

Operator: Save these instructions for future use!

FAILURE TO READ AND FOLLOW ALL INSTRUCTIONS CAREFULLY BEFORE INSTALLING OR OPERATING THIS CONTROL COULD CAUSE PERSONAL INJURY AND/OR PROPERTY DAMAGE.

This device 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.

⚠ CAUTION

Changes or modifications not expressly approved by White-Rodgers could void the user's authority to operate the equipment.

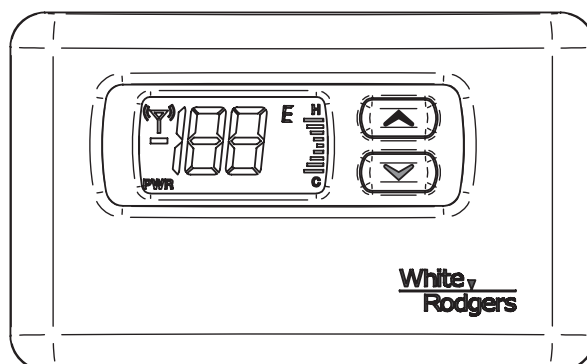
DESCRIPTION

This is a low cost microcomputer based remote temperature sensor, with a Liquid Crystal Display utilizing a single integrated chip radio transmitter to transmit temperature and associated information to the host-controlling thermostat.

Features:

- The ability to display sensed temperature from -40°F to 140°F
- User selected temperature offset $\pm 4^\circ\text{F}$ with up to 8 hours hold time
- Calibrate Ambient Temperature $\pm 4^\circ\text{F}$
- Selectable Fahrenheit/Celsius Display.
- Keypad Lockout.
- Comfort Adjust Bar Graph indicator.
- Indoor temperature sensors.
- Low battery indicator.
- Disable display temperature.
- Green display backlight.
- Transmitter multiple channel operation (10 channels are provided).
- Installer learning mode can be used to bind the sensor's transmitter with the thermostat's receiver and verify the maximum allowable range.
- A non-volatile memory provided to save the user's settings without batteries.

F145RF-1328 Indoor Wireless Remote Sensor



SPECIFICATIONS

Operating Range: (based on thermostat range)

F145RF-1328 Indoor Model 40 to 99°F

Operating Humidity Range 0 to 90% RH (non-condensing)

Maximum Distance from Thermostat 150 feet

Color Classic White

Dimensions 2.611"H x 4.269"W x 0.875"D

Compatible with all White-Rodgers wireless remote sensing thermostats

INSTALLATION

INDOORS SELECT SENSOR LOCATION

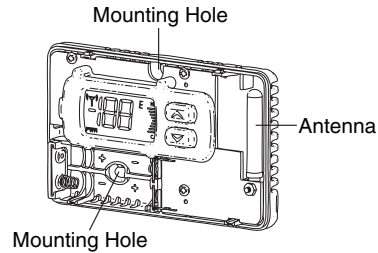
Proper location insures that the remote sensor will provide a comfortable home or building temperature. Observe the following general rules when selecting a location:

NOTE

This sensor must be attached to a wall during operation. Moving the sensor around is strictly prohibited.

1. The remote sensor can be located a maximum of 150 feet from the thermostat.
2. Locate sensor about 5 ft. above the room floor level.
3. Install sensor on a partitioning wall, not on an outside wall.
4. Never expose sensor to direct light from lamps, sun, fireplaces or any temperature radiating equipment.
5. Avoid locations close to windows, adjoining outside walls, or doors that lead outside.
6. Avoid locations close to air registers or in the direct path of air from them.
7. Make sure there are no electrical wires, metal, pipes or duct work in that part of the wall chosen for the sensor location.
8. Avoid locating the sensor on a concrete wall, junction box or metal plate.
9. Never locate sensor in a room that is normally warmer or cooler than the rest of the home (such as the kitchen) or building.
10. Avoid locations with poor air circulation, such as behind doors or in alcoves.
11. In the home, the bedroom, the living or dining room is normally a good location, provided there is no cooking range or refrigerator on opposite side of wall.

ATTACH WIRELESS REMOTE SENSOR BASE TO WALL



1. Remove the packing material from the sensor. Gently pull the front cover straight off the base. Forcing or prying on the sensor will cause damage to the unit.
2. Place base on wall and mark mounting hole locations using base as a template.
3. Move base out of the way. Drill mounting holes.
4. Fasten base loosely to wall, as shown above, using two mounting screws. Place a level against bottom of base, adjust until level, and then tighten screws. (Leveling is for appearance only and will not affect sensor operation.) If you are using existing mounting holes, or if holes drilled are too large and do not allow you to tighten base snugly, use plastic screw anchors to secure subbase sensor to operate properly with your system.
5. Place two AAA batteries in the batteries holder base location.
6. Replace the cover by lining up the cover with the base and press until the cover snaps onto the base.

CHECK WIRELESS INDOOR SENSOR OPERATION

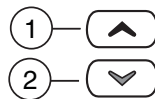
Refer to the thermostat user manual for complete details.

DISPLAY QUICK REFERENCE

Before you begin configuring your wireless indoor sensor, you should be familiar with its features and with the display and the location and operation of the sensor buttons. Your thermostat consists of two parts: the sensor cover and the base.

The Thermostat Buttons

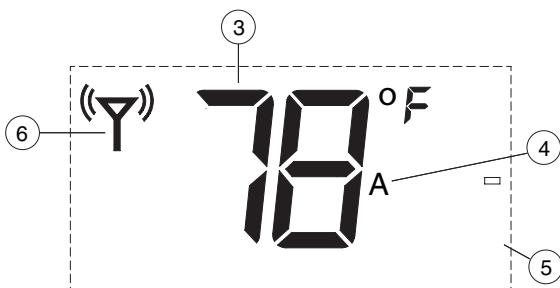
- ① Raises the setting.
- ② Lowers the setting.



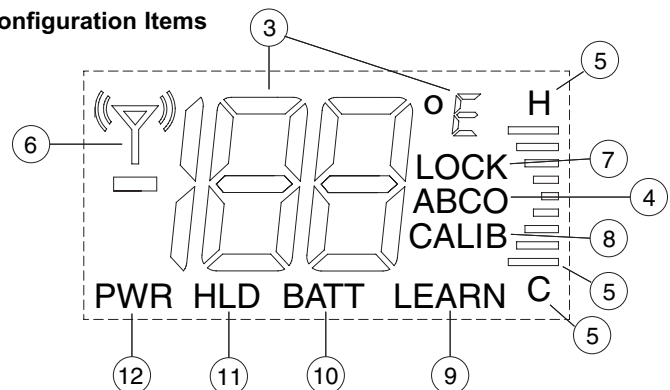
The Display

- ③ the sensed temperature from **-40** to **140°F** with °F and °C indicator
- ④ Channel identification **A B C O** indicator
- ⑤ 9 bar comfort adjust bar graph with H (hotter) and C (cooler)
- ⑥ Transmission occurrence indicator
- ⑦ Key pad lockout indicator
- ⑧ Calibrate temperature offset indicator
- ⑨ Learn mode activated Indicator
- ⑩ Low batteries indicator
- ⑪ Temperature offset is used when hold time is active
- ⑫ Shows **PWR** with **on** to indicate normal operation with display OFF

Normal Operation







Configuration Items



















CONFIGURATION MENUS

The configuration menus allow you to set certain thermostat operating characteristics to your system or personal requirements. Two configuration menus are available User Configuration Menu and Installer Configuration Menu.

User Configuration Menu

In the normal mode, press  and  keys at the same time momentarily to enter the User menu. To scroll through the menu momentarily press the  and  keys at the same time. To exit the menu scroll through all menu items. If no buttons are pushed for 3 minutes, the control will return to normal operation.





User configuration menu

Step	Press button(s)	Displayed (factory default)	Press  or  to select	Comments
1	 and 	LOCK (OF)	on	Select keypad lockout OFF or ON
2	 and 	HLD (4h)	1 to 8 hrs in 1 hour increments	Select temporary adjust temperature hold time
3	 and 	CALIB (Sensed Temperature)	1-4 bars (1°-4°) C to 1-4 bars (1°-4°) H	Select temperature display adjustment higher or lower
4	 and 	d ^F (on)	OF	Select display temperature OFF or ON
5	 and 	dL (on)	OF	Select display backlight OFF or ON
6	 and 	°F (Sensed Temperature)	°C	Select temperature display to F or C
7	 and 	—	—	Exit user menu and return to normal operation











The User Configuration Menu table summarizes the configuration options. An explanation of each option follows.

- 1) **Select keypad lockout OFF or ON** – Selecting **LOCK ON** will cause the keypads to lock in the normal operation mode. This will prevent the user from adjusting the sensed temperature in the normal operation. Selecting **LOCK OFF** will cause the keypads to unlock in the normal operation mode. Display will indicate **LOCK** in the display when the keypad is in lockout.
- 2) **Select temporary adjust temperature hold time** – Select the length of time for the temporary temperature adjustment. Hold time default is 4 hours and can be set from 1 to 8 hours in 1 hour increments.
- 3) **Select temperature display adjustment higher or lower** – allows you to adjust the room temperature display 1° to 4° higher or lower. Your sensor was accurately calibrated at the factory but you have the option to change the display temperature to match your previous sensor.
- 4) **Select display temperature OFF or ON** – Selecting OFF allows you to disable displaying the sensed temperature in the normal operation. Instead the sensor will display **PWR** with the word **(on)** to indicated normal operation.
- 5) **Select display backlight OFF or ON** -. The display backlight improves display contrast in low lighting conditions. Selecting dL ON will keep the light on for a short period of time after any key is pressed. Selecting OFF will keep the light off.
- 6) **Select temperature display to °F or °C** - Changes the display readout to Celsius or Fahrenheit as required.

Installer Configuration Menu

In the normal mode, press  and  keys for a minimum of five seconds at the same time to enter the Installer menu. To scroll through the menu momentarily press the  and  keys at the same time. To exit the menu scroll through all menu items. If no buttons are pushed for 3 minutes, the control will return to normal operation.

Installer Configuration Menu





Step	Press button(s)	Displayed (factory default)	Press  or  to select	Comments
1	 and 	LEARN (OF)	on	Select learn mode OFF or ON
2	 and 	CH (A)	B, C, O	Select sensor identification as A, B, C or O
3	 and 	C (0)	1 through 9	Select transmitter frequency offset
4	 and 	_____	_____	Exit installer menu and return to normal operation

The Installer Configuration Menu table summarizes the configuration options. An explanation of each option follows.

- 1) **Select learn mode OFF or ON** – Selecting **LEARN on** enables the sensors learning mode. In the learning mode the sensor will transmit the information once every 10 seconds for a period of 10 minutes. The LEARN icon will be displayed in normal operation during the learning mode. The transmitter icon will be displayed for a short period of time with each transmission. For more information about the learning mode, please refer to the thermostat's user manual.
- 2) **Select sensor identification from A to O** – For multiple sensors systems, each sensor must have a designated identification. For indoor sensors you may select A, B or C. For outdoor sensor you must select O.
- 3) **Select transmitter frequency offset** – The sensor's transmitter operates on 418MHz radio frequency by default. Interference may occur if another device or equipment operates on the same frequency. The interference may degrade the communications between the sensor and the thermostat. To avoid interference, you may select a different radio frequency for your sensor. This menu item allows you to select a radio frequency offset from 1 to 9MHz from the base frequency. For example; if the you selected an offset of 4, the transmitter radio frequency will be 418MHz + 4MHz = 422MHz. Note that the sensor's transmitter and the thermostat's receiver must operate on the same frequency to communicate. To change thermostat's receiver frequency please refer to the thermostat's user manual.

OPERATION

The sensor monitors the temperature and sends information to the thermostat. Updated information is sent to the thermostat when the temperature changes 3/16 degree or more from the last update.

The room temperature can be adjusted hotter or cooler without changing the thermostat setpoint by pressing  or  on the remote. The temperature can be adjusted 1° to 4°F for the length of time set for temporary hold in the User configuration menu. When the  or  keys are pressed to adjust the temperature the comfort adjust bar graph will show 1 to 4 bars up with H to indicate hotter or 1 to 4 bars down with C to indicate cooler.

SYSTEM DIAGNOSTICS

- 1) **Low Battery power:** The sensor will display the word **LO** along with **BATT** icon to indicate a low battery power condition. The batteries must be replaced to ensure a proper sensor performance. For optimum performance, we recommend replacing batteries once a year with fresh "AAA" Energizer® alkaline batteries.
- 2) **Bad wireless remote temperature Sensor:** If the sensor's temperature device fails the sensor will display E1. If the sensor's transmitter device fails the sensor will display E0. In both cases the sensor must be replaced.

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