



User Guide

Color Touchscreen
Programmable Residential
Thermostat

ComfortSense® 7500

Model: 13H14
507503-01
10/2015
Supersedes 7/2015

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Features

The ComfortSense® 7500 Series thermostat is an electronic 7-day, universal, multi-stage, programmable, touchscreen thermostat. It also offers enhanced capabilities including humidification / dehumidification / dew point measurement and control, Humiditrol® EDA (Enhanced Dehumidification Accessory) control, and equipment maintenance reminders.

- Large, clear color display that shows the current and set temperature, time, indoor relative humidity and outdoor temperature (if optional outdoor sensor is installed and enabled).
- Dehumidification measurement and control
- Humiditrol® EDA capability.
- Dew point adjustment control.
- Smooth Set Recovery starts system operation early to achieve setpoint at start of program period.
- Compressor short-cycle protection (5 minutes).
- Real-time clock keeps time during power failures and automatically adjusts for daylight savings time and leap year.
- Maintenance reminders let user know when to service or replace filters, humidifier pads or ultraviolet lamps. Also provides two user- or installer-defined custom reminders.
- Program Hold options allow user to override the program schedule as desired by time and date.
- Select individual days or groups of days to set programming.
- Programmable fan offers increased performance when combined with whole-home indoor air quality products.
- Supports 50 and 60Hz operations.

Temperature Dial Indicator

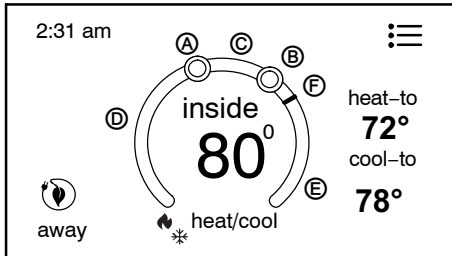


Figure 1. Temperature Dial Feature

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

Home Screen

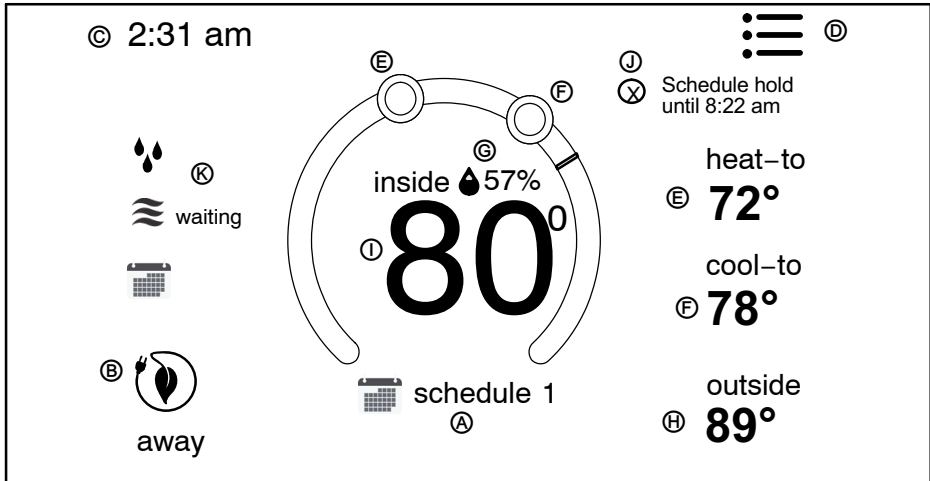


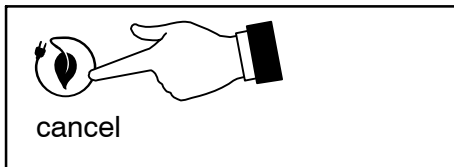
Figure 2. home screen

Touch the screen anywhere - the first touch turns on the backlight.

A. OPERATING MODES - Touch the screen to see a list available modes. Selectable modes are **heat/cool**, **heat only**, **cool only**, **emergency heat**, **off**, **schedule 1**, **schedule 2**, and **schedule 3**. In addition fan operation can be set to **on**, **auto** or **circulate**.

B. AWAY - Touch the screen here to set the desired heating and/or cooling mode temperatures when you will be 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 - Touch the screen here to access **notifications**, **performance report**, **edit schedules** and **settings** screens.

E. Touch the **heating set point indicator** to set the **heat-to** (if enabled) temperature. Touching either the **heating set point indicator** or **heat-to** will display the **temperature setting detail** screen (see figure 3). Use the - and + icons to adjust the temperature setting. The temperature dial will change from white to red when heating is active.

F. Touch the **cooling set point indicator** to set the **cool-to** (if enabled) temperature. Touching either the **cooling set point indicator** or **cool-to** will display the **temperature setting detail** screen (see figure 3). The temperature dial will change from white to red when heating is active. Use the - and + icons to adjust the temperature setting. The temperature dial will change from white to blue when cooling is active.

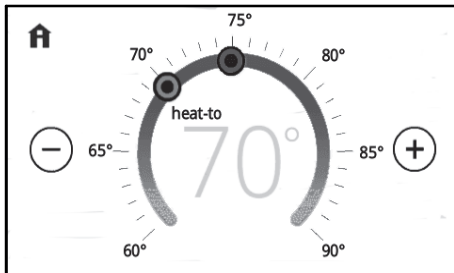


Figure 3. Temperature Setting Detail Screen

G. The current indoor humidity percentage is displayed here along with a humidity icon (rain drop). The icon changes based on the humidity level in the home.

- H.** When an outdoor temperature sensor has been installed and configured through the thermostat user interface, the outdoor air temperature is displayed here along with the word **outdoor**. If the sensor has not been installed and configured, this area will be blank.
- I.** The current indoor temperature is displayed here.
- J.** This icon and the text that follows it indicate that the schedule is **on hold** either until the next time period or permanently.
1. Place the schedule on hold by touching on either the **heat-to** or **cool-to** location on the main screen. If an adjustment is required for the temperature setting, this can be done now.

2. To continue touch on any blank area of the screen.
3. From the override setting screen, the options are **1 hour**, **2 hour** or **Permanent**. Make selection and then touch **set**.

NOTE: *When a permanent hold has been selected, the thermostat will not return to the schedule program until the hold is released. The screen will display **schedule hold permanent**.*







4. To exit a permanent schedule hold, touch the ⊗ icon



NOTE: *For the 1 or 2 hour setting the home screen will indicate **schedule hold until** time indicated (i.e., 11:57 pm).*

NOTE: *When in any hold status, the mode status area on the screen will go to the current status mode. For example, from schedule 1 to heat/cool.*

- K. System Status Icons** - Equipment operation information appears along the left side of the home screen to indicate the current system status: humidification, transitioning operating mode, waiting (compressor delay), emergency heat and transitioning next schedule setting.

Table 1. System Status Icons

Screen Icon	Description
	Icon is displayed when humidifier is energized. When the icon is touched, the word humidifying appears.
	Icon is displayed when dehumidification mode is energized. When the icon is touched, the word dehumidifying appears.
	The red flame icon is displayed when the system is in heating mode .
	The blue flame icon is displayed when the system is cooling mode .
 waiting	The snow flake icon indicates that the next mode of operation will be cooling. The words waiting next to the icon indicate that system operation is waiting for the completion of the 5-minute default compressor delay.
 waiting	The red flame icon indicates that the next mode of operation will be heating. The words waiting next to the icon indicate that system operation is waiting for the completion of the 5-minute default compressor delay (heat pump operation only).

Screen Icon	Description
	<p>The red flame icon with a plus sign indicates that the system is running in emergency heat mode.</p>
	<p>The schedule icon indicates that the system is transitioning to the next scheduled temperature setting. This icon will only appear if smooth setback recovery is enabled during installer setup. When enabled, the system will begin recovery up to two hours before the programmed time to reach the programmed temperature at the programmed event time. The system will recover 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>

Accessing Mode Screen

Touch the screen in the area indicated below to access the mode screen.

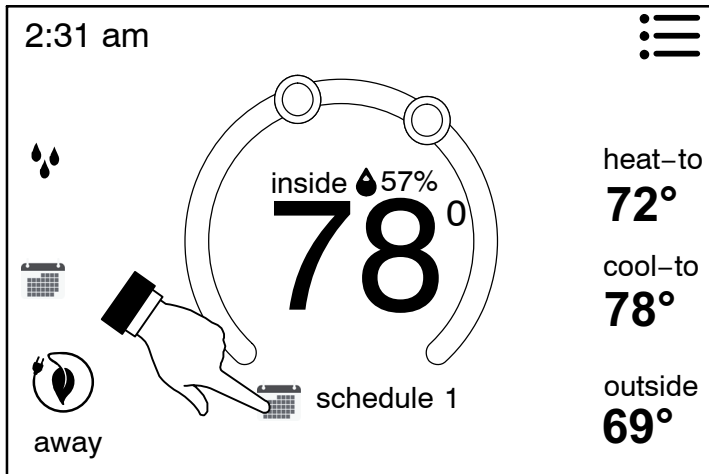


Figure 4. Home Screen (Accessing Mode Screen)




SELECT MODE

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 operation of a secondary heat source to reach the desired user temperature setting faster than heat pump heating.
6. **SCHEDULES** (1, 2 or 3) See *Edit Schedules* on page 16 for customizing schedules).
7. **ON, AUTO** and **CIRCULATE** - Three fan operation modes are available: ON, AUTO and CIRCULATE. A green check mark indicates the selected setting.

FAN OPERATION

In the **CIRCULATE** mode, the user can cycle the fan for a programmed period of operation each hour during periods when the heating or cooling equipment is not running.

Table 2. Fan Operation

	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.
	circulate	Fan follows schedule and cycles during periods of equipment inactivity. Circulate off time is dependent on user settings. See page 18 on how to set the circulate off time.

Menu

Touch the three lines icon 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**.

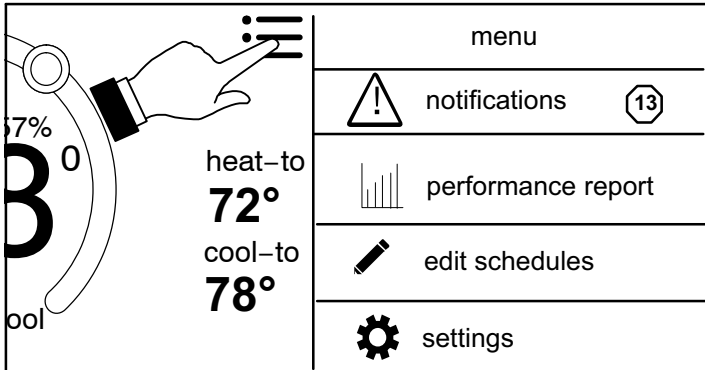


Figure 5. User Menu Screen

NOTIFICATIONS

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

- Error code notification — Press the back button to dismiss a pop-up error notification. Contact your dealer to resolve the issue.
- Reminder notification -- Make a selection to either clear the notification or set a future reminder.

Active notifications are listed under **settings > notification**.

If critical errors occur, they are also displayed under **notifications** as illustrated in figure 6. Touch the contractor information option for assistance.

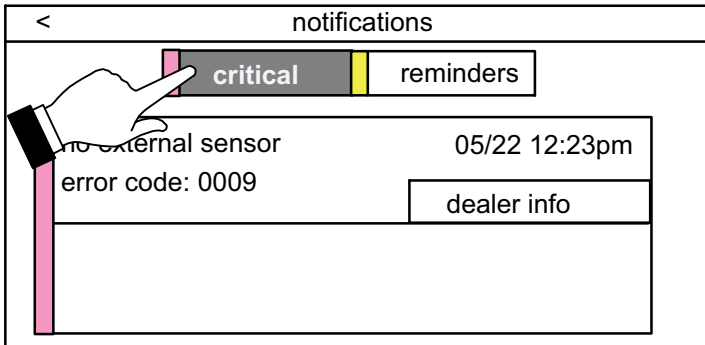


Figure 6. Notifications - Critical

Reminders are displayed under **notifications** as illustrated in figure 7. Choose to either clear the reminder or remind later to receive another notification after 1 day, 1 week, 1 month, 3 months, or on a specific date.

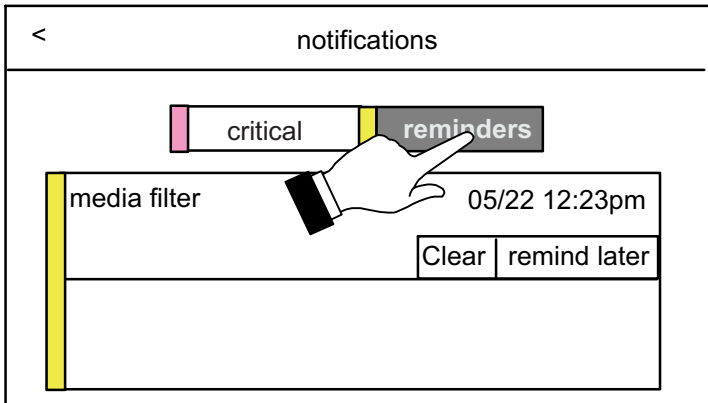


Figure 7. Notifications - Reminders

Table 3. Reminders

Error Code	Screen Text	Message Type	Action to Clear / Recovery Condition
12	replace media filter	reminder	Touch either done to clear the reminder or remind later button.
13	replace UV lamp		
14	replace humidity pad		
15	routine system check-up		
16	replace metal insert for pure air		
17	user editable		
18	user editable		

PERFORMANCE REPORT

Select **performance report** to display the total number of hours that the system has been running each month. Touch the house icon in the upper left-hand corner of the screen to return to the menu screen.

EDIT SCHEDULES

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

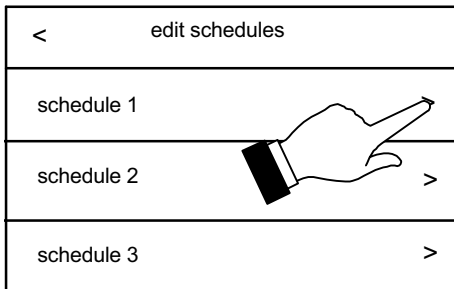


Figure 8. Edit Schedules Screen

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

NOTE: See **Select Modes** on page 10 to select and run a specific schedule.

The edit schedules screen provides access to as many as three separate schedules. Each schedule can be renamed and edited. See figures 8 and 9.

NOTE: If a fan mode is selected under the **select mode** screen, it will override any scheduled fan setting.

For example, if the **select mode** fan setting or **user settings > fan** is configured for Auto, and the schedule fan mode is set to circulate, then the system will follow the fan mode selected in the active schedule.

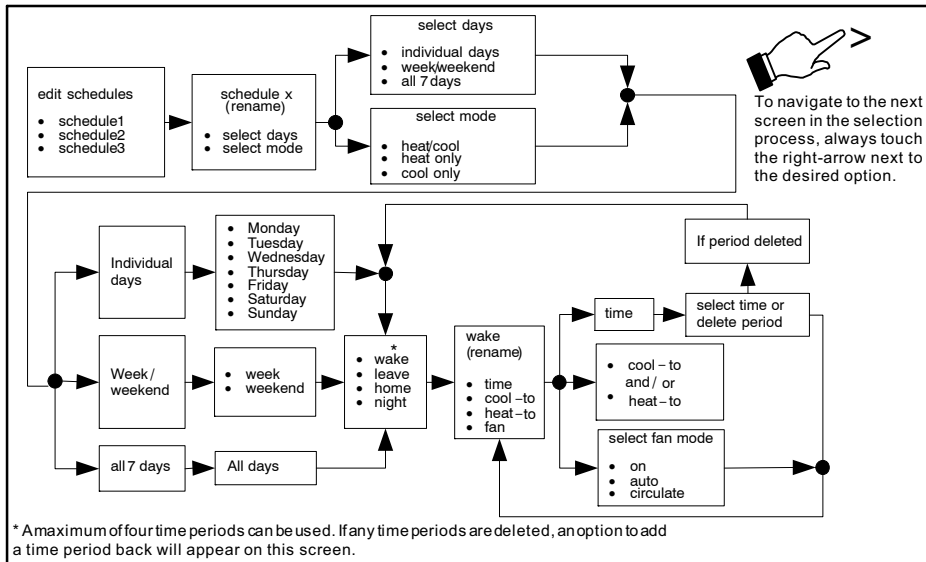








Figure 9. Renaming and Editing Schedules

USER SETTINGS

Any schedule can be selected by touching the right-arrow next to the option

< user settings		
	fan	>
	heat/cool	>
	humidity	>
	reminders	>
	general	>
	display	>




Figure 10. User Setting Options

User Settings - Selection Descriptions

Tables 4 and 5 provides information for options that can be selected for each setting.

Table 4. User Settings (Fan)

Setting Selection	Function	Description
fan	on, auto and circulate	See table 2 on page 11 for fan operation details.

When selecting **circulate**, you can set the circulate off time from 1 to 30 minutes.

Table 5. User Settings (Heat / Cool and Cool Only)

Setting Selection	Function	Description
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 2 nd stage is lock in unit demand is satisfied.
	emergency heat	Bypasses the first stage of heating (any stage[s] of heat pump heating) in favor of the heat stage used for maximum heating (gas heat or electric heat). This option works to quickly warm a very cold house.
	set point range	Heating limits with a default of 90°F. Range is 45°F to 90°F. Cooling limits 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 limits with a default of 45°F. Range is 45°F to 99°F.

Table 6. User Settings (Humidity)

Setting Selection	Function	Description
humidity - Allows selection of humidity mode: humidifier only, dehumidifier only and both (humidifier and dehumidifier). (This option is only available if equipment is both installed and configured.)	humidify	Options are ON and OFF. Allows humidity setting adjustment between 15% to 45%. Default is 45%.
	dehumidify	Options are On and OFF. Allows dehumidity adjustment setting between 45% to 60%. Default is 50%.

Table 7. User Settings (Reminders)

Setting Selection	Function	Description
reminders - Items on this list are disabled by default.	media filter (air filter)	Options for each reminder is disabled (default), 3mon, 6mon, 12mon, 24mon or a custom duration by specific date can be set. Once set a "expires on xx/xx/xx (date)" will be displayed next to the function.
	humidity pad	
	routine system check up	
	uv lamp	
	metal insert for pureair	
	custom reminder1*	
	custom reminder2*	
*Custom reminders 1 or 2 may have been re-named by the installer.		

Table 8. User Settings (General)

Setting Selection	Function	Description
<p>general - provides information about the thermostat and settings for screen lock, date & time and language.</p>	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. Partial lock restricts access to menu.</p> <p>To set locked option, create a three digit code. This is a complete lock, which restricts access to anything on the screen.</p> <p>NOTE: <i>Partially (Locked) and Locked settings are for one instance only. Either lock must be set each time you wish to partially lock or completely lock the screen. If the custom access code is forgotten, the master code to unlock the screen is 864.</i></p>
	date & time	Settings for 24-hour clock (military), daylight savings, set time and date.
	language	Select language. Available options are English, Spanish, Portuguese and French.

Table 9. User Settings (Display)

Setting Selection	Function	Description
<p>display - Allows the user to control some information that is displayed on the home screen.</p>	Outdoor temperature display	None or sensor
	screen saver	<p>Options are enable and disable. Default is enabled. When enable is selected, only the time, inside temperature and outside temperature (if outdoor sensor is installed and enabled) are displayed on the screen. Touch the screen to restore all other details.</p> <p>The backlight setting is on the screen saver menu. Options are continuous on or energy save. Default setting is continuous on.</p>
	screen brightness	A horizontal bar is provided to adjust brightness from minimum to maximum.
	temperature scale	Select °F for Fahrenheit or C° for Celsius
	clean screen	Select this option to disable the touchscreen for 30 seconds.

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