User Guide

Color Touchscreen
Programmable Thermostat

ComfortSense® 7500 (13H14)

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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.
- Ergonomic design.
- Smooth Setback Recovery starts system 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, ultraviolet lamps, plus 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.

Temperature Dial Indicator

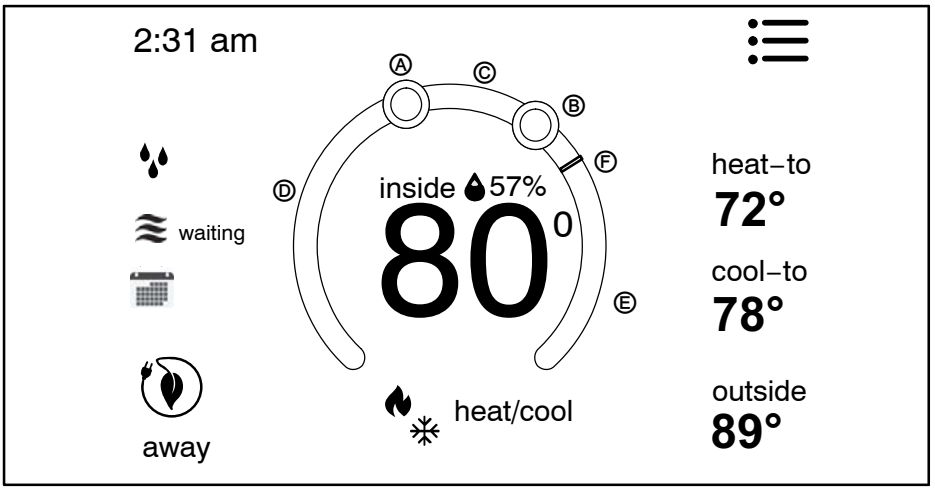


Figure 1. Temperature Dial Feature

A. This is the **heat set point position indicator** on the dial. This object will be red in color.

B. This is the **cool set point position 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

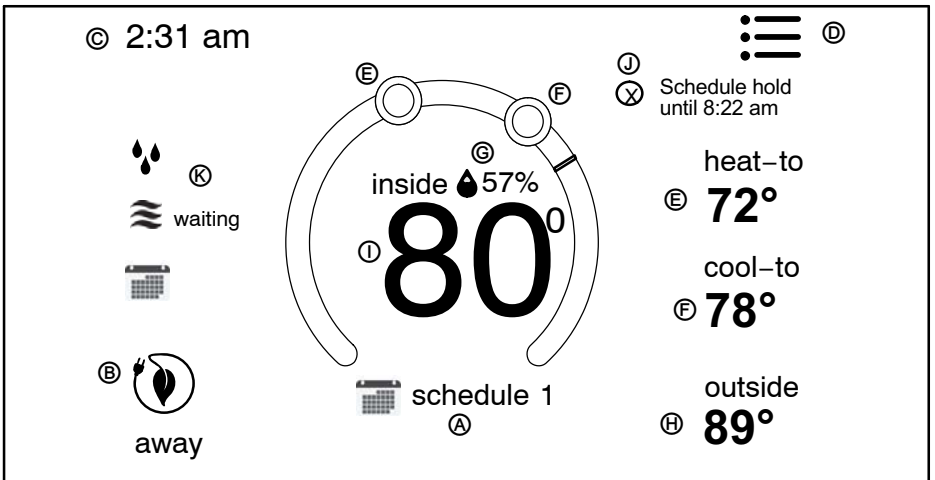


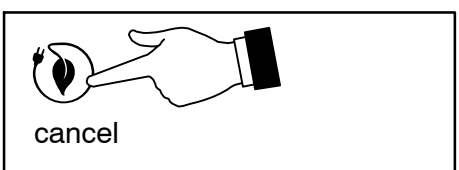
Figure 2. home screen

Press the screen anywhere - the first press turns on the backlight.

A. OPERATING MODE - press to access the screen that will list available modes. Selectable modes are heat/cool, heat only, cool only, off, schedule 1, schedule 2, and schedule 3. 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.

Press **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 as well.

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.

1. Place the schedule on hold by pressing 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.
2. To continue press twice 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 press **set**.
4. 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, press ⊗.
5. For the permanent setting the screen will indicate **schedule hold permanent**. To exit schedule hold, press ⊗.

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 humidification, transitioning operating mode, waiting (compressor delay) emergency heat and transitioning next schedule setting.

Table 1. System Status Icons

Screen Icon	Description
	Humidifying icon is displayed when humidifying is occurring. Pressing on the icon will display **humidifying** next to the icon.
	Dehumidifying icon is displayed when dehumidifying is occurring. Pressing on the icon will display **dehumidifying** next to the icon.
	Red flames indicates the system is heating.
	Blue flames indicates the system is cooling.
waiting	Snow flake indicates the next mode of operation will be cooling. **Waiting** indicates there is a compressor delay which is by default five minutes.
waiting	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.

Screen Icon	Description
	Red flame with a plus indicates the system is running in emergency heat mode.
	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.

Selection Mode

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

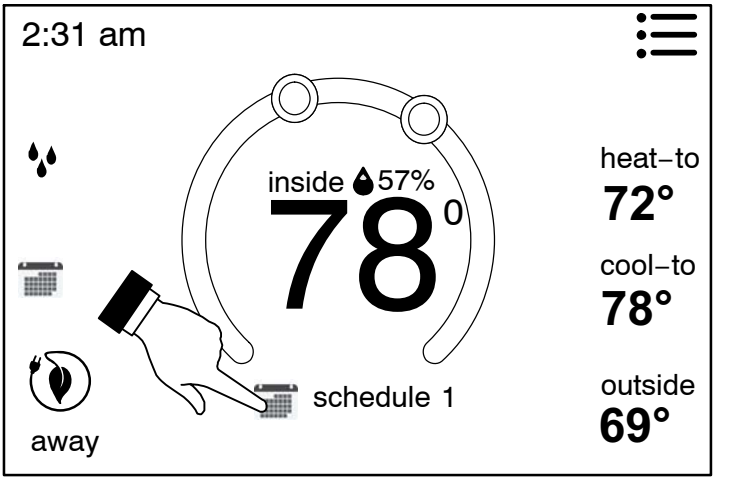


Figure 3. Home Screen (Accessing Mode Screen)

OPERATING 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** (**up to three**), **FAN-ON**, **AUTO** and **CIRCULATE** (see *Edit Schedules* on page 15 for customizing schedules).
7. **ON**, **AUTO** and **CIRCULATE** - Select by pressing the desired fan operation ON, AUTO and CIRCULATE. When selected a green check mark will be indicated.

If FAN mode AUTO, ON or CIRCULATE was selected during scheduling for the current period, the thermostat will indicate the current fan mode in the information display (FAN ON or FAN CIRC).

In the CIRCULATE mode, the user can cycle the fan for a programmed period time of active time per hour during periods of equipment inactivity (i.e., heating or cooling equipment 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 is following schedule and cycles during periods of equipment inactivity. Circulate off time is dependent on user settings.

Menu

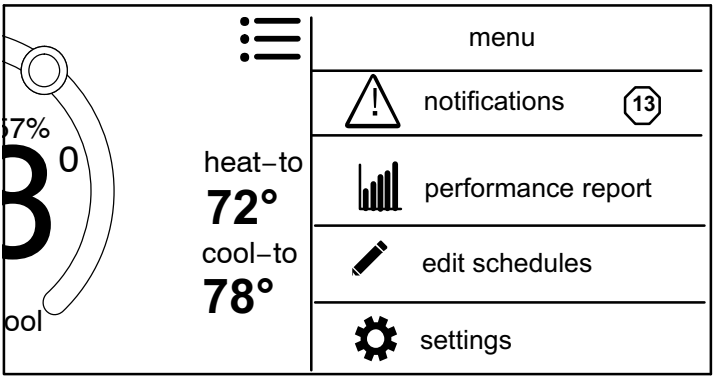


Figure 4. User Menu Screen

NOTIFICATIONS

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

- Error code notification pop-up can be dismiss by pressing the back button. Contact the dealer to resolve the issue.
- For notification, press 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 5. Press the contractor info option for assistance.

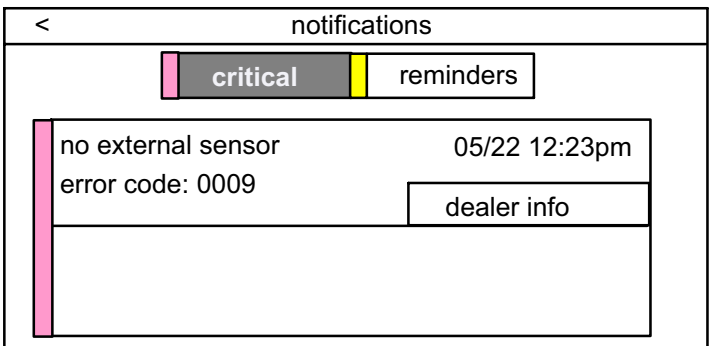


Figure 5. Notifications - Critical

When reminders occur, they will also be displayed under **notifications** as illustrated in figure 6. Press the clear or remind later to redisplay active reminder for 1 day, 1 week, 1 month, 3 months or a custom date.

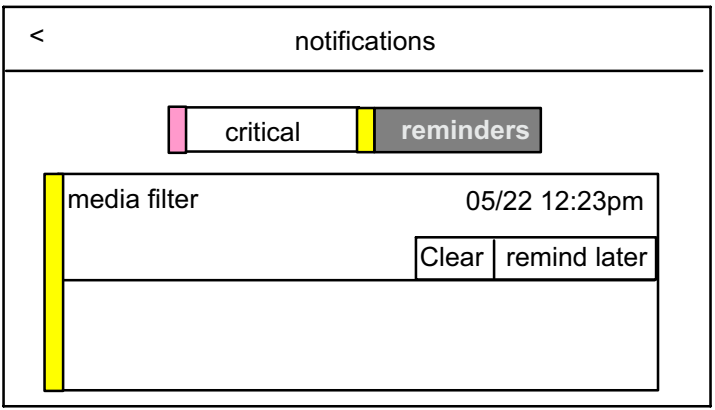


Figure 6. Notifications - Reminders

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, press the house icon in the upper left-hand corner of the screen.

EDIT SCHEDULES

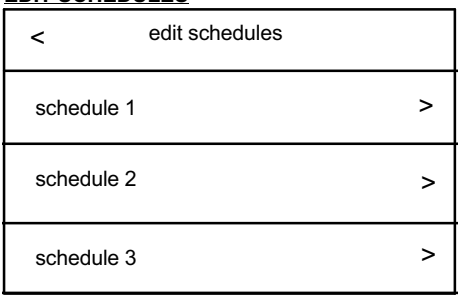


Figure 7. Edit Schedules Screen

NOTE: See Selection Mode on page 10 to run a specific schedule.

From the HOME screen press the MENU and press **edit schedules** option.

The edit schedules screen will allow section of up too three separate schedules. On the edit schedules screen, each schedule can be renamed and edited. See Figure 8 for editing schedules.

***NOTE**: If a fan mode is selected under the **select mode** screen, it will over-ride any fan setting in individual schedules.*

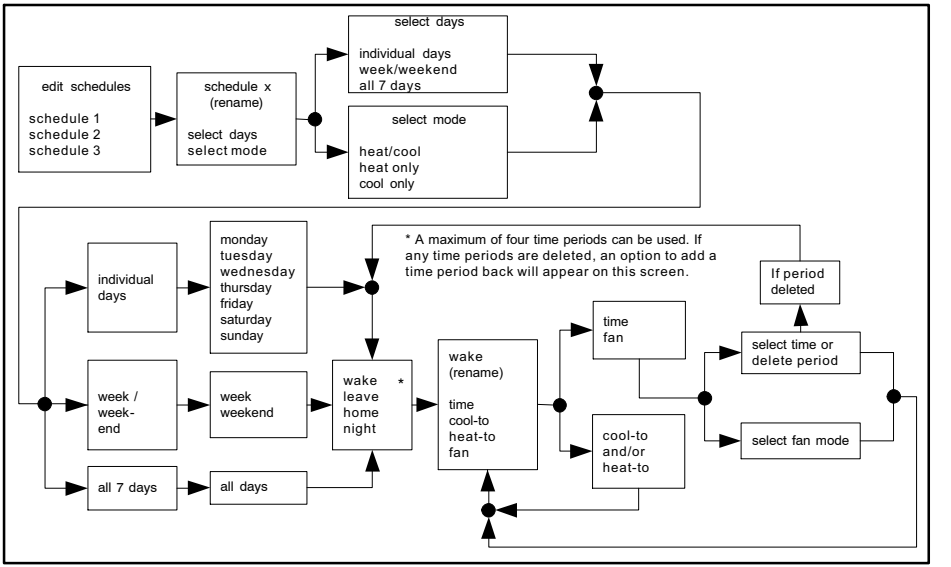


Figure 8. Renaming and Editing Schedules

SETTINGS (USER)

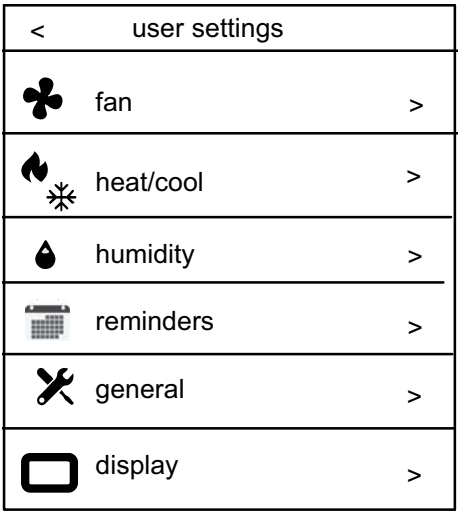


Figure 9. User Setting Options

Table 3. User Settings (Fan)

Setting Selection	Function	Description
fan	on, auto and circulate	See table 2 for detail description.

Table 4. User Settings (Heat/Cool, Cool Only and Reminders)

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 2nd stage is lock in unit 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.
	setpoint 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)	setpoint range	Cooling limits with a default of 45°F. Range is 45°F to 99°F.

Table 5. User Settings (Humidity)

Setting Selection	Function	Description
humidity - Allows section of humidity mode which are humidifier only, dehumidifier only and both (humidifier + dehumidifier). (option only available if equipment 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 6. User Settings (Reminders)

Setting Selection	Function	Description
reminders - Items on this list are by default disable.	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 renamed by the installer.		

Table 7. User Settings (General)

Setting Selection	Function	Description
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	Setting options are unlocked, partially, and locked. To set **partially** lock, create a three digit code. Partially lock restricts access to accessing the menu. To set **locked**, create a three digit code. Lock restricts access to accessing anything on the screen. *NOTE: 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 unlock code is 864 in case the custom code is forgotten.*
	date & time	Settings for 24-hour clock (military), daylight savings, set time and date.
	language	Languages available are English, Spanish, Portuguese and French.

Table 8. User Settings (Display)

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

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