verdant

V8-BB-7S
INSTRUCTION MANUAL

7-day Programmable / Non-programmable
Thermostat with Occupancy Sensor

Table of Contents

Mounting the Thermostat to the Wall

BEFORE YOU BEGIN

Turn off all heating equipment by switching off the power supply located at the electrical service panel.
All heating equipment should be OFF.

1. Remove the old thermostat from the wall and disconnect wires from the old thermostat.

2. Using the wire connectors provided, connect the wires to your new thermostat. The thermostat wires are not polarized and can be connected to either of the two (2) wires from the electric box in the wall.

   If there are four (4) wires coming out the electric box in the wall, use a solderless wire connector (not supplied) to join one load wire from the electric box to one power supply wire from the electric box and then connect the remaining two (2) wires to the thermostat.

   If you are unable to identify the load and power supply wires correctly, consult with an electrician. Incorrectly wiring your thermostat can cause severe damage to the thermostat.

3. Mount your new thermostat to the wall using the supplied mounting screws. Use either the two holes on the right or the left side depending on the desired positioning.

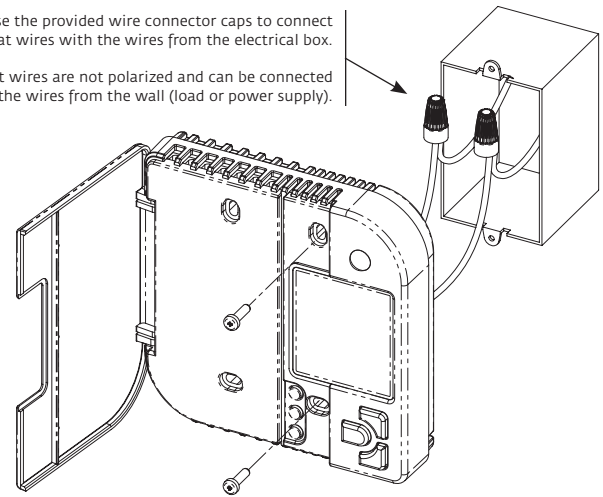
4. Plug four (4) mounting-screw holes with supplied screw covers.

5. If you wish, apply the supplied instructions sticker onto the left thermostat panel.

Mounting the Thermostat to the Wall

Use the provided wire connector caps to connect the thermostat wires with the wires from the electrical box.

The thermostat wires are not polarized and can be connected to either of the wires from the wall (load or power supply).

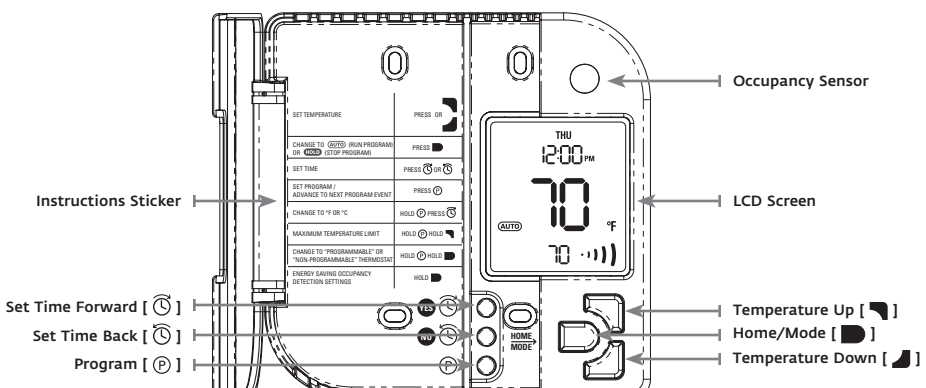


Mount the thermostat onto the electrical box in the wall using the supplied mounting screws.

Use either the two holes on the right or the left side depending on the desired positioning.

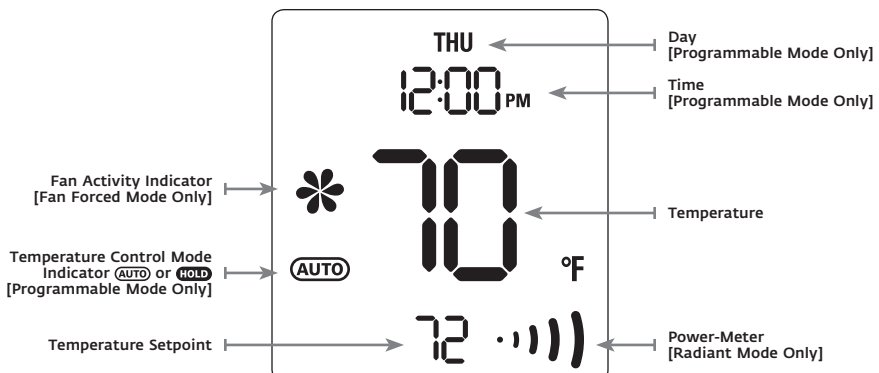
Control Buttons Overview

Verdant intuitive user interface uses several control-buttons to access all features and menus of the thermostat. Please familiarize yourself with control buttons as they will be referenced in the rest of this manual to explain the thermostat operation.



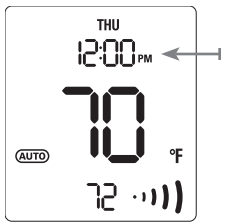
Main Screen Overview

Large LCD screen with on-demand back-light clearly display current ambient temperature, time, day and heating control parameters at all times.



Thermostat Modes

Thermostat Modes Description



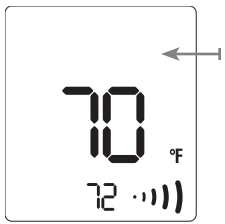
In the "Programmable" mode, the thermostat displays time and day information.

Verdant thermostat can be used as a 7-day programmable thermostat or a simple-to-use non-programmable thermostat.

Programmable thermostat mode allows pre-programming up to four (4) automatic temperature changes (events) for each day of the week.

Non-programmable thermostat mode allows turning the thermostat into a simple-to-use thermostat with only basic temperature control options.

Changing the Thermostat Mode



In the "Non-programmable" mode, the thermostat does not display time and day information.

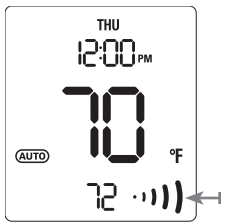
To switch between "Programmable" and "Non-programmable" thermostat mode:

Press and hold the Program button [Ⓟ] and the Home/Mode button [▬] for four (4) seconds until the thermostat mode changes.

Energy-saving occupancy detection is available in both "Programmable" and "Non-programmable" thermostat mode.

Equipment Modes

Equipment Modes Description



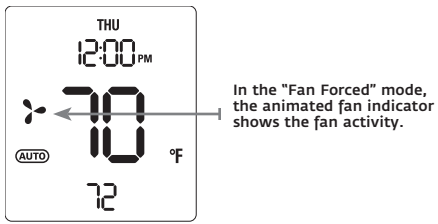
In the "Radiant" mode, a power-meter proportionally shows power consumption.

Verdant thermostat has two (2) distinctive equipment modes for operating different kinds of heating equipment.

Select the "Radiant" operation mode if you are using the thermostat to control an electric baseboard or radiant heater.

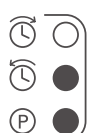
Select the "Fan Forced" operation mode if you are using the thermostat to control a convector heater with a built-in fan.

Changing the Equipment Mode



In the "Fan Forced" mode, the animated fan indicator shows the fan activity.

To switch between "Radiant" and "Fan Forced" equipment modes:



Press and hold the Program button [Ⓟ].

While holding the Program button [Ⓟ], press the Time Back button [⏲].

Maximum Temperature Setting

Maximum Temperature

You can limit the maximum temperature that can be selected using thermostat temperature control options.

The maximum setpoint setting will limit the maximum setpoint that can be selected with any of the thermostat temperature control options, including Program Settings.

NOTE: Changing maximum setpoint will not affect existing temperature setpoints in the Program Settings.

Setting the Maximum Temperature

Press and hold the Program button [Ⓟ] and the Temperature Up button [◥] for four (4) seconds until the Maximum Temperature screen appears.

Use the Temperature Up and Down buttons [◥ and ◢] to select the maximum setpoint (61 – 91°F / 16 – 33°C).

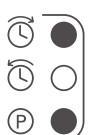
Press the Home/Mode button [▰] to confirm your selection and return to Home screen.

Temperature Display Units

Changing the Temperature Display Unit

Your new thermostat can display the temperature in °F or °C.

To switch between °F and °C display:

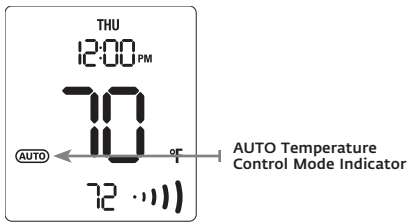


Press and hold the Program button [Ⓟ].

While holding the Program button [Ⓟ], press the Time Forward button [⏲].

Temperature Control Modes

Temperature Control Modes Description

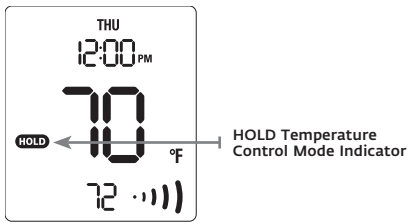


AUTO AUTO Temperature Control mode initiates a custom temperature control program.

To set up a custom temperature control program refer to the Program Settings section.

HOLD HOLD Temperature Control mode maintains the room temperature at a selected temperature setpoint.

Changing the Temperature Control Mode

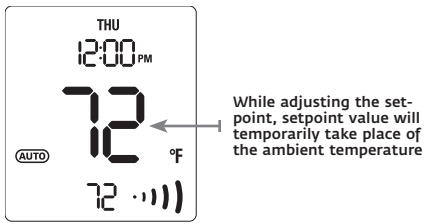


To change the temperature control mode:

Press the Home/Mode button [▬] to switch between AUTO and HOLD temperature control modes.

Temperature Setpoint

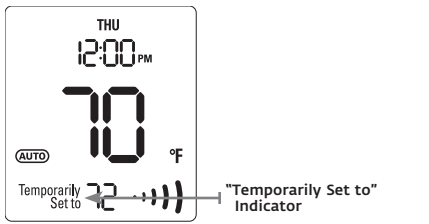
Changing the Temperature Setpoint



To change the temperature setpoint:

Use the Temperature Up and Down buttons [◥ and ◢] to raise or lower the temperature setpoint.

When adjusting the temperature setpoint, the setpoint value will temporarily take the place of the ambient temperature.



Changing the setpoint in AUTO mode will only change the setpoint until the next event start.

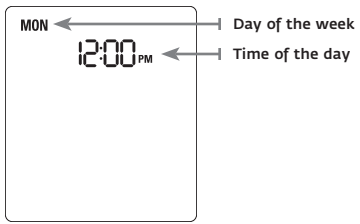
In this situation, "Temporarily Set to" screen indicator will indicate that the temperature setpoint will change when the next event starts.

Time and Day Settings

Time and Day Settings

Use the Time Forward and Time Back buttons [and] to set time and day.

The longer you hold the Time Forward and Time Back buttons [and] the faster the time and day setting will move.

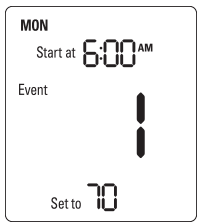


Press the Home/Mode button [ ] to confirm the time and day and to return to the Home Screen.

Accurate Time and Day settings are crucial for the proper functioning of various thermostat features.

Program Settings

Accessing the Program Settings Screen



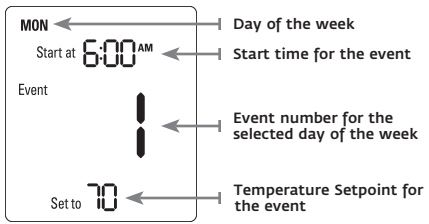
The Program Settings feature allows you to program automatic temperature changes to fit your schedule and reduce energy consumption.

You can customize the program with up to four (4) temperature changes (events) for each day of the week.

Press the Program button [Ⓟ] to access the Program Settings screen.

Press the Program button [Ⓟ] again to advance to the next event you wish to program.

Modifying the Event Settings

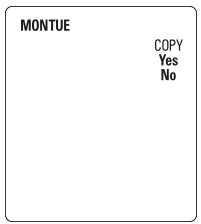


1. Use the Time Forward and Time Back buttons [and] to select the start time for the event.
2. Use the Temperature Up and Down buttons [and] to select the temperature setpoint for the event.
3. Press the Program button [Ⓟ] to advance to the next event you wish to program.

   Repeat steps 1 – 3 to program settings for other events.

Program Settings

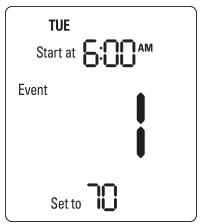
Copying the Day Settings



If you choose to modify settings for a different day of the week, the thermostat will prompt you to copy the previously modified day settings to the newly selected day.

Press the "YES" button [YES] to copy the program settings.

Press the "NO" button [NO] to modify the program settings for the selected event.



If you choose to copy the program settings, settings for all events from the previously modified day will be copied to the newly selected day. The thermostat will automatically prompt you to copy the settings to the following day.

If you select "No", repeat steps 1 – 3 to modify program settings for the selected event.

Repeat the described procedure to program temperature changes for the whole week.

Energy-Saving Occupancy Detection

Built-in occupancy sensor enables advanced energy saving features that allow incrementally adjusting the temperature when the room is unoccupied, whether you are in AUTO or HOLD temperature control mode.

You can start saving the energy only minutes after the room becomes unoccupied as well as completely eliminate unnecessary energy consumption if the room remains unoccupied for longer periods of time.

Short Vacancy Setting
Short Vacancy Setting allows reducing the temperature setpoint by a selected number of degrees, if the room is unoccupied for a selected number of minutes.

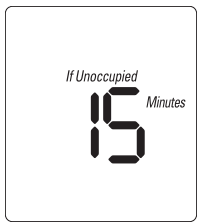
Long Vacancy Setting
Long Vacancy Setting allows reducing the temperature setpoint to a selected temperature, if the room is unoccupied for a selected number of hours.

Accessing Occupancy Detection Settings

Hold the Home/Mode button [▬] for four (4) seconds to access the Energy-Saving Occupancy Detection Settings.

Energy-Saving Occupancy Detection

Short Vacancy Settings

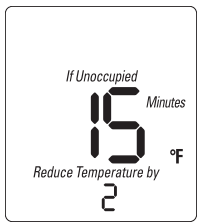


Use the Temperature Up and Down buttons [and] to select a number of minutes (00-99) room needs to be unoccupied before the thermostat reduces the temperature setpoint.

Selecting "00" as the number of minutes will disable Short Vacancy feature.

Press the Home/Mode button [ ] to confirm your selection and advance to the next configuration screen.

Short Vacancy Settings

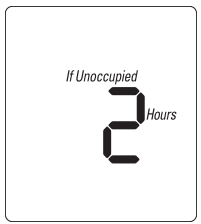


Use the Temperature Up and Down buttons [and] to select by how many degrees (0-10°F/0-5°C) you wish to reduce the temperature.

Pressthe Home/Mode button [ ] to confirm your settings and access the Long Vacancy settings.

Energy-Saving Occupancy Detection

Long Vacancy Settings

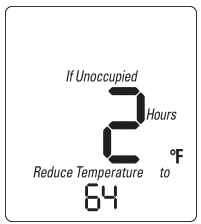


Use the Temperature Up and Down buttons [and] to select a number of hours (0-12) room needs to be unoccupied before the thermostat reduces the setpoint to the desired temperature.

Selecting "0" as the number of hours will disable Long Vacancy feature.

Press the Home/Mode button [ ] to confirm your selection and advance to the next configuration screen.

Long Vacancy Settings



Use the Temperature Up and Down buttons [and] to select the desired temperature.

Press the Home/Mode button [ ] to confirm your selection and return to Home Screen.

Energy-Saving Occupancy Detection

Occupancy Detection Example

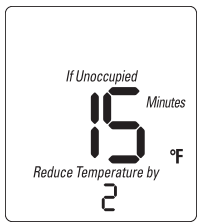
If the temperature setpoint is 72°F and the occupancy settings are the same as the examples shown on previous pages:

Short Vacancy Setting
If unoccupied 15 minutes
Reduce Temperature by 2;

Long Vacancy Setting
If Unoccupied 2 Hours
Reduce Temperature to 64;

Then the following will happen...

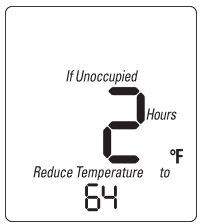
...if the room becomes unoccupied

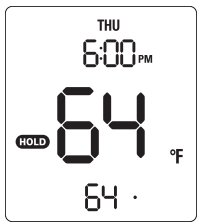


If the room is unoccupied for 15 minutes, the thermostat will automatically reduce the temperature setpoint to 70° (72° - 2°).

Energy-Saving Occupancy Detection

...if the room remains unoccupied





If the room is unoccupied for 2 hours, the thermostat will automatically reduce the temperature setpoint to 64°.

...when occupancy is detected

If at any point occupancy is detected, the thermostat will automatically restore the temperature setpoint to the original value (in this example 72°)

NOTE: If the thermostat is in the AUTO temperature control mode, the thermostat will reset occupancy timers and restore temperature to the temperature setpoint programmed for the event every time the new event starts.

When occupancy is detected, the thermostat will flash the "unoccupied" temperature five (5) times and then flash the restored temperature five (5) times to indicate the setpoint change.

Warranty

Hardware
Verdant Environmental Technologies warrants the original end user ("Customer") that new Verdant branded products will be free from defects in workmanship and materials and will perform in substantial conformance to its specifications, under normal use, for one (1) year from the original purchase date.

Exclusions
This warranty excludes (1) physical damage to the surface of the product, including cracks or scratches on the touch-screen or outside casing; (2) damage caused by misuse, neglect, improper installation, unauthorized attempts to open, repair, or modify the product, or any other cause beyond the range of intended use; (3) damage caused by accident, fire, power changes, other hazard, or Acts of God; or (4) use of the product with any device if such device causes the problem.

Exclusive Remedies
Should a covered defect occur during the warranty period and Customer notifies Verdant Environmental Technologies, Customer's sole and exclusive remedy will be, at Verdant Environmental Technologies's sole option and expense, to repair or replace the product. Replacement products or parts may be new or reconditioned or a comparable version of the defective item. Verdant Environmental Technologies warrants any replaced product or part for a period of ninety (90) days from shipment, or through the end of the original warranty, whichever is longer.

Obtaining Warranty Service
Customer must contact and return product to a local Verdant Environmental Technologies product dealer or installer within the applicable warranty period to obtain warranty service. Dated proof of original purchase will be required. Verdant Environmental Technologies will not be responsible for Customer's memory data contained in, stored on, or integrated with any products returned to Verdant Environmental Technologies for repair, whether under warranty or not.

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DIMENSIONS
Case: 5" x 5" x 1.25"
Screen: 1.75" x 1.875"

ELECTRICAL RATING
2 Wire Non-Polarized
Minimum Load
2A (resistive only)
500W @ 240V AC
250W @ 120VAC
Maximum Load
12.5A (resistive only)
3,000W @ 240V AC
1,500W @ 120V AC

ACCURACY RATING
±0.3°F (±0.15°C)

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