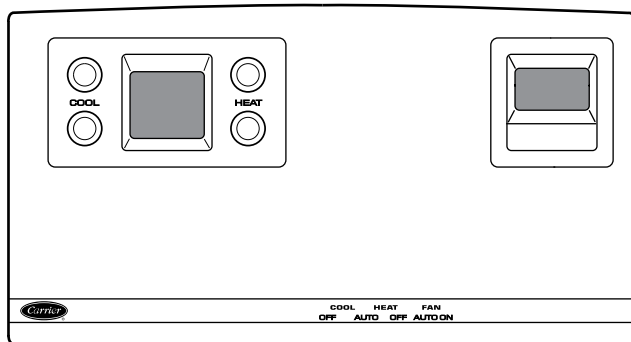
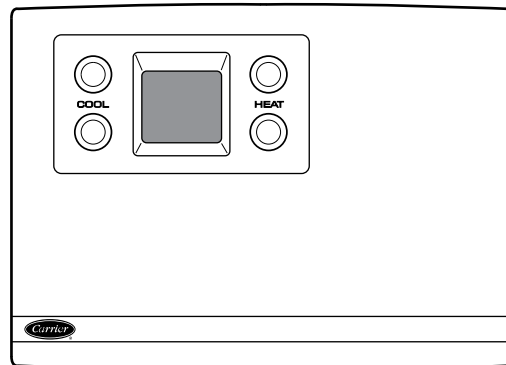




A Guide To Operating Your VVT System



Monitor Thermostat With Timeclock



Zone Controller

NOTE TO INSTALLER

This manual should be left with the equipment owner.

GENERAL

This manual will assist you in using your Carrier Comfort System thermostat. There are 2 basic types of thermostats that you may encounter. They are called the monitor thermostat and the zone controller.

The monitor thermostat can be identified by the system switches (FAN, HEAT, COOL) which are located along the bottom edge of the front cover. The monitor thermostat can be equipped with or without a timeclock. The timeclock display is located in the upper right corner of the monitor thermostat. The monitor thermostat display is located in the upper left corner. The set point and programming buttons are located around the display.

The zone controller does not have system switches or a timeclock. The zone controller display is located in the upper left corner of the zone controller. The set point and programming buttons are located around the display.

There are three typical operations you may perform on your VVT (variable volume and temperature) system thermostat:

- change set points for heating and cooling
- override the unoccupied schedule
- change occupancy schedules

NOTE: Your ability to perform these functions may be limited by the security access level function which is configured by the installer. If “access denied” is shown on the display screen, you are not allowed to access that function.

The monitor thermostat and zone controller are part of a VVT system. The VVT system allows a single-zone heating/cooling unit to operate as a multiple-zone system. The conditioned space is divided into zones. Each comfort zone is monitored by a zone controller. The monitor thermostat monitors the operation of its own zone and of each associated zone controller and determines system operation from information received from each device that it controls.

OPERATION

Electronic Timeclock (Monitor Thermostat Only)

— To set the clock, remove the cover of the thermostat. Two buttons, located under the timeclock, are provided to set the clock. They are labeled select and adjust. Press the select button. The minutes setting on the clock will flash. Press the adjust button until the correct minutes are shown. Press the select button. The hour setting will flash. Press the adjust button until the correct hour is shown (including AM and PM). Press the select button again and the day of the week will flash. Press the adjust button until the correct day is shown. Press the select button to return to normal timeclock operation.

System Switches (Monitor Thermostat Only)

The monitor thermostat operation mode is controlled by 3 system switches: FAN, HEAT, COOL. See Fig. 1.

The FAN switch can be set to ON or AUTO. When the FAN switch set to ON, the fan will run continuously. When the FAN switch is set to AUTO, the fan will only run during heating and cooling.

The COOL switch can be set to OFF or AUTO. When the COOL switch set to OFF, the VVT® system will not enter cooling mode. When the COOL switch is set to AUTO, the VVT system will enter cooling mode when the zone temperature rises above the cooling set point.

The HEAT switch can be set to OFF or AUTO. When the HEAT switch set to OFF, the VVT system will not enter heating mode. When the HEAT switch is set to AUTO, the VVT system will enter heating mode when the zone temperature drops below the heating set point.

System Displays — The monitor thermostat and zone controller have a display window which is used to show system information and for programming mode. See Fig. 1.

SET POINT DISPLAY — The heating and cooling set points are shown in the display window during the normal display mode. The heating and cooling set points are used to determine the range of temperatures that are maintained in the zone.

The cooling set point buttons are located on the left side of the display screen. The heating set point buttons are located on the right side of the display screen.

MODE DISPLAY — When the system fan is energized, the word FAN appears on the display screen.

When the cooling mode is energized, the word COOL appears on the display screen. The system fan will also be energized.

When the heating mode is energized, the word HEAT appears on the display screen. The system fan will also be energized, unless it is configured not to run during heating mode.

If the system enters IAQ (indoor air quality) mode, the word IAQ appears on the display screen.

If the zone controller energizes its supplemental heat source, the word SUP appears on the display screen.

ALTERNATE DISPLAY — By pressing both cooling or heating set point buttons simultaneously, the alternate information display is activated. The monitor thermostat or zone controller will display the current zone temperature and then the time of day. If the Alternate Display function has been configured to ON, the monitor thermostat or zone controller will show more detailed zone information. The display will then return to normal.

Adjustment of Set Points — The cooling and heating set points are configured through the set point buttons.

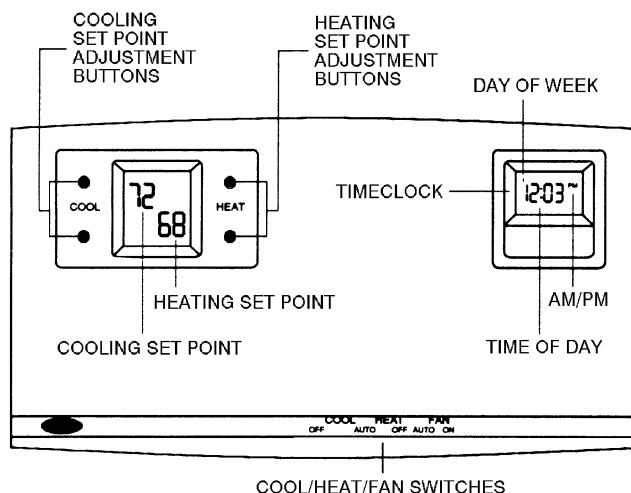


Fig. 1 — VVT System Functions and Displays (Monitor Thermostat Shown)

The heating set point buttons are located on the right side of the display screen. Press the upper button to raise the heating set point temperature. Press the lower button to lower the heating set point temperature. The heating set point is limited to a range of 66 to 80 F by the VVT system.

The cooling set point buttons are located on the left side of the display screen. Press the upper button to raise the cooling set point temperature. Press the lower button to lower the cooling set point temperature. The cooling set point is limited to a range of 66 to 80 F by the VVT system.

NOTE: The heating and cooling set point ranges can be configured to smaller ranges.

The heating and cooling set points may be set for the same temperature, but the thermostat will not allow the cooling set point to be adjusted lower than the heating set point, or the heating set point to be adjusted higher than the cooling set point.

Operating Modes — The monitor thermostat and zone controller have 3 operating modes: occupied mode, unoccupied mode, and unoccupied override. Occupied mode is the mode used when the area is normally occupied. Unoccupied mode is used to conserve energy and is used when the area is normally unoccupied. Unoccupied override is used to temporarily override unoccupied mode when an area is in use during the unoccupied schedule time. The user can manually activate unoccupied override. Set points can be adjusted during both occupied and unoccupied override modes.

The occupied schedule controls when the zone is in occupied or unoccupied mode. The schedule can be sent from a device over the network, or it can be programmed at the monitor thermostat or zone controller.

UNOCCUPIED OVERRIDE — Unoccupied override is used to temporarily change the system set points to the occupied mode set points during unoccupied mode operation. An example of unoccupied override would be a worker staying past 6:00 PM to finish a job when the scheduled unoccupied time is 6:00 PM.

To override unoccupied mode, press a set point button. The unoccupied display will be replaced with the occupied mode display. The monitor thermostat or zone controller will automatically return to unoccupied mode when the override timer expires.

Occupancy Schedule — The occupancy schedule establishes the time periods when the monitor thermostat and zone controller operate in the occupied or unoccupied mode.

The unoccupied/occupied schedule has individual 7-day programming with 8 time periods. Unoccupied/occupied ON/OFF times are entered on the minute. The start of an ON time is the beginning of the occupied mode. The start of an OFF time is the beginning of the unoccupied mode.

NOTE: If an ON time and an OFF time are set for the same time, the monitor thermostat or zone controller operates in unoccupied mode for that entire period.

NOTE: Access to the occupancy schedule by certain users may be limited through the security level access function.

CONFIGURATION OF SCHEDULES — The unoccupied/occupied program can be directly configured at the monitor thermostat or zone controller. To configure the schedule, perform the following:

1. Press both upper or lower set point buttons at the same time to enter into the program mode. The word “category” and the number 1 will be displayed. See Fig. 2 for programming mode button functions.
2. Press the left upper set point button. The word “category” and the number 2 will be displayed. Category 2 contains the occupied/unoccupied schedules for the monitor thermostat and zone controller.
3. The lower right set point button is the select button. Press the select button. The word “category” will change to “option” and the number 1 will be displayed. Category 2, options 1 through 8 are the 8 different occupancy time periods. Option 1 is occupied period 1. Option 2 is occupied period 2. The options continue to option 8 which is occupancy period 8.

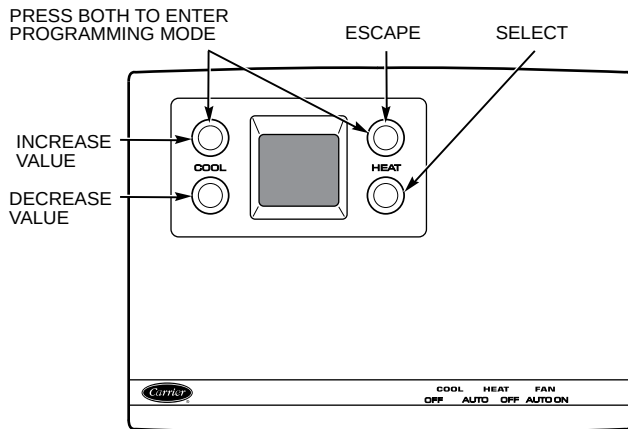


Fig. 2 — Programming Mode Buttons

4. The start time for option 1 will be shown. Each occupied period (options 2.1 through 2.8) will have three different screens associated with it — start time, stop time, and active days. Use the left set point buttons to scroll through the start time, stop time and active days for each option. Press the select button (right lower set point button) to modify the screen.
5. Configure the start time for category 2, option 1. When the select button is pressed from the start time screen, the hours number will flash. The hours are modified through the left set point buttons. The AM/PM modifier will automatically switch when scrolling through the times. To change the minutes, press the select button again. The minutes numbers will flash. Use the left set point buttons to modify the minutes. Press select again to save the current time and return to the options screen, or press escape (upper right set point button) to exit without saving changes.
6. Configure the stop time. Press the upper left set point button to advance to the stop time screen of category 2, option 1. Press the select button. The hours number will flash. The hours are modified through the left set point buttons. The AM/PM modifier will automatically switch when scrolling through the times. To change the minutes, press the select button again. The minutes numbers will flash. Use the left set point buttons to modify the minutes. Press select again to save the current time and return to the options screen, or press escape to exit without saving changes.
7. Configure the active days. Press the upper left set point button to advance to the active days screen of category 2, option 1. Press the select button. The active days will be shown and the first day, M (Monday) will be blinking. Use the left set point buttons to turn the day ON or OFF. Use the select button to scroll through the possible active days. The programmable days are: M (Monday), T (Tuesday), W (Wednesday), TH (Thursday), F (Friday), SA (Saturday), SU (Sunday), and H (Holiday). Press select again to save the current active days and return to the options screen, or press escape to exit without saving changes.
8. Repeat this procedure for each time period until the correct schedule has been programmed.
9. When the schedule is complete, press escape to exit the programming mode. If no buttons are pressed for 3 minutes while in programming mode, the display will automatically revert back to its standard operating mode.

