

HEAT CONTROLLER, INC.

USER MANUAL

7602-443 Communicating, Programmable Thermostat

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The 7602-443 Communicating, Programmable Thermostat is the perfect compliment to your geothermal heat pump system and represents a significant advancement in thermostat communicating technology. For homeowners, the 7602-443 provides highly customizable climate control features designed to maximize comfort and reduce the amount of energy consumed by your geothermal heat pump system. Please read the following instructions carefully to maximize the comfort and cost-saving potential of your geothermal heat pump system.

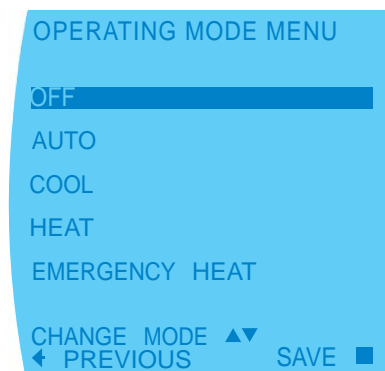
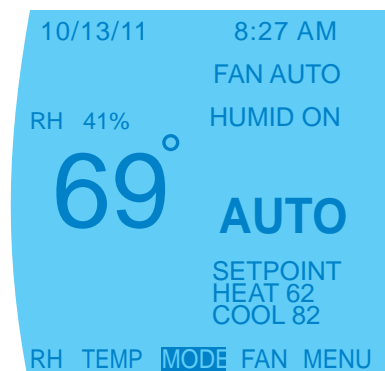
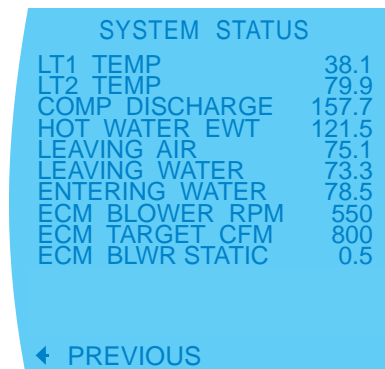
Menu Navigation Shortcuts

1. From any other screen than the home screen, hold down the left arrow button (◀) to return to the home screen.
2. From the home screen, hold the left arrow button (◀) to go to the System Status screen.

1.0 Operating Mode Selection

To set the Operating Mode of your thermostat, navigate to the **MODE** user option on the Home Screen using the left/right arrow buttons and press the center button. The Operating Mode Menu shows the possible Operating Modes with the currently active Operating Mode highlighted. Use the up/down arrow buttons to select the desired Mode for use and press the center button to save your selection. The following Modes are available:

- **Off** (default): No equipment operation
- **Auto**: Thermostat automatically controls the equipment to run either heating or cooling depending on the setpoints.
- **Cool**: Thermostat controls cooling equipment depending on Cooling setpoint
- **Heat**: Thermostat controls heating equipment depending on Heating setpoint
- **Emergency Heat**: Thermostat controls auxiliary heat. No compressor operation.



2.0 Temperature Adjustment

To adjust the temperature on the thermostat, use the left/right arrow buttons to select the **TEMP** user option on the Home Screen and then press the center button or press the up or down arrow key. The Temperature Adjustment Display appears and shows either one (in Heat, Cool, or Emergency Heat modes) or both (in Auto mode) temperature setpoints. Adjust the setpoints using the up/down arrow buttons. Navigate between setpoints using the left/right arrow buttons. Press the center button to save changes.

- **Heat Setpoint** (default 60°F): options: 55°F to Maximum Heating Setpoint Limit (section 5.6.8)
- **Cool Setpoint** (default 80°F): options: Minimum Cooling Setpoint Limit (section 5.6.8) to 95°F

NOTE 1: The thermostat must be in any mode other than OFF (section 2) to adjust temperature setpoint(s).

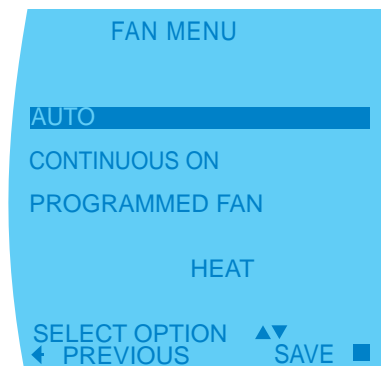
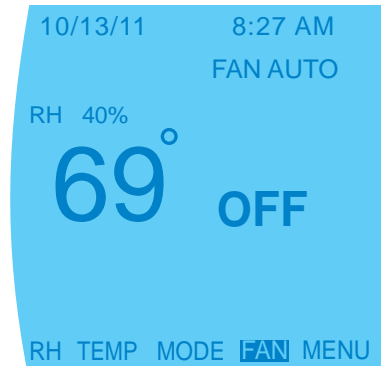
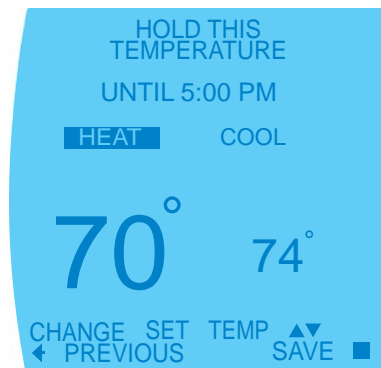
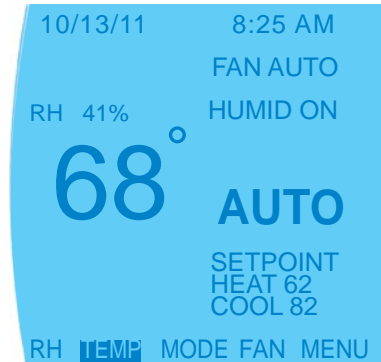
NOTE 2: The thermostat forces a 2°F “dead-band” between the Heating and Cooling setpoints. While adjusting the Heating setpoint, the Cooling setpoint may be automatically increased to enforce a 2°F “dead-band”. Likewise, while adjusting the Cooling setpoint, the Heating setpoint may be automatically reduced to enforce a 2°F “dead-band”.

NOTE 3: In programmable mode, the **TEMP** option provides the ability to temporarily modify setpoint(s) until the start time of the next program schedule event. While in non-programmable mode, the **TEMP** option provides the ability to modify the setpoint(s).

3.0 Fan Mode Selection

To adjust the Fan Mode on your thermostat, use the left/right arrow buttons to select the **FAN** user option from the Home Screen and then press the center button. The Fan Menu shows up to 3 possible Fan Operating Modes with the currently active Fan Operating Mode highlighted. Use the up/down arrow buttons to select the desired Fan Mode and press the center button to save your selection. You may choose from the following Fan Modes:

- **Auto** (default): Fan only runs with a call for heating/cooling
- **Continuous On:** Fan runs continuously with or without a call for heating/cooling
- **Programmed Fan** (in Programmable Mode): Fan runs per Program Schedule settings (reference section 5.3).



4.0 Humidity Level Adjustment

NOTE 1: The thermostat must be configured by installer for humidity control to access the humidity setpoint(s).

To adjust the Relative Humidity level on your thermostat, use the left/right arrow buttons to select the **RH** user option on the Home Screen and then press the center button. The Humidity Control screen shows either one (with Humidification or Dehumidification enabled alone) or both (with BOTH enabled) humidity setpoints. Adjust the setpoints using the up/down arrow buttons. Press the center button to save changes.

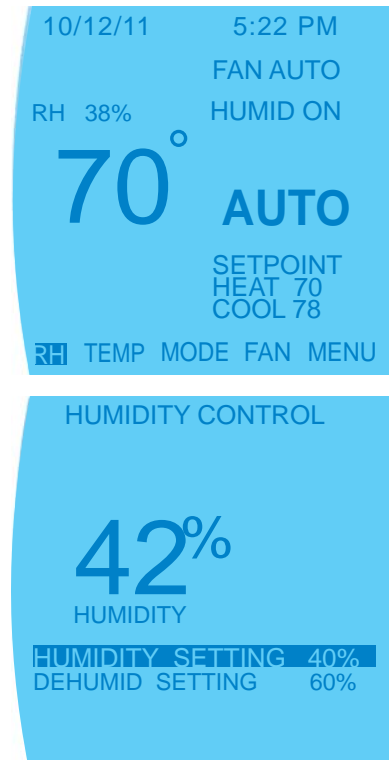
- **Humidification Setpoint** (default 40%): options: 10% to 45% (in 5% increments)

NOTE: Humidifier must be installed to set humidification setpoint.

- **Dehumidification Setpoint** (default 60%): options: 45% to 80% (in 5% increments)

NOTE 2: The thermostat forces a 10% “dead-band” between the Humidification and Dehumidification setpoints. While adjusting the Dehumidification setpoint, the Humidification setpoint may be automatically reduced to enforce a 10% “dead-band”. However, the Dehumidification setpoint will not be automatically increased to enforce a 10% “dead-band” while adjusting the Humidification setpoint. The maximum range for the Humidification setpoint may be limited by the Dehumidification setpoint.

NOTE 3: If an outdoor sensor is present, the Humidification setpoint will be calculated automatically for optimal comfort.



5.0 Main Menu Options Overview

MENU

5.1 DATE AND TIME

- 5.1.1 AUTO DAYLIGHT SAVING
- 5.1.2 SET DATE AND TIME
- 5.1.3 DISPLAY DATE AND TIME

5.2 HOLD

5.3 PROGRAM

5.4 FAN

5.5 MODE

5.6 SETTINGS

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- 5.6.1.1 Fahrenheit or Celsius
- 5.6.1.2 12 or 24 Hour Clock
- 5.6.1.3 Language
- 5.6.1.4 Contrast
- 5.6.1.5 Backlight On Time
- 5.6.1.6 Date Display

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- 5.6.5.3 Smart Heat Staging
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5.6.6 INTERMITTENT FAN

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- 5.6.7.3 Clear Fault History
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5.6.8 SETPOINT LIMITS

5.6.9 DEMAND REDUCTION

5.7 SECURITY LOCKOUT

5.8 NIGHT SETBACK

- 5.8.1 SETPOINTS
- 5.8.2 OVERRIDE
- 5.8.3 DEMAND REDUCTION
- 5.8.4 FAN OPERATION
- 5.8.5 DEHUMIDIFICATION

NOTE: All of the following menu functions are accessed by scrolling to the MENU user option on the Home Screen and then pressing the center button.

NOTE: All menu options may not be present depending on your thermostat's configuration.

5.0 Main Menu

Access main menu by selecting **MENU** on the main screen.

5.1 DATE AND TIME

The thermostat can be programmed for daylight savings, date and time, and to display date and time on the main screen.

5.1.1 AUTO DAYLIGHT SAVING

When enabled, the thermostat automatically adjusts the time for daylight savings time.

5.1.2 SET DATE AND TIME

To set the current date and time, use the up/down arrow buttons. Press the center button to save changes.

5.1.3 DISPLAY DATE AND TIME

When enabled, the thermostat will display the date and time (section 5.1.2) on the top line of the Main screen.

NOTE: When the thermostat is configured for non programmable mode by installer the Display Date and Time setting defaults to NO.

Section 5.2 and 5.3 will not be displayed if the thermostat is set as “non-programmable” in installer settings (contact your dealer to change).

5.2 HOLD (Temperature)

The thermostat can be programmed to hold the temperature and override the program schedule for a set time. The thermostat can accommodate any hold schedule, whether the temperature hold is desired for a few hours or a few weeks.

NOTE 1: The thermostat must be in any mode other than OFF (section 2) to set a vacation/permanent hold.

NOTE 2: The thermostat must be configured for programmable mode by installer) to access the Hold modes.

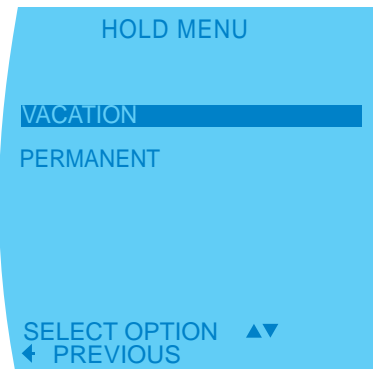
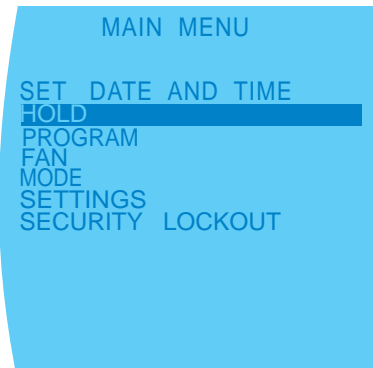
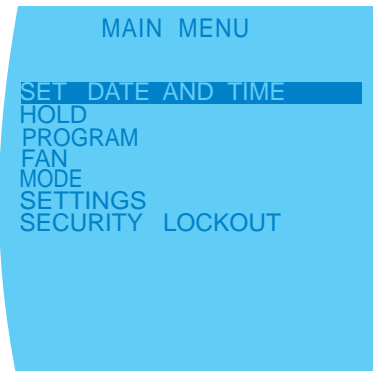
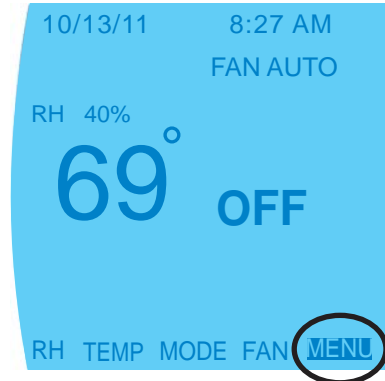
5.2.1 VACATION (Hold)

This feature can suspend the program schedule by using specified heating/cooling setpoints for extended periods of time.

5.2.1.1 HOLD TEMPERATURE

Set the Vacation Hold heating/cooling setpoints.

The Vacation Hold Temperature Display Mode shows either one (in Heat, Cool, or Emergency Heat modes) or both (in Auto mode) temperature setpoints. Adjust the setpoints using the up/down arrow buttons. Navigate between setpoints using the left/right arrow buttons. Press the center button to save changes.



- **Heat Setpoint (default current Heat Setpoint):**
valid range: 55°F to Maximum Heating Setpoint Limit (section 5.6.8)
- **Cool Setpoint (default current Cool Setpoint):**
valid range: Minimum Cooling Setpoint Limit (section 5.6.8) to 95°F

NOTE: The thermostat forces a 2°F “dead-band” between the Heating and Cooling setpoints. While adjusting the Heating setpoint, the Cooling setpoint may be automatically increased to enforce a 2°F “dead-band”. Likewise, while adjusting the Cooling setpoint, the Heating setpoint may be automatically reduced to enforce a 2°F “dead-band”.

5.2.1.2 HOLD TIME

Set the Vacation Hold time period.

Adjust the date using the up/down arrow buttons. Press the center button to save changes.

- **Date (default current Date):** in 1 day increments
- **Time (default current Time):** in 10 minute increments

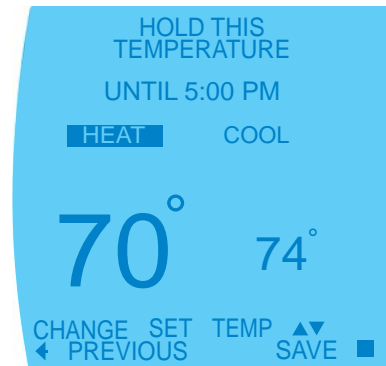
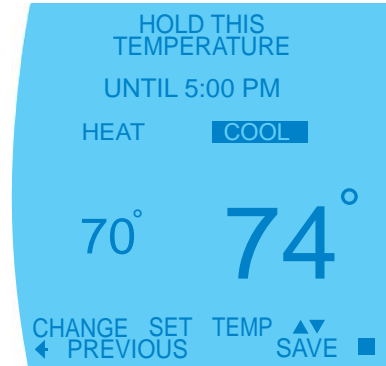
5.2.2 PERMANENT

The thermostat can be programmed to hold the temperature and override the program schedule permanently.

The Permanent Hold Display Mode shows either one (in Heat, Cool, or Emergency Heat modes) or both (in Auto mode) temperature setpoints. Adjust the setpoints using the up/down arrow buttons. Navigate between setpoints using the left/right arrow buttons. Press the center button to save changes.

- **Heat Setpoint (default current Heat Setpoint):** valid range: 55°F – Maximum Heating Setpoint Limit (section 5.6.8)
- **Cool Setpoint (default current Cool Setpoint):** valid range: Minimum Cooling Setpoint Limit (section 5.6.8) – 95°F

NOTE: The thermostat forces a 2°F “dead-band” between the Heating and Cooling setpoints. While adjusting the Heating setpoint, the Cooling setpoint may be automatically increased to enforce a 2°F “dead-band”. Likewise, while adjusting the Cooling setpoint, the Heating setpoint may be automatically reduced to enforce a 2°F “dead-band”.



5.3 PROGRAM

The Program Display Mode includes options to copy schedules as well as create/edit schedules for individual days or schedules for groups of days.

5.3.1 CREATE / EDIT SCHEDULE

This function allows you to set the time, heat setting, cool setting, and fan operation for each program schedule event of the day.

NOTE 1: To adjust the number of program schedule events per day, reference the Program Settings (section 5.6.5.2).

Default daily program schedule for 4-event schedule (see NOTE 1):

Event	Heat	Cool	Fan (see NOTE 2)
Wake - 6:00A	70°F	78°F	Auto
Leave - 8:00A	62°F	82°F	Auto
Return - 5:00P	70°F	78°F	Auto
Sleep - 10:00P	62°F	82°F	Auto

Default daily program schedule for residential 2-event schedule (see NOTE 1):

Event	Heat	Cool	Fan (see NOTE 2)
Day - 6:00A	70°F	78°F	Auto
Night - 10:00P	62°F	82°F	Auto

Default daily program schedule for business 2-event schedule (see NOTE 1):

Event	Heat	Cool	Fan (see NOTE 2)
Active - 6:00A	70°F	78°F	Auto
Idle - 6:00P	62°F	82°F	Auto

NOTE 2: The Fan Mode (section 3) must be set to Programmed Fan to access the fan operation for each schedule event setting.

5.3.2 COPY

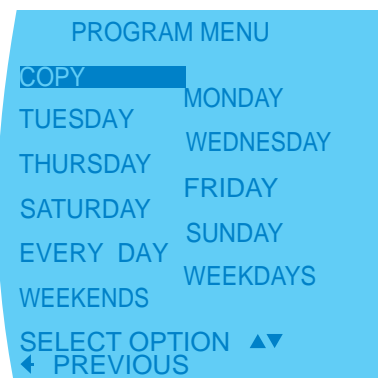
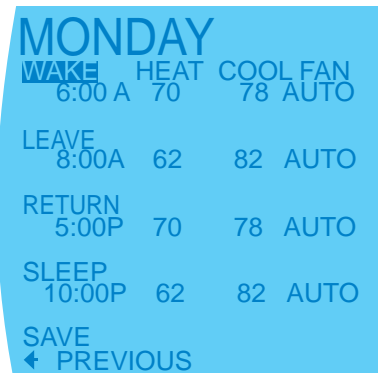
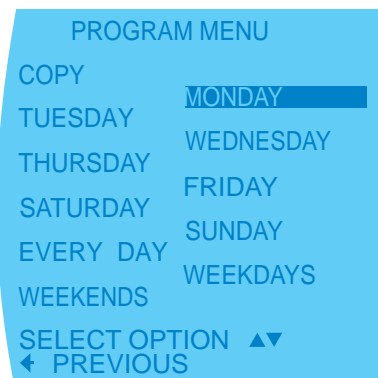
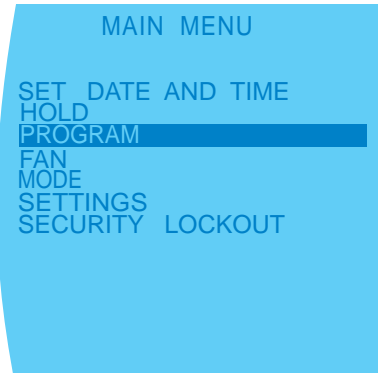
Copy can be used to copy one day's program schedule to another day or multiple other days.

5.4 FAN (Fan Mode)

Refer to Section 3.

5.5 MODE (Operating Mode)

Refer to Section 2.



5.6 OTHER SETTINGS

5.6.1 SCREEN SETTINGS

Adjust the Screen settings using the up/down arrow buttons. Press the center button to save changes.

- **Fahrenheit or Celsius (default Fahrenheit):** adjusts the temperature scale
- **12 or 24 Hour Clock (default 12 Hour Clock):** adjusts the clock format
- **Language (default English)**
- **Contrast (default 4):** adjusts the screen contrast
 - options: 1 to 15
- **Backlight On Time (default 30 seconds):** After a button press, the backlight stays on for the selected amount of time - options: 30 to 120 seconds, ON (in 30 second increments)
- **Date Display (default MM/DD/YY):** adjusts the date format

5.6.2 OFFSETS

Not recommended for user access. Contact your dealer for changes.

5.6.3 CYCLES PER HOUR

Not recommended for user access. Contact your dealer for changes.

5.6.4 AUTO CHANGEOVER TIME

Not recommended for user access. Contact your dealer for changes.

5.6.5 PROGRAM SETTINGS

Set additional system parameters related to program scheduling and system operation.

5.6.5.1 SMART RECOVERY

Smart recovery is a feature designed to save energy by gradually adjusting temperatures. When it is time for a program schedule temperature change, smart recovery begins working in advance, turning the system on and off as needed to slowly adjust the indoor temperature so that it reaches the program temperature setpoints at the time you set. Rather than waiting to start the equipment until the program time has occurred.

Adjust the Smart Recovery setting using the up/down arrow buttons. Press the center button to save changes.

- **Events Per Day (default On):** options: ON, OFF

NOTE 1: The thermostat must be configured for programmable mode by installer to access the Smart Recovery setting.

NOTE 2: Auxiliary heat will not be used during Smart Recovery.

5.6.5.2 EVENTS PER DAY

NOTE: The thermostat must be configured for programmable mode by installer to access the Events per Day setting.

Events Per Day sets the number of program schedule events for each day. An event is a period of time scheduled with a certain heat setpoint, cool setpoint, and fan mode.

Adjust the Events Per Day setting using the up/down arrow buttons. Press the center button to save changes.

- **Events Per Day (default 4 events):** options: 4-Residential, 2-Residential, 2-Business

5.6.5.3 SMART HEAT STAGING

When there is auxiliary heating demand, Smart Heat Staging defines the minimum amount of time to wait before activating auxiliary heating. If you find that the thermostat is operating auxiliary heating equipment too quickly/slowly, this setting allows for adjustment to correct the temperature algorithm.

Adjust the Smart Heat Staging setting using the up/down arrow buttons. Press the center button to save changes.

- **Smart Heat Staging (default Off):** options: OFF, 5 – 120 minutes (in 5 minute increments)

5.6.5.4 ELECTRIC HEAT LOCKOUT

Electric heat lockout keeps electric heat turned off if the outdoor temperature is above the specified temperature so as only to use electric heat when necessary.

Adjust the Electric Heat Lockout setting using the up/down arrow buttons. Press the center button to save changes.

- **Electric Heat Lockout (default Off):** options: OFF, 5 – 60°F (in 5°F increments)

NOTE: An outdoor temperature sensor must be installed for this feature to work.

5.6.5.5 PROGRAMMED DEMAND REDUCTION

Programmed Demand Reduction is a feature designed to reduce your electric load during preselected time periods in which peak utility rates are high. You can program your thermostat to reduce the electric load by limiting operation or capacity during the high utility rate time period that you specify for each day of the week.

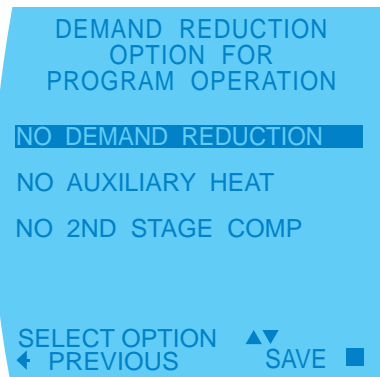
While the Programmed Demand Reduction mode is active, the thermostat outputs will be limited by the Programmed Demand Reduction option selected below.

NOTE: The thermostat must be configured for programmable mode by installer to access the Programmed Demand Reduction settings.

5.6.5.5.1 PROGRAMMED DEMAND REDUCTION MODE

Through Programmed Demand Reduction Mode, you can set the unit's limited operation during the Programmed Demand Reduction schedule.

Adjust the Programmed Demand Reduction Mode settings using the up/down arrow buttons. Press the center button to save changes.



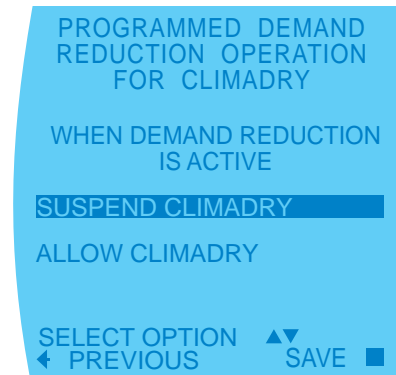
- **No Demand Reduction (default):** During the scheduled Programmed Demand Reduction time (section 5.6.5.5.4), the system operates normally based on the setpoints.
- **No Auxiliary Heat:** During the scheduled Programmed Demand Reduction time (section 5.6.5.5.4), auxiliary heat will not be activated, regardless of the heating demand.
- **No 2nd Stage Compressor:** During the scheduled Programmed Demand Reduction time (section 5.6.5.5.4), the compressor is limited to only part load (1st stage) operation and auxiliary heat is turned off, regardless of system demand.

NOTE 1: The thermostat must be configured for auxiliary heat by installer to access the Demand Reduction NO AUXILIARY HEAT option.

NOTE 2: The thermostat must be configured for Multistage by installer to access the Demand Reduction NO 2nd STAGE COMP option.

5.6.5.5.2 Whole House Dehumidification - PROGRAMMED DEMAND REDUCTION

This option allows for the customization of Whole House Dehumidification. (Dehumidification, optional) operation during the Programmed Demand Reduction schedule.



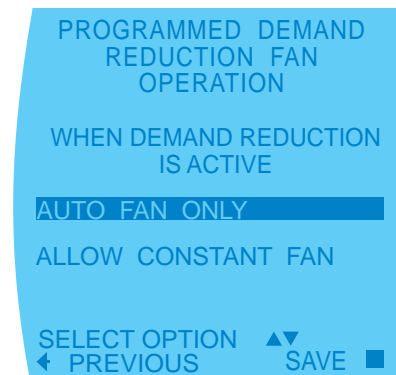
Adjust the Programmed Demand Reduction Whole House Dehumidification settings using the up/down arrow buttons. Press the center button to save changes.

- **Suspend Whole House Dehumidification (default):** During the scheduled Programmed Demand Reduction time (section 5.6.5.5.4), Whole House Dehumidification is turned off, regardless of the dehumidification demand.
- **Allow Whole House Dehumidification:** During the scheduled Programmed Demand Reduction time (section 5.6.5.5.4), Whole House Dehumidification will operate normally.

NOTE: The thermostat must be configured for humidity control by installer and the DXM2 must be configured for Whole House Dehumidification operation to access Demand Reduction Whole House Dehumidification settings.

5.6.5.5.3 FAN - PROGRAMMED DEMAND REDUCTION

This option allows for the customization of fan settings during the Programmed Demand Reduction schedule.



Adjust the Programmed Demand Reduction Fan settings using the up/down arrow buttons. Press the center button to save changes.

- **Auto Fan Only (default):** During the scheduled Programmed Demand Reduction time (section 5.6.5.5.4), only auto fan mode is allowed.
- **Allow Continuous Fan:** During the scheduled Programmed Demand Reduction time (section 5.6.5.5.4), the fan will operate normally.

5.6.5.5.4 SCHEDULE - PROGRAMMED DEMAND REDUCTION

This option allows setting a 7-day time schedule for Programmed Demand Reduction.



Adjust the Programmed Demand Reduction Schedule start and end time settings using the up/down arrow buttons in increments of 10 minutes. Press the center button to save changes.

NOTE: To disable Programmed Demand Reduction, set the Start time equal to the End time for that day.

5.6.6 INTERMITTENT FAN

Intermittent Fan function allows the fan to run periodically when the heating/cooling equipment is off. Many times this functionality is used to improve the performance of air cleaning or special filtration systems.

When the Intermittent Fan function is active, the fan output will be activated for the currently selected Intermittent Fan On Time, and then operate using the selected Intermittent Fan Off and On times until a heating or cooling operation is activated again.

After the heating or cooling operation is complete, the intermittent fan operation will resume with the beginning of a new Intermittent Fan On Time on the ¼ hour.

- **On Time (default Off):** options: Off, 5 to 20 minutes (in 5 minute increments)
- **Off Time:** options: 5 to 90 minutes (in 5 minute increments)

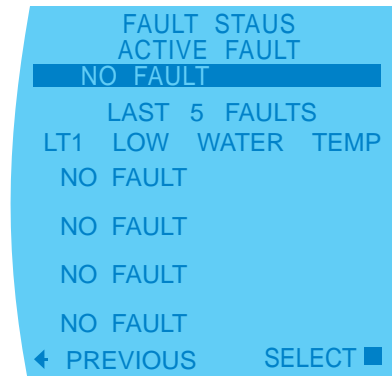
NOTE: This intermittent fan operation can also improve the performance of air cleaning or special filtration systems that locate the cleaning or filtration media at the return air side of the fan.

5.6.7 SERVICE INFORMATION (System Status and Fault Information)

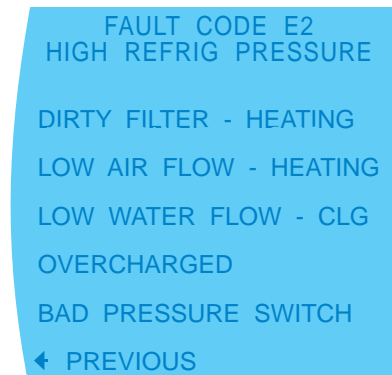
These additional screens help the service personnel to have a better understanding of what problems might be occurring before arriving for service.

5.6.7.1 FAULT STATUS

Fault Status mode displays the active fault code as well as the five most recent stored fault codes that occurred on the system.



Navigate between system fault codes using the up/down arrow buttons. Press the center button to view more information about potential reasons why the highlighted fault may have occurred.



5.6.7.2 TEMPERATURE STATUS

Temperature Status mode allows the user to view the status of all temperature sensor readings including onboard and remote sensors.

TEMPERATURE STATUS	
ROOM TEMP	74
REMOTE TEMP	74
OUTDOOR TEMP	27
← PREVIOUS	

NOTE: If a temperature sensor is not connected or a temperature reading is out of the valid range, N/A will be displayed.

5.6.7.3 CLEAR FAULT HISTORY

Clear Fault History will clear all fault codes stored in the thermostat.

5.6.7.4 SYSTEM STATUS

System Status mode allows the user to view the status of all temperature sensor readings as well as the operational status of the blower.

SYSTEM STATUS	
LT1 TEMP	38.1
LT2 TEMP	79.9
COMP DISCHARGE	157.7
HOT WATER EWT	121.5
LEAVING AIR	75.1
LEAVING WATER	73.3
ENTERING WATER	78.5
ECM BLOWER RPM	550
ECM TARGET CFM	800
ECM BLWR STATIC	0.5
← PREVIOUS	

NOTE 1: If any temperature reading is out of the valid range, N/A will be displayed.

5.6.8 SETPOINT LIMITS

Use this option to limit the heating and cooling setpoints. This function is used to avoid setting the cooling temperature too low or the heating temperature too high.

Adjust the maximum heating and minimum cooling Setpoint Limits settings using the up/down arrow buttons. Navigate between Setpoint Limits using the left/right arrow buttons. Press the center button to save changes.

- **Maximum Heating (default 95°F):** valid range: 60 to 95°F (in 1°F increments)
- **Minimum Cooling (default 55°F):** valid range: 55 to 80°F (in 1°F increments)

NOTE: The thermostat will operate with a fixed Minimum Heating Setpoint value of 55°F and a Maximum Cooling Setpoint value of 95°F.

5.6.9 DEMAND REDUCTION - External Sensor Input

Demand Reduction is used to reduce the electric load while peak utility rates are high. While the Demand Reduction mode is active, the thermostat will implement load reduction by limiting operation or capacity. The thermostat outputs will be limited by the Demand Reduction option selected below (section 5.6.9.1).

NOTE: The thermostat must be configured for Demand Reduction by installer to access Demand Reduction settings.

5.6.9.1 DEMAND REDUCTION MODE

Through Demand Reduction Mode, you can set the unit's limited operation while Demand Reduction is active.

Adjust the Demand Reduction Mode settings using the up/down arrow buttons. Press the center button to save changes.

- **No Auxiliary Heat (default):** While the assigned Demand Reduction input is active, auxiliary heat will not be activated regardless of the heating demand.
- **No 2nd Stage Compressor:** While the assigned Demand Reduction input is active, the compressor is limited to only part load (1st stage) operation and auxiliary heat is turned off regardless of system demand.
- **No Operation (default – if either setting is not present):** While the assigned Demand Reduction input is active, the thermostat outputs will not be activated for heating or cooling regardless of the heating or cooling demand.

NOTE 1: The thermostat must be configured for auxiliary heat by installer to access the Demand Reduction NO AUXILIARY HEAT option.

NOTE 2: The thermostat must be configured for Multistage by installer to access the Demand Reduction NO 2nd STAGE COMP option.

5.6.9.2 Whole House Dehumidification (ClimaDry) - DEMAND REDUCTION

This option allows for the customization of Whole House Dehumidification (Dehumidification, optional) operation while Demand Reduction is active.

Adjust the Demand Reduction Whole House Dehumidification settings using the up/down arrow buttons. Press the center button to save changes.

- **Suspend Whole House Dehumidification (ClimaDry) (default):** While the assigned Demand Reduction input is active, Whole House Dehumidification is turned off, regardless of the dehumidification demand.
- **Allow Whole House Dehumidification (ClimaDry):** While the assigned Demand Reduction input is active, Whole House Dehumidification will operate normally.

NOTE: The thermostat must be configured for humidity control by installer and the DXM2 must be configured for Whole House Dehumidification operation to access Demand Reduction Whole House Dehumidification settings.

5.6.9.3 FAN - DEMAND REDUCTION

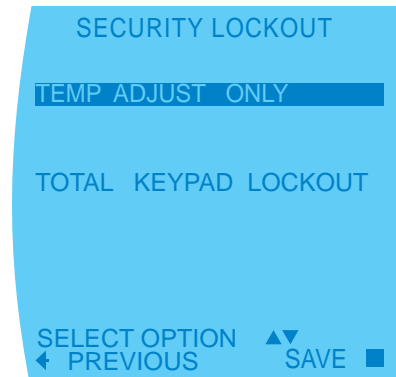
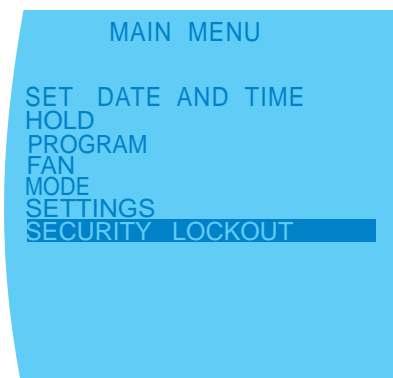
This option allows for the customization of fan settings while Demand Reduction is active. Adjust the Demand Reduction Fan settings using the up/down arrow buttons. Press the center button to save changes.

- **Auto Fan Only (default):** While the assigned Demand Reduction input is active, the fan output will not be activated unless the heat pump is in 1st or 2nd stage operation or auxiliary heat mode is active.
- **Allow Continuous Fan:** While the assigned Demand Reduction input is active, the fan output will operate normally.

5.7 SECURITY LOCKOUT

The Security Lockout function allows you to lockout thermostat display, requiring a password to make changes. Adjust the four-digit Security Pin using the up/down arrow buttons. Navigate between digits using the left/right arrow buttons. Press the center button to save changes.

- **Temp Adjust Only:** while locked, thermostat will still allow temperature adjustment
- **Total Keypad Lockout:** while locked, thermostat will not allow any changes



5.8 NIGHT SETBACK

Under Night Setback mode, the thermostat will operate using alternate Night Setback heating and cooling setpoints, fan mode, and humidification and dehumidification setpoints. Night Setback is activated by an input signal at the unit control board to reduce the electric load while the building is unoccupied.

NOTE: While the Night Setback mode is active, the screen backlight will be red when ON.

5.8.1 NIGHT SETBACK SETPOINTS

Adjust the Night Setback setpoints using the up/down arrow buttons. Navigate between Night Setback setpoints using the left/right arrow buttons. Press the center button to save changes.

- **Heat Setpoint (default 60°F):** options: 55°F to Maximum Heating Setpoint Limit (section 5.6.8)
- **Cool Setpoint (default 80°F):** options: Minimum Cooling Setpoint Limit (section 5.6.8) to 95°F

NOTE: The thermostat forces a 2°F “dead-band” between the Night Setback Heating and Cooling setpoints. While adjusting the Night Setback Heating setpoint, the Night Setback Cooling setpoint may be automatically increased to enforce a 2°F “dead-band”. Likewise, while adjusting the Night Setback Cooling setpoint, the Night Setback Heating setpoint may be automatically reduced to enforce a 2°F “dead-band”.

5.8.2 NIGHT SETBACK OVERRIDE

While the Night Setback mode is active, the alternate Night Setback setpoints can be temporarily overridden, by using the normal temperature adjustment screen. If the heating and cooling setpoints are adjusted while Night Setback is active, these temporary setpoints will remain active for the current Night Setback Override time, unless they are adjusted again, or the Night Setback mode is deactivated.

Adjust the Night Setback Override setting using the up/down arrow buttons. Press the center button to save changes.

- **Night Setback Override (default 2 hours):** options: 1 to 8 hours (in 15 minute increments)

5.8.3 NIGHT SETBACK DEMAND REDUCTION

Through Night Setback Demand Reduction Mode, you can set the unit's limited operation while Night Setback is active.

Adjust the Night Setback Demand Reduction Mode settings using the up/down arrow buttons. Press the center button to save changes.

- **No Demand Reduction (default):** While the Night Setback input and the assigned Demand Reduction input is active, the thermostat outputs will operate normally based on the night setback setpoints.
- **No Auxiliary Heat:** While the Night Setback input and the assigned Demand Reduction input is active, auxiliary heat will not be activated, regardless of the heating demand.
- **No 2nd Stage Compressor:** While the Night Setback input and the assigned Demand Reduction input is active, the second stage heat pump output will not be activated regardless of the heating or cooling demand, and auxiliary heat will not be activated, regardless of the heating demand.

NOTE 1: The thermostat must be configured for auxiliary heat to access the Demand Reduction NO AUXILIARY HEAT option.

NOTE 2 : The thermostat must be configured for Multistage to access the Demand Reduction NO 2nd STAGE COMP option.

5.8.4 NIGHT SETBACK FAN OPERATION

This option allows for the customization of fan settings while Night Setback is active.

Adjust the Night Setback Fan settings using the up/down arrow buttons. Press the center button to save changes.

- **Auto Operation Only (default):** While the Night Setback input is active, the fan output will not be activated unless Y1 or W is active.
- **Fan Same As Occupied:** While the Night Setback input is active, the fan output will operate normally.

5.8.5 NIGHT SETBACK DEHUMIDIFICATION

This option allows for the customization of humidity control while Night Setback is active.

Adjust the Night Setback Dehumidification settings using the up/down arrow buttons. Press the center button to save changes.

- **On:** While the Night Setback input is active, the dehumidification output will operate normally.
- **Off (default):** While the Night Setback input is active, the dehumidification output will not be activated, regardless of the dehumidification demand.

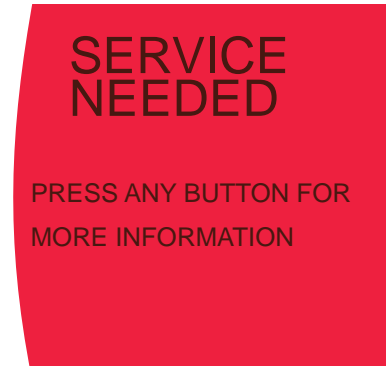
5.8.5.1 NIGHT SETBACK HUMIDITY CONTROL

If the Night Setback Dehumidification Mode is set to ON, the thermostat will prompt for Night Setback Humidity Setpoints. Adjust the Night Setback Humidity setpoints using the up/down arrow buttons. Press the center button to save changes.

- **Humidification Setpoint (default 40%):**
options: 10% to 45% (in 5% increments)
- **Dehumidification Setpoint (default 60%):**
options: 45% to 80% (in 5% increments)

6.0 Service Needed

If the unit is not operating or not operating optimally, the thermostat will display the 'Service Needed' screen.



The next screen will display the model and serial number of your geothermal unit, the phone number of your installing contractor, and the fault code and a description of the fault that triggered the Service Needed screen.



Refer to section 5.6.7 to get more information regarding possible causes of the fault condition and current system performance.

Revision History

Date	Page #	Description
17 Sept., 12	All	First Published

Design, material, performance data and components
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