

ComfortSense® 7500 Commercial Thermostat

User Guide

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Supersedes 5/2017

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Features

The ComfortSense® 7500 Series thermostat is an electronic 7-day, universal, multi-stage, programmable, touchscreen thermostat.

- supports commercial package rooftop units
- smooth set recovery starts system operation
- early to achieve setpoint at start of program period
- economizer control
- dehumidification measurement and control
- equipment maintenance reminders
- worry-free memory storage feature
- menu-driven touch-screen display
- dehumidification measurement and control
- Humiditrol® EDA capability

Home Screen Temperature Indicator

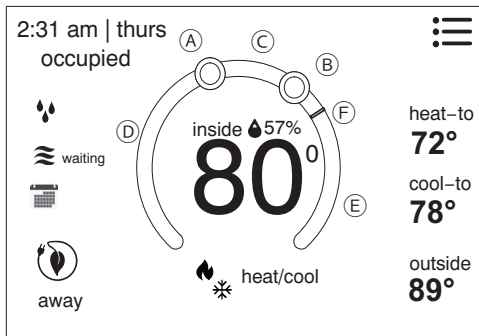


Figure 1. Temperature Dial Feature

- This is the heat set point position indicator on the dial. This object will be red in color.
- This is the cool set point position indicator on the Dial. This object will be blue in color.
- This is the location area where no system demand is active. In figure 1, the example would be any temperature between 73°F and 77°F.
- When there is an active call for heating, this area of the dial will fade back and forth from white to red.
- When there is an active call for cooling, this area of the dial will fade back and forth from white to blue.

- F. The yellow line indicates the actual room temperature on the temperature dial indicator.

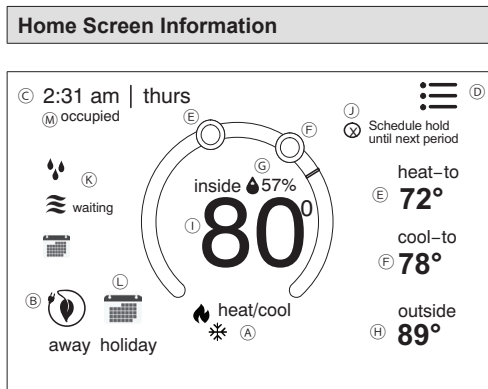




Figure 2. Home Screen

Touch the screen to turn on the back-light if it is off.

- A. **OPERATING MODE** - touch to access the screen that will list available modes. Selectable modes are heat/cool, heat only, cool only, off, emergency heat, schedule 1, schedule 2, and holiday. In addition fan operation can be set to on, auto or circulate.
- B. **AWAY** - Selecting AWAY will allow the user to set the heating and/or cooling mode temperatures when away from home. Touch **cancel** to exit this screen and return to the home screen and normal system operations.

- C. Displays current time.
- D. **Menu** - This will allow access to notifications, performance report, schedules and settings.
- E. This allows you to set the heat-to (if enabled) temperature. Selecting the heat-to or temperature dial position indicator will take you to the temperature setting detail screen. The temperature dial will change from white to red when heating is active.
- F. This allows you to set the cool-to (if enabled) temperature. Selecting the cool-to or temperature dial position indicator will take you to the temperature setting detail screen. The dial will change from white to blue when cooling is active.
- G. Indicates the current indoor humidity percentage in the home along with a humidity icon (rain drop). The icon changes based on the humidity level in the home.
- H. This location could display the outdoor air temperature. What is displayed in that location depends on what sensor is installed and configured through the thermostat user interface. If neither is installed, then this area will be blank.
- I. Displays the current indoor temperature.
- J. Indicates the schedule is on hold until the next time period or permanent.
 - Place the schedule on hold by touching on either the heat-to or cool-to location on the screen. If an adjustment is required for the temperature setting, this can be done now.
 - After approximately three seconds the screen will display the override setting options.

- From the override setting screen, the options are 1 hour, 2 hour or next scheduled period. Make selection and then touch set.
- For the 1 or 2 hour setting the home screen will indicate schedule hold until time indicated (i.e., 11:57 pm). To exit schedule hold, touch 
- When until next period is selected, the set point will be kept until the next program schedule period. To exit until next period, touch 

K. **System Status Icons** - Equipment operation information appears along the left side of the home screen. The displayed icons will indicate cooling or heating demand, cooling compressor delay, or cooling demand.

Table 1. System Status Icons




Icon	Description
	Humidifying icon is displayed when humidifying is occurring. Touching on the icon will display humidifying next to the icon.
	Dehumidifying icon is displayed when dehumidifying is occurring. Touching the icon will display dehumidifying next to the icon.
	Red flames indicates the system is heating.

Table 1. System Status Icons







Icon	Description
	NOTE: Touching the icon will display a text description. Blue flames indicates the system is cooling.
	Snow flake indicates the next mode of operation will be cooling. Waiting indicates there is a compressor delay which is by default five minutes.
	Red flame indicates the next mode of operation will be heating. Waiting indicates there is a compressor delay (heat pump heating) which has a default of five minutes and is not adjustable.
	Indicates the system is running in emergency heat mode. All heat pumps operating in northern climates below 35°F (1.6°C) normally need a supplemental heating source. Usually it is in the form of electric heating provided by the indoor unit. Other sources could be gas, oil, or hot-water back-up systems as well. The supplemental heat is also referred to as "second-stage" or "back-up" heating, with "first-stage" being the heat pump only. Emergency heat is when you use your supplemental heat (2nd stage) by itself, without the use of your heat pump (1st stage heat). Not available for non-heat pump systems.

Table 1. System Status Icons

Icon	Description <i>NOTE: Touching the icon will display a text description.</i>
	<p>Indicates the system is running in auxiliary heat mode.</p> <p>Is only available with heat pump system. If outdoor temperature is above the high balance point, only the heat pump will operate - default 50°F (10°C) high. If outdoor temperature is below the low balance point, only auxiliary heating will operate - default 25°F (-4.0°C) low. If outdoor temperature is in-between the high and low balance point, both the heat pump and auxiliary heat sources can operate.</p>
	<p>Transitioning to next schedule temperature setting. This icon will only appear if smooth setback recovery is enabled under the installer setup. When enabled, it will begin recovery up to two hours before the programmed time so that the programmed temperature is reached at the corresponding programmed event time. Assume 12°F per hour for gas/electric heating and 6°F per hour for first stage compressor based cooling. When smooth set back recovery is disabled, the control will start recovery at the programmed time set in the schedule.</p>

- L. **Holiday Mode** - Selecting this option allows for overriding schedules for holidays and special days. When in this mode the thermostat will not follow regular schedules. This override can be

setup for up to four days. Go to menu > user settings > edit schedules and select Holiday. To exit Holiday mode, touch the cancel button on the home screen.

- M. Indicates whether in occupied or unoccupied mode when running a regular schedule. This will be displayed when running schedule 1 or 2 and holiday. Under edit schedules, either occupied or unoccupied can be set under the day time event (occ1, unocc1, occ2 and unocc2).

Operating Mode Selection

Touch anywhere in the area indicated below to select how the system will operate.

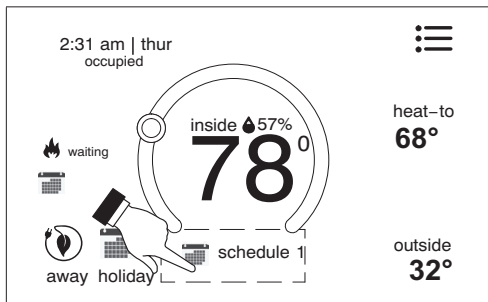


Figure 3. Operating Mode Selection

SELECT MODES

1. **HEAT/COOL** allows the thermostat to switch between heating and cooling automatically.


2. **HEAT ONLY** allows only heating demand.
3. **COOL ONLY** allows only cooling demand.
4. **OFF** indicates system has been turned off.
5. **EMERGENCY HEAT** allows heat pump system to use a secondary heat source to come on and reach the desired user temperature setting faster.
6. **SCHEDULES** (1, 2 or holiday) See Edit Schedules on page 13 for customizing schedules).
7. **ON, AUTO** and **CIRCULATE** - Select by touching the desired fan operation ON, AUTO and CIRCULATE. When selected a green check mark will be indicated.

When in the CIRCULATE mode, the fan will follow the setting configured under **menu > settings > fan > select fan mode**. Under circulate the circulate off time can be set from 1 to 30 minutes.

FAN OPERATION



The desired fan mode can be selected in addition to selected mode of operation.

Table 2. Fan Operation

Icon	Mode	Description
	circulate	Fan is following schedule and cycles during periods of equipment inactivity. Circulate off time is set by the user.

NOTES: *When system operating mode is set to OFF, both ON or CIRCULATE fan modes are disabled.*

Table 2. Fan Operation

Icon	Mode	Description
	on	Fan is NOT following the schedule and runs continuously until it is changed from the select mode.
	auto	Fan will follow the fan setting in the selected schedule.

User Menu Screen

Touch the three lines in the upper right-hand corner of the screen to access the menu. Selectable options under menu are notifications, performance report, edit schedules and settings.

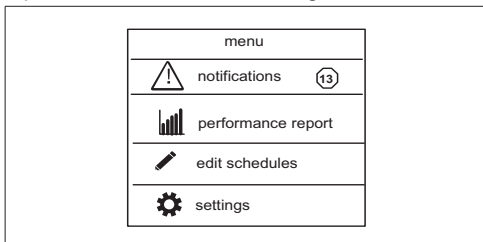


Figure 4. User Menu Screen

NOTIFICATIONS

When a system error or reminder occurs, a pop-up screen will appear indicating the condition.

- Error code notification pop-up can be dismissed by touching the back button. Contact the dealer to resolve the issue.
- For notification, touch either clear or set a future reminder.
- Any active history for notifications (critical errors or reminders) will be listed under settings > notification.
- If critical errors occur, they will also be displayed under notifications as illustrated in figure 6.

- Touch the contractor info option for assistance.

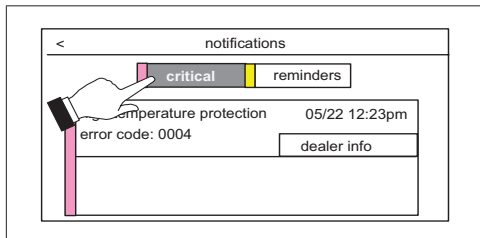


Figure 5. Critical Notifications

REMINDERS

When reminders occur, they will also be displayed under notifications as illustrated in figure 7. Touch the clear or remind later to redisplay active reminder for 1 day, 1 week, 1 month, 3 months or a custom date.

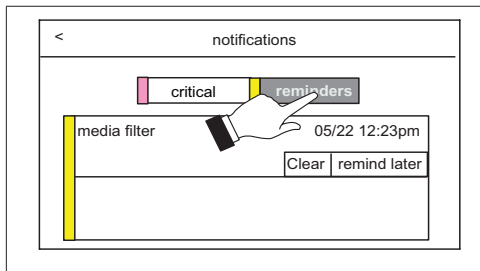


Figure 6. Reminder Notifications

PERFORMANCE REPORT

This will display the total number of hours each month that the system has been running. Example would be for mar (March) 23H or 23 hours. To return to the menu screen, touch the house icon in the upper left-hand corner of the screen. Red bar indicates heating and blue indicates cooling hours ran.

EDIT SCHEDULES

Any schedule can be edited by touching the right arrow next to the desired schedule.

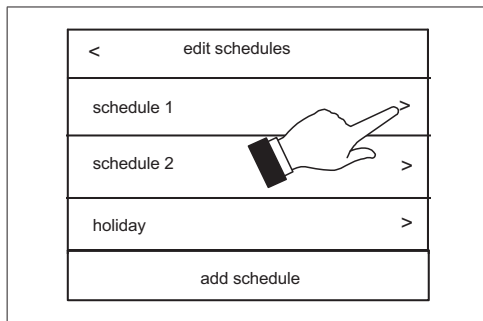


Figure 7. Edit Schedules Screen

NOTES: See "Operating Mode Selection" on page 5 to run a specific schedule.

From the HOME screen touch the MENU and touch edit schedules option.

The edit schedules screen will allow section of up to three separate schedules. On the edit schedules screen, each schedule can be renamed and edited. See "Figure 8. Renaming and Editing Schedules" on page 9 for editing schedules.

NOTES: *The fan mode that is selected under the edit schedules screen will always override the fan mode selected under the select mode screen or user settings > fan screen if different*

NOTES: *The fan mode that is selected under the edit schedules screen will always override the fan mode selected under the select mode screen or menu > user settings > fan mode if different.*

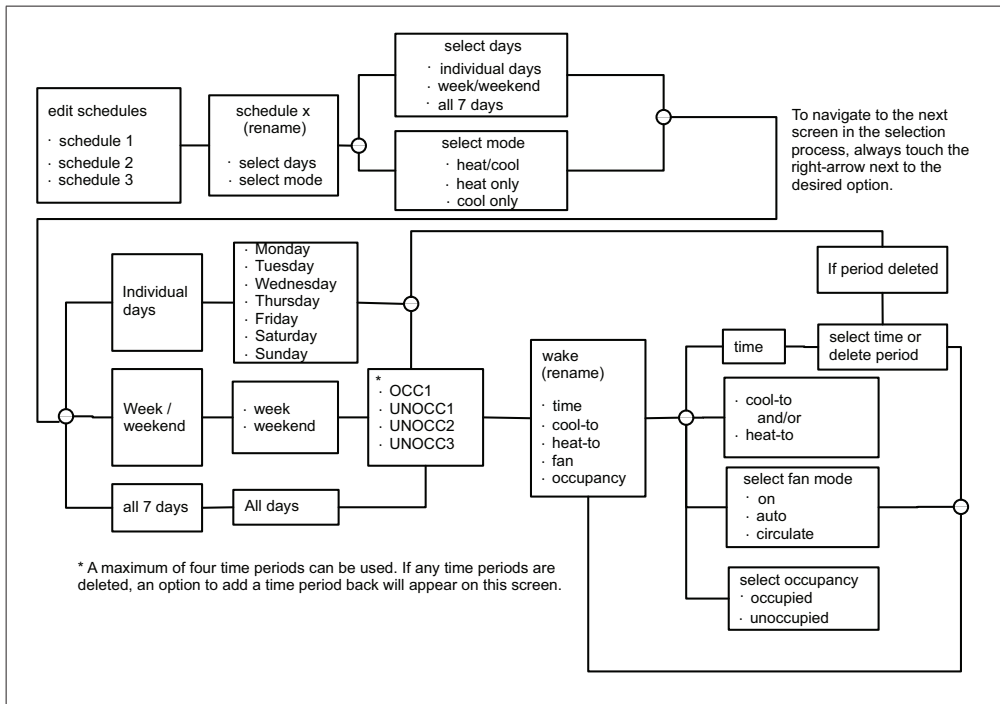


Figure 8. Renaming and Editing Schedules

User Settings Menu

Table 3. User Settings (General)

Setting Selection	Function	Description
fan		See "Fan Operation" on page 6.
heat / cool (either heat pump, gas or electric heating is selected)	normal	Heats home to desired temperature setting. Options are on or off.
	comfort	If system is two-stage heating or cooling, then 2nd stage is locked in until demand is satisfied.
	emergency heat	Bypasses the first stage of heating (any stage[s] of heat pump heating) and goes directly to the heat stage used for maximum heating to more quickly warm a very cold house.
	set point range	Heating limit with a default of 0°F. Range is 45°F to 90°F Cooling limit with a default of 45°F. Range is 45°F to 99°F
cool only (option only appears if no heating equipment is available or configured)	set point range	Cooling limit with a default of 45°F. Range is 45°F to 99°F
humidity - Allows selection of dehumidification. Option only available if enabled in installer settings.	dehumidify	Options are ON and OFF. Allows dehumidify adjustment setting between 45% to 60%. Default is 50%.

Table 3. User Settings (General)

Setting Selection	Function	Description
reminders - Items on this list are by default disabled.		<p>Media filter, humidity pad, routine system check up, UV lamp, metal insert for PureAir and customer reminders 1 and 2*.</p> <p>Options for each reminder are disabled (default), 3mon, 6mon, 12mon, 24mon or a custom duration by specific date can be set. Once set an *expires on xx/ xx/xx (date) will be displayed next to the function.</p> <p>*Custom reminders 1 or 2 may have been renamed by the installer.</p>
general - provides information about the thermostat and settings for screen lock, date & time and language.	about	Displays information concerning thermostat model number, serial number, hardware and software revisions.
	screen lock	<p>Setting options are unlocked, partially, and locked.</p> <p>To set partially lock, create a three digit code. Partially lock restricts access to the menu.</p> <p>To set locked, create a three digit code. Lock restricts access to anything on the screen.</p> <p>NOTE: <i>Partially Lock and Locked is set for one instance only. Either would need to be set each time it is desired to partially locked or locked the screen. Master code is 864 in case user forget their custom code.</i></p>
	date & time	Settings for 24-hour clock (military), daylight savings, set time and date.
	language	Languages available are English, Spanish, Portuguese and French.

Table 3. User Settings (General)

Setting Selection	Function	Description
general - provides information about the thermostat and settings for screen lock, date & time and language.	occupancy	Pre-Occupancy: Options are 0 through 3 hours with a default of 0 hour. This selection opens the dampers early, either 1, 2 or 3 hours.
		Post-Occupancy: Options are 0 through 3 hours with a default of 0 your. This selection keeps the dampers open, either 1, 2 or 3 hours.
display - Allows the user to control some information that is displayed on the home screen.	Outdoor temperature display or discharged air display (what is displayed here depends on sensor used and configured by installer.	Options are off or sensor.
	screen saver	Options are enable and disable. Default is enabled. When enabled only the time and inside temperature is displayed on the screen. Touching the screen will restore all other details. The back light setting is also on the same screen. Options are continuous on or energy save. Default is continuous on.
	screen brightness	A horizontal adjustment bar is provided to move from minimum to maximum brightness.
	temperature scale	°F for Fahrenheit or C° for Celsius.
	clean screen	This will disable the touchscreen for 30 seconds.