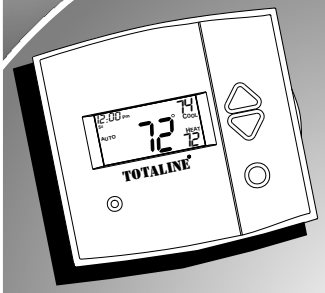
OWNER'S MANUAL

RESIDENTIAL
THERMOSTAT
P/N P374-1900

HEAT & COOL
HEAT PUMP
DUAL FUEL CAPABLE



7-DAY PROGRAMMABLE

DIGITAL
THERMOSTAT
with *HUMIDITY CONTROL*

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

ENERGY STAR

Meets Residential California Title 24

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

TOTALINE®
Signature

Replacement Components Division © Carrier Corporation 08/05

TOTALINE

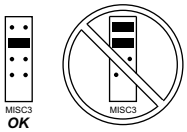
CAUTION

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.

c UL us LISTED 4Z95

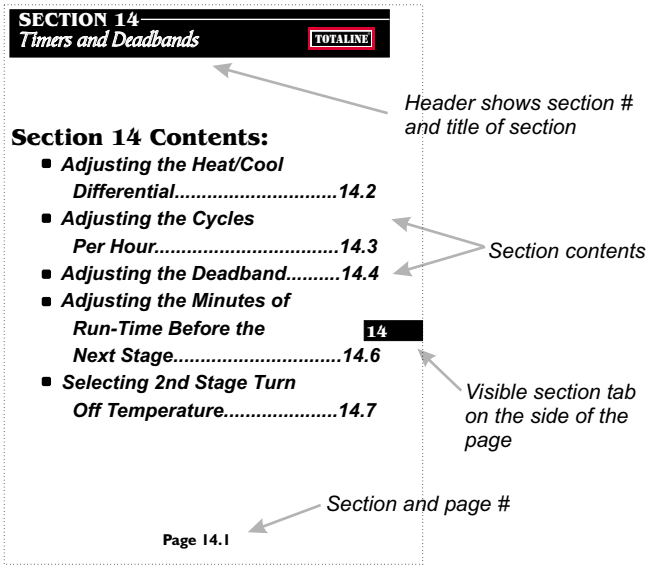
Thermostat P374-1900
FC Tested to Comply with FCC Standards
FOR HOME OR OFFICE USE

How to Use This Manual

TOTALINE

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.



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

Glossary of Terms

TOTALINE

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.*

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

Table of Contents

TOTALINE

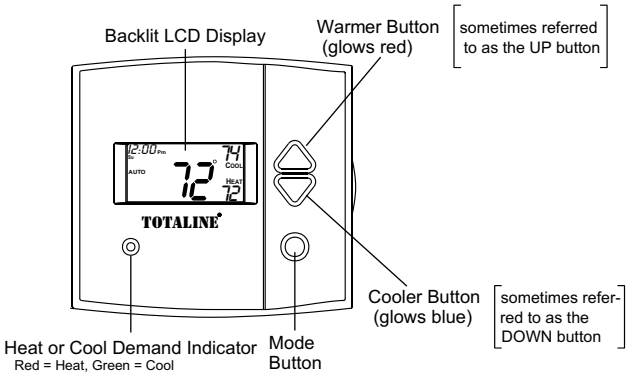
Getting to Know Your Thermostat	1
Quick Start	2
Setting Clock and Day	3
Basic Operation	4
Viewing Temperature and Humidity	5
Programming the Daily Schedule	6
Programming the Fan Operation	7
Thermostat Display Options	8
Humidification	9
Dehumidification	10
Viewing Equipment Run-Times	11
Electric Heat and Heat Pump Operation	12
Dual Fuel Operation	13
Timers and Deadbands	14
Using the Programmable Output	15
Programming Remote Sensor Operation	16
Dry Contact Operation	17
Energy Save Operation	18
Programming the Run-Time Alarms	19
Programming the Vacation Mode	20
Configuring the MISC Outputs	21
Factory Defaults and Calibration	22
Accessories	23
Advanced Setup Table	24

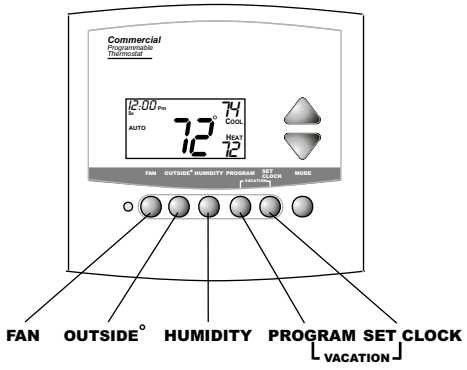
SECTION 1
Getting to Know Your Thermostat
TOTALINE
1

Section 1 Contents:

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

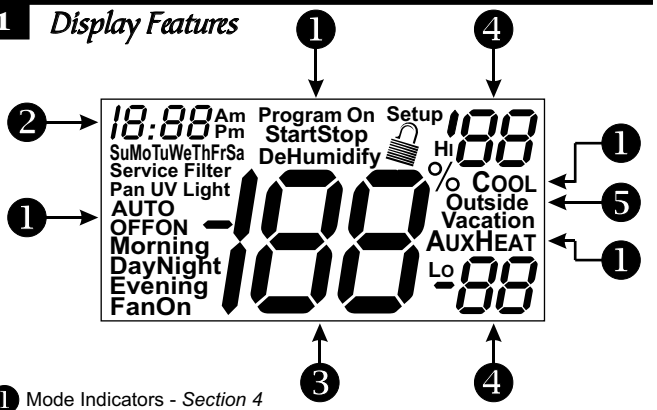
Front Panel





FAN **OUTSIDE°** **HUMIDITY** **PROGRAM** **SET CLOCK**
VACATION

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.

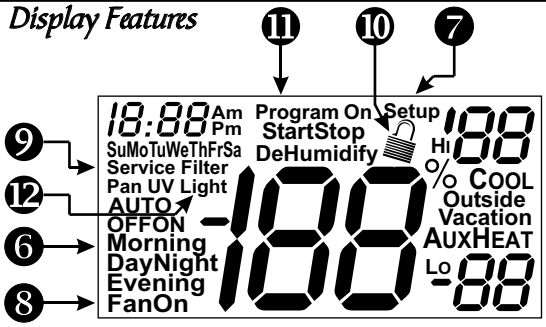
2 Clock with Day of the Week - *Section 3*
Indicates the current time and day. This clock is also used to program the timer periods.

3 Room Temperature Display - *Section 5*
Indicates the current room temperature and displays the outside temperature when selected.

4 Desired Set Temperature - *Section 4/5*
Indicates desired room temperature(s). Also displays the daily maximum and minimum outside temperatures.

5 **Outside** icon - *Section 5*
Indicates the temperature displayed is from the optional outside sensor.

Display Features



6 **Morning**, **Day**, **Evening** & **Night** icons - *Section 6*
Indicates the day part of the time period program.

7 **Setup** icon - *Sections 6-19*
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.

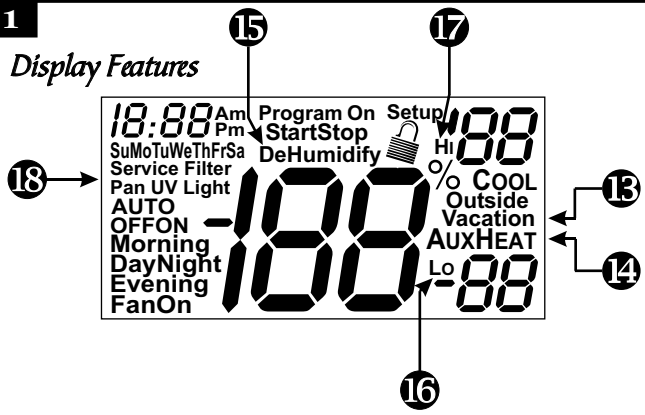
9 **Service Filter** icon - *Section 19*
Appears when the filter should be serviced under normal conditions.
Adjustable from 0 - 1950 hours of blower operation.

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.

Display Features



13 **Vacation** icon - *Section 20*
Indicates the thermostat has Vacation setpoints in use.

14 **AuxHeat** icon - *Section 12*
Indicates the Heat Pump is currently using 2nd stage electric strip heat or Reheat is currently functioning.

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 outside temperature for the day.

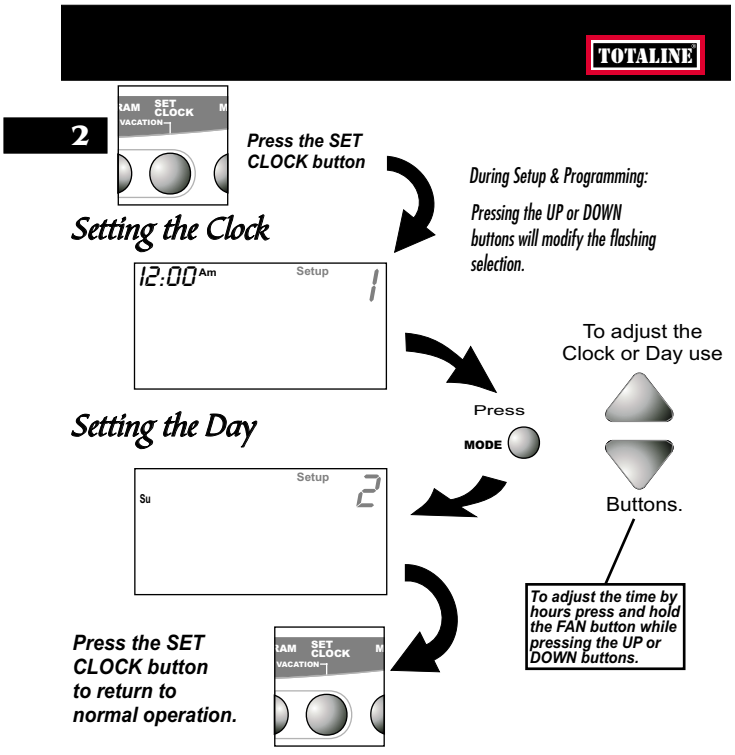
17 **Hi** icon - *Section 5*
Indicates the highest recorded outside temperature for the day.

18 **Service Pan** icon - *Section 17*
Indicates that a sensor (optional accessory) has detected the condensate drain pan is full and the compressor (Y1) has been locked out.

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*

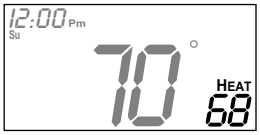
Note: *Following the instructions in this section will allow you to operate your thermostat using the factory default settings. These settings are depicted in the illustrations throughout this manual.*


TOTALINE
2
SET CLOCK
VACATION
Press the SET CLOCK button
During Setup & Programming:
Pressing the UP or DOWN buttons will modify the flashing selection.
Setting the Clock
12:00 Am
Setup
1
To adjust the Clock or Day use
Press
MODE
Buttons.
Setting the Day
Setup
Su
2
To adjust the time by hours press and hold the FAN button while pressing the UP or DOWN buttons.
Press the SET CLOCK button to return to normal operation.
SET CLOCK
VACATION

Selecting the Heat or Cool Mode

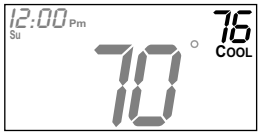
Select Mode by Pressing the MODE Button

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



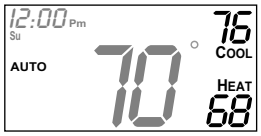
Press MODE

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.*



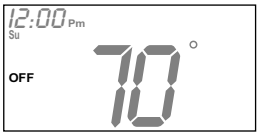
Press MODE

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.*

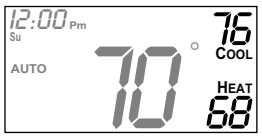


Selecting Your Desired Temperature (adjusting the setpoints)

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.



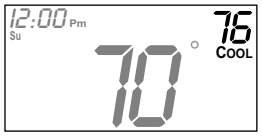
Adjust the desired set temperature with the



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 

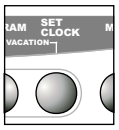
Fan On indicates constant fan operation. You may turn the fan on even if the thermostat is in the **Off** mode. Pressing the FAN button toggles this feature on or off.

Section 3 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.*

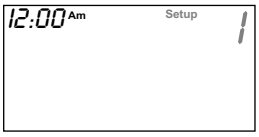
3



Press the SET CLOCK button

During Setup & Programming: Pressing the UP or DOWN buttons will modify the flashing selection.

Setting the Clock



To adjust the Clock or Day use

Press MODE



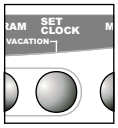
buttons.

Setting the Day



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

Press the SET CLOCK button to return to normal operation.



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***

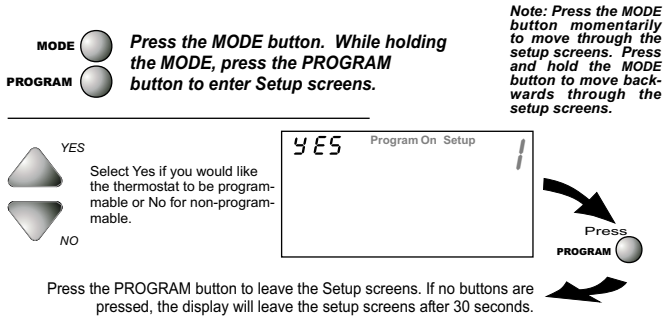
Note: *During setup & programming pressing the UP or DOWN buttons will modify the flashing selection.*

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.

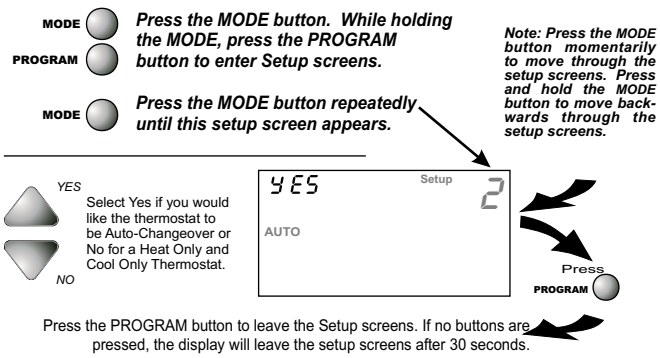
Select 'YES' if you would like your thermostat to be **programmable**, then the Program mode will be accessible through the use of the MODE button. This is the default, factory setting.



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.

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.



Operating Mode when the Thermostat is Configured to be:

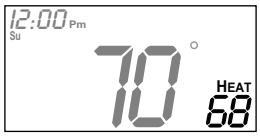
4

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

Heating Only

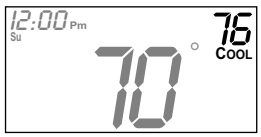
*The **HEAT** setting indicates the temperature the room has to reach before the furnace will turn on to heat the room.*



Press MODE

Cooling Only

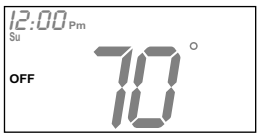
*The **COOL** setting indicates the temperature the room has to reach before the air conditioner will turn on to cool the room.*



Press MODE

Off

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



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

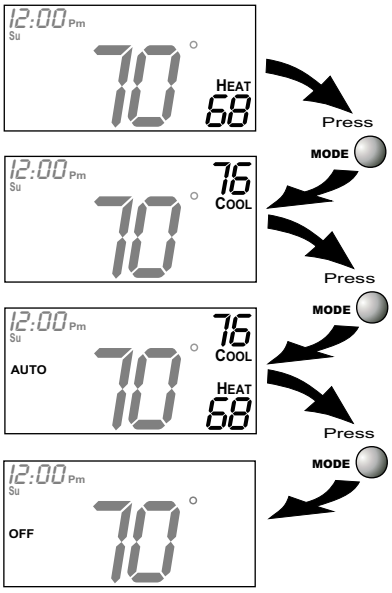
Select the Mode by Pressing the MODE Button

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:

4

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.

Select the Mode by Pressing the MODE Button

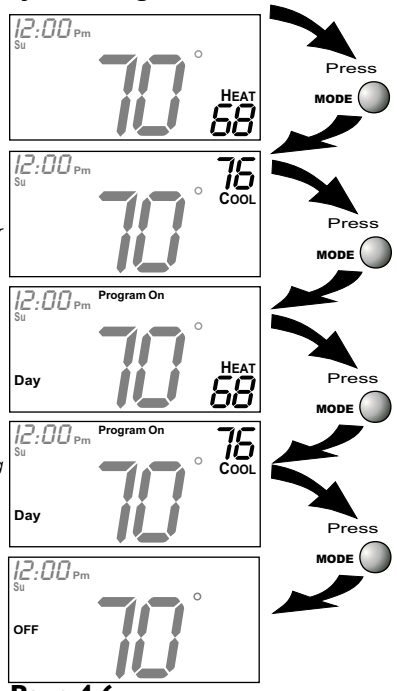
Heating Only
*The **HEAT** setting indicates the temperature the room has to reach before the furnace will turn on to heat the room.*

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.

Select the Mode by Pressing the MODE Button

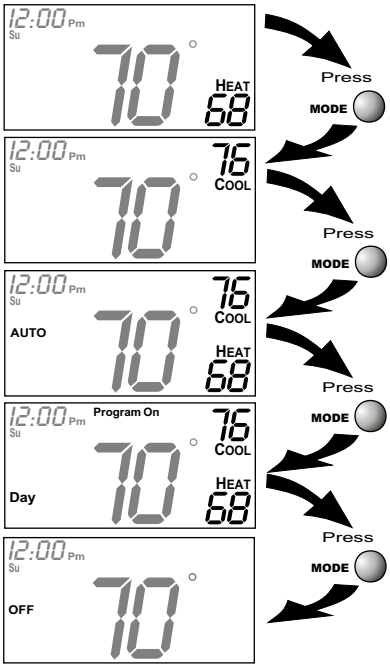
Heating Only
*The **HEAT** setting indicates the temperature the room has to reach before the furnace will turn on to heat the room.*

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.*

Time Schedule for Heating or Cooling
*The **Program On** setting wil 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.*

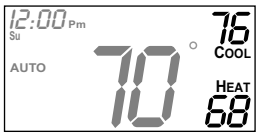


Selecting Your Desired Temperature (adjusting setpoints)

4

AUTO OR PROGRAM MODE

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 14.2.



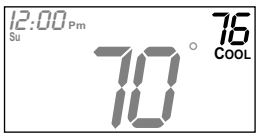
Adjust the desired set temperature with the



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.

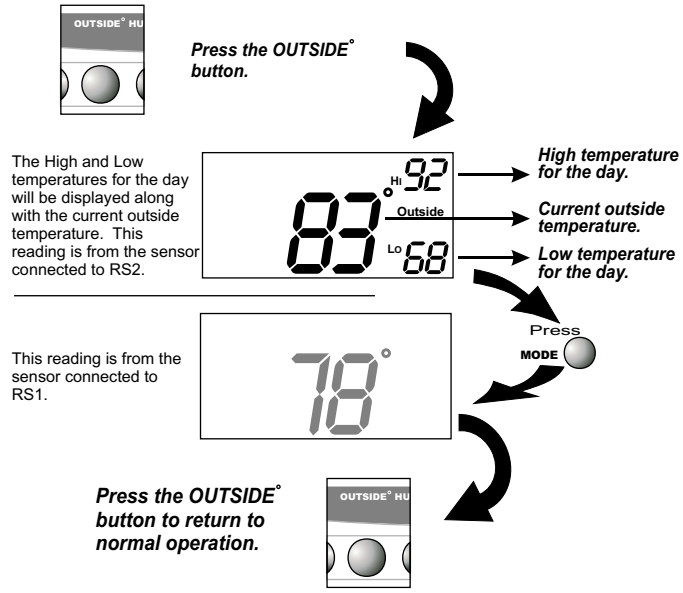
Section 5 Contents:

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

Viewing the Outside Temperature

5

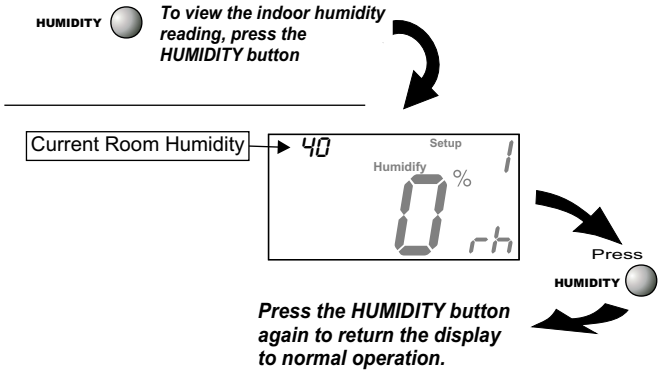
This requires an outside sensor (optional accessory) to be installed. To read the temperature from the Outside Sensor, press the OUTSIDE° button. The display will then show the current outside temperature along with the High and Low temperatures for the day. The day starts at 12:00 am.



Note: If no sensors are connected 2 dashes [- -] will appear.

Viewing the Indoor Humidity

To display the current humidity measured at the thermostat, press the HUMIDITY button of the thermostat. The display will then show the current indoor humidity along with the humidification setpoint



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

Section 6 Contents:

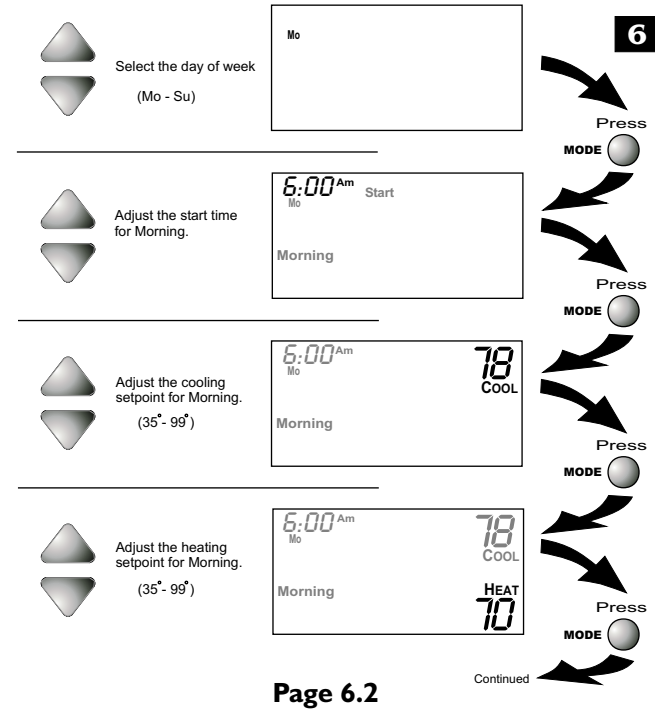
6 ■ *Programming a Daily Schedule.....6.2*

Programming a Daily Schedule

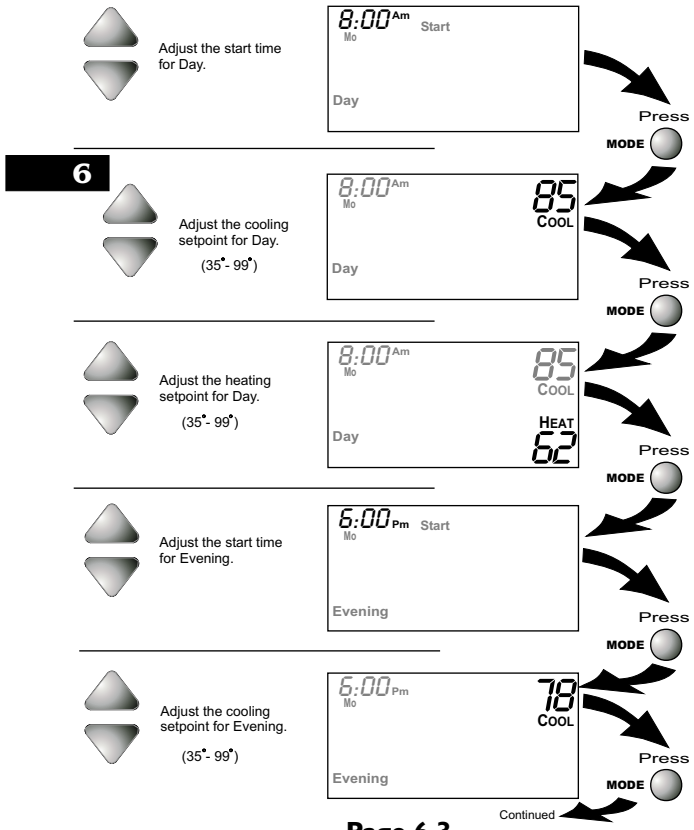
Press **PROGRAM**

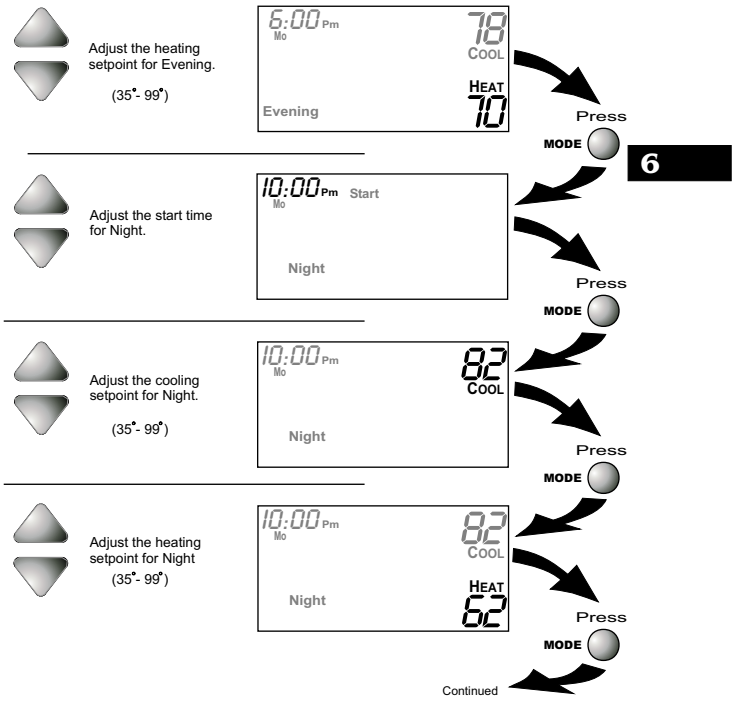
Press the PROGRAM button to enter time period programming.

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

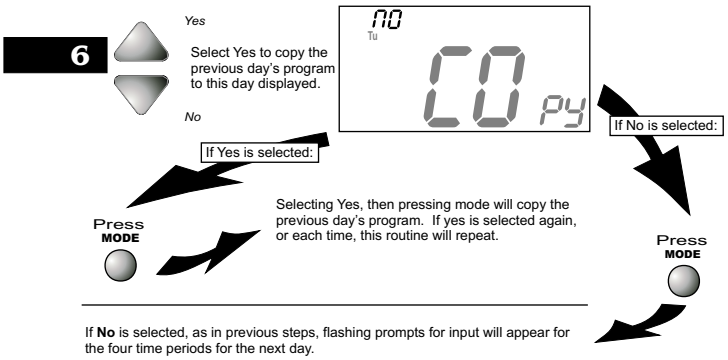


Continued


Adjust the start time for Day.
8:00 Am Start
Mo
Day
Press
MODE
6
Adjust the cooling setpoint for Day.
(35°- 99°)
8:00 Am
Mo
85
COOL
Day
Press
MODE
Adjust the heating setpoint for Day.
(35°- 99°)
8:00 Am
Mo
85
COOL
Day
HEAT
62
Press
MODE
Adjust the start time for Evening.
6:00 Pm Start
Mo
Evening
Press
MODE
Adjust the cooling setpoint for Evening.
(35°- 99°)
6:00 Pm
Mo
78
COOL
Evening
Press
MODE
Continued


Adjust the heating setpoint for Evening.
(35°- 99°)
6:00 Pm
Mo
78
COOL
HEAT
70
Evening
Press
MODE
Adjust the start time for Night.
10:00 Pm
Mo
Start
Night
Press
MODE
Adjust the cooling setpoint for Night.
(35°- 99°)
10:00 Pm
Mo
82
COOL
Night
Press
MODE
Adjust the heating setpoint for Night
(35°- 99°)
10:00 Pm
Mo
82
COOL
HEAT
62
Night
Press
MODE
Continued

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



If **No** is selected, as in previous steps, flashing prompts for input will appear for the four time periods for the next day.

Press PROGRAM

After programming for all seven days is complete, 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 7 Contents:

7

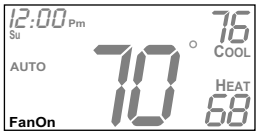
- *Using the Fan Button.....7.2*
- *Programming the Fan.....7.3*
- *Setting the Fan-Off Time Delay.....7.4*

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

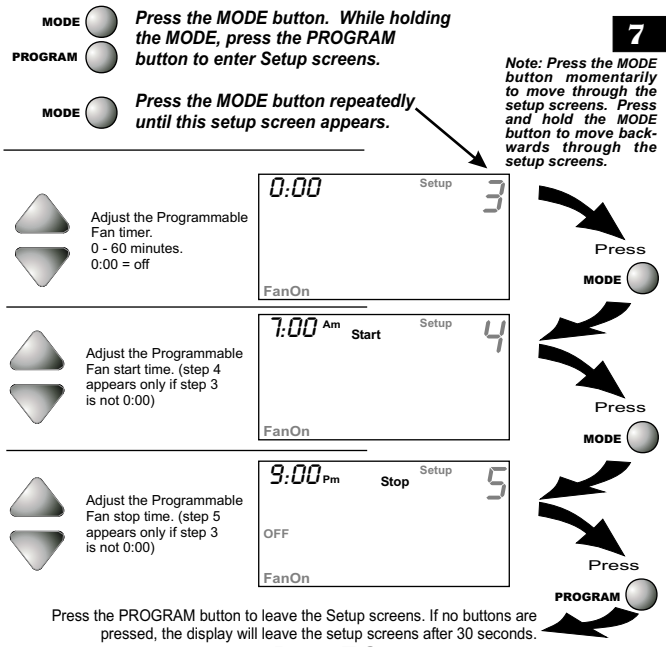
Press
FAN



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.

Programming the Fan

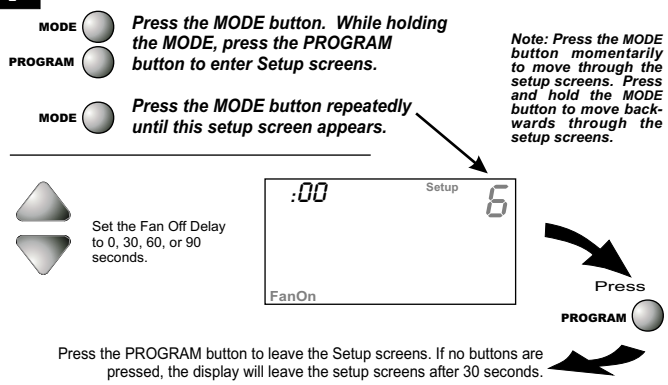
This timer will start the fan at the top of each hour and the fan will run for the number of minutes selected in step #3. Steps 4 & 5 restrict the hours during which the programmable fan may operate; step #4 is the start time and step #5 is the stop time. Selecting the same start and stop times will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

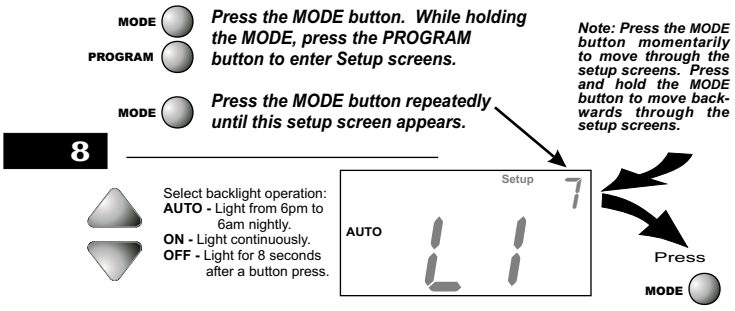
7



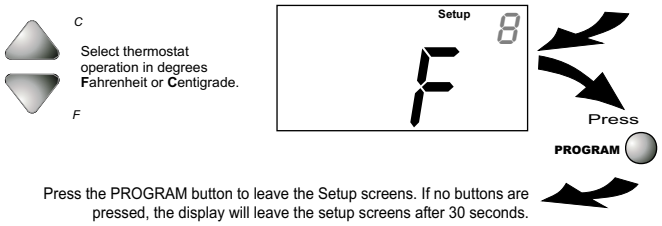
Section 8 Contents:

- *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



Programming the Thermostat to Display Temperature in Fahrenheit or Celsius

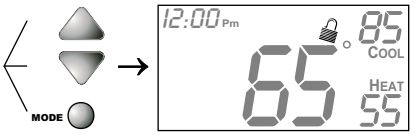


Press the PROGRAM button to leave the Setup screens. If no buttons are pressed, the display will leave the setup screens after 30 seconds.

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.

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 UP and DOWN buttons together. The icon will disappear from the display, then release the buttons.

Section 9 Contents:

- *Configuring a Thermostat Output Jumper for Humidity Operation.....9.2*
- *Adjusting the Humidification Setpoint.....9.3*

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.

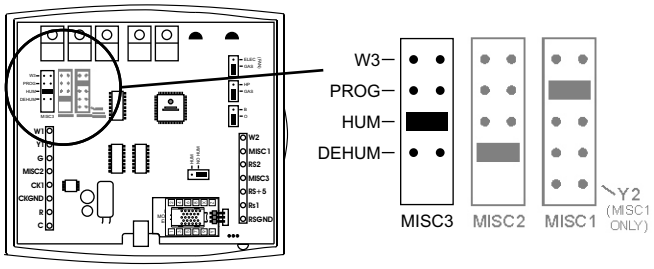
Additionally, the manufacturer of this thermostat is not responsible for the fitness of the humidifier and/or installation of said humidifier connected to this thermostat. Furthermore, the maintenance of the humidifier components, including but not limited to, the filters and pads are not the responsibility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

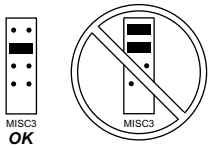
The Humidifier Service icon is only a suggestive reminder and should not take the place of the humidifier manufacturer's required maintenance requirements and schedule.

Setting a Thermostat Output Jumper for Humidity Operation

To operate one of the MISC outputs using humidity-based operation, 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 21.*

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





IMPORTANT CAUTION

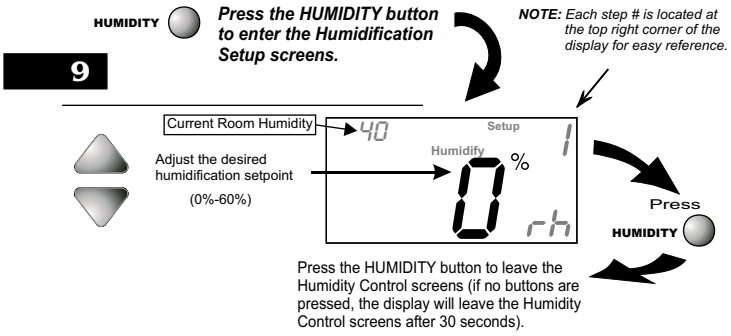
NEVER PUT MORE THAN ONE JUMPER ON THE SAME MISC JUMPER BLOCK!

THIS MAY DAMAGE THE THERMOSTAT AND VOID YOUR WARRANTY

Adjusting the Humidification Setpoint

If your HVAC unit is equipped with a humidification system 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.

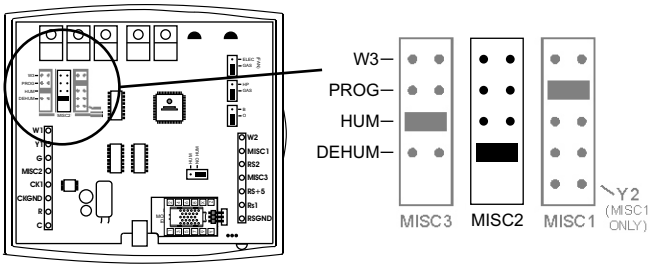
Section 10 Contents:

- *Configuring a Thermostat Output Jumper for Dehumidification Operation.....10.2*
- *Adjusting the Dehumidification Setpoint.....10.3*
- *Using Your Air Conditioner to Dehumidify.....10.4*
- *Using the Reheat Function.....10.5*
- *Using the DEHUM Terminal.....10.6*

Configuring a Thermostat Output Jumper for Dehumidification Operation

To operate one of the MISC outputs using dehumidification-based operation 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 21.*

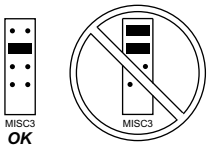
10 *In the diagram below, the MISC2 jumper has been set for DEHUM operation.*



IMPORTANT CAUTION

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

THIS MAY DAMAGE THE THERMOSTAT AND VOID YOUR WARRANTY

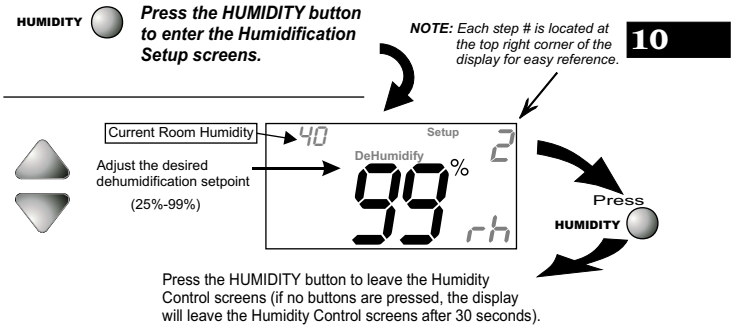


OK

Adjusting the Dehumidification Setpoint

If your HVAC unit is equipped with a dehumidification terminal the thermostat will provide power to the appropriate terminal on the backplate of the thermostat when the humidity in the home is above the setpoint you have chosen. When the indoor humidity rises above the setpoint you have selected, the appropriate 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.



Dehumidification Notes: *Press the button to set the dehumidification setpoint to 99% for no dehumidification operation. This will lockout Advanced Setup steps 9, 10, and 11 (see pages 10.4 - 10.5).*

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 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. This feature will also allow you to adjust the cooling overshoot of the setpoint, from 0° to 5° (adjustable in step #10). *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
PROGRAM

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.

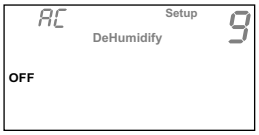
Note: Press the MODE button momentarily to move through the setup screens. Press and hold the MODE button to move backwards through the setup screens.

Steps 9 and 10 only appear if the Dehumidification setpoint is not 99% (see page 10.3).

On

Select Cool to Dehumidify feature.

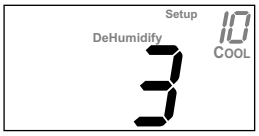
Off



Press
MODE

Step 10 appears only if step 9 is set to "ON"

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



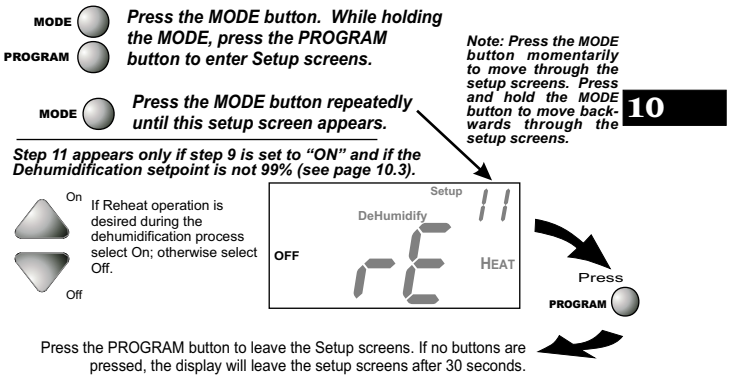
Press
PROGRAM

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

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 Reheat Function

This feature allows the thermostat to turn on Electric Heating (W2) during Cool to Dehumidify to maintain room temperature until the dehumidification setpoint is reached. The cooling cycle will allow for the dehumidification of the air to occur while the Electric Heating will allow for a constant room temperature.



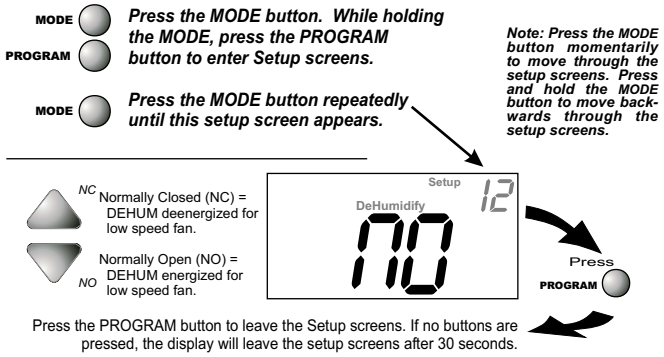
Dehumidification Notes: *Reheat is only available if Cool to Dehumidify has been set to ON in step #9 (see page 10.4).*

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.



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.

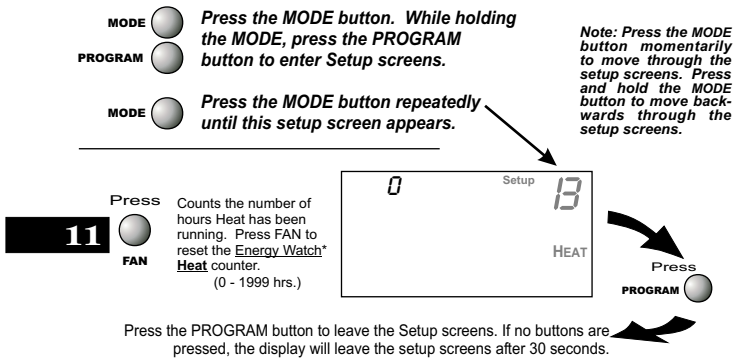
Section 11 Contents:

- *Viewing the Heat Run-Time.....11.2*
- *Viewing the Cool Run-Time.....11.3*
- *Viewing the Humidifier Run-Time..... 11.4*
- *Viewing the UV Light Run-Time.....11.5*

TOTALINE

Viewing the Heat Run-Time - Energy Watch

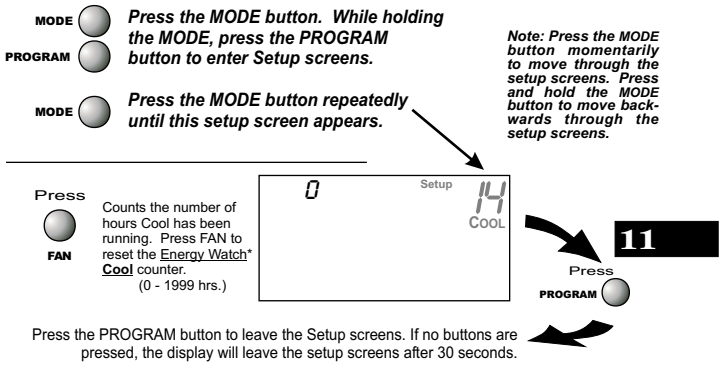
This display will track the number of hours that your heating system has been operating (*W1 terminal only*). Press the FAN button to reset the counter.



* ***Energy Watch:*** *This feature enables you to closely monitor your energy usage by keeping track of the number of hours your heating system has been operating.*

Viewing the Cool Run-Time - Energy Watch

This display will track the number of hours that your cooling system has been operating (*Y1 terminal only*). Press the FAN button to reset the counter.

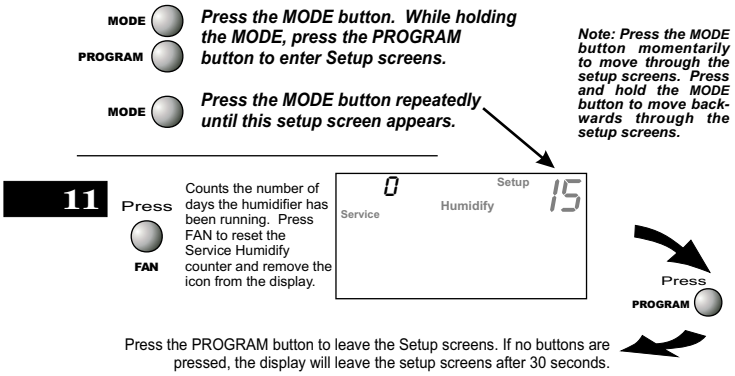


* ***Energy Watch:*** *This feature enables you to closely monitor your energy usage by keeping track of the number of hours your cooling system has been operating.*

TOTALINE

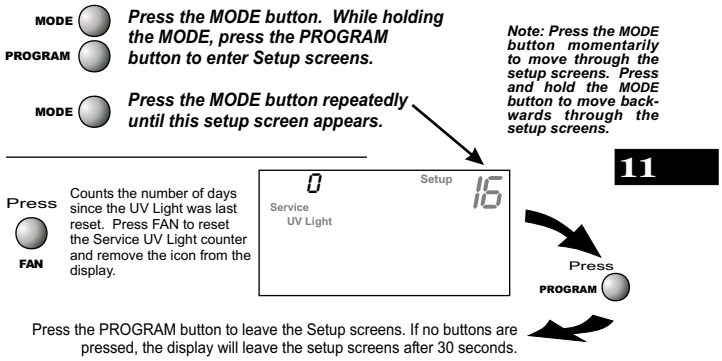
Viewing the Humidification Run-Time

After your humidification system has been operating for the number of days set in step #15 below, the Service Humidify icon will appear. This counter keeps track of the number of days since the Service Humidify icon was reset.



Viewing the UV Light Run-Time

After the UV light has been operating for the number of days set in step #16 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.

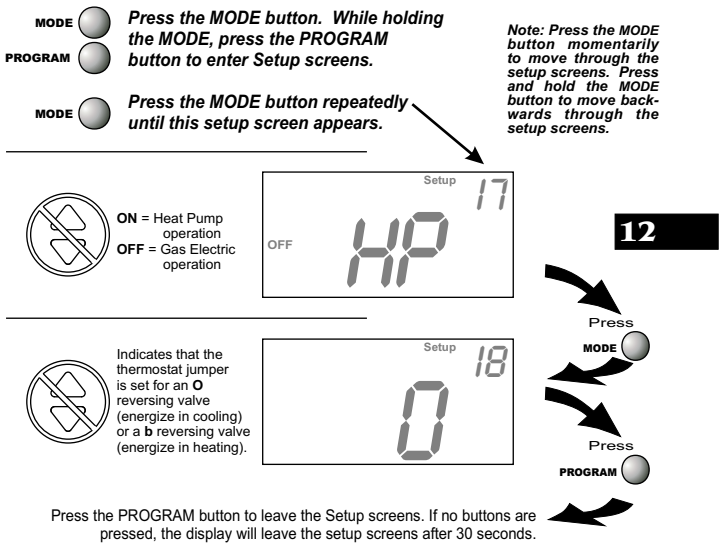


Section 12 Contents:

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

Viewing the Heat Pump and Reversing Valve Jumper Settings

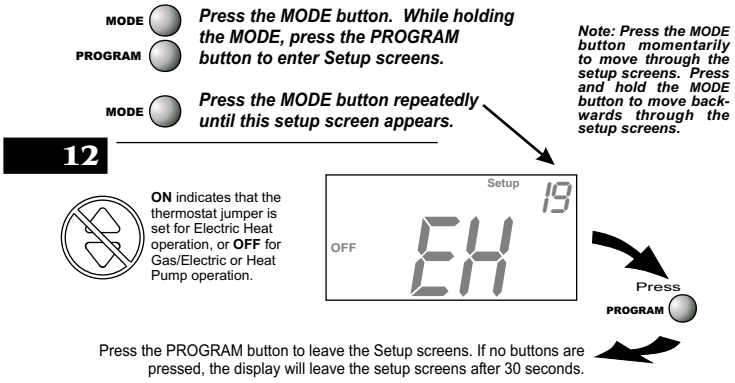
Steps 17 and 18 are 'Read Only' and may only be set with the jumpers on the circuit board of the thermostat.



Viewing the Electric Heat Jumper Setting

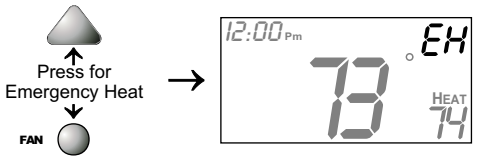
Placing the jumper on ELEC will cause the thermostat to turn on the fan immediately any time there is a heat demand. Since most gas furnaces control the fan, this feature should be off unless the heater is only electric.

Step 19 is 'Read Only' and may only be set with the jumpers on the circuit board of the thermostat.



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).



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
Dual Fuel Operation

TOTALINE

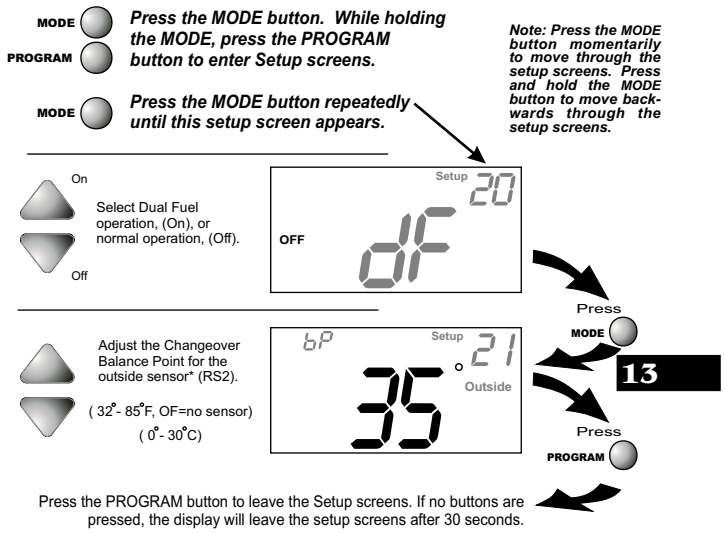
Programming the Thermostat to Operate a Dual Fuel System

DUAL FUEL vs. ADVANCED HEAT PUMP - Advanced Setup step #20 (*next page*) allows this thermostat to be configured to control two heat sources: Dual Fuel or, to have maximum flexibility in controlling multi-stage heat pumps, Advanced Heat Pump.

Dual Fuel systems utilize an outside temperature sensor. When the outside temperature is at or below the Changeover Balance Point, *step #21* (*next page*), the primary heat source is 'locked out' and the heat source connected to W3 is energized. There is a three degree deadband from the Changeover Balance Point, which requires the outside temperature to rise three degrees before switching back to the primary heat source. If an outside temperature sensor is not installed and the thermostat is programmed for Dual Fuel operation, the 3rd stage (W3) is locked out.

Note: Adjusting the Changeover Balance Point to 'OF' will allow 3rd stage operation without an outside sensor step #21 (next page).

Programming the Thermostat to Operate a Dual Fuel System



13

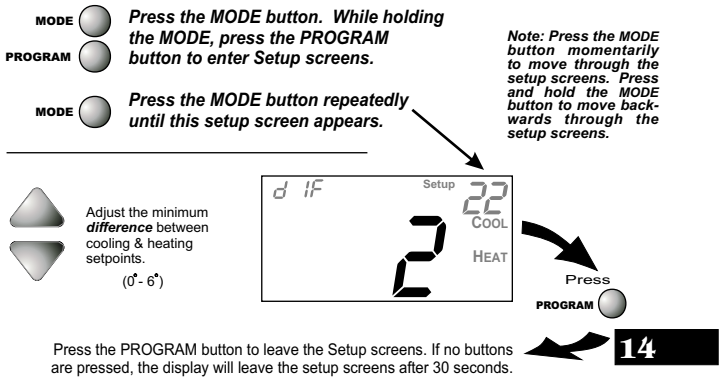
** In the case of Dual Fuel operation (Dual Fuel set to 'ON'), an outside sensor is **required**.*

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*

Adjusting the Heat/Cool Differential

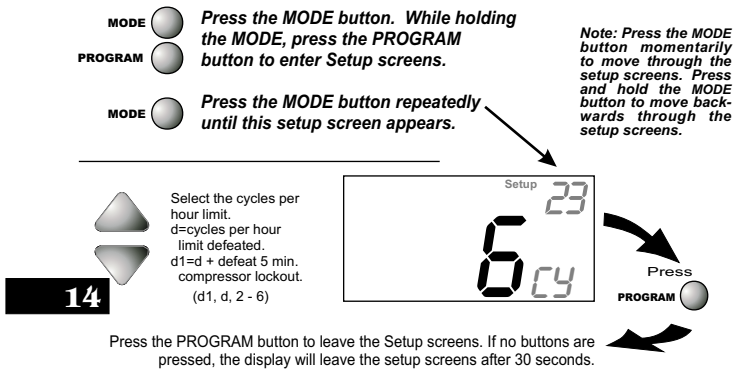
The Heat and Cool setpoints will not be allowed to come any closer to each other than the value in this step. This minimum difference is enforced during Auto Changeover operation.



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 any button 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 #27, page 14.6).* It is adjustable from 0-60 minutes and the default is two minutes.

And

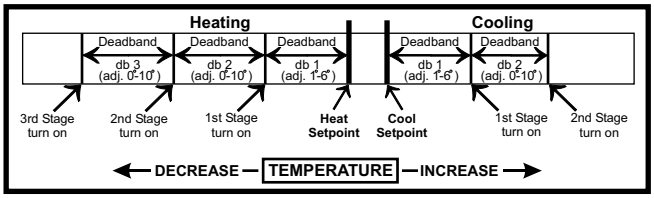
(**B**) The temperature spread from the setpoint is equal to or greater than: *the setpoint plus the 1st stage deadband (step #24, next page), plus the 2nd stage deadband (step #25, next page).* This 2nd stage deadband is adjustable from 0-10 degrees and the default is two degrees.

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

(A) The 2nd stage has been on for the time required (*step #28, page 14.6).* It is adjustable from 0-60 minutes and the default is two minutes.

And

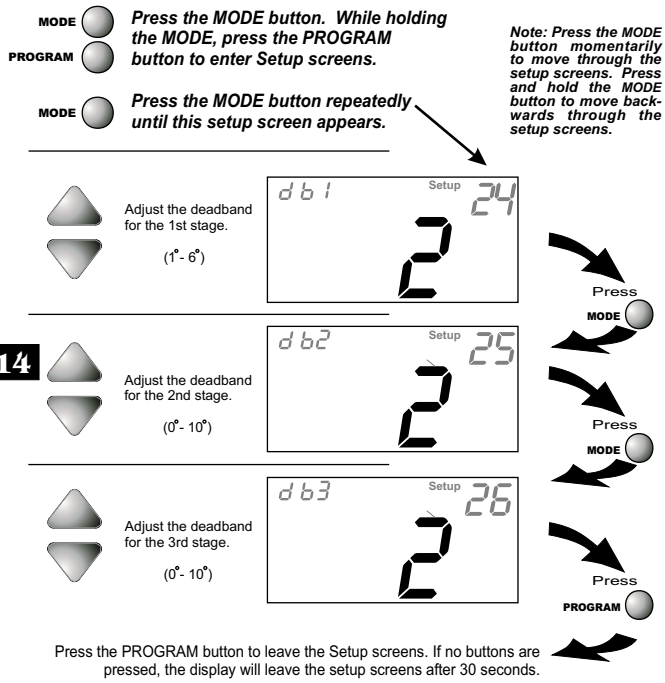
(B) The temperature from the setpoint is equal to or greater than: *the setpoint plus the 1st stage deadband (step #24, next page), plus the 2nd stage deadband (step #25, next page) plus the 3rd stage deadband (step #26, next page).* This 3rd stage deadband is adjustable from 0-10 degrees and the default 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.

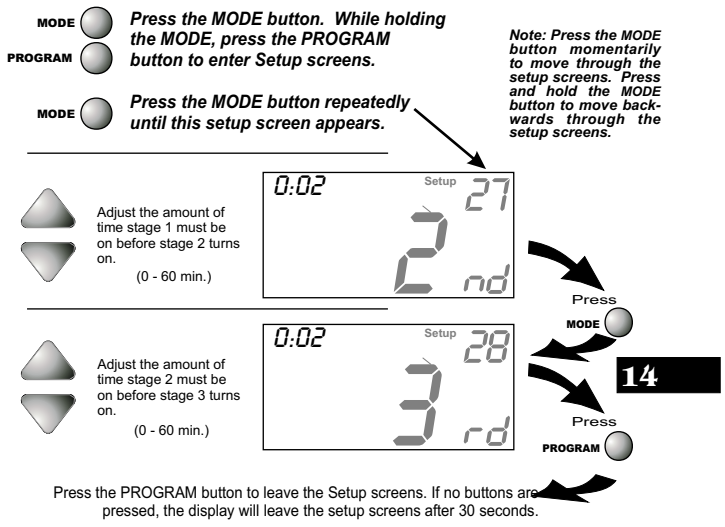
Adjusting the Deadband

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



Adjusting the Minutes of Run-Time Before the Next Stage

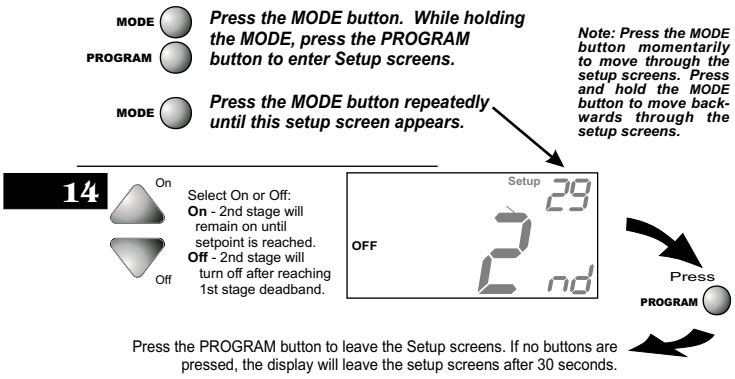
For more detailed information, please see the explanation on page 14.4.



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 14.4 for more information).*



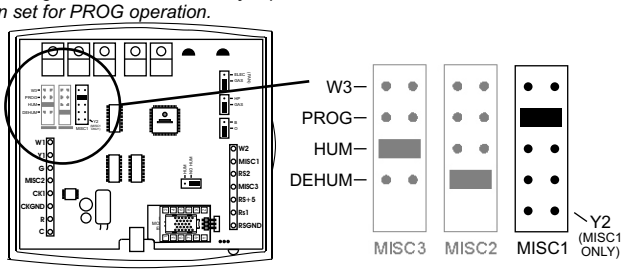
Section 15 Contents:

- *Configuring a Thermostat Output Jumper for Programmable Output Operation.....15.2*
- *Time-Based Control of the Programmable Output.....15.3*
- *Temperature-Based Control of the Programmable Output.....15.6*
- *Internet/Phone Control of the Programmable Output.....15.7*

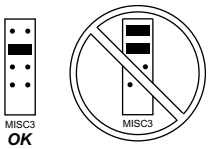
Setting a Thermostat Jumper for Programmable Output Operation

To control one of the MISC outputs using time, temperature, or Internet/phone based operation, place the MISC1, or MISC2, or MISC3 jumper on the terminal labeled PROG (*see diagram below*). This extra output will supply 24VAC to the selected MISC terminal based on the programming described 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 21.*

In the diagram below, the MISC1 jumper has been set for PROG operation.



IMPORTANT CAUTION



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

THIS MAY DAMAGE THE THERMOSTAT AND VOID YOUR WARRANTY

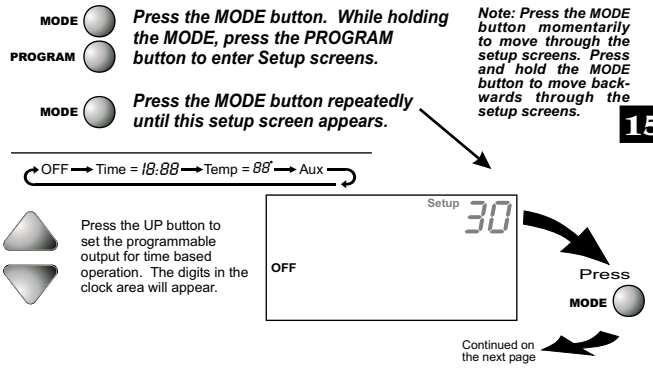
Time-Based Control of the Programmable Output

To operate one of the MISC outputs using time-based operation, set the Advanced Setup step #30 (*below*) for Time. This terminal is especially useful for devices that require a start and stop time. This extra output will supply 24VAC to the selected MISC terminal based on the programming described in pages 15.4 - 15.5.

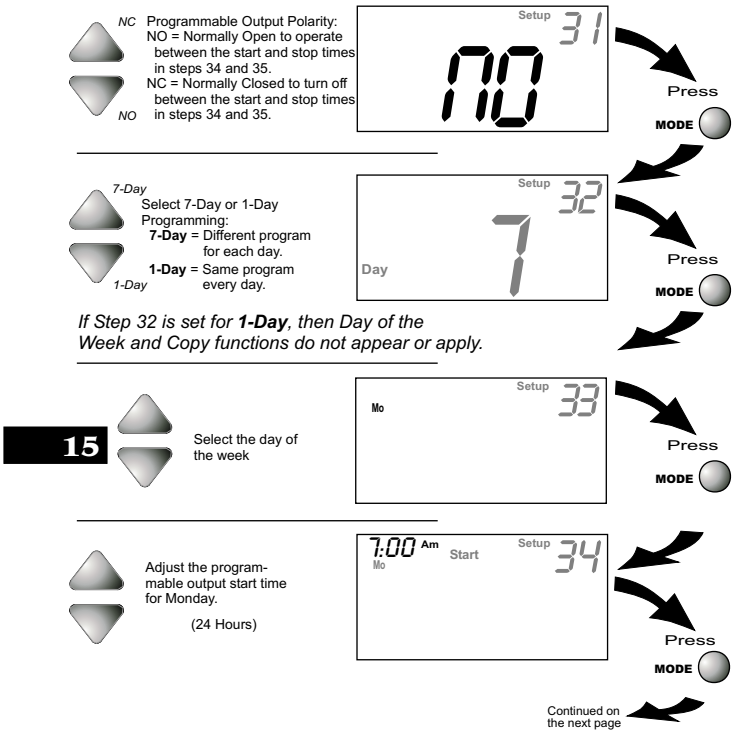
Possible **TIME** scenarios:

1) An exterior lighting system that needs to be energized every day between the hours of 8pm and 1am.

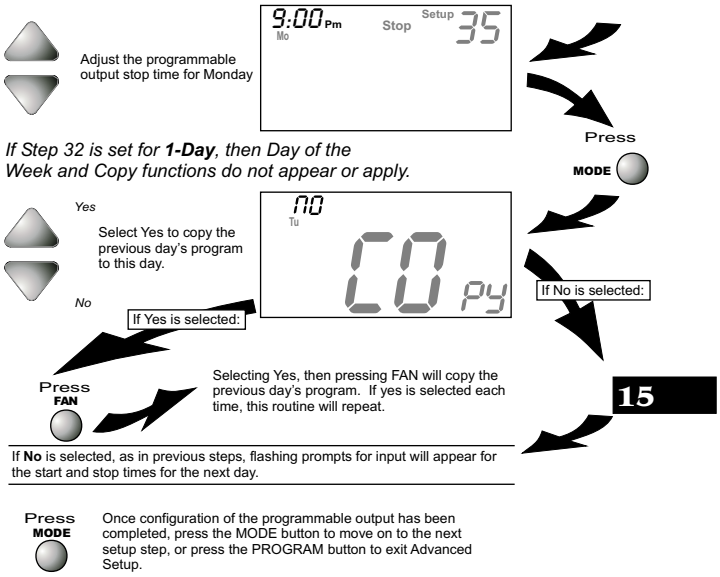
2) A sprinkler system that needs to be energized every day between the hours of 2am and 4am.



Time-Based Control of the Programmable Output



Time-Based Control of the Programmable Output

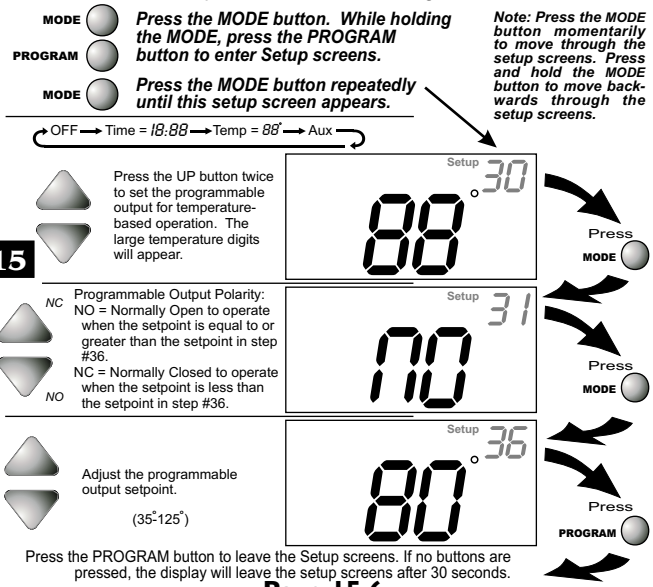


Temperature-Based Control of the Programmable Output

To operate one of the MISC outputs using temperature-based operation, program Advanced Setup step #30 (*below*) for temperature. This terminal is especially useful for devices that require a specific temperature before operating. This extra output will supply 24VAC to the selected MISC terminal based on the temperature of RS1 and the setpoint in step #36 (*below*).

Possible **TEMPERATURE** scenario:

1) An exhaust fan in the attic that needs to be energized when the attic temperature is above 85 degrees.

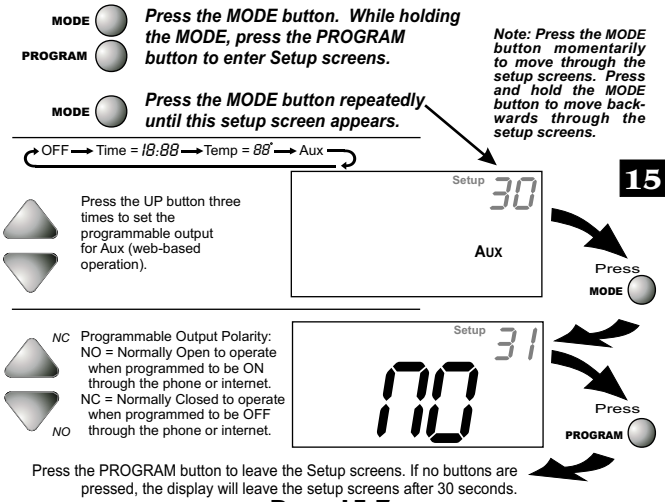


Internet/Phone Control of the Programmable Output

To operate one of the MISC outputs using Internet/phone-based operation, program Advanced Setup step #30 for Aux (*below*). This terminal is especially useful for devices that can be energized via the Internet. Telephone control may also be available when the thermostat is connected to the Internet.

Possible **AUX** scenarios:

1) Arm the alarm system in your home after you have left for the day.
2) Turn on your spa before arriving home.
3) Turn on your interior lights while you're away.



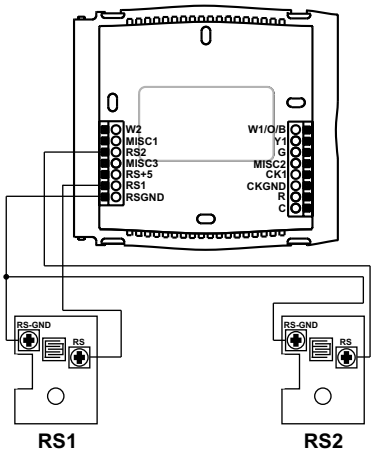
Section 16 Contents:

- *Installing the Remote Sensors.....16.2*
- *Controlling or Reading the Remote Temperature (RS1)...16.3*
- *Averaging the Remote Sensor (RS1) with the Thermostat Sensor.....16.4*

Installing the Remote Sensors

Up to two wired remote sensors may be installed on the thermostat to read outside temp (RS2) and/or control the temperature in another room (RS1). The designators RS1 and RS2 refer to the terminal locations on the thermostat's backplate. If a sensor is connected to RS1 and is programmed to control the thermostat, the degree icon on the thermostat will blink once per second to indicate that a remote sensor reading is being displayed. The wired sensor can be connected to the thermostat with **up to 150' of 18 ga., 300' of 20 ga., or 450' of 22 ga. unshielded, thermostat wire**.

This wire ***MUST*** be completely separated from the thermostat or any other control wiring and must ***NOT*** be in the same conduit as high voltage wiring.



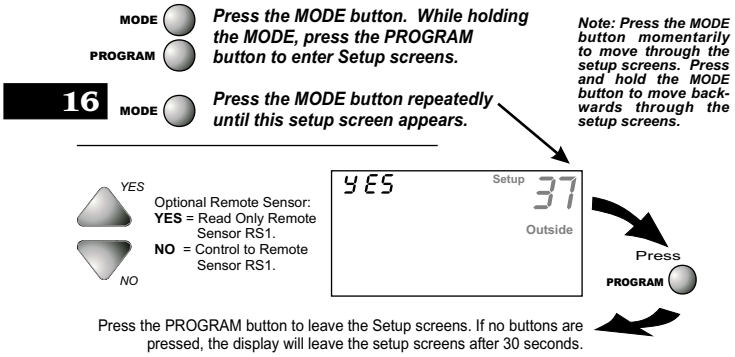
See the Remote Sensor accessory for further details.

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. Advanced Setup step #37, below.

Read Only Sensor (RS1): If step #37 is set to only READ to the remote sensor, this temperature may be viewed by pressing the OUTSIDE° button on the thermostat and then pressing the MODE button.

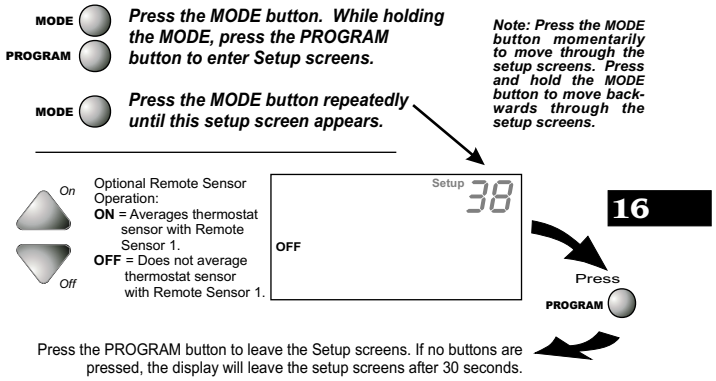
Control Sensor (RS1): If step #37 is set to CONTROL to the remote sensor, the thermostat will ignore the reading of its internal temperature sensor and only display the temperature reading from the remote sensor. The degree icon on the thermostat will blink once per second to indicate that a remote sensor reading is being displayed. This is the factory default setting.



Averaging the Remote Sensor (RS1) with the Thermostat Sensor

If step #37 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. This is the factory default setting.

If step #38 is set to ON (*see below*), the thermostat will average its internal sensor with the wired temperature sensor connected to RS1. The temperature displayed will be the average of the thermostat's internal sensor and the remote (RS1) sensor.



SECTION 17
Programming the Dry Contact TOTALINE

Section 17 Contents:

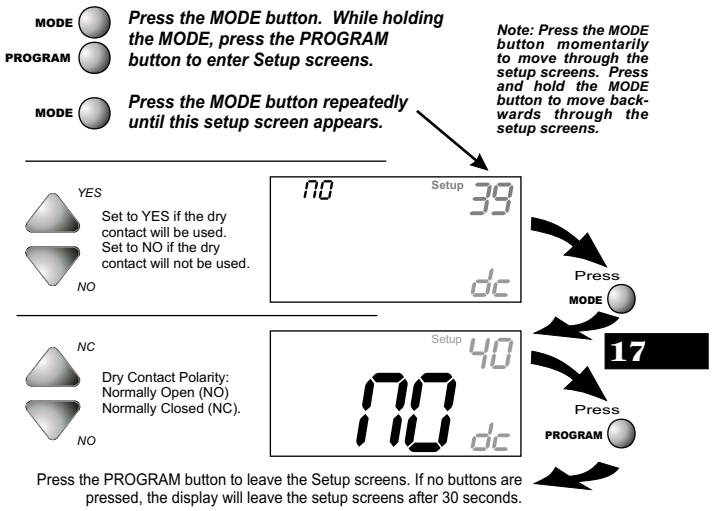
- *Dry Contact Operation..... 17.2*
- *Dry Contact Polarity.....17.2*
- *Dry Contact Programming.....17.3*

17

Dry Contact Operation

If the dry contact is going to be used, select YES in step #39. If the dry contact is not going to be used, select NO in step #39 below.

DRY CONTACT POLARITY - The terminals may be set to be Normally Open (NO) or Normally Closed (NC) in step #40. If NO is selected the dry contact will operate when it is forced closed. If NC is selected, the dry contact will operate until it is forced open.

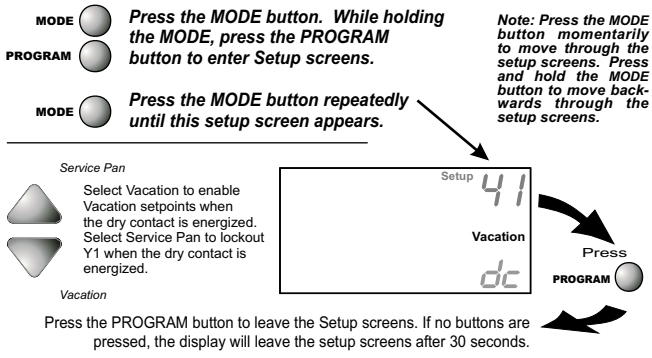


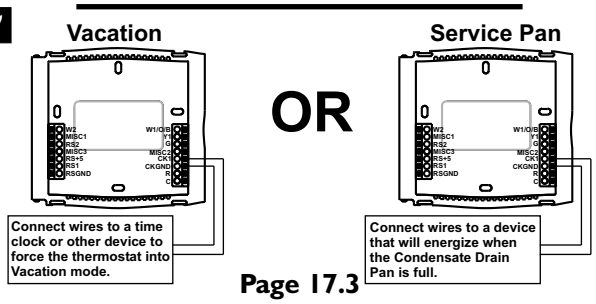
Dry Contact Programming

VACATION MODE OR SERVICE THE CONDENSATE DRAIN PAN -

If Vacation is selected in step #41 (*below*), when the dry contact is energized and the thermostat will be forced into Vacation mode (*Section 20*).

If Service Pan is selected, when the dry contact is energized the thermostat will lockout Y1 (compressor) and write Service Pan on the display.



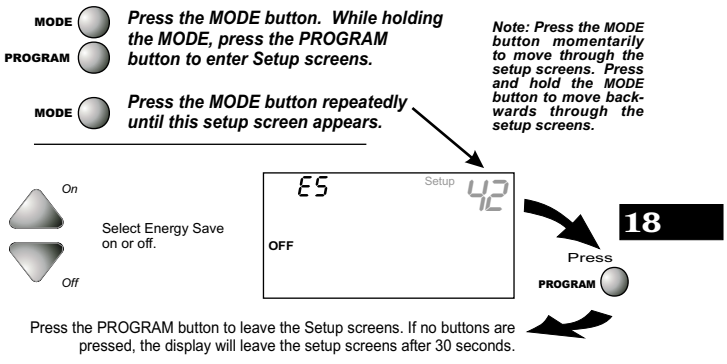


SECTION 18
Energy Save Operation

TOTALINE

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 #42 (*below*), the room will attempt to reach the selected comfort temperature at the exact time programmed into the thermostat. Energy Save 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 P374-1900 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.

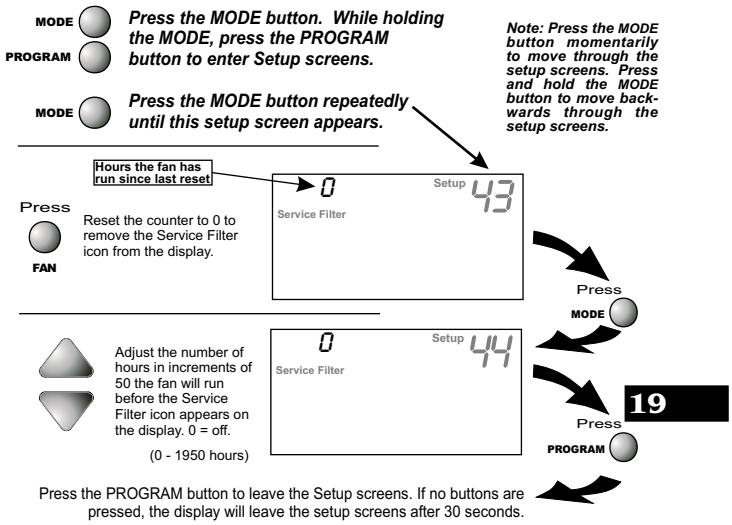


Section 19 Contents:

- *Setting and Resetting the Service Filter (Fan Run-Time) Alarm.....19.2*
- *Setting and Resetting the UV Light Run-Time Alarm.....19.3*
- *Setting and Resetting the Humidify Run-Time Alarm.....19.4*

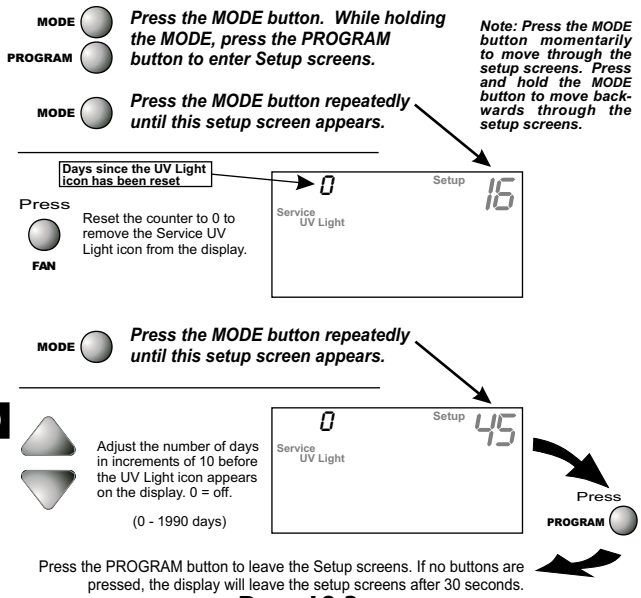
How to Set and Reset the Service Filter (Fan Run-Time) Alarm

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 #44 (*below*) has been achieved. Setting this counter to zero in step #44 will prevent the Service Filter icon from ever appearing.



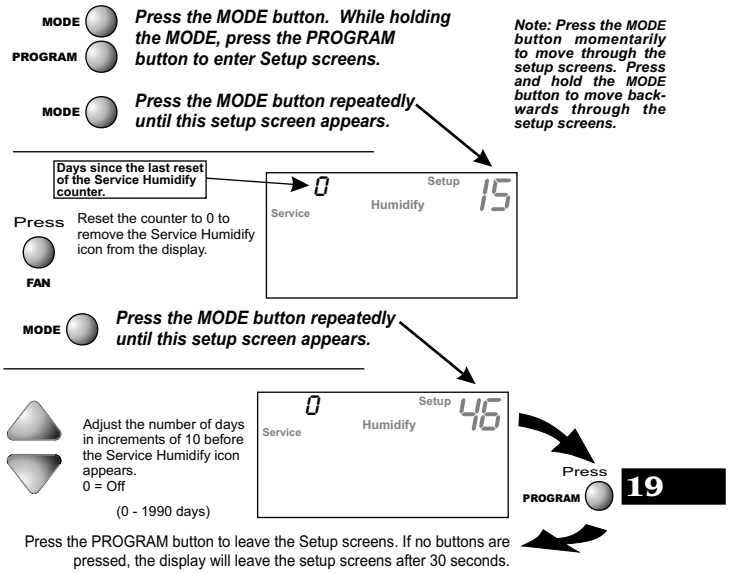
How to Set and Reset the UV Light Run-Time Alarm

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 #45 (*below*). Setting the counter to zero in Step #45 will prevent the Service UV Light icon from ever appearing.



How to Set and Reset the Humidifier Run-Time Alarm

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 #46 (*below*) has elapsed. Setting this counter to zero in step #46 will prevent the Service Humidify icon from ever appearing.



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

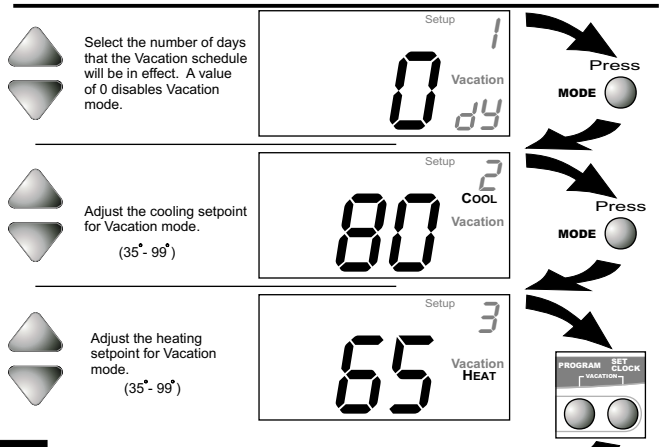
SECTION 20
Programming Vacation Mode

TOTALINE

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.



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

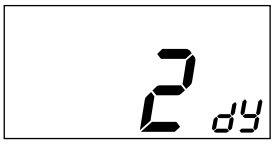


Press the PROGRAM and SET CLOCK buttons to exit the setup screens. If no buttons are pressed, the display will leave the setup screens after 30 seconds.

You cannot set the Heat setpoint any higher than the Cool setpoint minus the deadband setting in Advanced Setup step #22 on page 14.2.

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*).

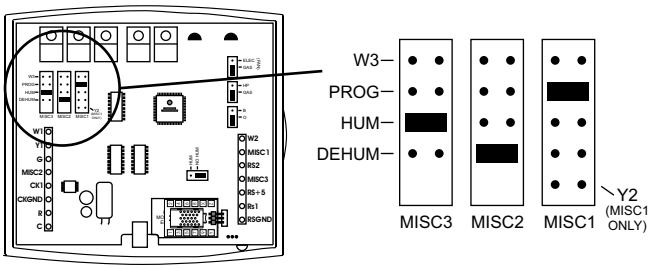
Press the PROGRAM and SET CLOCK buttons to return to normal operation.

Section 21 Contents:

- *Configuring the Jumpers.....21.2*
- *Explanation of Jumper Settings.....21.3*

Configuring the Jumpers

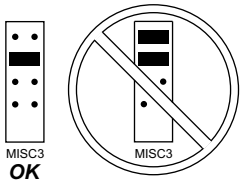
For additional flexibility, your thermostat has three configurable outputs. These outputs are designed to have different functions depending on how the jumpers are set (*below*).
Each output, labeled MISC1, MISC2, and MISC3 may be set for one of the five choices available.
In the diagram below, the MISC3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



CAUTION

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

DOING SO MAY DAMAGE YOUR THERMOSTAT AND VOID THE WARRANTY.



OK

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.

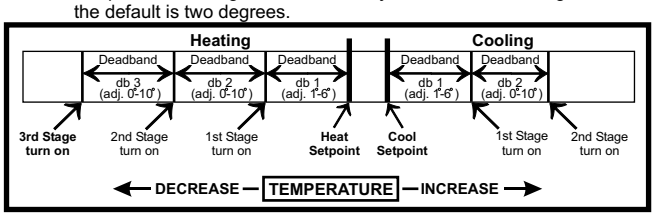
W3 MULTI-STAGE OPERATION EXPLAINED - SECTION 14

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

(A) The 1st and 2nd stages have been on for the time required (*steps 27 and 28, page 14.6).* 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 set-point plus the 1st stage deadband (step #24, 14.5), plus the 2nd stage deadband (step #25, 14.5) plus the 3rd stage deadband (step #26, 14.5).* This 3rd stage deadband is adjustable from 0-10 degrees and the default is two degrees.



PROG JUMPER SETTING

If the jumper for MISC1, MISC2, or MISC3 is set to PROG, the corresponding MISC screw terminal on the backplate will control a pilot relay or other accessory.

PROGRAMMABLE OUTPUT - SECTION 15

This jumper setting allows the MISC outputs to control a pilot relay by time, temperature, or a signal from the Internet/Phone. The following are three possible scenarios:

By **Time**: A device that requires a start and stop time. An example of this would be a exterior lighting system that needed to be energized every day between the hours of 8pm and 1am.

By **Temperature**: An exhaust fan that needs to energize whenever the temperature from RS2 rises above 90 degrees F.

By **Remote**: Remotely arming a security system through the web or phone.

Explanation of Jumper Settings (continued)

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.

HUMIDIFICATION OPERATION - SECTION 9

If your HVAC unit is equipped with a humidification system 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 OFF.

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 - SECTION 14

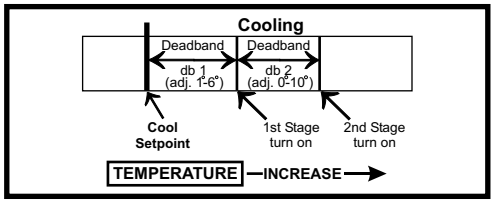
Control up to two Cool stages.

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

(**A**) The 1st Stage has been on for the time required (*step #27, page 14.6).* 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 #24, page 14.5), plus the 2nd deadband (step #25, page 14.5).* This 2nd deadband is adjustable from 0-10 degrees and the default is two degrees.



Section 22 Contents:

- *Resetting the Thermostat to the Factory Default Settings.....22.2*
- *Calibrating the Temperature and Humidity Sensors.....22.3*

Resetting the Thermostat to the Factory Default Settings *(for default values see page 24.1)*

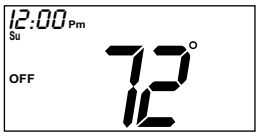
If, for any reason, you desire to return all the stored settings back to the factory default settings, follow the instructions below.

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.

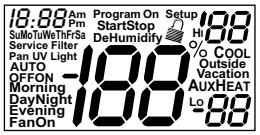


2

MODE

FAN

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.



3

FAN

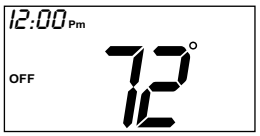
After all of the icons appear, release the MODE and FAN buttons. Then press and hold the FAN button for 5 seconds.



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.



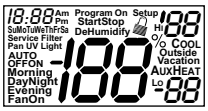
Calibrating the Temperature and Humidity Sensors

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 + FAN — 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.



3 PRESS TWICE — **THERMOSTAT SENSOR**

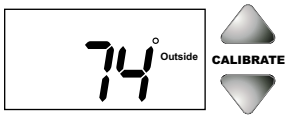
Press the UP and DOWN buttons at the same time twice. The thermostat temperature will be displayed and may be calibrated using the UP or DOWN buttons.



CALIBRATE

4 MODE — **REMOTE SENSOR**

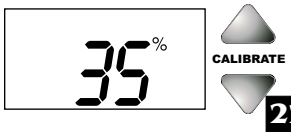
Press the MODE button once. The remote sensor temperature will be displayed and may be calibrated using the UP or DOWN buttons. If a remote sensor is not installed, only dashes will appear.



CALIBRATE

5 MODE — **HUMIDITY SENSOR**

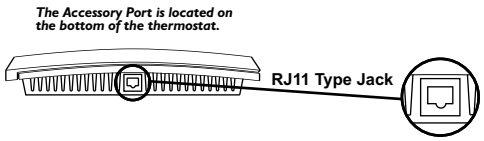
Press the MODE button once. The relative humidity at the thermostat will be displayed and may be calibrated using the UP or DOWN buttons.



CALIBRATE

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

ACCESSORY PORT - The RJ11 Jack is used to connect the P374-1900 to the IR Receiver (P374-0431) or the EZ Programmer (P374-0432) for easy downloading or uploading of thermostat information.



IR RECEIVER / REMOTE CONTROL (optional accessory) - When the IR Receiver is connected, the thermostat can be controlled using an IR Remote Control. For more information see the instruction sheet for the IR Receiver P374-0431.

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 thermostats. For more information see the instruction sheet for the P/N P374-0432.

WEB KIT (optional accessory) - The P374-1900 Thermostat is capable of communication via the World Wide Web and phone by installing the optional Web Kit. Heating and cooling functionality may be accessed and controlled through the phone or internet. For more information contact your dealer.

SECTION 24
Advanced Setup Table

TOTALINE

Step#	Description	Pg#	Range	Df *
1	Programmable Thermostat	4.2	Yes/No	Yes
2	Auto Changeover Thermostat	4.3	Yes/No	Yes
3	Programmable Fan	7.3	0:00-0:60	0
4	Programmable Fan Start Time	7.3	24 Hour	7am
5	Programmable Fan Stop Time	7.3	24 Hour	9pm
6	Fan Off Delay	7.4	0, 30, 60, 90	0
7	Thermoglow Backlight	8.2	Auto/On/ Off	Auto
8	F or C	8.2	F/C	F
9	Cool to Dehumidify	10.4	On/Off	Off
10	Maximum Dehum Overshoot	10.4	0°- 5°	3°
11	Reheat Operation	10.5	On/Off	Off
12	DEHUM Terminal Polarity	10.6	NO/NC	NO
13	Energy Watch - Heat Timer	11.2	--	--
14	Energy Watch - Cool Timer	11.3	--	--
15	Reset Service Humidify Icon	11.4	--	--
16	Reset UV Light Icon	11.5	--	--
17	Heatpump Jumper Setting	12.2	--	--
18	Reversing Valve Jumper Setting	12.2	--	--
19	Electric Heat	12.3	--	--
20	Dual Fuel Operation	13.2	Off/On	Off
21	Changeover Balance Point	13.2	32°- 85°	35°
22	Minimum Heat/Cool Differential	14.2	0°- 6°	2°
23	Cycles Per Hour	14.3	d1, d, 2-6	6
24	Deadband/Temp. Swing 1st Stage	14.5	1°- 6°	2°
25	Deadband/Temp. Swing 2nd Stage	14.5	0°- 10°	2°
26	Deadband/Temp. Swing 3rd Stage	14.5	0°- 10°	2°

Step#	Description	Pg#	Range	Df *
27	Minutes Between Stage 1 & 2	14.6	0-60min	2
28	Minutes Between Stage 2 & 3	14.6	0-60min	2
29	2nd Stage turn off at setpoint	14.7	On/Off	On
30	Programmable Output	15.3	Off/Time/ Temp/Re	Off
31	Programmable Output Polarity	15.4	NO/NC	NO
32	7 Day/1 Day Programmable Output	15.4	7Day/ 1Day	7-Day
33	Programmable Output Day of the Week	15.4	Mo - Su	Mo
34	Programmable Output Start Time	15.4	24 Hour	7am
35	Programmable Output Stop Time	15.5	24 Hour	9pm
36	Programmable Output Temp. Setpoint	15.6	35°-125°	80°
37	Thermostat READ to RS1	16.3	Yes/No	Yes
38	Local Sensor Averaging	16.4	On/Off	Off
39	Dry Contact Operation	17.2	Yes/No	No
40	Dry Contact Polarity	17.2	NO/NC	NO
41	Dry Contact Programming	17.3	Vacation/ Service Pan	Vacation
42	Energy Save	18.1	Off/On	Off
43	Reset Service Filter Icon	19.2	--	--
44	Service Filter Run Time Set	19.2	0 - 1950	0
45	UV Light Run-Time Set	19.3	0 - 1999	0
46	Service Humidify Run-Time Set	19.4	0 - 1999	0

***Df = Factory Default Setting**



Alarms
see *Run-Time*
Auto
adjust temperature, 2.4, 4.8
changeover, 1.3, 4.3 14.2, 24.1
differential, see *Differential*
fan, 7.2
icon, 1.3
lockout, 4.3
mode, 2.3
Aux icon, 15.7
AuxHeat icon, 1.5
Average
thermostat sensor, 16.4



b reversing valve, 12.2

Balance Point, 13.1-13.2, 24.1
Buttons
down, 2.2, 2.4, 1.2, 8.3, 22.3
fan, 1.2, 2.4, 7.2, front panel, 1.2
humidity, 1.2, 5.3, 9.3, 10.3
mode, 1.2, 2.3, 4.2, 8.3, 22.2
outside, 1.2, 5.2
program, 1.2, 4.2, 6.2
set clock, 1.2, 2.2, 20.1
up, 1.2, 2.2, 8.3, 12.4
vacation, 1.2, 20.1



C, 8.2, 24.1
Calibration, 22.3
Celsius/Centigrade, 8.2, 24.1
Clock
display, 1.3
setting, 2.2, 3.2
Compressor Lockout, 14.3
Cool
1st stage
deadband, see *Deadband*
dehum, 10.6
minutes of run-time, 14.4, 14.6 24.1
2nd stage
deadband, see *Deadband*
dehum, 10.6
minutes of run-time, 14.4, 14.6 21.5, 24.1
turn off temperature, 14.7, 24.1
Y2 operation, 21.5
deadband, see *Deadband*
droop, see *Deadband*
electric/heat pump, 12.2
icon, 1.3
indicator, 1.2
mode, 2.3
overshoot, see *Overshoot*
program, see *Program*
run-time, see *Run-Time*
setpoint, 2.3-2.4, 6.2-6.5
to dehumidify, see *Dehumidify*
Condensate Drain Pan, 1.5, 17.3
Copy Function
see *Program*
Cycles Per Hour, 14.3, 24.1



Day
icon, 1.4
programming, 6.3
setting, 2.2, 3.2
Deadband
balance point, 13.1
1st stage, 14.4-14.5, 24.1
2nd stage, 14.4-14.5, 21.3, 21.5, 24.1
3rd stage, 14.4-14.5, 21.3, 24.1
Dehumidify
cool to, 10.4, 24.1
DEHUM jumper, 10.6
icon, 1.5
setpoint, 10.3
Delay
fan-off, *see Fan*
time between stages, *see Time Delay*
Differential
dehumidify, 10.2,
heat and cool, 14.2, 24.1
humidify, 9.2
Disabled Keypad
see Keypad Lockout
Dry Contact
operation, 17.2, 24.1
polarity, 17.2, 24.1
service pan, 17.3
vacation, 17.3, 24.1
Dual Fuel
changeover balance point, 13.1-13.2 24.1
control two heat sources, 13.1
operation, 13.1, 24.1
outside sensor, 13.2
vs. advanced heat pump, 13.1



EH, 12.4
Electric Heating
AuxHeat icon, 1.5
jumper setting, 12.3 24.1
reheat, 10.5
W2, 10.5
Emergency Heat, 12.4
Energy Save, 18.1
Energy Watch
cool, 11.3, 24.1
heat, 11.2, 24.1



F, 8.2, 24.1
Factory Defaults
caution, ii
settings, 22.2
resetting, 22.2
Fahrenheit, 8.2
Fan
button function, *see Buttons*
off time delay, 7.4, 24.1
on during heat, *see Electric Heat*
on icon, 1.4, 2.4, 7.2
program, *see Programmable Fan*
run-time, 19.2
2nd stage heat, *see Emergency Heat*
speed, *see Dehumidify*
Fd, 22.2
Flashing Selection, 2.2



Gas Furnace
control the fan, 12.3
jumper, 12.2
Green Indicator, 1.2



Heat
1st stage
deadband, *see Deadband*
emergency heat, 12.4
minutes of run-time, 14.4, 14.6 24.1
2nd stage
deadband, *see Deadband*
emergency heat, 12.4
electric strip heat, 2.4
minutes of run-time, 14.4, 14.6 24.1
3rd stage
deadband, *see Deadband*
W3, 21.3
AuxHeat icon, 1.5
deadband, *see Deadband*
droop, *see Deadband*
electric/heat pump, 12.2-12.3
icon, 1.3
indicator, 1.2
mode, 2.3
program, *see Program*
run-time, *see Run-Time*
setpoint, 2.3-2.4, 6.2-6.4
Heat Pump
advanced vs. dual fuel, 13.1
AuxHeat, 1.5
emergency heat, 12.4
jumper setting, 12.2
multi-stage, 13.1
Hi
icon, 1.5, 5.2
temperature, 5.2
Humidify
icon, 1.5
service, 11.4, 19.4, 24.1
setpoint, 9.3



Internet-based Operation, *see Programmable Output*
IR Receiver, 23.1
IR Remote Control, 23.1



Jumpers
DEHUM, 21.4
ELEC, 12.3
electric heat, 12.3, 24.1
gas electric, 12.2, 24.1
heat pump, 12.2, 24.1
HUM, 9.2, 21.4
programmable output, 15.2
reversing valve, 12.2, 24.1
W3, 21.3
Y2, 21.5



Keypad Lockout, 1.4, 8.3



LCD, 1.2
Locked Indication *see Keypad Lockout*
Lo
icon, 1.5, 5.2

temperature, 5.2

M

Manual
changeover, 4.4, 4.6
cool, 4.3
heat, 4.3
Maximum Outdoor Temperature, *see Hi*
Minimum Outdoor Temperature, *see Lo*
MISC
jumper, *see Jumpers*
output, 21.2-21.5
Mode, 1.3, 2.3
Multi-stage Operation, 14.4

N

Non-Programmable Thermostat, 4.2, 4.4-4.5
Normally Open/Closed,
dry contact, 17.2
programmable output, 15.4
dehum terminal, 10.6

O

O Reversing Valve
see Reversing Valve
Off Mode, 1.3, 2.3
Outdoor,
see Outside
Outside
button, *see Buttons*
icon, 1.3
sensor, 1.3, 5.2, 13.1-13.2, 16.3
viewing temperature, 5.2
Overshoot, 10.4, 24.1

P

Pan, Service
see Dry Contact
Phone-based operation
see Programmable Output
Program
Copy, 6.5
daily schedule, 6.2-6.4
mode, 1.3, 4.6-4.7
On icon, 2.3
worksheet, back page
Programmable Fan 7.3, 24.1
Programmable Output
Internet/phone control, 15.7
jumper setting, 15.2, 21.3
temperature-based control, 15.6
time-based control, 15.3
Programmable Thermostat, 4.2

R

Reheat
during cool to dehumidify, 10.4
electric heating, 10.5
function, 10.5
W2, 10.5
Remote Sensor
averaging with Thermostat, 16.4
calibrate, 22.3
control to, 16.3, 24.1
degree icon blink, 16.2-16.4
outside temperature,

see *Outside*
read to, 16.3
viewing, 5.2, 22.3
Reset
thermostat settings, see *Factory Defaults*
run-time
fan/filter, 19.2, 24.1
humidify, 19.4,
UV light, 19.3, 24.1
RS1, *see Remote Sensor*
RS2, *see Outside Sensor*
Run-Time
resetting, *see Reset*
setting,
humidifier, 19.4, 24.1
service filter, 19.2 24.1
UV light, 19.3, 24.1
viewing,
cool, 11.3, 24.1
heat, 11.2, 24.1
humidification, 11.4 24.1
UV light, 11.5, 24.1

S

Schedule
Daily, *see Program*
2nd stage turn off temperature, 14.7, 24.1
Sensor
outside, see *Outside*
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
balance point, 13.2
cool, *see Cool*
dehumidification, 10.3
heat, *see Heat*
vacation, 20.1
humidification, 9.3
programmable output, 15.6
Setup Icon, 1.4
Simplest Operation, 4.2-4.3

T

Terminal, MISC, *see MISC*
Thermostat Sensor
averaging, 16.4, 24.1
calibrate, 22.3
Time, *see Clock*
Time Delay,
compressor lockout, 14.3
cycles per hour, 14.3, 24.1
1st to 2nd stage, 14.6, 24.1
2nd to 3rd stage, 14.6, 24.1
Time Schedule, *see Program*

U

UV Light
icon, 1.4
resetting, *see Reset*
run-time, *see Run-Time*
setting, *see Run-Time*



Warranty, 26.1
Web, 15.7



Vacation,
button, *see Buttons*
mode, 20.1-20.2
programming, 20.1-20.2
setpoints, 20.1

SECTION 26
Warranty

TOTALINE®

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	
MONDAY	Morning				
	Day				
	Evening				
	Night				
TUESDAY	Morning				*Copy Mon → Tue*
	Day				☐ *No*
	Evening				☐ *Yes*
	Night				
WEDNESDAY	Morning				*Copy Tue → Wed*
	Day				☐ *No*
	Evening				☐ *Yes*
	Night				
THURSDAY	Morning				*Copy Wed → Thu*
	Day				☐ *No*
	Evening				☐ *Yes*
	Night				
FRIDAY	Morning				*Copy Thu → Fri*
	Day				☐ *No*
	Evening				☐ *Yes*
	Night				
SATURDAY	Morning				*Copy Fri → Sat*
	Day				☐ *No*
	Evening				☐ *Yes*
	Night				
SUNDAY	Morning				*Copy Sat → Sun*
	Day				☐ *No*
	Evening				☐ *Yes*
	Night				

Printed on recycled paper.
P/N 88-466 Rev. 6