Comfort™ Pro Non-Programmable Fan Coil Commercial Thermostat

Owner's Manual

Part Number 33CSCNACHP-FC

SAFETY CONSIDERATIONS

Read and follow manufacturer instructions carefully. Follow all local electrical codes during installation. All wiring must conform to local and national electrical codes. Improper wiring or installation may damage thermostat.

Recognize safety information. This is the safety alert symbol ⚠ . When the safety alert symbol is present on equipment or in the instruction manual, be alert to the potential for personal injury.

Understand the signal words DANGER, WARNING, and CAUTION. These words are used with the safety alert symbol. DANGER identifies the most serious hazards which will result in severe personal injury or death. WARNING signifies a hazard which could result in personal injury or death. CAUTION is used to identify unsafe practices which would result in minor personal injury or property damage.

GENERAL

Carrier's Comfort Pro non-programmable fan coil three-speed fan operation thermostats are wall-mounted, low-voltage thermostats which maintain room temperature by controlling the operation of a heating and/or air conditioning system. This fan coil model thermostat is capable of supporting fan coil heat/cool, or heat only and cool only systems. A variety of features are provided including battery operation, separate heating and cooling set points, auto changeover, keypad lockout, and backlighting.

OPERATION

Thermostat Button Identification — The following buttons are located on the thermostat display. See Fig. 1 for button locations.

- FAN (1) — Selects whether the fan operates at low speed (F1), medium speed (F2), high speed (F3), or auto (only when needed for heating and cooling when in unoccupied mode)
- MODE (2) — Selects whether thermostat is set for heating, cooling, emergency heat, auto (heat and cool as needed), or off
- UP (3) — Increases the temperature or adjusts the screen selection up when setting advanced features
- DOWN (4) — Decreases the temperature or adjusts the screen selection down when setting advanced features

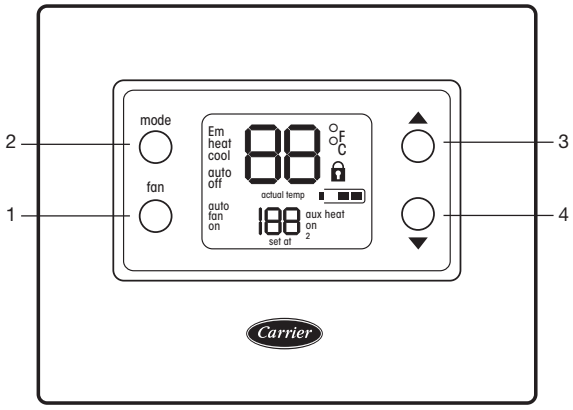

Fig. 1 — Thermostat Button Identification

Thermostat On-Screen Indicators — The following on-screen indicators can be displayed on the thermostat display. See Fig. 2 for location of indicators.

- Fan mode - on (F1, F2 and F3) or auto (1)
- Current temperature (2)
- Mode (3)
- Fahrenheit or Celsius units (4)
- Keypad is locked (no padlock means unlocked) (5)
- Battery strength indicator (6)
- Auxiliary heat (not used with this thermostat) (7)
- Current set point (8)
- Second stage is active (cooling or heating if available) (9)

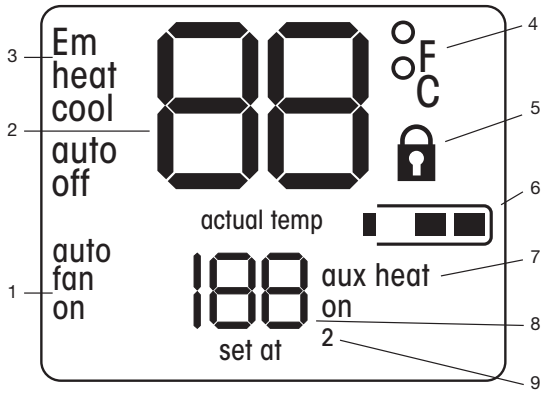

Fig. 2 — Thermostat On-Screen Indicators

Setting Heating and Cooling Temperatures — The thermostat is installed with the heating set at 68 F and the cooling set at 78 F. Perform the following procedure to change the temperature setting:

1. To change the heating temperature, press the **mode** button on the left until the screen displays "heat".
2. Press the **up** or **down** button located on the right side of the display until the desired temperature is reached.
3. To change the cooling temperature, press the **mode** button on the left until the screen displays "cool".
4. Press the **up** or **down** button located on the right side of the display until the desired temperature is reached.

Turning Heating and Cooling System Off — To use the thermostat to turn the heating and cooling system off, press the **mode** button until the display shows "off" in the upper left corner.

Advanced Programming — The user can customize two different features on the thermostat, the Fahrenheit or Celsius display and the backlighting of the thermostat.

FAHRENHEIT OR CELSIUS DISPLAY — The thermostat is preset to display the temperature in degrees Fahrenheit. The user can change the display to Celsius if desired. To change the display, perform the following procedure:

1. Press and hold the **mode** button for about three seconds. The screen will display a flashing "U1". Press the **mode** button and the letter F will flash.
2. Press the **up** or **down** button on the right to change it from F **(**Fahrenheit) or C (Celsius).
3. Press the **fan** button on the left to exit this screen.

BACKLIGHTING — The thermostat can be set to have the backlighting either off or on. To change the backlighting selection, perform the following procedure:

1. Press and hold the **mode** button for about three seconds. The screen will display "U1" and the letter F or C in the center.
2. Press the **up** button once. The display will show a flashing "U2".
3. Press the **mode** button again and the On or Off will flash.
4. Press the **up** or **down** button located on the right side of the display to change it from Off to On or On to Off.
5. Press the **fan** button on the left to exit this screen.

Using the Fan — For three-speed fan coils, there are three continuous fan speeds. Pressing the **fan** button cycles through the following selections, fan low speed (F1), fan medium speed (F2) and fan high speed (F3) or fan auto. The fan will operate continuously when in F1, F2 or F3. When the fan is in auto, the fan only runs when the equipment is running.

NOTE: If the thermostat is set up as a two-pipe auto fan coil system (2A) with electric heat, it has only two relays to drive the fan speeds so the available fan speeds are either low or high. The display will show "F1" for low fan speed and "F3" for high fan speed. For fan coil applications of either two-pipe cool only or two-pipe auto fan coil systems (2C and 2A), the fan speed is high when the electric heat is energized regardless of the user setting.

Auto Changeover — The thermostat displays one of five modes: heat, cool, Em heat, heat cool (auto mode) and off. When the mode selection is in auto mode, the system is allowed to switch from heating to cooling or from cooling to heating to maintain the temperature set points.

Unlocking the Keypad — The thermostat is locked when the padlock symbol is shown on the thermostat display. A locked thermostat will inhibit a user from making adjustments.

The method by which the thermostat is unlocked is configured by the installer. Three unlocking options are available:

1. The user must simultaneously depress the **up** and **down** buttons for 5 seconds.
2. If a set of dashes are displayed, then a four-digit pass code must be entered by the user.
3. The user must simultaneously depress the **up** and **down** buttons for 5 seconds, and then enter a four-digit pass code.

Using Emergency Heat — Emergency heat is used when the heat system cannot keep up with demand. If Emergency Heat has been configured by the installer, it is used if the primary heat source fails. There is no Emergency Heat option if the thermostat is configured as a four-pipe system. To set the thermostat to use emergency heat, press the **mode** button until display shows Em Heat in the upper left corner of the display.

Power Outage — If the building loses electricity, the thermostat will not need to be reprogrammed. The settings are retained in memory.

TROUBLESHOOTING

There are system error messages that may appear on the thermostat screen. See text below for possible system error messages and their meaning.

Space Temperature Sensor Failure — If the space sensor reads less than –50 F or greater than 150 F for 60 consecutive seconds, the sensor is considered failed.

If the space temperature sensor fails, the Y1 for all fan coil units and W for fan coil units with Emergency Heat mode set to On, will turn off. The space temperature display shows "- -" and the fan will continue to run.

If the space temperature is the average of both the local and remote sensors and one of the sensors fails, the thermostat controls the valid sensor only. The display alternates every 10 seconds between "- -" for the invalid sensor and the reading from the valid sensor.

Fan Error — If the thermostat is in the unoccupied mode, fan auto cannot be changed to continuous fan mode (or F1, F2, F3). An E7 error message will be displayed in the space temperature digits for three seconds, but the fan selection will not be changed.

Battery Icon — The battery icon appears on the display only when the batteries start to lose power. Replace the batteries when one bar is displayed inside the battery shell. If the thermostat is battery powered and the icon is just a silhouette with no black bars, the thermostat will slowly lose functions until it does not work at all.

Changing Batteries — The thermostat can be powered by the HVAC equipment or by battery power. If there is no lighting until the user touches a button, it is battery powered. When the thermostat uses electricity, the batteries (if installed) take over if the electricity goes out.

When powered by batteries, the thermostat's two AA batteries should last about one year. When the batteries have lost about one-third of their power, a battery icon shows up on the display in the upper right corner with two black bars. If two-thirds of battery power is lost, the battery icon will display one black bar. As the batteries get weaker, the icon goes down to one bar and then none. When the battery icon is less than full, backlight function will be lost. When the batteries are completely dead, the thermostat will be unusable.

It is recommended that the batteries be replaced at the one bar level with two AA alkaline batteries. Batteries are located in the back of the thermostat, so the thermostat will have to be removed from the wall.

To replace the batteries, perform the following procedure:

1. Locate the latch at the top of the thermostat. The latch is located at the center of the top rim.
2. Press the latch down. This will disconnect the thermostat from the top of the wall plate.

   NOTE: The HVAC equipment will shut down.
3. Remove the thermostat from the wall bracket completely by moving it slightly toward you and lifting it up and off the lip on the lower edge of the wall bracket.
4. Set the thermostat face down on a flat surface. The batteries are located in the lower right corner.
5. Remove and recycle the old batteries.
6. Install new batteries.
7. Replace the thermostat on the wall bracket by lining up the two slots on the bottom edge of the back of the thermostat with the two lips on the wall bracket.
8. The HVAC equipment will start back up based on the previous configuration settings.