VENSTAR®

model: ACC-TSENWIFIPRO

Temperature Sensor with Wi-Fi Installation Instructions

OVERVIEW

This wireless temperature sensor may be used as a room remote temperature sensor, an outdoor temperature sensor, a return air temperature sensor or a supply air temperature sensor.

The ACC-TSENWIFIPRO is equipped with an onboard temperature sensor. An external sensor, such as the duct sensor included in the ACC-TSENWIFIPRO box, may be connected to the rear terminals of the ACC-TSENWIFIPRO as an option. For accurate temperature sensing the 10k thermistor must adhere to the table on page 3.

Venstar thermostats vary by model in the way they can use remote sensors. This includes averaging, control to, or monitoring features. Please consult the Owner's Manual of the thermostat that you are going to pair this sensor with to understand its capabilities and pairing procedure.

This sensor is compatible with all Venstar Wi-Fi thermostats that contain the latest firmware. Please consult Venstar.com for a complete listing of compatible thermostats.

Note: This sensor must be connected to the same local network as the thermostat(s) that will use the sensor data.

Before you begin the installation:

The **Venstar Configurator App** is needed to configure this sensor. This app may be downloaded from your mobile device store.

Select a suitable location for the ACC-TSENWIFIPRO sensor. Please note that the sensor must have good Wi-Fi reception from the access point it is intended to join. Do not mount in direct sun or direct rain.

Please have handy the Owner's Manual for the thermostat that will be paired with the sensor. Venstar thermostats have unique pairing procedures.

USE PHONE CAMERA

FOR MORE INFO

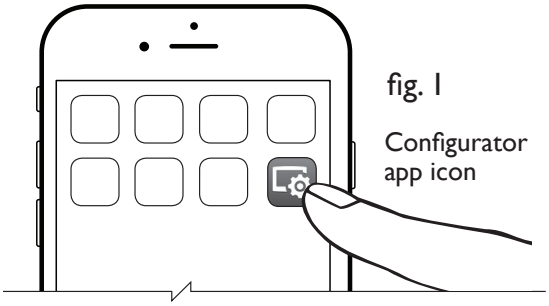


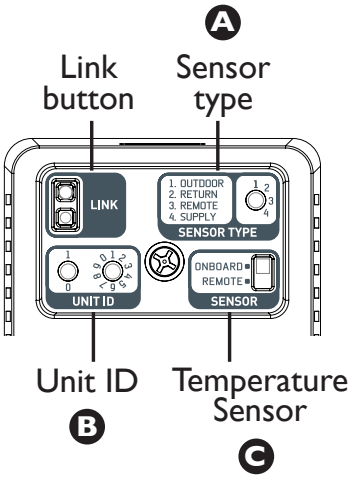
fig. 1

Configurator app icon

To Connect the Sensor to an Access Point:

1. Remove sensor cover.
2. Configure the Sensor. (use fig. 2 as a guide)

fig. 2



A Set the Type:

1. **Outdoor** temperature is sampled and transmitted once every 5 minutes.
2. **Return** temperature is sampled and transmitted once every 20 seconds.
   a. Must be connected to 24Vac for 20 second sample rate. If battery powered; 1 minute sample rate.
3. **Remote** temperature is sampled and transmitted once every minute.
4. **Supply** temperature is sampled and transmitted once every 20 seconds.
   a. Must be connected to 24Vac for the 20 second sample rate. If battery powered; 1 minute sample rate.

B Set the Unit ID:

If more than one ACC-TSENWIFIPRO is joined to an access point each sensor must have a unique UNIT ID# to operate properly.

Up to 20 ACC-TSENWIFIPRO sensors may be joined to 1 access point.

C Select the Temperature Sensor:

i. **Onboard** will use the temperature sensor mounted on the circuit board of the ACC-TSENWIFIPRO.

ii. **Remote** will use the sensor connected to the remote sensor terminals on the back of the ACC-TSENWIFIPRO.

(continued from page 1)

3. Install 4 AA batteries with the polarity as indicated on the ACC-TSENWIFIPRO housing. (see fig. 3) (Disregard the battery installation when 24Vac is connected to the sensor).
   a. Alkaline batteries are acceptable for operation in the temperature range of 0˚F to 120˚F.
   b. When operating between -20˚F to 130˚F it is recommended to use good quality Lithium AA batteries.

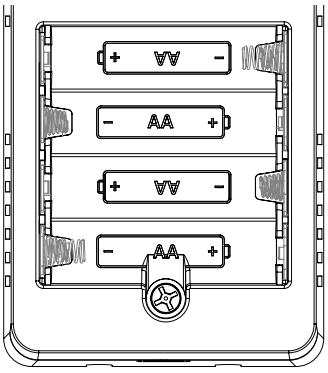


fig. 3

4. Press and hold the Link button (see fig. 2) until the Link LED starts to flash.

5. Use the Venstar Configurator App to setup the Wi-Fi connection.
   a. Select the Wi-Fi Sensor Setup by swiping the top half of the Configurator App to the left until the Wi-Fi Sensor appears.
   b. Select "Setup WI-FI"
   c. Follow the Wi-Fi setup instructions on the Configurator App.

Notes:

- *The LED will stay solid while connecting to the access point.*
- *If the connection is successful the LED will turn off.*
- *If the connection is unsuccessful the LED will flash 5 times.*
- If the App detects that the sensor firmware is not up to date, then the user will be prompted and instructed how to update the sensor's firmware.

Pair to your Explorer thermostat:

1. After successfully connecting the sensor to the access point, momentarily press and release the Link button of the Wi-Fi sensor. The LED will stay on for up to 2 seconds, then turn off.
2. Open the 'small, inside door' of the Explorer thermostat.
3. Press the Accessory Setup button.
4. Press the Mode button.
5. Upon successful pairing the thermostat display will acknowledge the paired sensor, along with the sensor's ID.

To Unpair the Wi-Fi sensor from the Explorer thermostat:

1. Open the 'small, inside door' of the Explorer thermostat.
2. Press the Accessory Status button.
3. Press the Cooler (down arrow) button.
4. If you have more than 1 sensor press the Mode button until the sensor you wish to unpair is displayed.
5. Simultaneously press the Warmer (up arrow) and Cooler (down arrow) buttons.
6. The thermostat display will acknowledge the sensor unpaired.

Pair to your ColorTouch thermostat:

1. After successfully connecting the sensor to the access point, momentarily press and release the Link button of the Wi-Fi sensor. The LED will stay on for up to 2 seconds, then turn off.
2. Press 'Menu' on the bottom right of the ColorTouch display.
3. Select 'Settings''. (you may need to scroll down to Settings)
4. Select 'Installation Settings'. (you may need to scroll down to Installation Settings)
5. Select 'Sensor Settings'.
6. Select 'Wireless Sensors'.
7. Select 'Add New Sensor'.

At the time of publication of this manual, Explorer models with firmware version 10 or greater and ColorTouch models T7850, T7900, T8850 and T8900 with firmware version 5 or greater are compatible with this sensor.

To see the current list of compatible thermostats along with pairing and unpairing instructions for each thermostat, please visit Venstar.com.

Rear Panel Connections

When the ACC-TSENWIFIPRO type is configured to be a supply or return air temperature sensor, the sample rate is once every 20 seconds. External power (24Vac) is required to support this sampling rate.

If 24Vac is not supplied to the rear terminals of the sensor and 4 AA batteries are installed, the sampling rate of the sensor will default to once a minute.

Specifications

Operational Temperature

- with alkaline batteries: 0° F - 120° F
- with lithium batteries: -20° F - 130° F

Sensor Type

- 10K Ohm thermistor, 2 wire pigtail

Air Temperature vs. Sensor Resistance

Air Temperature		Resistance in Ohms
°F	°C	
-20	-28.9	106926
-10	-23.3	80485
0	-17.8	61246
10	-12.2	47092
20	-6.7	36519
30	-1.1	28558
40	4.4	22537
50	10	17926
60	15.6	14356
70	21.1	11578
80	26.7	9398
90	32.2	7672
100	37.8	6301
110	43.3	5203
120	48.9	4317

fig. 4

Figure 4 illustrates the optional use of an external sensor along with external power.

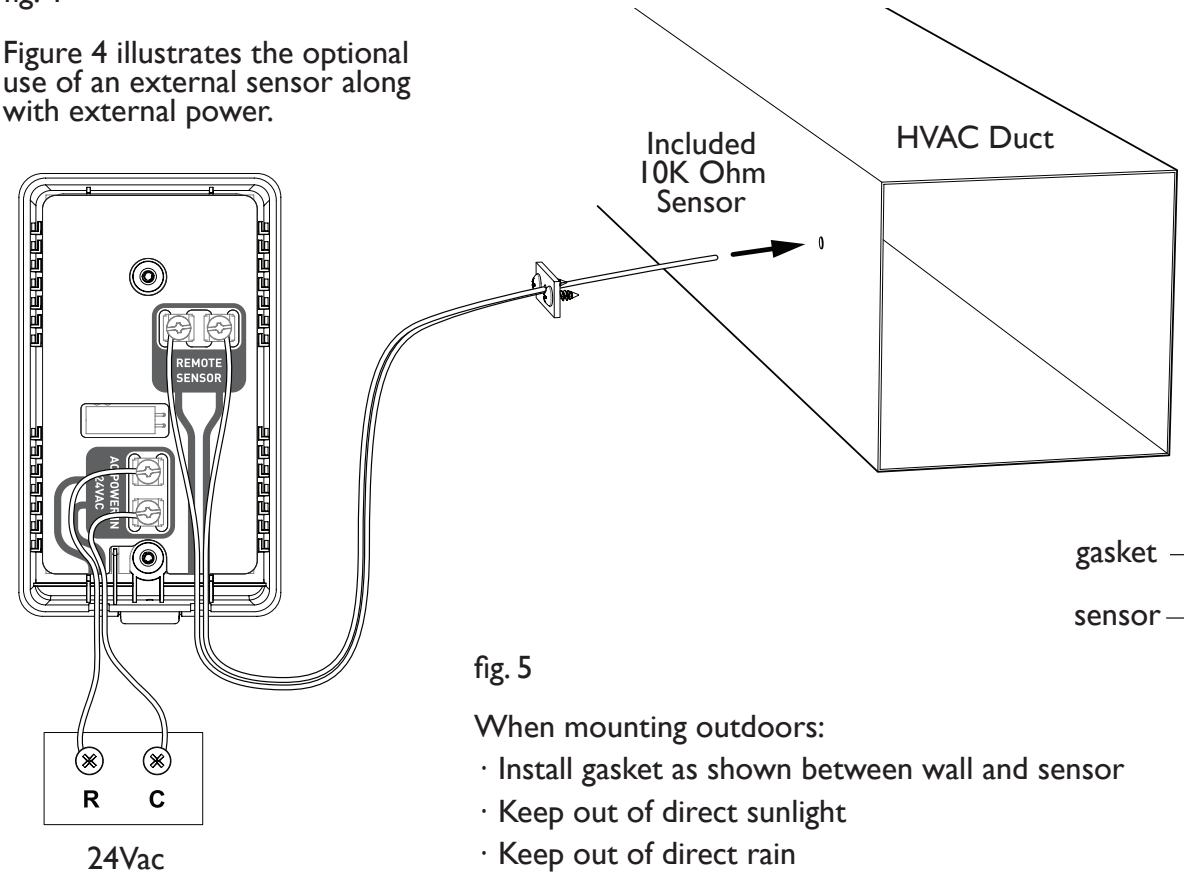


fig. 5

When mounting outdoors:

· Install gasket as shown between wall and sensor

· Keep out of direct sunlight

· Keep out of direct rain

An ideal mounting location would be in a covered outdoor patio or protected by an awning or eave from the elements.

Use the included screw to secure the cover to the sensor.

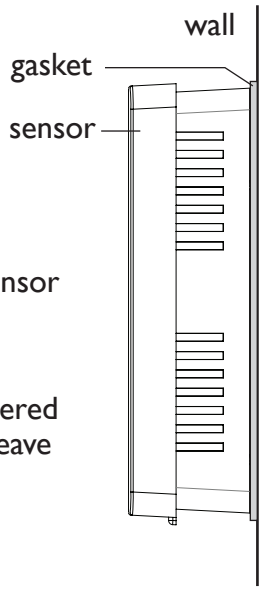


fig. 5

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

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 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 to radio communications. However, there is no guarantee that 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 to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Notice: Only peripherals complying with FCC limits may be attached to this equipment. Operation with noncompliant 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-SEN9

IC: 12547A-SEN9

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