

VENSTAR®
*Easy*STAT

SINGLE DAY
PROGRAMMABLE

RESIDENTIAL
THERMOSTAT
TSTATEZ

WORLD'S EASIEST
PROGRAMMABLE THERMOSTAT



UP TO 2-HEAT
& 2-COOL

- One for All™ - Can Control:
 - Gas / Electric
 - Heat Pump
 - Electric Heat
 - Hydronic Systems

- Non-Volatile Memory - Retains settings in the event of a power failure

- Outdoor Sensor Ready - Compatible with the optional wired, or wireless Outdoor Sensor



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

OWNER'S
MANUAL

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CAUTION Follow *Installation Instructions* carefully.



DISCONNECT POWER TO THE HEATER -
AIR CONDITIONER BEFORE REMOVING
THE OLD THERMOSTAT AND INSTALLING
THE NEW THERMOSTAT.



WARNING

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P/N TSTAT1100EZ

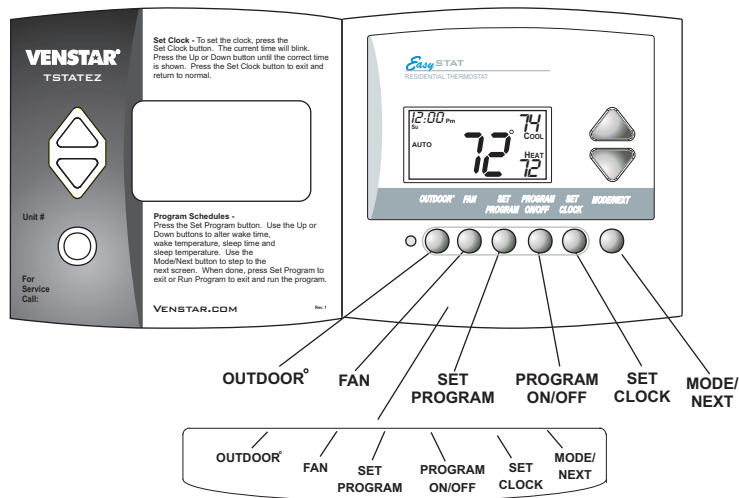
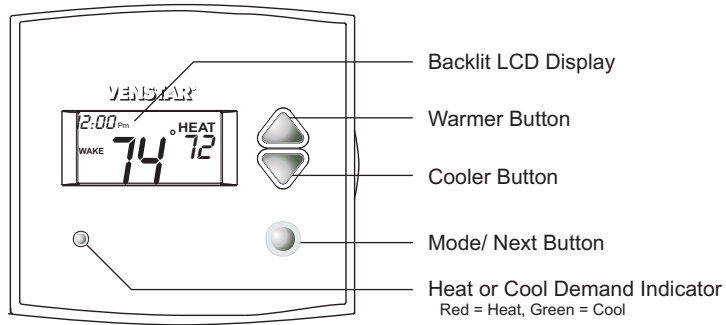
Overview

The most common way to program the EasyStat thermostat is to program it just as you would an alarm clock. You can program this thermostat in the HEATING MODE (normal winter operation) and/or in the COOLING MODE (normal summer operation). These setpoints will be stored and used any time that the program is on (WAKE/SLEEP).

The EasyStat thermostat is also simple enough to use for those who desire to set the temperature manually before going to bed at night and leaving for work in the morning, but desire to wake up to a comfortable room and return to a comfortable house. For example, if you were going to the mall for two or three hours and would like to save energy, all you would have to do is set the SLEEP (RETURN) time for when you expected to return from the mall and then adjust the temperature down when you leave the house. This flexibility allows you to obtain great energy savings while you are away and still maintain a comfortable environment when you are at home.

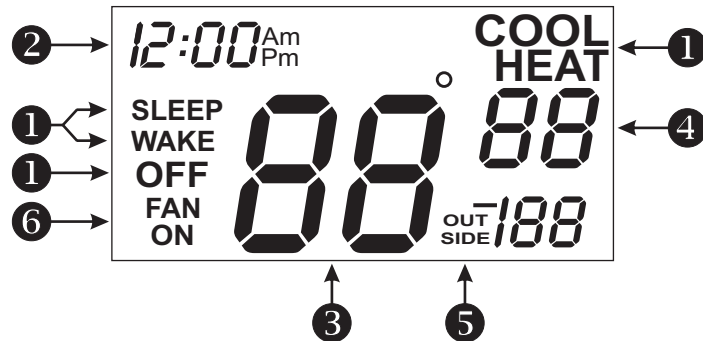
Refer to the information described in this manual to learn more about the operation, programming, and advanced features of this thermostat.

Front Panel



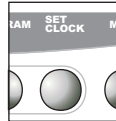
This Big Letter label is also available for easy identification of the thermostat buttons.

Display



- 1** Mode Indicators - *Page 6*
 Selects the operation mode of the equipment.
WAKE/SLEEP - Indicates the time period program is enabled to run.
HEAT - Indicates the heating mode.
COOL - Indicates the air conditioning mode.
OFF - Indicates heating and cooling are turned off.
- 2** Clock Display - *Page 5*
 Indicates the current time of day.
- 3** Room Temperature Display
 Indicates the current room temperature.
- 4** Desired Set Temperature - *Page 7*
 Indicates desired room temperature.
- 5** Outside icon - *Page 7*
 Indicates the temperature displayed is from the optional outdoor sensor.
- 6** Fan On icon - *Page 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.

Quick Start *Set the Clock and Go*



**Press the SET
CLOCK button**

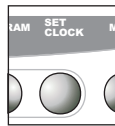
During Setup & Programming:

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

Setting the Clock



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



To adjust the
Clock or Day use



Buttons.

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

The thermostat is preprogrammed from the factory to operate one or two stage equipment* without the need for further programming. To optimize the installation of this thermostat, follow the instructions in the Advanced Setup section.

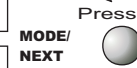
** The thermostat is not preprogrammed from the factory to operate electric heat or heat pump systems. To control these systems, follow the steps in the Advanced Setup section, pages 10 & 11.*

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

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

Time Schedule for Heating or Cooling

The **WAKE** or **SLEEP** setting will activate the time period programming for the cooling or heating setpoint ONLY.



Press

Off

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



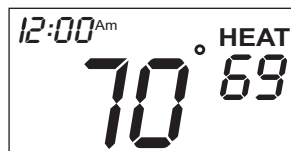
NOTE: when the thermostat is in the **OFF** mode, you may turn the thermostat back on by pressing the **MODE/NEXT**, **UP**, or **DOWN** buttons.

Basic Operation

Selecting Your Desired Temperature (adjusting the setpoints)

HEAT OR COOL MODE

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



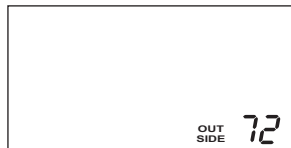
Adjust the desired set temperature with the



buttons.

Viewing the Outdoor Temperature

This requires an outdoor sensor (optional accessory) to be installed (see page 15 for wiring instructions). To read the temperature from the outdoor sensor, press the OUTDOOR button.



Press
OUTDOOR



Note: If no sensor is connected two dashes [- -] will appear on the display.

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.

Programming

Heat Schedule



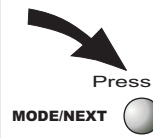
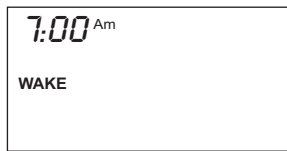
The thermostat must be in the Heat mode to access these setup steps.

SET
PROGRAM

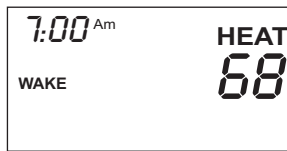
Press the PROGRAM button to enter time period programming.



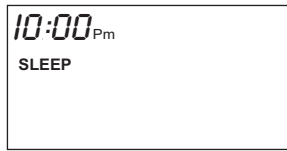
Adjust the start time for Wake.



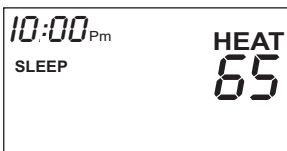
Adjust the heating setpoint for Wake.
(35° - 99°)



Adjust the start time for Sleep.



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



Press the SET PROGRAM or MODE/NEXT button to leave setup and return to normal operation



OR

Press the PROGRAM ON/OFF button to leave setup and start running the updated program.




NOTE: If no buttons are pressed the thermostat will leave setup and return to normal operation after 30 seconds.








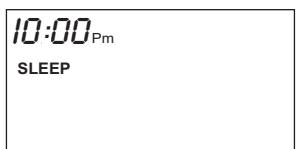


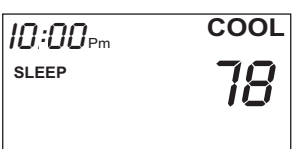

Programming

Cool Schedule



The thermostat must be in the Cool mode to access these setup steps.

SET PROGRAM  Press the Set Program button.

	Adjust the start time for Wake.		 Press
	Adjust the cooling setpoint for Wake. (35° - 99°)		 Press
	Adjust the start time for Sleep.		 Press
	Adjust the cooling setpoint for Sleep. (35° - 99°)		 Press

Press the **SET PROGRAM** or **MODE/NEXT** button to leave setup and return to normal operation

SET PROGRAM OR **MODE/NEXT** 

OR

Press the **PROGRAM ON/OFF** button to leave setup and start running the updated program.

PROGRAM ON / OFF 

NOTE: If no buttons are pressed the thermostat will leave setup and return to normal operation after 30 seconds.

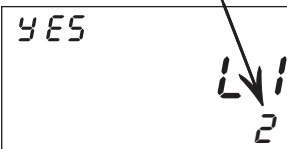
Advanced Setup


MODE/NEXT  *Press the MODE/NEXT button. While holding the MODE/NEXT, press the PROGRAM ON/OFF button to enter Setup screens.*

PROGRAM ON / OFF 

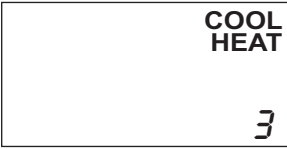
NOTE: Each step # is located at the bottom right corner of the display for easy reference.


YES
Select backlight operation:
YES - Light continuously
NO - Light for 8 seconds after a button press
NO




Press 


Select whether the thermostat will be heat only, cool only, or heat and cool.



Press 

YES
YES = Heat Pump operation
NO = Gas Electric operation
NO



Press 

b
Select the reversing valve polarity for Heat Pump operation:
O = Energize in cooling
b = Energize in heating



Press 

(Step 5 only appears if heat pump is on in step 4)

Continued 

Advanced Setup

YES
 Select Electric Heat operation:
 On = 1st stage electric heat
 NO Off = 1st stage gas heat
 (Step 5 only appears if heat pump is **off** in step 4)

NO
 Adjust the minimum **difference** between cooling & heating setpoints.
 (0° - 6°)

Select the cycles per hour limit:
 d=cycles per hour limit defeated
 d1=d + defeat 5 min. compressor lockout
 (d1, d, 2 - 6)

C
 Select thermostat operation in degrees Fahrenheit or Celsius.
 F

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

Advanced Setup

Advanced Setup Table

Step #	Description	Range	Factory Default
1	Time of Day	24 hour	12:00 am
2	Thermoglow Backlight	Yes / No	Yes
3	Heat, Cool or both	Heat / Cool	Heat / Cool
4	Heat Pump	Yes / No	No
5	Reversing Valve Polarity	O / b	O
6	Electric Heat	Yes / No	No
7	Deadband/Temp. Swing 1st Stage	1° - 6°	2°
8	Cycles Per Hour	d, d1, 2 - 6	6
9	Fahrenheit or Celsius	F / C	F

About Advanced Features & Operation

- * DEADBAND OPERATION - Controls up to two Heat and two Cool stages (please see the diagram below).

The **1st Stage** of heat or cool is turned on when:

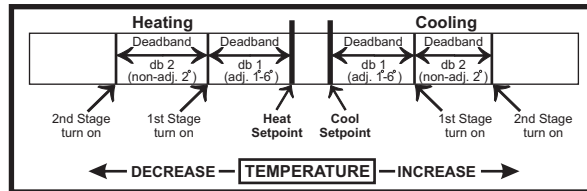
- (A) The temperature spread from the setpoint is equal to or greater than: *the setpoint plus the 1st stage deadband (step #7, page 11)*. This 1st stage deadband is adjustable from 1-6 degrees and the default is two degrees.

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

- (A) The 1st Stage has been on for a minimum of *two minutes*.

And

- (B) The temperature spread from the setpoint is equal to or greater than: *the setpoint plus the 1st stage deadband (step #7, page 11), plus the 2nd stage deadband*. This 2nd stage deadband is fixed at two degrees and is not adjustable.

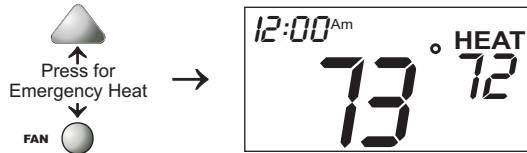


The above figure assumes the minimum on time for the prior stage has been met to allow the next stage to turn on, once the deadbands have been exceeded.

- * ELECTRIC HEAT - Selecting Electric Heat (*step #6, page 11*), will cause the thermostat to turn on the fan immediately any time there is a heat demand. Since most gas furnaces control the fan, this feature should be off unless it is necessary for the thermostat to energize the fan with first stage heat.

About Advanced Features & Operation

- * **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.

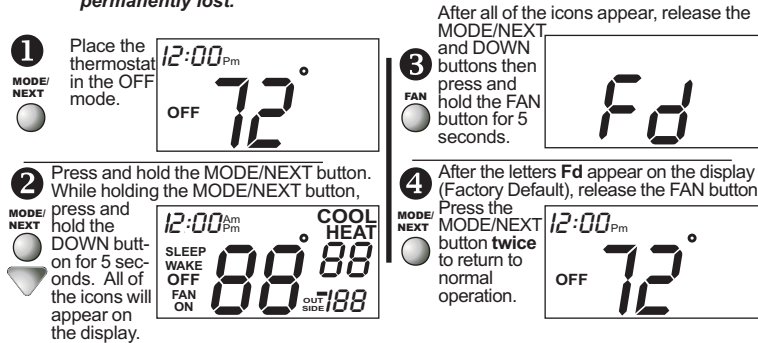


Operation - During Emergency Heat operation the thermostat will turn on the fan and the 2nd stage of heat when there is a demand for heat. Also during Emergency Heat, the 1st stage of heating or cooling will be unavailable.

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/NEXT button.

- * **FACTORY DEFAULTS** - 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 will be permanently lost.




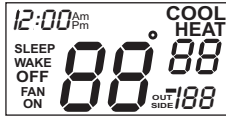
- * **MEMORY BACKUP** - In the event of a power loss, the thermostat will retain the stored program settings without external power or batteries.


About Advanced Features & Operation

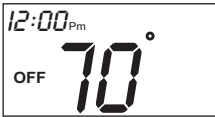
- * **CALIBRATION** - Under normal circumstances it will not be necessary to adjust the calibration of the temperature sensor. If calibration is required, please contact a trained HVAC technician to correctly perform the following procedure.

- 1 Place the thermostat in the OFF mode.


- 2 Press and hold the MODE/NEXT button. While holding the MODE/NEXT button, press and hold the DOWN button for 5 seconds. All of the icons will appear on the display.


- 3 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.


- 4 After calibration is complete, press the MODE/NEXT button **once** to save your changes and return to normal operation.

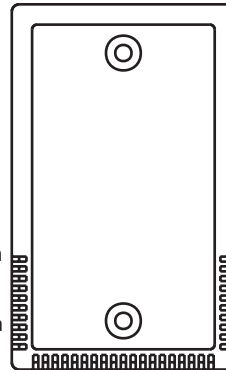


- * **OUTDOOR SENSORS (Optional Accessory)** - One wired or wireless Outdoor sensor can be installed to read the outdoor temperature. To view this sensor follow the instructions on page 7.

The Outdoor Sensor measures outdoor air temperature and sends this information to the thermostat; it measures temperature with a range of -40° to 127°F.

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

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



See the Outdoor Sensor instructions for further details.

Warranty

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

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

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

LIMITATIONS OF WARRANTIES – ALL IMPLIED WARRANTIES (INCLUDING IMPLIED WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE AND MERCHANTABILITY) ARE HEREBY LIMITED IN DURATION TO THE PERIOD FOR WHICH THE LIMITED WARRANTY IS GIVEN. SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE MAY NOT APPLY TO YOU. THE EXPRESSED WARRANTIES MADE IN THIS WARRANTY ARE EXCLUSIVE AND MAY NOT BE ALTERED, ENLARGED, OR CHANGED BY ANY DISTRIBUTOR, DEALER, OR OTHER PERSON WHATSOEVER. ALL WORK UNDER THE TERMS OF THIS WARRANTY SHALL BE PERFORMED DURING NORMAL WORKING HOURS. ALL REPLACEMENT PARTS, WHETHER NEW OR REMANUFACTURED, ASSUME AS THEIR WARRANTY PERIOD ONLY THE REMAINING TIME PERIOD OF THIS WARRANTY.

THE MANUFACTURER WILL NOT BE RESPONSIBLE FOR:

1. Normal maintenance as outlined in the installation and servicing instructions or owner's manual, including filter cleaning and/or replacement and lubrication.
2. Damage or repairs required as a consequence of faulty installation, misapplication, abuse, improper servicing, unauthorized alteration or improper operation.
3. Failure to start due to voltage conditions, blown fuses, open circuit breakers or other damages due to the inadequacy or interruption of electrical service.
4. Damage as a result of floods, winds, fires, lightning, accidents, corrosive environments or other conditions beyond the control of the Manufacturer.
5. Parts not supplied or designated by the Manufacturer, or damages resulting from their use.
6. Manufacturer products installed outside the continental U.S.A., Alaska, Hawaii, and Canada.
7. Electricity or fuel costs or increases in electricity or fuel costs for any reason whatsoever including additional or unusual use of supplemental electric heat.
8. ANY SPECIAL INDIRECT OR CONSEQUENTIAL PROPERTY OR COMMERCIAL DAMAGE OF ANY NATURE WHATSOEVER. Some states do not allow the exclusion of incidental or consequential damages, so the above may not apply to you.

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

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