On/Off	On
8	F or C	8.2	F/C	F	26	Thermostat READ to RS1	14.3	Yes/No	Yes
9	Humidity with Fan	9.4	Yes/No	Yes	27	Energy Save	15.1	Off/On	Off
10	Cool to Dehumidify	10.4	On/Off	Off	28	Reset Service Filter Icon	16.2	read only	--
11	Maximum Dehum Overshoot	10.4	0° - 5°	3°	29	Service Filter Run Time Set	16.2	0 - 1950	0
12	DEHUM Terminal Polarity	10.5	NO/NC	NC	30	UV Light Run-Time Set	16.3	0 - 1990	0
13	Reset Service Humidity Icon	11.2	read only	--	31	Service Humidify Run-Time Set	16.4	0 - 1990	0
14	Reset UV Light Icon	11.3	read only	--					
15	Heatpump Jumper Setting	12.2	read only	--					
16	Reversing Valve Jumper Setting	12.2	read only	--					
17	Electric Heat	12.3	read only	--					
18	Minimum Heat/Cool Differential	13.2	0° - 6°	2°					

\*Df = Factory Default Setting



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## SECTION 23

### Warranty

**VENSTAR®**

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.

## Programming Worksheet

see Section 6

DAY	PERIOD	START TIME	COOL	HEAT
M O N D A Y	Morning			
	Day			
	Evening			
	Night			
T U E S D A Y	Morning			<i>Copy Mon → Tue</i>
	Day			<input type="checkbox"/> No
	Evening			<input type="checkbox"/> Yes
	Night			
W E D N E S D A Y	Morning			<i>Copy Tue → Wed</i>
	Day			<input type="checkbox"/> No
	Evening			<input type="checkbox"/> Yes
	Night			
T H U R S D A Y	Morning			<i>Copy Wed → Thu</i>
	Day			<input type="checkbox"/> No
	Evening			<input type="checkbox"/> Yes
	Night			
F R I D A Y	Morning			<i>Copy Thu → Fri</i>
	Day			<input type="checkbox"/> No
	Evening			<input type="checkbox"/> Yes
	Night			
S A T U R D A Y	Morning			<i>Copy Fri → Sat</i>
	Day			<input type="checkbox"/> No
	Evening			<input type="checkbox"/> Yes
	Night			
S U N D A Y	Morning			<i>Copy Sat → Sun</i>
	Day			<input type="checkbox"/> No
	Evening			<input type="checkbox"/> Yes
	Night			



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