

VENSTAR®

DIGITAL THERMOSTAT

EXPLORER Mini

with
Wi-Fi
and local
API

HEAT
COOL &
HEAT
PUMP



Quick start and setup guide

Thank You

Congratulations and thank you for purchasing your new Venstar EXPLORER Mini® thermostat. This guide is intended to help you install and setup the basic features of your Thermostat. For a full owner's manual and installation guide, visit venstar.com.



Compatibility

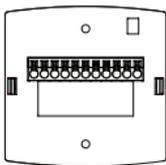
Venstar EXPLORER Mini® Thermostat is designed to work with 24V systems requiring both the R & C wires. This includes gas, electric, oil, forced air, variable speed, heat pump and radiant heat. It can control:

- Heating: one and two stages (W1 & W2)
- Cooling: one and two stages (Y1, Y2)
- Heat pump: with auxiliary and emergency heat (Y, W1, O/B)
- Fan (G)
- Power (C, R)

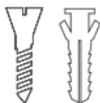
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Thermostat



Thermostat Base



Drywall Anchors and Screws



This Quick Start Manual

Necessary Tools



WiFi Network & Password



Screw Driver



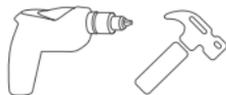
Level



Pencil



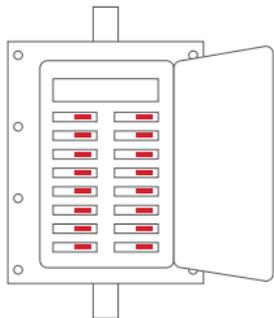
Pliers



Hammer or Drill
(3/16" or 7/32" drill bits)

Step 1 - Power Off Current System

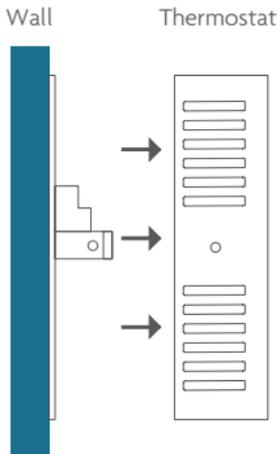
- 1) Go to your home's circuit breaker panel and switch the furnace and air conditioner breakers off.
- 2) To confirm power is off, adjust the temperature on your current thermostat. If the system does not respond accordingly, power has probably been successfully shut off.



WARNING: Failure to follow this step can result in personal injury and/or death from shock and electrocution.

Step 2 - Remove Faceplate

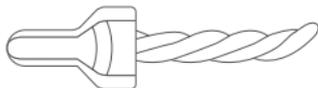
Remove the faceplate of current system. Most faceplates snap-off or feature small screws that will need to be removed.



Side View



WARNING: If you see large thick electrical wires, wire nuts, or if your system is labeled 120V or 240V DO NOT PROCEED. THIS THERMOSTAT IS NOT COMPATIBLE WITH THESE SYSTEMS



WARNING: Failure to follow this step can result in personal injury and/or death from shock and electrocution.

Step 3 - Before you go any further

Determine what your existing wiring and equipment situation is before you disconnect any wires. If you are unsure of what type of system you have, you may need to seek professional support.

- A. If you have a **Heating only system** without Air Conditioning, the Venstar EXPLORER Mini thermostat will require 3 wires. These 3 wires are: R (24Vac), C (24Vac) and W (Heat). Most Heating only systems use very simple thermostats that only require 2 wires the R (24Vac) and W (Heat). The EXPLORER Mini thermostat requires 3 wires to the thermostat. In this case an Add-A-Wire accessory will not work and it will be necessary to install another wire for the C (24Vac) connection.
- B. If you have a **single stage fossil fuel heater with air conditioning**, the Venstar EXPLORER Mini will require **5 wires** for independent fan control. They are R (24Vac), C (24Vac), W (Heat), Y (Cooling), and G (Fan). You may connect only **4 wires**, as instructed below, to the EXPLORER but will give up independent fan control. The fan will still operate with a Heating or Cooling demand.
- If there are only 4 wires present that are connected to the existing thermostat, there are at least 3 options available to connect the Venstar EXPLORER thermostat, they are:*
1. Use the 4 wires as instructed below and note that the fan will only operate with a Heating or Cooling demand.
 2. Pull new thermostat wire from the HVAC equipment to the thermostat so that there are at least 5 wires available.
 3. Purchase and install a Venstar Add-A-Wire accessory (ACC-0410).

- C. If you have a **multi stage HVAC system comprised of a fossil fuel heater with air conditioning** the Venstar EXPLORER Mini will require the 5 wires mentioned above (R, C, W, Y, and G) plus an additional wire for each additional stage of Heating or Cooling. You may reduce the 5 wire requirement to 4 if you give up independent fan control, or use the optional accessory; Add-A-Wire.
- D. If you have a **heat pump without aux heat** the Venstar EXPLORER will require 5 wires: R (24Vac), C (24Vac), W1/O/B (reversing valve), Y (1st stage compressor), and G (fan). If there are only 4 wires present that are connected to the existing thermostat, there are at least 3 options available to connect the Venstar EXPLORER thermostat, they are:
1. Use the 4 wires as instructed below and note that the fan will only operate with a Heating or Cooling demand.
 2. Pull new thermostat wire from the HVAC equipment to the thermostat so that there are at least 5 wires available.
 3. Purchase and install a Venstar Add-A-Wire accessory (ACC-0410).
- E. If you have a **heat pump with aux heat** the Venstar EXPLORER Mini will require 6 wires: R (24Vac), C (24Vac), W1/O/B (reversing valve), Y (1st stage compressor), W2 (Aux Heat) and G (fan). If there are only 5 wires present that are connected to the existing thermostat, there are at least 3 options available to connect the Venstar EXPLORER thermostat, they are:
1. Use the 5 wires as instructed below and note that the fan will only operate with a Heating or Cooling demand.
 2. Pull new thermostat wire from the HVAC equipment to the thermostat so that there are at least 6 wires available.
 3. Purchase and install a Venstar Add-A-Wire accessory (ACC-0410).

MAKING 4 WIRES WORK when 5 are required (without the optional Add-A-Wire accessory)

- *If you have an all-electric heat system with air conditioning, this method is not an option. You must either pull new wire or use the optional Add-A-Wire accessory (ACC-0410).*
- *If you have a single stage fossil fuel heater with air conditioning, and you would like install the Venstar EXPLORER Mini using only 4 wires, follow the directions below. You will need a screwdriver along with a 3" or 4" long piece of thermostat wire to use as a jumper.*

1. Make sure the power is off as step 1 on page 4 instructs you.
2. Follow step 4 on page 9 "Label and Disconnect Wires" at the thermostat. Please note the color and the corresponding wire designator with each color. An example is the R wire is red and the W wire is white and so on. You will need this for the next step at the HVAC equipment.
3. At the equipment end of the thermostat wires, locate the terminals that the wires are attached to.
 - A. Remove the "G wire" from the terminal marked G.
 - B. Place the "G wire" on terminal C.
 - C. Place one end of the jumper on terminal G.
 - D. Place the other end of the jumper on terminal Y.
Please note that there will be more than 1 wire on terminal Y.
4. Connect the wires to the terminals on the EXPLORER Mini backplate taking care to make sure that each wire from the HVAC equipment is connected to the same terminal designation on the EXPLORER Mini backplate. For example: the "C wire" from the HVAC equipment should be connected to the "C" terminal of the thermostat. The "R" wire on the equipment terminal should be connected to the "R" terminal on the EXPLORER Mini backplate, and so on.

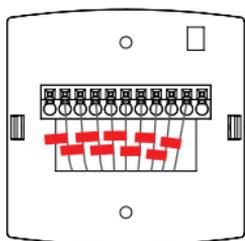
MAKING 5 WIRES WORK when 6 are required (without the optional Add-A-Wire accessory)

- *If you have an all-electric heat system with air conditioning, this method is not an option. You must either pull new wire or use the optional Add-A-Wire accessory (ACC-0410).*
- *If you have a multi stage system that requires 6 wires, and you would like install the Venstar EXPLORER using only 5 wires, follow the directions below. You will need a screwdriver along with a 3” or 4” long piece of thermostat wire to use as a jumper.*

1. Make sure the power is off as step 1 on page 6 instructs you.
2. Follow step 4 on page 9 “Label and Disconnect Wires” at the thermostat. Please note the color and the corresponding wire designator with each color. An example is the R wire is red and the W wire is white and so on. You will need this for the next step at the HVAC equipment.
3. At the equipment end of the thermostat wires, locate the terminals that the wires are attached to.
 - A. Remove the “G wire” from the terminal marked G.
 - B. Place the “G wire” on terminal C.
 - C. Place one end of the jumper on terminal G.
 - D. Place the other end of the jumper on terminal Y.
Please note that there will be more than 1 wire on terminal Y.
 - E. Connect the wires to the terminals on the EXPLORER backplate taking care to make sure that each wire from the HVAC equipment is connected to the same terminal on the EXPLORER backplate. For example: the “C wire” from the HVAC equipment is connected to the “C” terminal of the thermostat and so on.

Step 4 - Label & Disconnect Wires

- 1) One by one, apply a label designated to each wire you disconnect from your current thermostat.



TIP: Before disconnecting any wires, take a photo of your current wire configuration with your mobile device.



Wire from the old thermostat terminal marked	Function	Install on the new thermostat connector marked	Wire Color
G or F	Fan	G	
Y1, Y	Cooling	Y1	
W1, W	Heating	W1/O/B	
Rh, R, M, Vr, A	Power	R	
C	Common	C	
O/B	Rev. Valve	W1/O/B*	
W2	2nd Stage Heat	W2	
Y2	2nd Stage Cooling	Y2	
Ck1	Dry Contact Switch	CK	
CKGND	Dry Contact Switch	R	

* O/B is used if your system is a Heat Pump.

Step 5 - Remove Current Backplate

Unscrew the current backplate and remove it from the wall. Be careful not to let the wires fall into the wall.

TIP: If needed, wrap the wires around a pencil or pen to keep them from falling inside the wall.



Step 6 - Mount New Base

1) Gently separate the display from the base by pulling first from one side, then the other until the two pieces unsnap. A small screwdriver may be used, very carefully, to start separating the two pieces.

2) Position the base against your wall, and determine if wall anchors from current thermostat align with screw locations of new base.

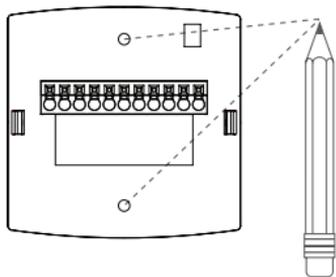
3) If base does not align with existing anchor holes, mark new screw locations with a pencil.

Drywall: Drill 3/16" hole for the anchor

Plaster: Drill 7/32" hole for the anchor

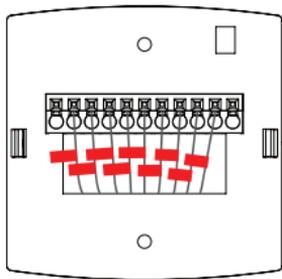
4) Pull wires through opening in base and secure to the wall using provided screws.

TIP: Use a level to ensure thermostat is properly aligned before marking screw locations.



Step 7 - Connect Wires

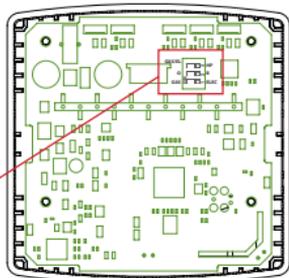
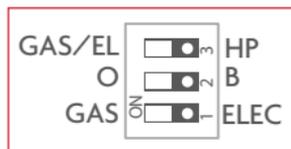
- 1) Match your previous wire configuration to the new base. One by one, connect each wire by inserting the metal end into the corresponding slot and tightening the screw.



TIP: Use pliers to straighten wire before inserting into new base. Be sure to cut any excess wire so that the insulation extends to the terminal block. When the wire is installed properly to the terminal block, there should be no copper exposed.

Step 8 - Check Dip Switch

- 1) Ensure which switch is correct for your system. Dip switches are located on the back of the thermostat



This switch (GAS or ELEC) controls how the thermostat will control the Fan (G) terminal in heating mode. When **GAS** is chosen, the thermostat **will not** energize the Fan (G) terminal in heating. When **ELEC** is chosen the thermostat **will** energize the fan in heating.



For Heat Pump Only

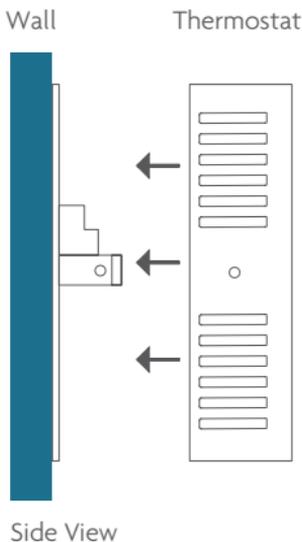
When the **GAS/EL** or **HP** dip switch is configured for HP, this dip switch (O or B) must be set to control the appropriate reversing valve. If **O** is chosen, the **W1/O/B** terminal will energize in cooling. If **B** is chosen, the **W1/O/B** terminal will energize in heating.



This dip switch configures the thermostat to control a conventional gas/electric system or a heat pump. If your system is anything other than a heat pump, leave this switch set for **GAS/EL**.

Step 9 - Attach Thermostat

- 1) Align the pins on the thermostat circuit board with the corresponding holes below the wiring connectors and push the top and the bottom of the plastic housing enclosing the display until it clicks into place, top and bottom.



Front of thermostat should click into place easily. If you encounter resistance do not apply excess force – remove, check that the pins are straight and ensure there are no wires in the way and retry.

Step 10 - Switch Power/Circuit Breakers Back On

Turn your furnace and air conditioner breakers back on at your breaker panel.

Step 11 - Set Up Wi-Fi Connection

Overview

At minimum, the first 3 tasks below must be completed to access your thermostat remotely from a browser. The 4th step is optional (highly recommended) and only is needed to access your thermostat(s) from a mobile device.

These steps are:

1. Successful connection to a local Wi-Fi Access Point with internet access.
2. Confirm receipt of a Skyport generated verification email (this only occurs once during the Skyport account setup).
3. A 6-digit code obtained from the thermostat is successfully entered into a Skyport account.
4. Successfully download and install the Venstar Skyport app on your mobile device(s).

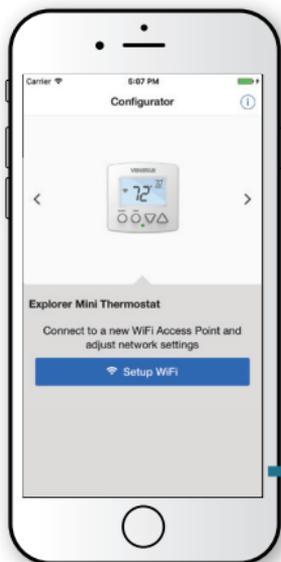
Your thermostat operates on the 2.4 Ghz, Wi-Fi b/g/n band.

TABLE OF BUTTON PRESSES TO ENTER MENUS

TO ENTER MENUS	BUTTON PRESS
Setup Steps.....	MODE & FAN/OVERRIDE for 5 seconds
Time Schedule.....	MODE & Up for 2 seconds
Emergency Heat.....	Up & FAN/OVERRIDE for 2 seconds
Lockout Buttons.....	MODE, Up & Down for 2 seconds
Calibration	MODE & Down for 2 seconds, then MODE
Wireless Setup.....	FAN/OVERRIDE for 5 Seconds

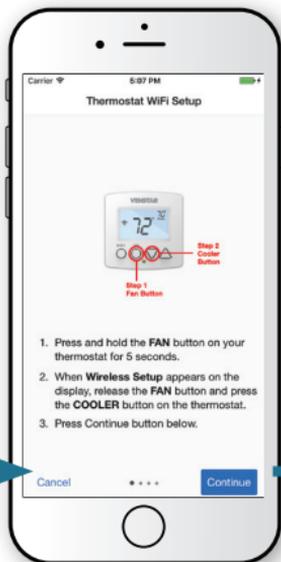
Quick Start - Connect to Wi-Fi

The EXPLORER Mini thermostats are joined to a Wi-Fi network with the help of the Venstar Configurator App. This app may be downloaded from your mobile device's app store. Once the EXPLORER Mini thermostat is installed the Configurator App will facilitate connection to the access point in 6 steps as outlined below.



1

Select "Setup Wi-Fi" on the Configurator App.



2

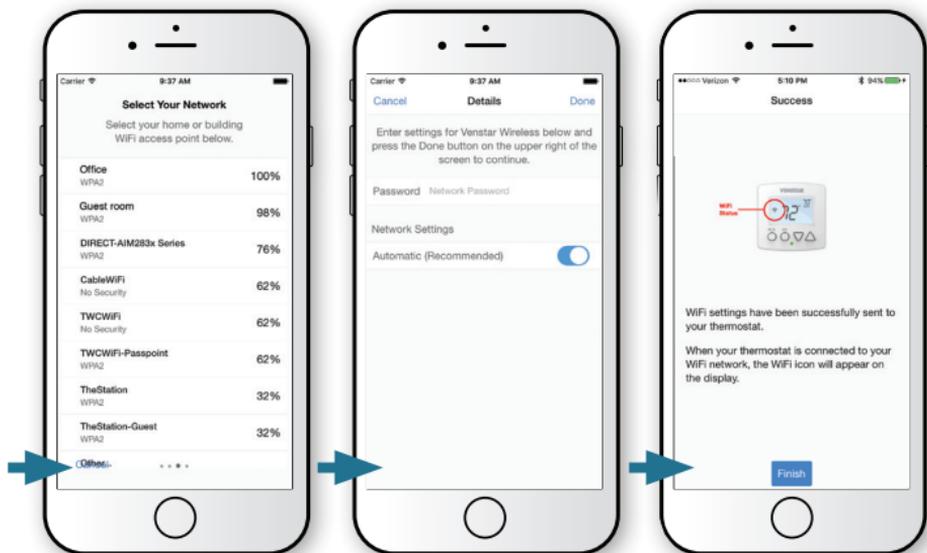
Press and hold the FAN button for 5 seconds. When "Wireless Setup" appears on the display, release the FAN button. Then press the COOLER button on the thermostat to configure Wi-Fi settings. Select "continue" on the Configurator App.



3

Go to the settings of the mobile device. Select Wi-Fi, then select the EXPLORER MINI thermostat (THERMOSTAT-XXXX). Enter the password: 123456789 when prompted. Return to the Configurator App and select "Continue"

Quick Start - Connect to Wi-Fi (continued)



4

Select the access point of your building or home to join.

5

Enter your password and select “Done”. Then press “Continue” in the lower right corner to complete setup.

6

When completed, the scrolling display of the thermostat will confirm successful Wi-Fi connection in addition the full Wi-Fi symbol will appear on the display.

Quick Start - Connect to Skyport

Although there is more than one way to create a Skyport account, the steps below illustrate account creation from a browser. To create a Skyport account a thermostat must be joined to the account.

If the thermostat is connected to the local Wi-Fi Access Point, but you do not have a Skyport account, you may create an account and join the thermostat to the account by doing the following:

1. Open your browser to: <http://venstar.skyportcloud.com>
2. Select “Create account now”

 **Create Account Now**

3. Follow on screen instructions to create an account and add a thermostat to the Skyport account.

If the thermostat is connected to the local Wi-Fi access point but not yet joined to an existing Skyport account, you may join the thermostat to the account by doing the following:

1. Log in to your Skyport account.
2. Select the “Location” you want to add a thermostat into.
3. Select the “Thermostat tab”.
4. Select “+ Add Thermostat”. A screen will ‘pop-up’ asking for a six digit code.
5. Press and hold the fan button on the thermostat for 5 seconds.
6. Press the Warmer button on the thermostat.
7. A six digit code will appear on the thermostat’s display.
8. Enter the six digit code into your Skyport account.

Once you have connected to Skyport, and you have standard HVAC equipment, you should be ready to use the thermostat to control your equipment. Skyport will maintain the correct time and date on your thermostat.

If you would like to set up a program/schedule to maintain the desired temperature at various times of the day, you can do this manually at the thermostat.

The complete manual is available to help you on the Venstar website at: **Venstar.com**.

It is much easier to setup the time period program/schedule on the Skyport Web App. To make these adjustments and more to your thermostat from Skyport follow these steps:

1. Login to your Skyport account
2. Choose the location where your thermostat is installed (the left column)
3. Click on the Thermostat tab
4. And click on the Setup button

You now may select and customize the thermostat. To start from this screen; select one of the buttons on the left.

A quick summary of these buttons is as follows:

Profile – Here you can name or change the location of the thermostat

Runtime Data – Here you can view Heat and Cool runtimes

Sensors – Here you can view all sensors and pair wireless sensors to the thermostat

Notifications – Here you setup email reminder and alert notifications from Skyport

Alerts – Here you can view current alerts for the thermostat

Schedule – Here you can set up, edit and enable/disable your time period schedule program

Thermostat Settings – Here you can alter the installation setup of the thermostat

Troubleshooting

Use the following troubleshooting guide to diagnose common problems. If you are still having problems or are unsure please visit www.venstar.com/thermostats or e-mail customer service at thermostatsupport@venstar.com

Problem	Possible Cause	Solution
The air conditioning does not attempt to turn on.	The compressor timer lockout may prevent the air conditioner from turning on for a period of time.	Adjust the Compressor Min. Off Time to "0".
	The cooling setpoint is set too high.	Lower the cooling setpoint or lower the cooling setpoint limit.
The display is blank.	Lack of proper power.	Make sure the power is on to the furnace and that you have a 24 vac between R&C.
The heating does not attempt to turn on.	The heating setpoint is set too low.	Raise the heating setpoint or raise the heating setpoint limit.
When using a residential heat pump the heat comes on instead of the air conditioning.	The thermostat reversing valve dip switch is set incorrectly.	Set the reversing valve dip switch to the opposite position.
When calling for air conditioning both the heat and cool come on.	The thermostat equipment dip switch is configured for "HP" and the HVAC unit is a gas/electric.	Set the equipment dip switch for "gas".

(continued)

Troubleshooting *(continued)*

Problem	Possible Cause	Solution
The thermostat won't connect to the access point.	Wrong password.	Enter the correct password.
	Access point offline.	Bring access point online.
Can't connect to Skyport	No internet connection on access point.	Restore internet.
	Firewall restrictions	Check firewall settings.
Can't get a 6 digit pairing code.	Thermostat already in account.	Factory default thermostat.
		Remove from Skyport account.

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.

FCC Compliance Statement

This equipment has been tested and found to comply with the limits for an intentional radiator, pursuant to Part 15, subpart C of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference in radio communications. However, there is no guarantee that the interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that of the receiver.
- Consult the dealer or an experienced radio or TV technician for help.

Notice: Only peripherals complying with FCC limits may be attached to this equipment. Operation with non-compliant peripherals or peripherals not recommended by Venstar, is likely to result in interference to radio and TV reception. Changes or modifications to the product, not expressly approved by Venstar could void the user's authority to operate the equipment.

FCC - INDOOR Mobile Radio Information:

To comply with FCC/IC RF exposure limits for general population / uncontrolled exposure, the antenna(s) used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter.

This Device complies with Industry Canada License-exempt RSS standard(s). Operation is subject to the following two conditions: 1) this device may not cause interference, and 2) this device must accept any interference, including interference that may cause undesired operation of the device.

Under Industry Canada regulations, this radio transmitter may only operate using an antenna of a type and maximum (or lesser) gain approved for the transmitter by Industry Canada. To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (e.i.r.p.) is not more than that necessary for successful communication. *Cet appareil est conforme avec Industrie Canada, exempts de licence standard RSS(s). Son fonctionnement est soumis aux deux conditions suivantes: 1) ce dispositif ne doit pas causer d'interférences, et 2) ce dispositif doit accepter toute interférence, y compris les interférences qui peuvent causer un mauvais fonctionnement de l'appareil.*

En vertu des règlements d'Industrie Canada, cet émetteur de radio ne peut fonctionner en utilisant une antenne d'un type et maximale (ou moins) Gain approuvé pour l'émetteur par Industrie Canada. Pour réduire les interférences radio potentielles aux autres utilisateurs, le type d'antenne et son gain doivent être choisis afin que la puissance isotrope rayonnée équivalente (PIRE) ne est pas plus de ce qui est nécessaire pour une communication réussie.

We, Venstar, declare under our sole responsibility that the device to which this declaration relates: 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.

FCC ID: MUH-SKYPORT8

IC: 12547A-SKYPORT8

These numbers can be located on the inside of the thermostat backplate, in the upper right corner.



Industry
Canada

Industrie
Canada

Patents Issued & Pending



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VENSTAR®