

## Owner's Manual

Part Number 33CSSP2-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  $\triangle$ . 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

The fan coil programmable thermostats are wall-mounted or unit-mounted, low-voltage thermostats which maintain room temperature by controlling the operation of a fan coil unit. Separate heating and cooling set points, auto-changeover capability, 2 or 4-pipe configurability, and single or dual set point options allow for greater flexibility.

All thermostats allow up to 4 time/temperature settings to be programmed per 24-hour period. Each thermostat stores programs for 7 independent days. Batteries are not required. During power interruption the internal NEVERLOST™ memory stores configuration settings for an unlimited time while the clock continues to run for at least 48 hours.

The thermostat can be configured to accept several different equipment configurations, including 2 or 4 pipe operation.

The temperature display range of the thermostat is 35 to 99 F (2 to 36 C).

NOTE: The thermostat is factory-configured for use in 4-pipe applications. The advanced setup must be performed to configure the thermostat for use with 2-pipe applications.

### OPERATION

**Thermostat Display** — The thermostat display is located in the center of the thermostat. See Fig. 1. The following information can be displayed on the screen:

- time
- day of week
- mode (OFF, HEAT, COOL, Program On, or AUTO)
- fan setting (auto, low, medium, or high)
- room temperature
- desired temperature
- setup indicator
- lock indicator
- programming indicators
- schedule indicators
- outside sensor indicator

**Heat or Cool Indicator** — A Heat or Cool indicator is located on the bottom middle cover of the thermostat. See Fig. 2. The light will be red if the thermostat is in Heating mode. The light will be green if the thermostat is in Cooling mode.

**Thermostat Front Panel Buttons** — The thermostat has buttons on the front cover which are used to raise or lower the desired set point and change the current mode. See Fig. 2.

**SET POINT BUTTONS** — The UP ARROW and DOWN ARROW buttons will raise or lower the current desired temperature set point.

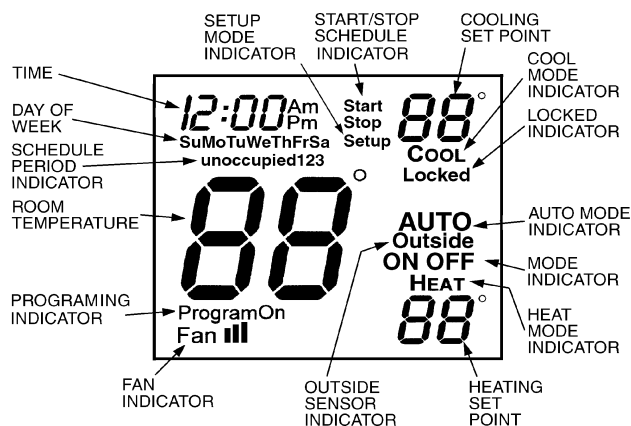


Fig. 1 — Thermostat Display

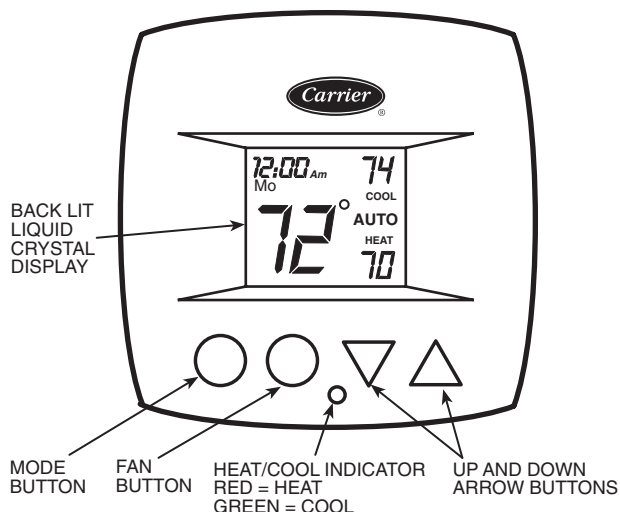


Fig. 2 — Thermostat Front Panel Buttons

**FAN BUTTON** — The fan button determines fan operation. The fan can be set to Auto, Off, Low, Medium, or High.

**MODE BUTTON** — The Mode button selects the operating mode of the thermostat. The mode can be set to Heat, Cool, Auto, or Off.

**NOTE:** Certain modes may be locked out by the type of application or the reading of the changeover sensor.

**Set Clock** — The Set Clock function allows the user to change the time and day displayed on the thermostat. Press and hold the Mode and Fan buttons at the same time for 2 seconds until the display changes. The display will show the Setup annunciator. The current time will blink on and off. Press the UP ARROW and DOWN ARROW buttons until the correct time is shown. Hold down the buttons to quickly move through the time display. The AM and PM annunciators will automatically change. To scroll through by hours instead of minutes, hold down the Fan button while pressing UP ARROW or DOWN ARROW. To ensure the schedules are properly followed, make sure that AM or PM is correct for the time chosen. When the correct time is shown, press the Mode button to modify the day of the week. The current day will blink on and off. Press the UP ARROW and DOWN ARROW buttons until the correct day is shown. Press the and hold the Mode and Fan buttons at the same time again to exit the Set Clock mode.

**Program Thermostat Schedules** — Before programming the thermostat, plan the thermostat daily schedule. The schedule is divided into 7 days (Monday through Sunday). Each day has from 2 to 4 time periods (Occupied 1, Occupied 2, Occupied 3, Unoccupied) depending on the configuration of the thermostat. Each occupied time period has a start time, stop time, heating set point, and cooling set point. The unoccupied time period has a heating set point and a cooling set point. The unoccupied time period is active whenever an occupied time period is not active. Fill in Table 1 as an aid to programming the daily schedules.

**PROGRAMMING MODE** — To program the daily schedules, perform the following procedure:

1. Enter Programming mode by pressing and holding the Mode and UP ARROW buttons. The Occupied 1 annunciator will appear on the thermostat display. Use the UP ARROW and DOWN ARROW buttons to set the maximum number of Occupied periods for each day. The thermostat can be set to 1, 2, or 3. After the number of Occupied periods has been selected, press the Mode button. See Fig. 3.
2. The cooling set point for Occupied 1 will be displayed. Use the UP ARROW and DOWN ARROW buttons to raise or lower the cooling set point until the desired temperature is shown. The range of acceptable values is 35 to 99 F (2 to 36 C). Press the Mode button to continue. See Fig. 3.
3. The heating set point for Occupied 1 will be displayed. Use the UP ARROW and DOWN ARROW buttons to raise or lower the heating set point until the desired temperature is shown. The range of acceptable values is 35 to 99 F (2 to 36 C). Press the Mode button to continue. See Fig. 3.
4. The cooling set point for Unoccupied will be displayed. Use the UP ARROW and DOWN ARROW buttons to raise or lower the cooling set point until the desired temperature is shown. The range of acceptable values is 35 to 99 F (2 to 36 C) or "OF" (no unoccupied cooling). To configure the Unoccupied Cooling set point to OF, press the DOWN ARROW button until 35 F (2 C) is displayed.

Press the DOWN ARROW button again to display OF. Press the Mode button to continue.

5. The heating set point for Unoccupied will be displayed. Use the UP ARROW and DOWN ARROW buttons to raise or lower the heating set point until the desired temperature is shown. The range of acceptable values is 35 to 99 F (2 to 36 C). Press the Mode button to continue.
6. The day of the week will be shown. Use the UP ARROW and DOWN ARROW buttons to change the day of the week until the desired starting day is shown. Possible choices are Mo (Monday) through Su (Sunday). Press the Mode button when the desired day is shown.
7. The Start Time for Occupied 1 will be displayed. Use the UP ARROW and DOWN ARROW buttons to raise or lower the time until the desired Start Time is shown. Press the Mode button to continue. See Fig. 4.
8. The Stop Time for Occupied 1 will be displayed. Use the UP ARROW and DOWN ARROW buttons to raise or lower the time until the desired Stop Time is shown. Press the Mode button to continue.
9. The On/Off icon will be displayed. Use the UP ARROW to turn the Occupied 1 period ON for this day. Use the DOWN ARROW to turn the Occupied 1 period OFF for this day.
10. Repeat Steps 2 through 9 to program the remaining schedule for Occupied periods 2 and 3.
11. The Copy command can be used to copy the previous day's schedule if the schedules are the same. The copy command becomes available after all the occupied periods are programmed in a day. Use the UP ARROW to change the copy command to YES. Use the DOWN ARROW to change the copy command to NO. Press the Mode button when the choice has been made. See Fig. 5.

If NO was selected, the schedule will automatically change to the next day and the user must enter the occupied and unoccupied schedules for that day.

**NOTE:** Occupied 1 schedule heating and cooling set points are the same for each day. Occupied 2 and 3 set points may be set to different values for each day of the week.

If YES was selected, the schedule will be copied to the next day. The schedule copy may be repeated until Sunday is reached. The Sunday schedule cannot be copied to Monday.

12. After all the times and set points for each day have been entered, press and hold the Mode and UP ARROW buttons to exit Programming mode.

**NOTE:** The thermostat will continue to follow the schedule until a new one is entered.

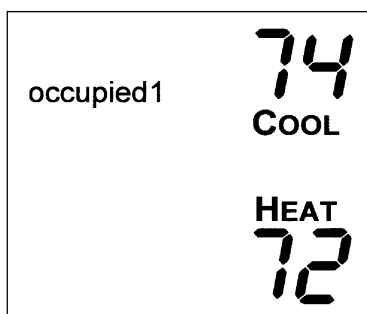
If only one occupied schedule is selected, the Occupied 2 and 3 schedules are skipped. If the start time is set later in the day than the stop time, the program will run from midnight of that day to the stop time and then from the start time to midnight. If the same start and stop times are programmed for an occupancy schedule, the thermostat will be in Occupied mode for 24 hours. If one occupied period starts or stops within another occupied period, the lower numbered schedule has priority. For example, if schedule Occupied 3 is running for 24 hours and Occupied 2 schedule comes on from 1 to 3 PM, the set points from Occupied 2 are in effect from 1 to 3 PM.

**OVERRIDING THE SCHEDULE** — The schedule can be overridden by pressing the UP or DOWN ARROW buttons to change the desired temperature. The thermostat will use the new set point until the next scheduled time period starts.

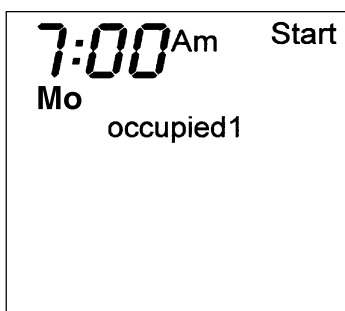
**Table 1 — Daily Schedule Planner**

DAY OF THE WEEK	SCHEDULE			
	Occupied 1	Occupied 2	Occupied 3	Unoccupied
	Start / Stop / Heat / Cool	Start / Stop / Heat / Cool	Start / Stop / Heat / Cool	Heat / Cool
Monday	/ / /	/ / /	/ / /	/
Tuesday	/ / /	/ / /	/ / /	/
Wednesday	/ / /	/ / /	/ / /	/
Thursday	/ / /	/ / /	/ / /	/
Friday	/ / /	/ / /	/ / /	/
Saturday	/ / /	/ / /	/ / /	/
Sunday	/ / /	/ / /	/ / /	/

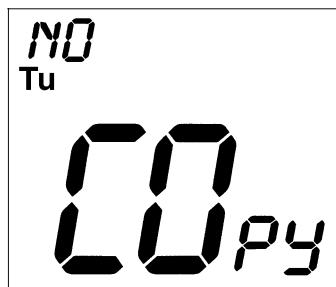
NOTE: The cooling temperature set point must be higher than the heating temperature set point. (The temperature difference may be changed in the advanced set up configuration by the installer.)



**Fig. 3 — Setting Occupied 1 Set Points**



**Fig. 4 — Start Time Display**



**Fig. 5 — Copy Command Display**

**Select Desired Temperature** — The UP and DOWN ARROW buttons are used to adjust the heating and cooling set points. Pressing the UP and DOWN ARROW buttons in Auto mode will adjust both the heating and cooling set points. Pressing the UP and DOWN ARROW buttons in either Heat or Cool mode will adjust only the heating or cooling set point.

NOTE: If the Single Set Point mode is configured by the installer, there will be only one set point for both heating and cooling.

**Four-Pipe Operation** — The Mode button selects the operating mode of the thermostat. If OFF is selected, the thermostat will not enter Heating or Cooling mode. If HEAT is selected, the thermostat will only enter Heating mode (if the room temperature is below the heating set point). If COOL is selected, the thermostat will only enter Cooling mode (if the room temperature is above the cooling set point). If AUTO is selected, the thermostat will enter Heating or Cooling mode based on the room temperature and the heating and cooling set points. If Program On is selected, the thermostat will follow the occupied schedule.

**Two-Pipe Operation**

NOTE: The thermostat default is 4-pipe operation. The thermostat must be configured for 2-pipe operation.

**HEAT ONLY** — When the thermostat is configured for Heat Only operation, only Heat, Program On, and Off modes can be selected.

**COOL ONLY** — When the thermostat is configured for Cool Only operation, only Cool, Program On, and Off modes can be selected.

**HEAT/COOL WITH CHANGEOVER SENSOR** — When the thermostat is configured for operation with a changeover sensor, all the modes are available for operation. If the water temperature is changed during the year, the thermostat will automatically lock out the incorrect mode. Heat or Cool modes may not be available, depending on water temperature.

**TOTAL OR AUXILIARY ELECTRIC HEAT** — The Mode button selects the operating mode of the thermostat. If OFF is selected, the thermostat will not enter Heating or Cooling mode.

If HEAT is selected, the thermostat will only enter Heating mode (if room temperature is below the heating set point). For total electric heat, a call for heat will activate the electric heater. For auxiliary electric heat, a call for heat will either activate the electric heater (if chilled water is in the coil), or open the coil valve (if hot water is in the coil).

If COOL is selected, the thermostat will only enter Cooling mode (if room temperature is above the cooling set point and chilled water is in the coil).

If AUTO is selected, Heating or Cooling mode based on the room temperature and the heating and cooling set points.

NOTE: Certain modes may be locked out by the type of application or the reading of the changeover sensor.

**Auto-Changeover** — When the thermostat mode is set to AUTO, the thermostat will provide automatic changeover from

Heating to Cooling mode and Cooling to Heating mode when required. The thermostat will automatically switch to maintain the desired temperature setting. The thermostat does not need to be manually changed from heating to cooling or cooling to heating operation.

**NOTE:** It is recommended that auto-changeover mode not be used if the outdoor temperature is consistently lower than 50 F (10 C) or greater than 80 F (27 C). In these cases, select Heating or Cooling mode only.

**Fan Operation** — The Fan button is used to select fan operation. When only the Fan icon is shown, the fan is in “Auto” mode and will run continuously (unless thermostat mode is set to Off or thermostat is in unoccupied mode and heating or cooling are not active). The thermostat will increase or decrease the fan speed based on temperature demand.

Fan operation can also be set to always run at Low, Medium, or High speeds. To set fan operation at Low speed, press the Fan button until one bar is shown next to the Fan icon. The fan will run continuously at Low speed (unless thermostat mode is set to Off or thermostat is in unoccupied mode and heating or cooling are not active).

To set fan operation at Medium speed, press the Fan button until two bars are shown next to the Fan icon. The fan will run continuously at Medium speed (unless thermostat mode is set to Off or thermostat is in unoccupied mode and heating or cooling are not active).

To set fan operation at High speed, press the Fan button until three bars are shown next to the Fan icon. The fan will run continuously at High speed (unless thermostat mode is set to Off or thermostat is in unoccupied mode and heating or cooling are not active).

**Keypad Lock** — To prevent unauthorized use of the thermostat, the front panel buttons can be disabled. To disable or lock the keypad, press and hold the Mode button. While holding down the Mode button, press the UP and DOWN ARROW buttons simultaneously. The “Locked” icon will appear on the display.

The thermostat is unlocked by performing the same procedure. Press and hold the Mode button. While holding down the Mode button, press the UP and DOWN ARROW buttons simultaneously. The “Locked” icon will be removed from the display.

**Clock Backup** — In the event of a power loss, the thermostat internal clock will continue to keep proper time for a minimum of 48 hours without external power or batteries.

**Minimum Heat/Cool Temperature Difference** — The heating and cooling set points will not be allowed to be set any closer to each other than the value set by the installer. The minimum temperature difference is enforced during Auto mode and Program On operation.

**Single Set Point Operation** — When the thermostat is configured for single set point operation, the display on the thermostat will change. Instead of displaying current room temperature, the large number shown will be the user set point. This set point is used for both heating and cooling. Press and hold the Mode button for 2 seconds to display the room temperature. Press any button to return to the normal display.

**Dual Set Point Operation** — When the thermostat is configured for dual set point operation, there are separate heat and cool set points. The adjustable set point range is 35 to 99 F (2 to 36 C). When the thermostat is in Heat or Cool mode, the set points can be adjusted to any temperature within the operating range.

When the thermostat is in Auto mode, the thermostat will not allow the Cool set point to be lower than the Heat set point. The thermostat will also use the programmed Deadband value (configured by installer) to determine the minimum difference between the Heat and Cool set points. If the Deadband is set for 6 degrees, the Cool set point cannot be set within 6 F of the Heat set point.

When entering Auto mode from Heat or Cool modes, the Heat and Cool set points will remain spread apart by the same amount when the set points are adjusted. For example, if the Cool set point is 80 F (adjusted in Cool mode) and the Heat set point is 70 F (adjusted in Heat mode), then when entering Auto mode, both set points would be adjusted by the same amount when the UP and DOWN ARROW buttons are pressed. Therefore, if the DOWN ARROW was pressed 5 times, the Cool set point would be 75 F and the Heat set point would be 65 F. To adjust the set points individually, enter the Heat or Cool modes first.

**Outside Sensor** — Press and hold the Fan button for 2 seconds to display outside temperature (if optional outdoor sensor is wired to thermostat). Press any button to return to normal operation.

**Locking Cover** — A locking cover with tamper-proof screws is provided with the thermostat. The locking cover can be used to keep the thermostat set points and configurations from being changed. A special tool is required to remove the cover.

**Dry Contact Switch/External Control** — A dry contact switch is provided to allow an external device to force the thermostat into Occupied 1. When the thermostat is forced into Occupied 1 via the dry contact closure, the Occupied 1 icon will blink each second.

In some cases, the dry contact switch may be configured to disable the fan, heating, and cooling from a condensate overflow switch. In those applications, the fan coil unit will be deactivated when the switch is energized.

# Carrier

## ALL PRODUCT LIMITED WARRANTY



**ONE-YEAR WARRANTY** — This CARRIER CORPORATION (herein after referred to as "COMPANY") 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 COMPANY'S sole option, to replace any defective part will be provided without charge for the part itself; PROVIDED the defective part is returned to our 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 COMPANY WILL NOT BE RESPONSIBLE FOR:**

1. Normal maintenance as outlined in the installation and servicing instructions or owners 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 COMPANY.
5. Parts not supplied or designated by the COMPANY, or damages resulting from their use.
6. COMPANY products installed outside the continental U.S.A., Alaska, Hawaii, and Canada.
7. Electricity or fuel costs or increases in electricity or fuel costs from 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 limitation may not apply to you.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state. Effective on products manufactured after January 1, 1993. Supersedes any other warranty certificates supplied with the product.

CATALOG NO. 809-628

# Carrier Corporation



## **IF YOUR UNIT DOES NOT WORK, FOLLOW THESE STEPS IN ORDER:**

**FIRST:** Contact the installer. You may find his name on the product or in your Homeowner's Packet. If his name is not known, call your builder if yours is a new residence.

**SECOND:** Contact the nearest Carrier distributor. (See telephone yellow pages.)

**THIRD:** Contact:

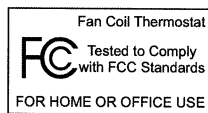
**CARRIER CORPORATION**  
Consumer Relations Department  
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Telephone: 1-800-CARRIER (227-7437)

Unit Model No. \_\_\_\_\_ Unit Serial No. \_\_\_\_\_

Date of Installation \_\_\_\_\_ Installed by \_\_\_\_\_

Name of Owner \_\_\_\_\_ Address of Installation \_\_\_\_\_





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