



CPT100
InverterCool Smart Thermostat
Application Guide



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Smart Thermostat Application Download

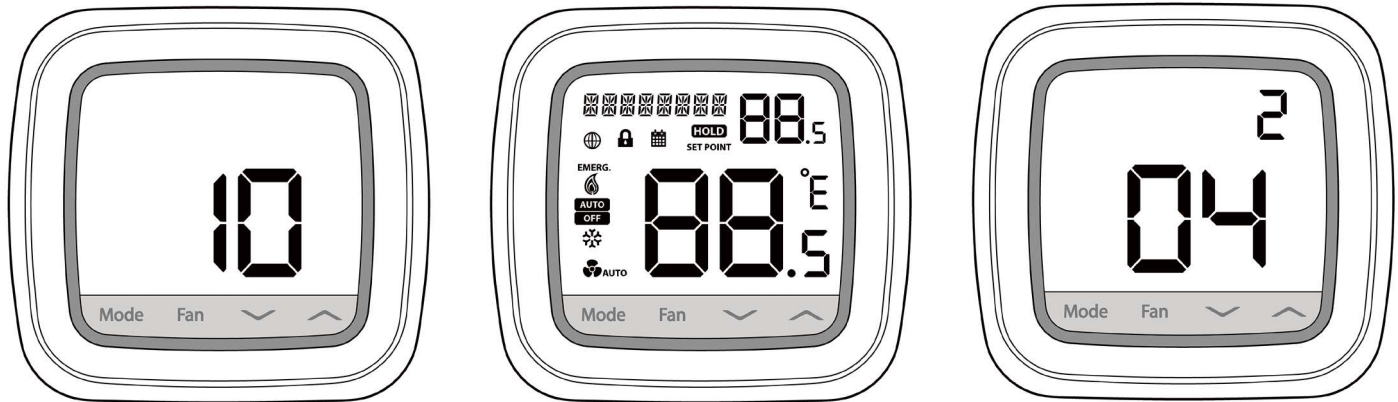


Before setting up the thermostat, download the InverterCool Smart Thermostat application on your iOS or Android device. After downloading the application, follow the steps in this guide to connect devices.



Preparing the Wi-Fi Thermostat for Connection

Device Boot Sequence





Mobile Setup

When a Thermostat is first powered or if a Factory Reset is performed, the above boot sequence will be displayed. The last screen displays the thermostat model and firmware version number.

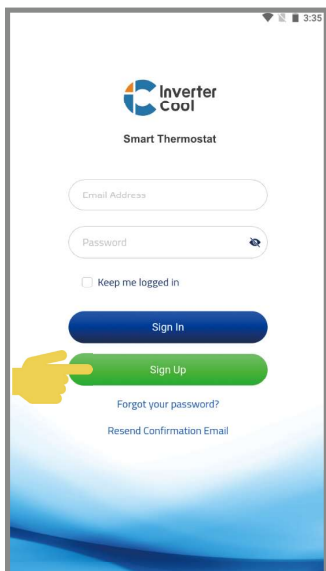
When the text *MOBILE SETUP* begins scrolling across the text field, the thermostat is ready to connect with the smart device application.

Manual Setup

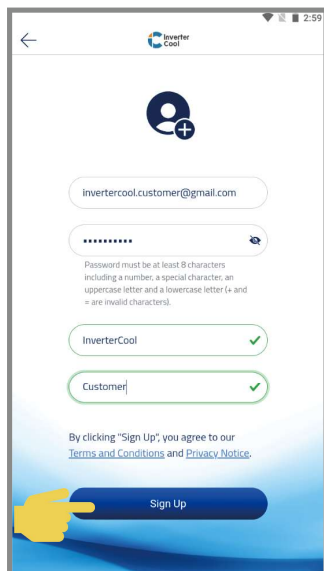
The InverterCool Smart Thermostat application is the most efficient way to configure the thermostat . If no Wi-Fi is available, you may configure the thermostat using the manual mode . Pressing any button switches displays *MANUAL SETUP*. Pressing **Fan** displays *NO* on the screen . Press  or  to display *YES*, then press **Fan** to enter manual setup . Instructions for manual setup are provided in Appendix A of this manual or can be downloaded separately from <https://invertercool.com/pages/download-center>.



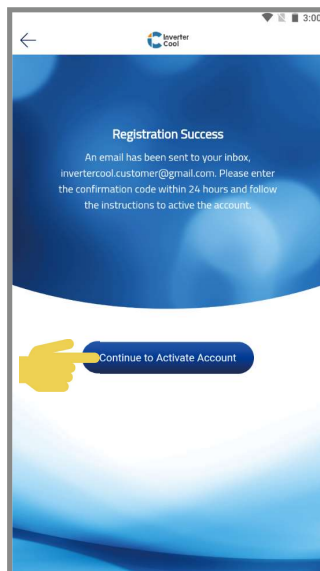
Application Registration & Activation



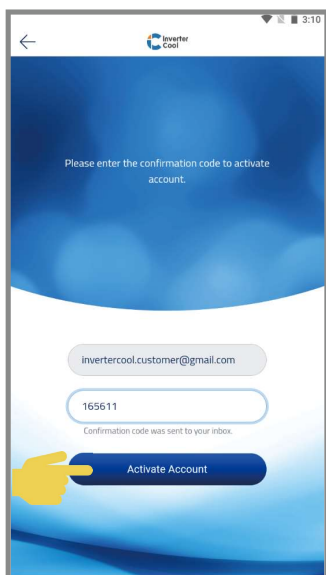
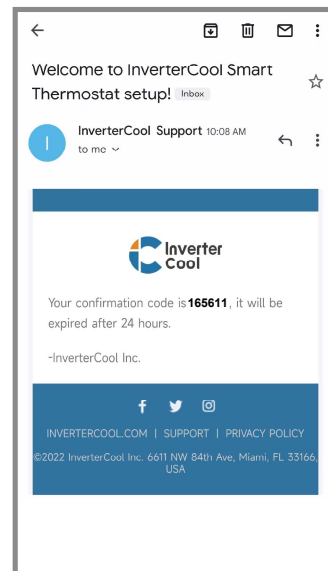
Open the Smart Thermostat Application on a mobile device. At the initial sign in screen, select **Sign Up**.



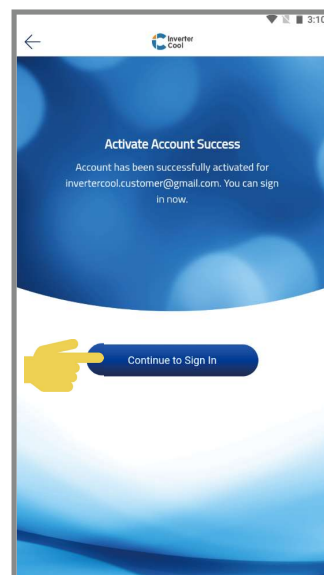
Enter an email address and password to be used to connect with devices along with a first and last name. Choose **Sign Up**.



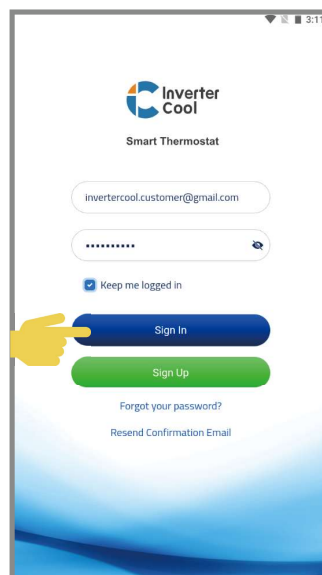
When successful registration is displayed, an automated email that includes a confirmation code will be sent. After receiving the email, press **Continue to Activate Account**.



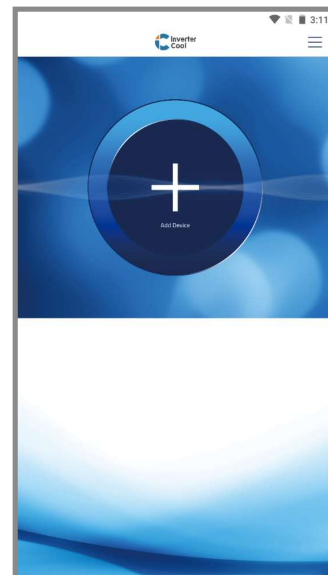
Enter the confirmation code. Then press **Activate Account**.



After receiving confirmation of successful activation, press **Continue to Sign In**.



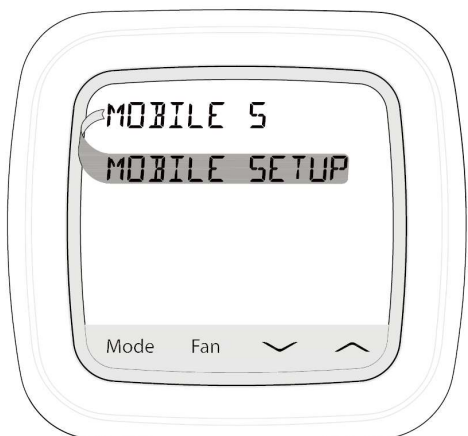
Enter the email and password used to create the account. Press **Sign In**.



When first signing in, a prompt to add a device will be displayed. The following section details this process.



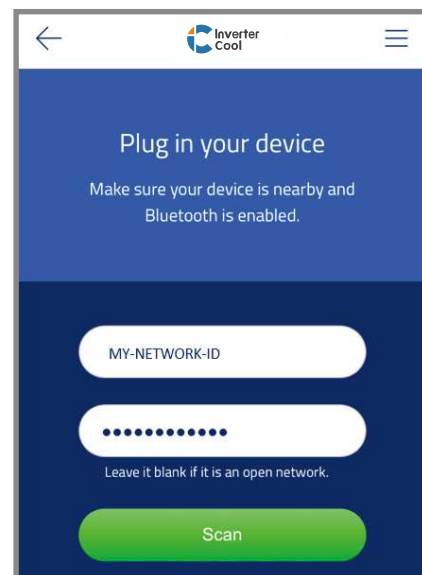
Connecting a Wi-Fi Thermostat to the Application



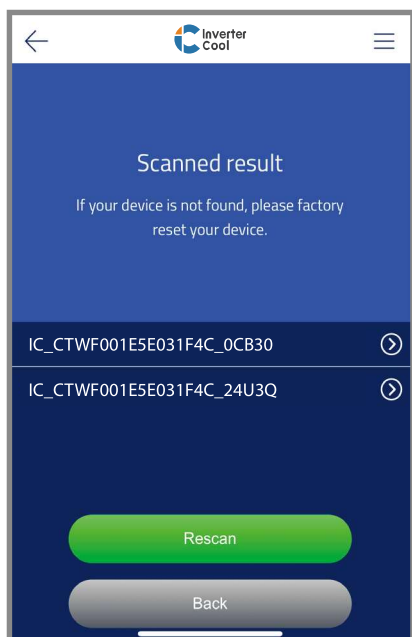
BE SURE that **MOBILE SETUP** is scrolling across the Thermostat screen and that Bluetooth® is enabled on the mobile device.



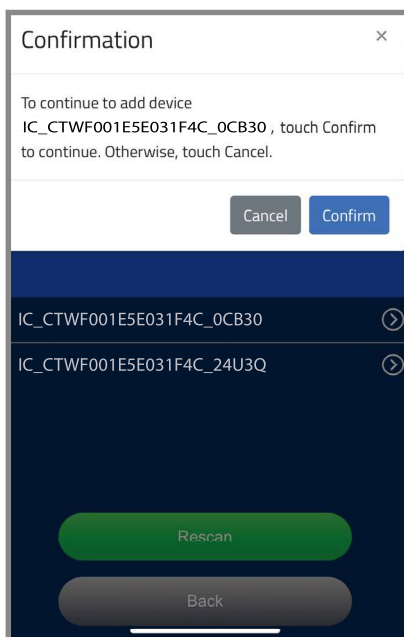
When initializing the Application, choose **Add Device** from the home screen. After a thermostat is added, all connected devices will be shown.



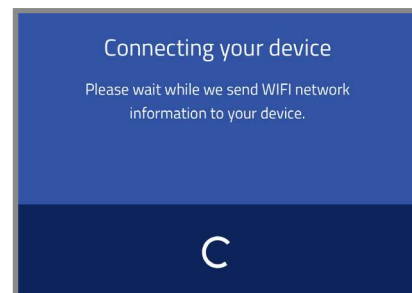
If Wi-Fi is enabled on the mobile device, the network ID is displayed. If a network key is required, enter it and press **Scan**.



Select the desired device from the list of available units.



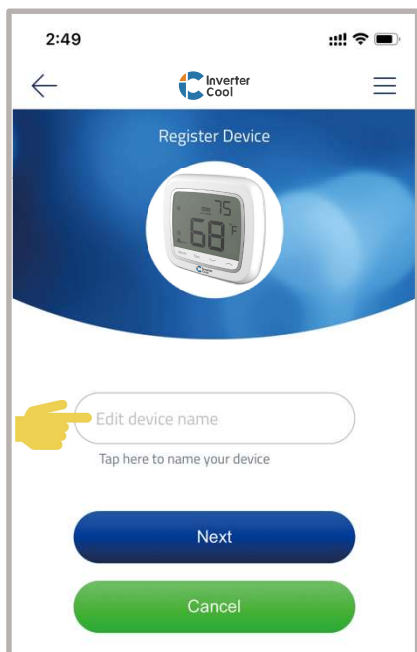
Select **Confirm** to continue adding the Thermostat.



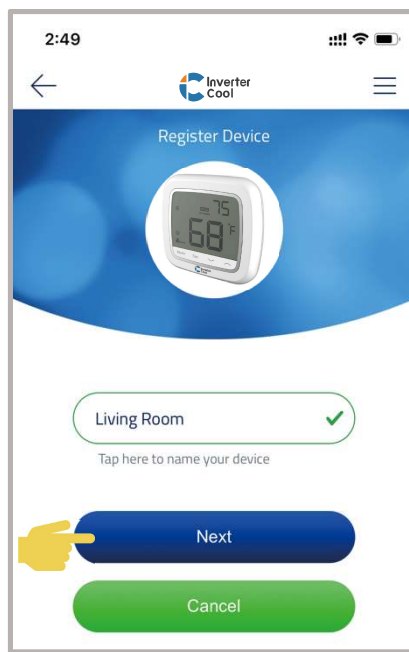
A series of messages are displayed providing information about the connection process.



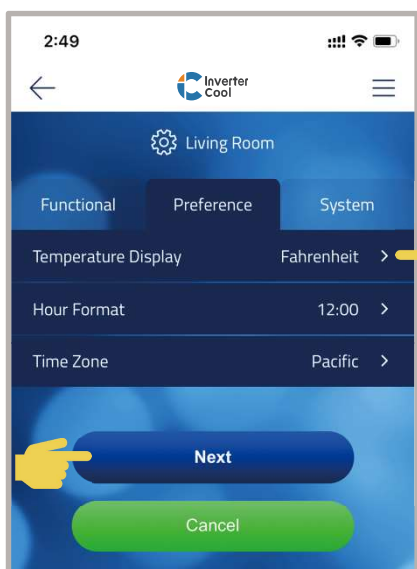
Application Guide



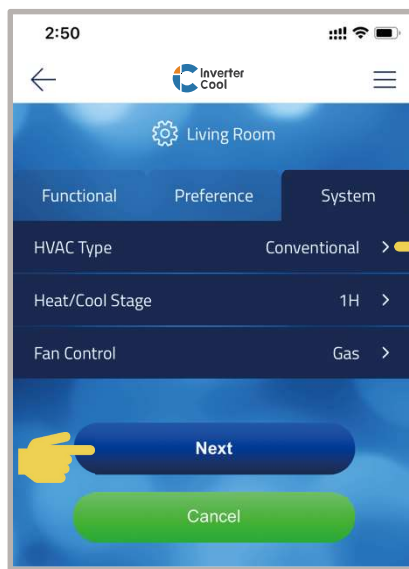
Tap the Edit device name field to open the keyboard.



Enter a unique descriptive name for the device so it is easily distinguished from others on the network. Press **Next**



Configure App Preferences. Touch > to view available options for temperature units, time format and desired time zone. Press **Next**



Configure System settings. Touch > to view available options for the HVAC Type, the number of heating and cooling stages the system is capable of, and if it is Gas or Electric for Fan Control. Press **Next**



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Configure Functional Preferences. Touch > to view available options for Span & Dead Band parameters that determine closeness of control, frost protection, temperature correction for the temperature indication, Minimum and Maximum allowable set points. Press **Next**

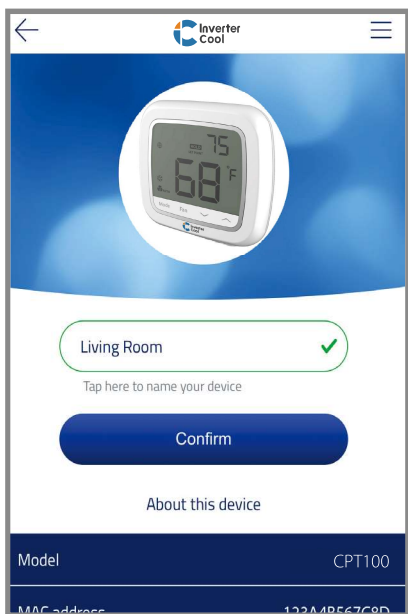


To finish, review the Functional, App Preferences, and System Settings. Press **Confirm**

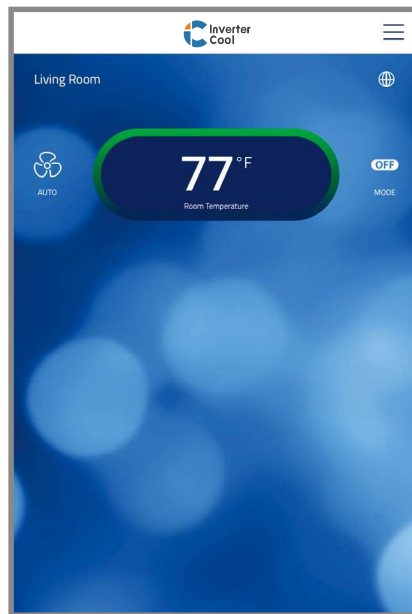
If you need to make changes, press Confirm and then the ⚙️ (Settings) icon, tap Edit - at the bottom of the page, then select the appropriate tab or Advanced Settings button.




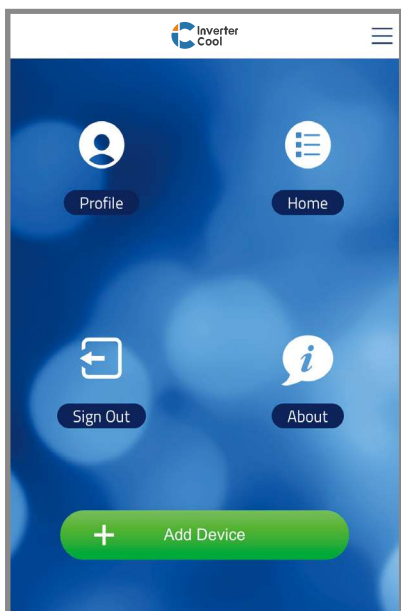
Application Guide



Enter a unique descriptive name for the device so it is easily distinguished from others on the network. Press **Confirm**.



The Thermostat is listed on the Home Page. To add additional devices, press  in the upper right of the home screen to access the main menu.



Pressing the **Add Device** button begins the process of connecting a new thermostat with the Smart Thermostat Application.



Newly added devices default to “Non-Programmable”, single-stage, heat only thermostats. See Wi-Fi Thermostat Settings for thermostat configuration.

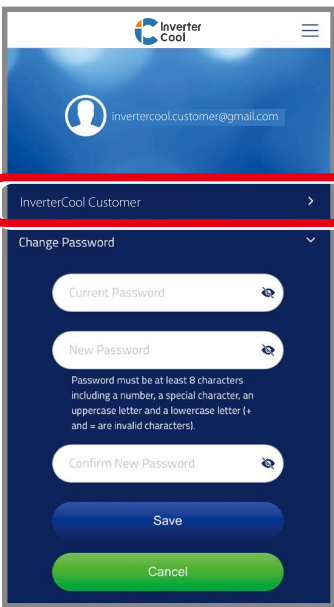


Application Guide

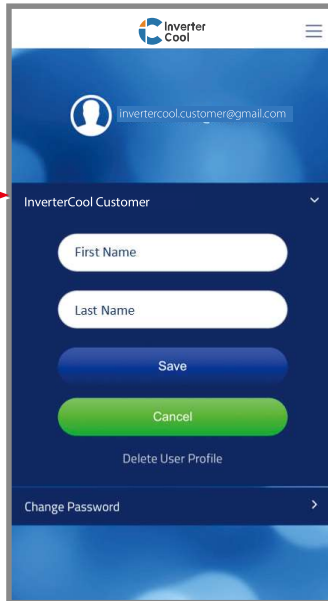
Menu & Screen Elements

Main Menu

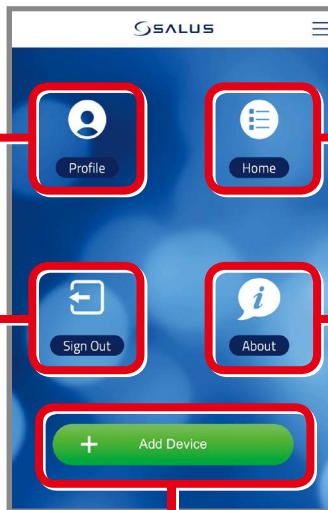
Selecting ☰ from the upper right corner provides access to the following menu items.



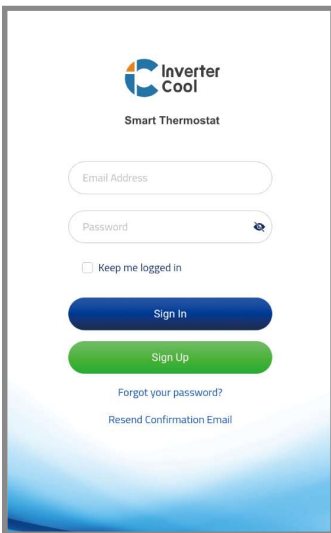
Customer Name



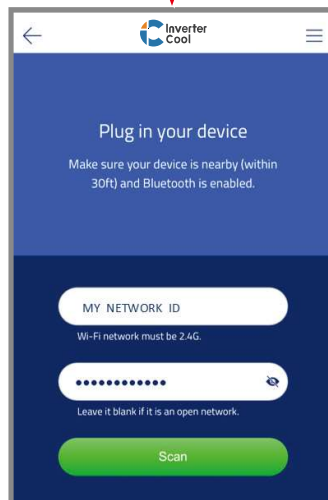
Profile



Home

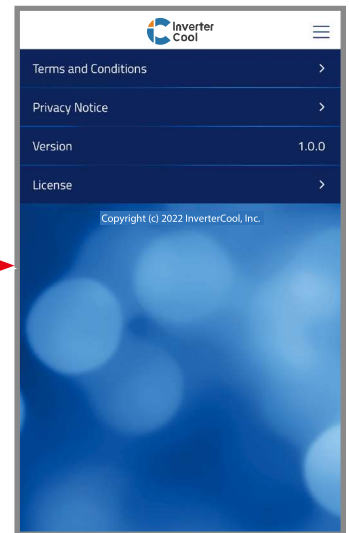


Sign Out



Add Device

About





Home Screen Elements

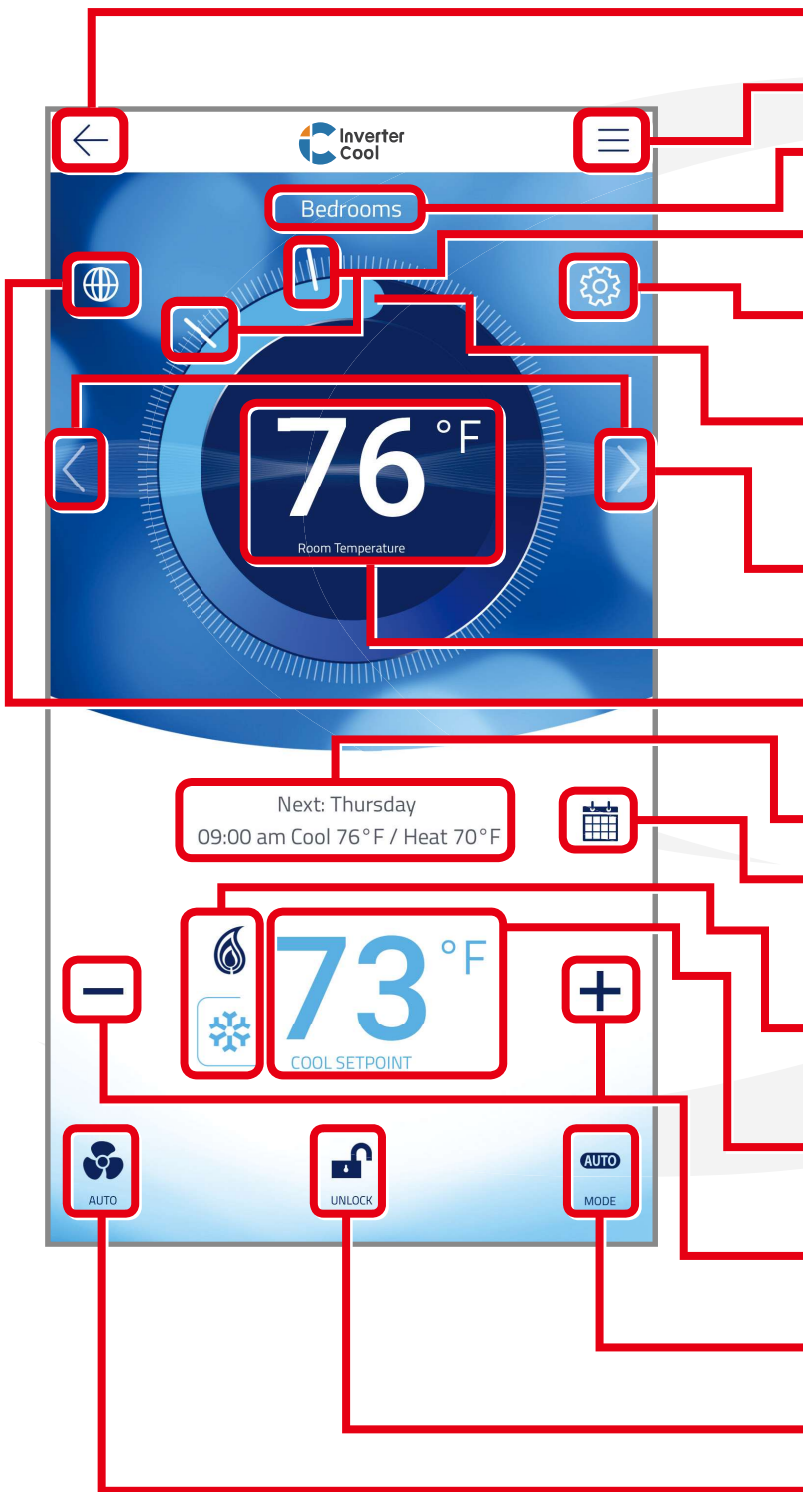
The screenshot shows the Inverter Cool app interface. At the top, the 'Inverter Cool' logo is on the left and a 'Main Menu' icon (three horizontal lines) is on the right. Below the logo, a 'Living Room' device label is shown. A 'Cloud Server Connection' icon (globe) is also present. The main control area for the Living Room shows a 'COOL 77 °F' set point, a 'Room Temperature' of '81 °F', and 'Heat/Cool Mode' set to 'AUTO'. There are minus and plus buttons for adjusting the set point, and a fan mode icon. Below this, a 'Bedrooms' section shows a '78 °F' room temperature and a fan mode icon set to 'ON'. A legend on the right explains the color coding: Green for Thermostat Satisfied, Orange for Heating is ON, and Blue for Cooling is ON.

- Main Menu
- Device Label
- Cloud Server Connection
- Current Set Point
- Increase/Decrease Set Point
- Heat/Cool Mode
- Current Room Temperature
- Fan Mode
- Green = Thermostat Satisfied
- Orange = Heating is ON
- Blue = Cooling is ON

Screen Element	Description
Main Menu	Access to Profile, Sign Out, About, Add Device, Home (This Screen)
Device Label	Unique identifier for each device
Cloud Server Connection	The icon will flash if there is an issue with connection to the cloud server.
Current Set Point	The current thermostat target temperature
Increase/Decrease Set Point	Set point adjustment. The current set point will react immediately to touch.
Heat/Cool Mode	Touch to cycle through OFF / HEAT / COOL / AUTO
Current Room Temperature	Displays the current room temperature
Fan Mode	Touch to toggle between ON/AUTO



Device Detail Elements



Screen Element	Description
Back to Home Screen	Return to Home Screen that shows all devices.
Main Menu	Access to Profile, Sign Out, About, Add Device, Home (This Screen)
Device Label	Unique identifier for each device
Set Point Graphic	Graphical illustration of the setpoint compared to current room temperature
Settings Menu	Access to Functional, Preference and System Settings
Room Temperature Graphic	Graphical illustration of the current temperature: ■ Green = Satisfied ■ Orange = Heating ON ■ Blue = Cooling ON
Previous/Next Device	Change the device to be adjusted
Current Room Temperature	Displays the current room temperature
Cloud Server Connection	The icon will flash if there is an issue with connection to the cloud server.
Schedule Adjustment	Make changes to schedule time and/or set points
Schedule Enable/Disable	Enable or disable current schedule
Current Mode Graphic	Heat Symbol ■ Orange = Heating Set Point Cool Symbol ■ Blue = Cooling Set Point
Current Set Point Temperature	The current thermostat target temperature
Decrease/Increase Set Point	Set point adjustment. The current set point will react immediately to touch
Heating/Cooling Mode	Touch to select OFF / HEAT / COOL / AUTO
Key Lock Indicator	Lock Thermostat keys to prevent local adjustment
Fan Mode	Choose between ON/AUTO




Wi-Fi Thermostat Settings



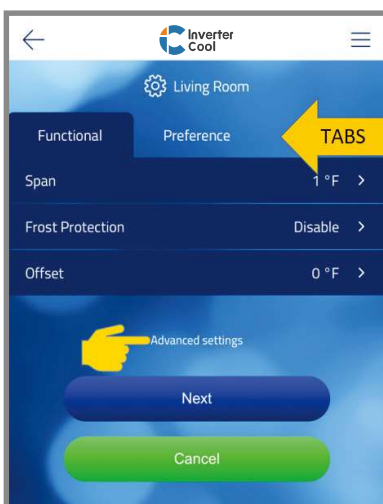
To access Wi-Fi Thermostat settings, select the temperature display of the desired device.



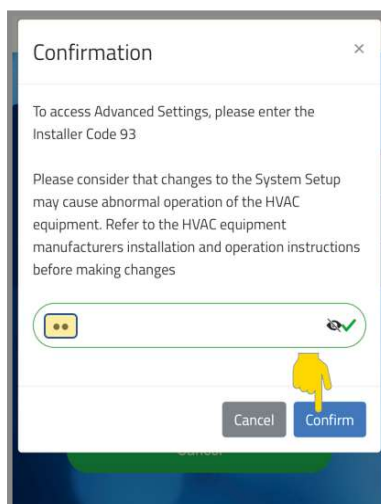
From the detail screen, choose the  icon to access settings.



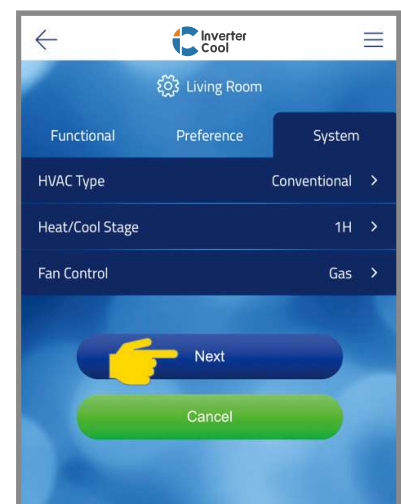
The settings screen shows all the relevant settings for the default conventional gas furnace or boiler. Choose **Edit** to make changes.



The two visible tabs are **Functional** and **Preference** settings. Choose these tabs to access the basic settings. For system setup, select **Advanced** settings.



The Smart Thermostat Application requires an Installer Code to continue. Copy the number to the green box and press **Confirm**.



Starting with the **System** tab, make sure all settings are set as desired. The following chart provides information about each setting. When complete, press **Next**.



Functional Settings

Setting	Description		
Span	Controls the allowable difference between the set point and room temperature.		
	Default	Range	Increment
	1°F (0.5°C)	1°F to 2°F (0.5°C to 1.0°C)	1°F (0.5°C)
Frost Set Point	Temperature below which the thermostat calls for heat regardless of target set point. Intended to prevent freezing.		
	<i>Note: Frost Protection must be Enabled for this item to be displayed</i>		
	Default	Range	Increment
	41°F (5°C)	Off; 41°F to 63°F (5°C to 17°F)	1°F (0.5°C)
Frost Protection	Enable or disable frost protection to prevent freezing in the building.		
	Default	Range	
	Disable	Disable or Enable	
Offset	The calibration offset changes the temperature displayed by the amount shown compared to the sensed temperature.		
	Default	Range	Increment
	0	-6°F to 6°F (-3°C to 3°C)	1°F (0.5°C)
<i>Deadband, Maximum Set Point for Heating and Minimum Set Point for Cooling are accessible only if Advanced Settings is chosen.</i>			
Deadband	The allowable difference in temperature between heating and cooling set points in AUTO Mode.		
	<i>Note: Both heating and cooling must be selected in System Settings for this item to be displayed.</i>		
	Default	Range	Increment
	4°F (2°C)	2°F to 4°F (1°C to 2°C)	1°F (0.5°C)
Maximum Set Point for Heating	The maximum allowable temperature for the heating set point.		
	<i>Note: At least one heating stage must be selected in System Settings for this item to be displayed.</i>		
	Default	Range	Increment
	90°F (32°C)	41°F to 95°F (5°C to 35°C)	1°F (0.5°C)
Minimum Set Point for Cooling	The minimum allowable temperature for the cooling set point.		
	<i>Note: At least one cooling stage must be selected in System Settings for this item to be displayed.</i>		
	Default	Range	Increment
	50°F (10°C)	41°F to 95°F (5°C to 35°C)	1°F (0.5°C)



Preference Settings

Setting	Description	
Temperature Display	Temperature units in degrees Fahrenheit (US Customary Units) or Celsius (SI Metric).	
	Default	Range
	°F	°F/°C
Hour Format	12- or 24-hour time format.	
	Default	Range
	12:00	12:00/24:00
Time Zone	North American time zone selection.	
	Default	Range
	Pacific	Alaska, Central, Eastern, Hawaii, Mountain, Pacific

System Settings (Advanced)

Setting	Description		
HVAC Type	Choose Conventional for furnace or boiler applications, choose Heat Pump for electric heat pumps, choose dual fuel for gas/electric systems.		
	Default	Range	
	Conventional	Conventional, Heat Pump, Dual Fuel	
Heat/Cool Stage	Number of heating (H) or cooling (C) stages with or without Auxiliary/Emergency Heat (+Aux/E)		
	Default	HVAC Type	Range
	1H	Conventional	1H, 2H, 1H1C, 2H1C, 2H2C, 1H2C, 1C, 2C
		Heat Pump	1H, 1C, 1H1C, 1H+AUX/E, 1H1C+AUX, 2H, 2C, 2H2C, 2H+AUX/E, 2H2C+AUX/E
Dual Fuel	2H, 2H1C, 3H, 3H2C		
Fan Control	Choose the energy input type (gas or electric) for fan control logic.		
	<i>Note: Conventional HVAC Type must be selected for this item to be displayed.</i>		
	Default	Range	
Gas	Gas or Electric		
Changeover	Choose B (Cool Default) or O (Heat Default) for Heat Pump Systems.		
	<i>Note: Heat Pump or Dual Fuel HVAC Type must be selected for this item to be displayed.</i>		
	Default	Range	
B	B or O		



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After changing desired settings, the Application shows all current settings on one screen. Scroll down and press **Confirm** to continue. Pressing **Cancel** discards any changes and returns to the previous screen.



Review the settings for accuracy. Choose ← to return to the Thermostat screen.



Descriptions of the Home Screen and Device Detail elements are under the **Menu & Screen Elements** section of this guide.



Wi-Fi Thermostat Schedule Setup

CPT100 Wi-Fi Thermostats are configured as Non-Programmable by default. Use the following instructions to set up a programmable schedule on the device.



Choose the  icon to begin setting up the thermostat schedule.



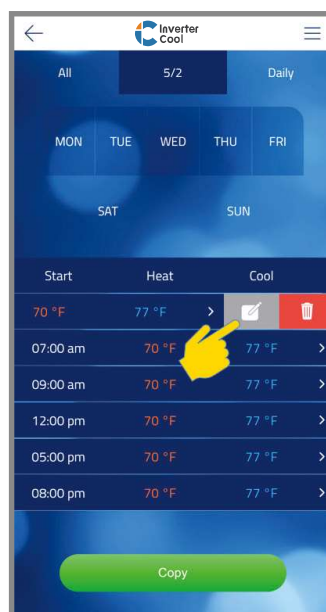
Choose **Follow Schedule** to enable schedule set up.




Touch the schedule text to change the default schedule and set points.



Choose the **All** tab to create a single schedule for the entire week, **5/2** to create weekday / weekend schedules or the **Daily** tab to create different schedules for each day.



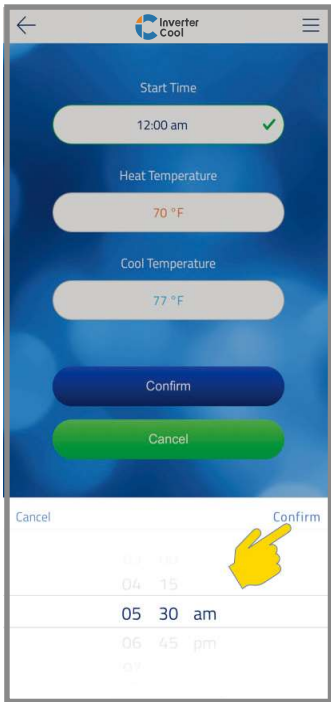
Touching the right arrow symbol > allows you to edit or delete the schedule period. Touch  to edit the period.



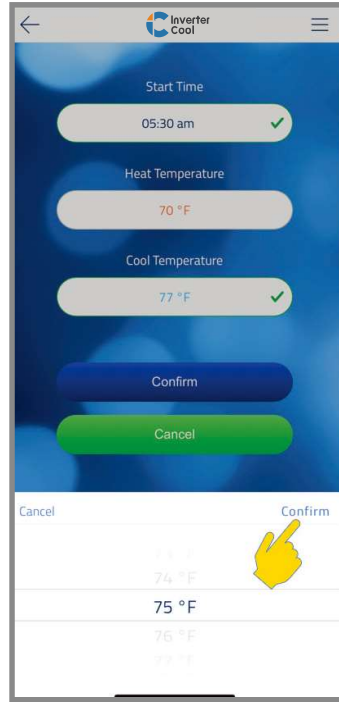
Selecting the **Start Time** opens a spinner dialog to set the period start time.



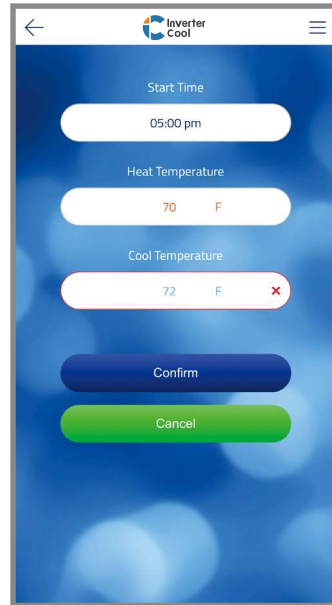
Application Guide



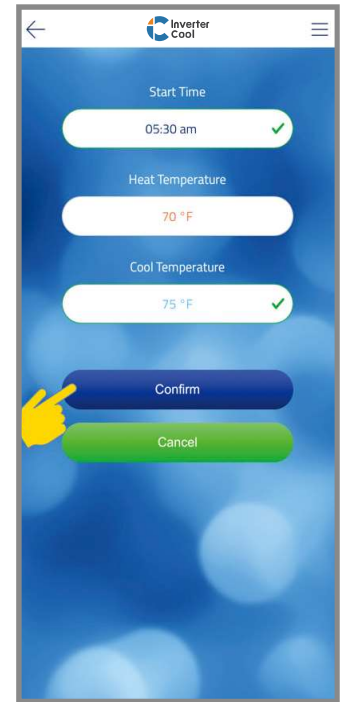
Be sure to press **Confirm** after changing the time values. Touching another part of the screen cancels the changes.



Edit the **Heat** and **Cool Temperature** values. Then press **Confirm**.



If the Heat and Cool Temperatures are set such that the difference is less than deadband setting, **X** will appear next in place of a **✓** and the setting will not be saved.



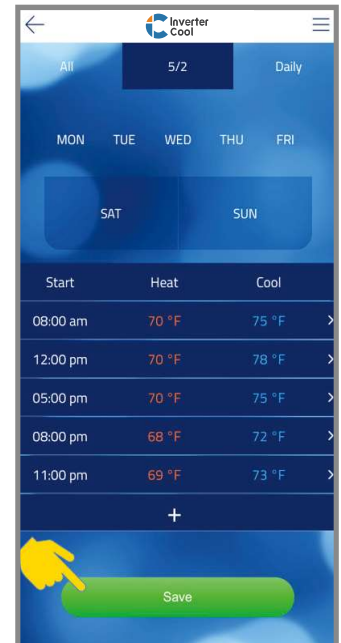
Once all parameters are set for a period, press **Confirm** to accept the values.



Pressing the  icon removes unwanted periods. Choose  to add additional periods.



Once all desired changes are made for a day or group of days, press **Save**.



Repeat this sequence for all remaining days or groups of days.

Note: A maximum of 6 periods can be programmed and at least 1 period is required per day or range of days.




Schedule Override



To temporarily override the current scheduled temperature, simply use the + or – icons to change the target set point.



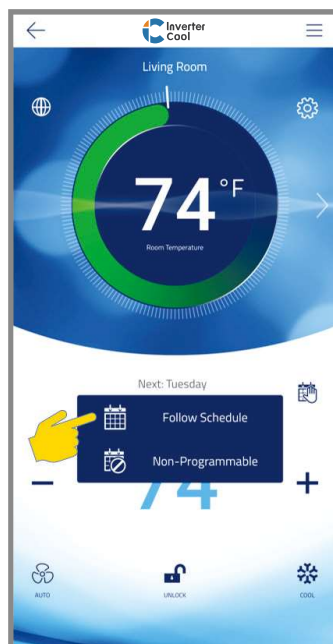
The schedule icon changes to  indicating the temperature setpoint has been temporarily overridden.



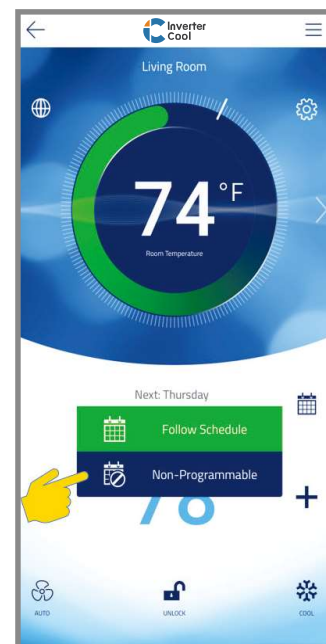
Pressing  to return to the home screen, the new set point is displayed above the current temperature.



To return to the schedule, press the .



Select follow schedule to return to the schedule program.



To permanently override the schedule, change the Thermostat to **Non-Programmable**. The programmed schedule will resume when **Follow Schedule** is next selected.



Application Guide

Accessing the Menu on the thermostat:

- Press Mode + Fan for longer than 3 seconds to access Parameter Settings menu
- Press Fan to step down to the sub menu or to save selection
- Press Mode to move up one menu without saving selection
- Use \wedge \vee buttons to step through menu options

Parameter Name	Description	Key	Settings
SYSTEM			
HVAC	Choose HVAC type		COOL HT PUMP 0 FUEL
SYS TYPE	Choose HVAC type		HEAT, COOL, or HEATCOOL
HP TYPE	Set Reversing Valve		HP-a or HP-b
HP STAGE	Set number of stages		1 or 2
AUX HEAT	Enable Auxiliary Heat		0 or 1 1
FAN TYPE	Set gas or electric heating source	\wedge \vee	GAS or ELEC
COOL STAGE	Set number of cooling stages		1 or 2
HEAT STAGE	Set number of heating stages		1 or 2
TIME ZONE	Set Time Zone		EASTERN, CENTRAL, MOUNT, PACIFIC or ALASKA
TIME DATE *	Set Time & Date		YEAR, MONTH, DAY, HOUR, MINUTE
FORMAT	Set Hour Format		12 or 24
NETWORK			
STATUS	Cloud Connection Status		0 = No Connection, 1 = Connected, 2 = Lost Connection
SSID	Wi-Fi Network Name	Press Fan to display read-only value.	
IP ADDRESS	Device IP Address		
MAC ADDRESS	Device MAC Address		
RSSI	Wi-Fi Signal Strength		Typically, -50 is excellent, while -90 is poor
RESET	Reset Network Settings		No / YES
FROST	Enable Frost Protection		No / YES
TEMP ERL	Adjust Temperature Display		-51 F to + 51F (-31C to +31C)
SPAN	Set ON/OFF differential (hysteresis)	\wedge \vee	0.5 / 1 / 2 F (0.25 / 0.5 / 1.0C)
DEADBAND	Set Differential between heating and cooling		2, 3, 4 F (1/4, 1/2, 1 C)
FACTORY RESET	Reset Thermostat to Factory Defaults		No / YES

- * Time and date are automatically set when the thermostat is connected to the internet therefore the prompts will not appear in the menu

Additional Keypad shortcuts

- Press Mode + Fan briefly (less than 3 seconds) to toggle temperature display between F and C
- Press \wedge + \vee briefly (less than 3 seconds) to toggle between Lock and Unlock keypad
- Press Mode for longer than 3 seconds to toggle between "Run Schedule" or "Non-Programmable"

To Factory Reset and return the device to "Mobile Setup" mode

- Press Mode + Fan for longer than 3 seconds – display shows SYSTEM
- Press \wedge button – display scroll FACTORY RESET
- Press Fan – display shows NO
- Press \wedge or \vee – display shows YES
- Press Fan – the thermostat will display –WAIT then reboot and display will scroll –MOBILE SETUP



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