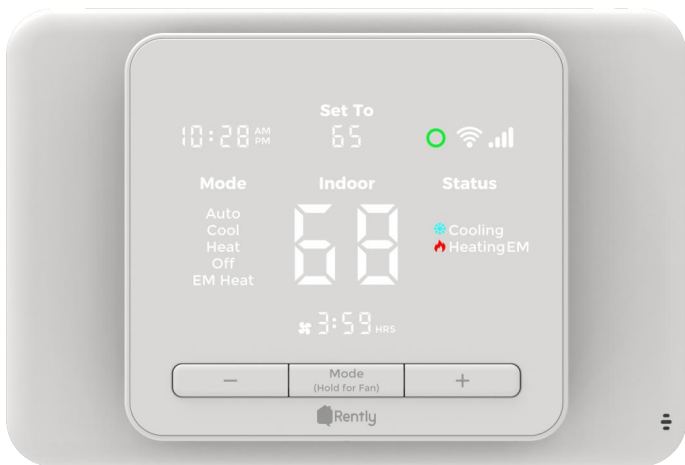




Smart Hub Pro



Installation Manual

Rev 1.0

Specification

Model Number	HUB510
System	• Arm Cortex-A55 Core • 1.7GHz • 1GB RAM • 8GB FLASH
Network	• 2.4G/5Ghz Dual-band Wi-Fi 802.11 a/c/b/g/n/ac • Bluetooth 5.0 • Z-wave 800 • Thread • Cellular 4G LTE CAT1
Operating system	Linux
Power	Rated input: 24VAC / 0.061A (Thermostat C wire connection) Input range: 20-30VAC, 0.073-0.048AA Power consumption: Idle: 1.4W, Max: 4.0W
Dimensions	Hub: 139 x 128 x 30mm (5.47 x 5.03 x 1.18 inches) Mounting plate: 216.71 x 145.71 x 4.97mm (8.53 x 5.74 x 0.05 inches)
Operating temperature	0 °C (32 °F) to 40 °C (104 °F)
Storage temperature	-25 °C (-13 °F) to 70 °C (158 °F)
Humidity	Max 95% non-condensing
Regulatory compliance	Safety: UL60730-1, UL60730-2-9 FCC

Key features

- Wi-Fi, Cellular Connectivity
- Z-Wave 800 (Support Smart start)
- Bluetooth 5.0
- Matter over Thread
- Temperature and Humidity Sensor
- Powered via HVAC C wire
- UL certified

Installation

Before Installation

Required Tools

- Electric drill
- General Purpose Phillips Screwdriver
- Hammer

Installation Location

- Installed on the wall only at the HVAC wiring location.
- Ensure the device is level using the bubble-level included on the mounting plate.

Package Include:

- Hub Pro
- Mounting Plate
- Screws and anchors
- Installation Guide



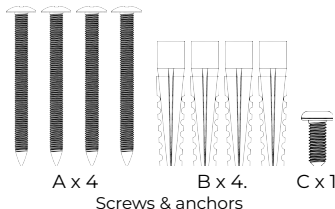
Smart Hub Pro



Mounting plate



Installation Guide



Compatible system:

- Compatible with most single-stage and multi-stage heating, cooling, and heat pump systems
- Electrical Requirements: 24 VAC power
- Common(C-wire): Supports both with and without C-wire.
- Android or iOS smartphone or tablet
- Transformer: Support all combinations of dual and single transformer system except the dual transformer system which C-wire is connected

together.

Incompatible systems:

- Does not work with electric baseboard heat (120-240V)
- Does not work with millivolt systems
- Dual transformer system which C-wire is connected together.

Installation steps

Step 1. Turn power off

Turn off the switch that controls your heating/cooling system at the breaker box. If necessary, turn off the main power at the breaker box.



Step 2. Remove your existing thermostat cover



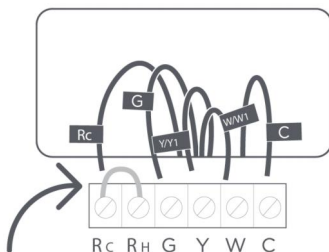
Step 3. Take a picture of your current thermostat wiring

Don't forget to include the letters next to the terminals where the wires are inserted. This will be a helpful reference when wiring your thermostat.



Step 3. Disconnect and label the wires from your old thermostat

Carefully disconnect and label the wires from your old thermostat one at a time.

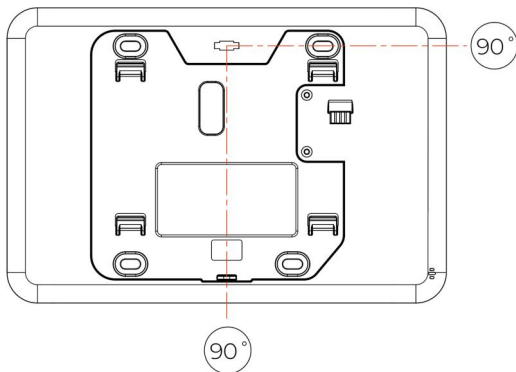


Step 4. Disconnect and remove your old thermostat

Remove the old thermostat's back panel by unscrewing it from the wall after wires are all labeled and disconnected.

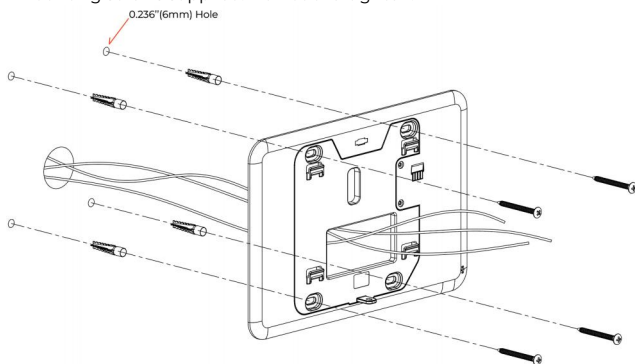
Step 5. Mount Rently Hub Pro mounting Plate

1. Position the mounting plate on the wall. Level and mark hole position.



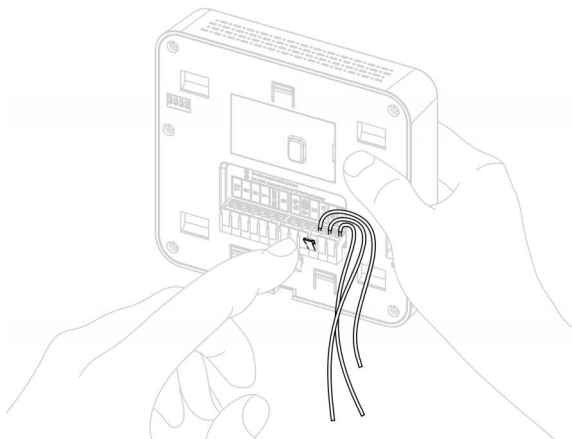
2. Drill holes 0.236" (6mm) at marked positions, and then lightly tap supplied wall anchors into the wall using a hammer.

3. Run wires through the wiring hole of the mounting plate.
4. Place the mounting plate over the wall anchors. Insert and tighten mounting screws supplied. Do not overtighten.



Step6. Connect the wires to Rently Hub Pro

Push up the lever and insert the wires into the inner holes of their corresponding terminals on the back of the Hub, push the lever back down to fix the wire. **Gently tug on the wires to verify they are secure.**



NOTES: Use 18-20 gauge thermostat wire. Shielded cable is not required.

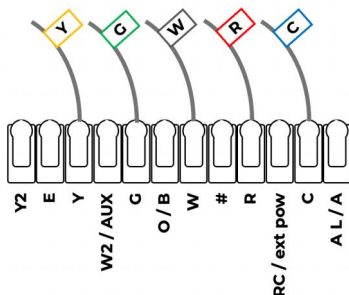
Terminal designations

Conventional Systems		Heat pump systems	
Terminal	Description	Terminal	Description
Y	Compressor Stage 1	Y	Compressor Stage 1
Y2	Compressor Stage 2	Y2	Compressor Stage 2
G	Fan Relay	G	Fan Relay
C	24VAC Common wire from secondary side of cooling transformer	C	24VAC Common wire from secondary side of cooling transformer
#	Connect to C-wire adapter	#	Connect to C-wire adapter
A		L/A	Connect to compressor monitor
W	Heat Stage 1	O/B	Changeover valve for heat pumps
W2	Heat Stage 2	Aux	Backup Heat
R	24VAC Heating transformer	R	24VAC Heating transformer
Rc / ext pow	24VAC Cooling transformer or external 24VAC transformer	Rc / ext pow	24VAC Cooling transformer or external 24VAC transformer
		E	Emergency Heat

Conventional systems wiring

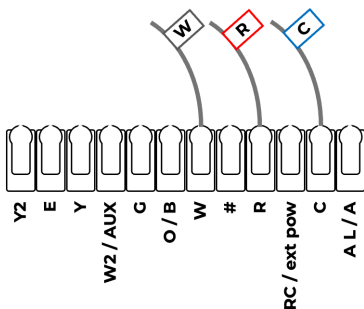
1 Heat/1 Cool System (1 transformer)

- R** Power
- Y** Compressor contactor
- C** 24VAC common
- W** Heat relay
- G** Fan relay



Hot Water Relay Panel

- R** Power
- W** Heat Relay
- C** 24VAC common



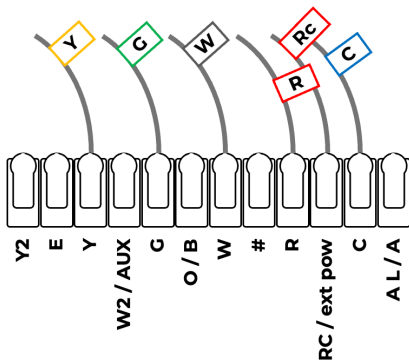
1 Heat/1 Cool System (2 transformer)

- R** Power (heating transformer)
- Rc** Power (cooling transformer)
- Y** Compressor contactor
- C** 24VAC common from any single transformer.



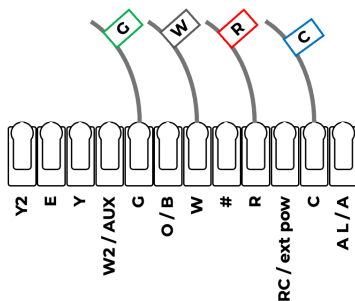
Do not connect 2 C wires

- W** Heat relay
- G** Fan relay



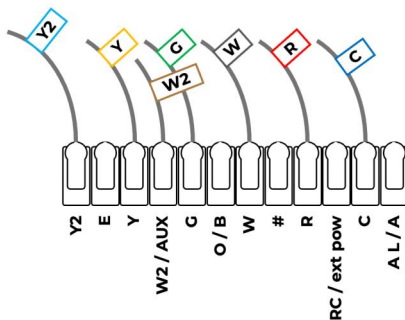
Heat-only System with Fan

- R** Power
- C** 24VAC common
- W** Heat relay
- G** Fan relay



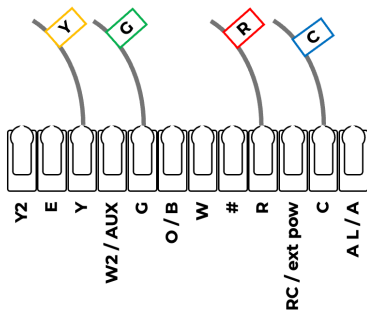
2 Heat/2 Cool System (1 transformer)

- R** Power
- Y** Compressor contactor (stage 1)
- C** 24VAC common
- W** Heat relay (stage 1)
- G** Fan relay
- W2** Heat relay (stage 2)
- Y2** Compressor contactor (stage 2)



Cool-only System with Fan

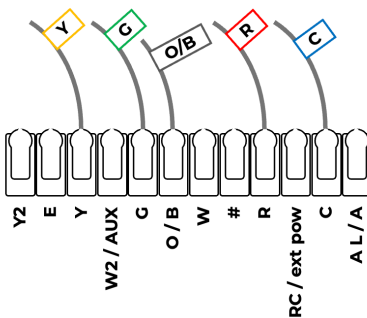
- R** Power
- Y** Compressor contactor
- C** 24VAC common
- G** Fan relay



Heat pumps systems

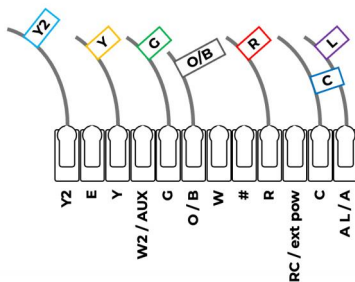
1 Heat/1 Cool Heat Pump System

- R** Power
- Y** Compressor contactor
- C** 24VAC common
- O/B** Changeover valve
- G** Fan relay



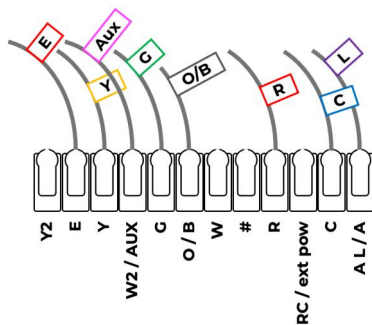
2 Heat/2 Cool Heat Pump System

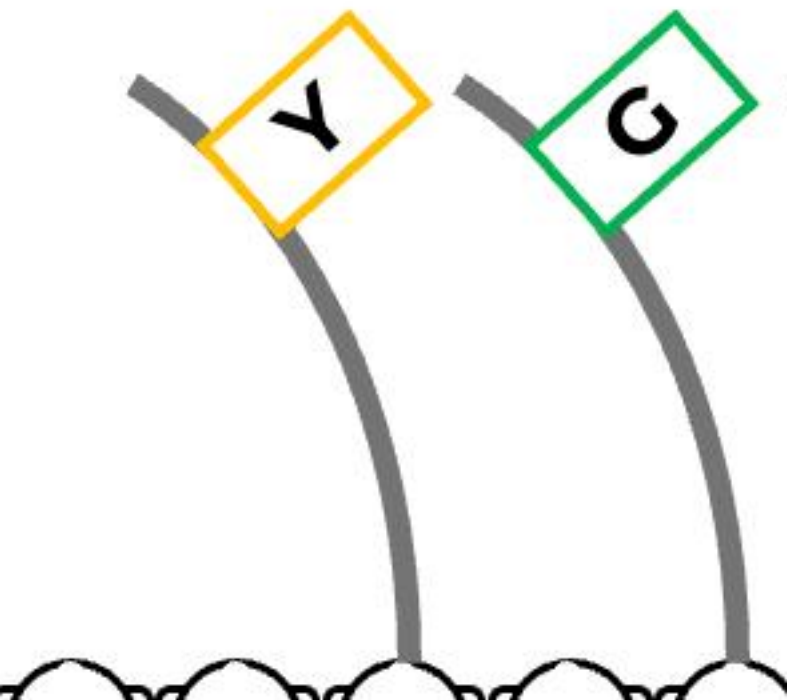
- R** Power
- Y** Compressor contactor (stage 1)
- C** 24VAC common
- O/B** Changeover valve
- G** Fan relay
- Y2** Compressor contactor (stage 2)
- L** Heat pump fault input

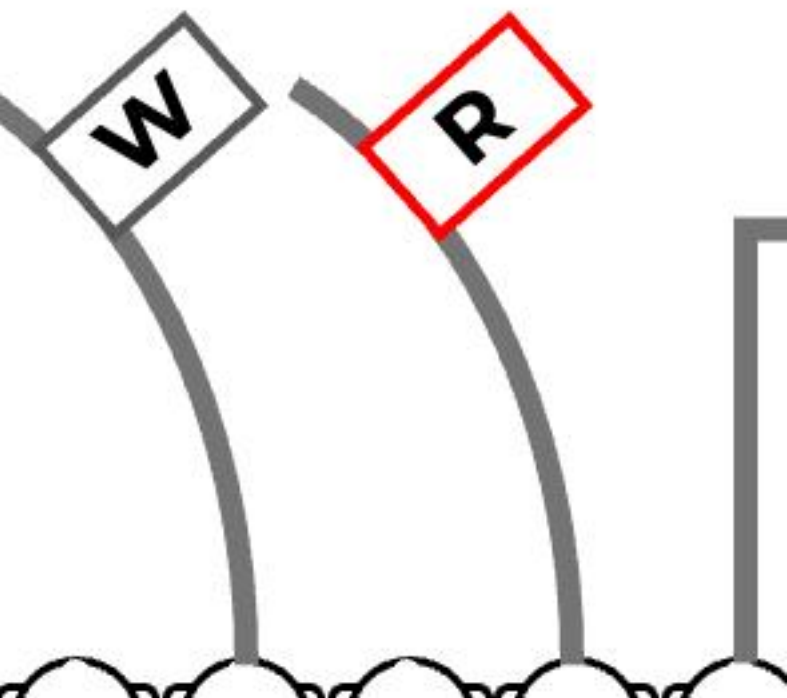


2 Heat/1 Cool Heat Pump System

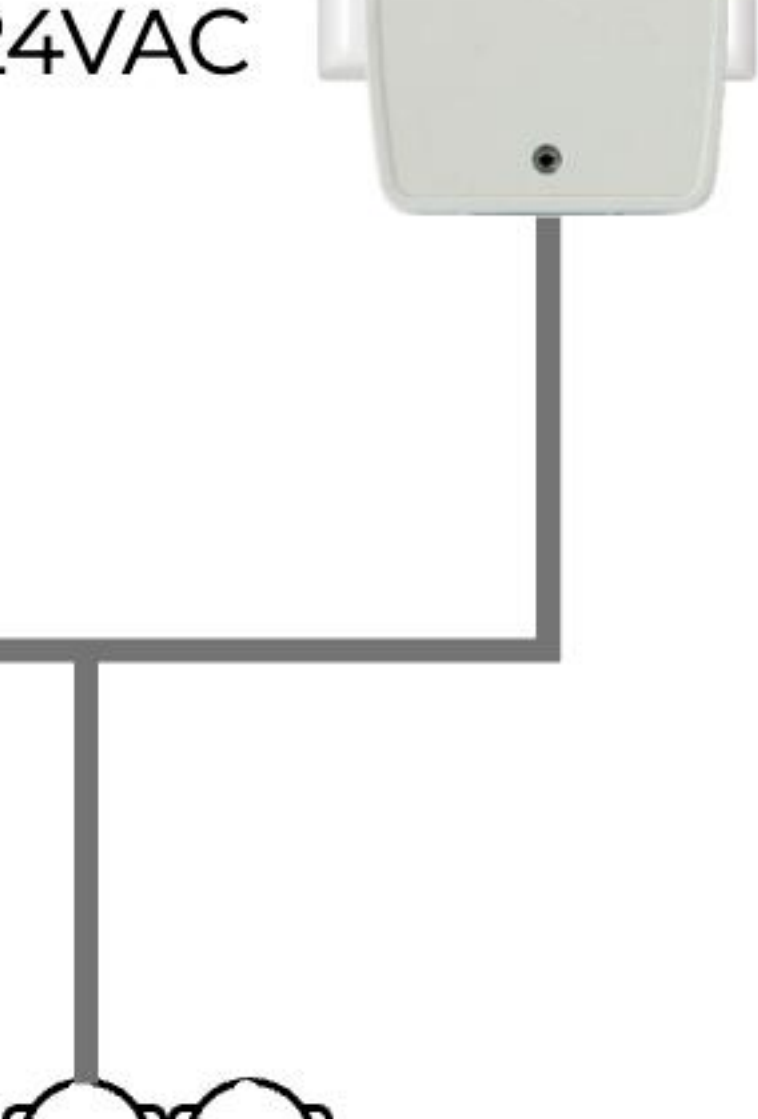
R	Power
Y	Compressor contactor
C	24VAC common
O/B	Changeover valve
G	Fan relay
Aux	Auxiliary heat
E	Emergency heat relay
L	Heat pump fault input



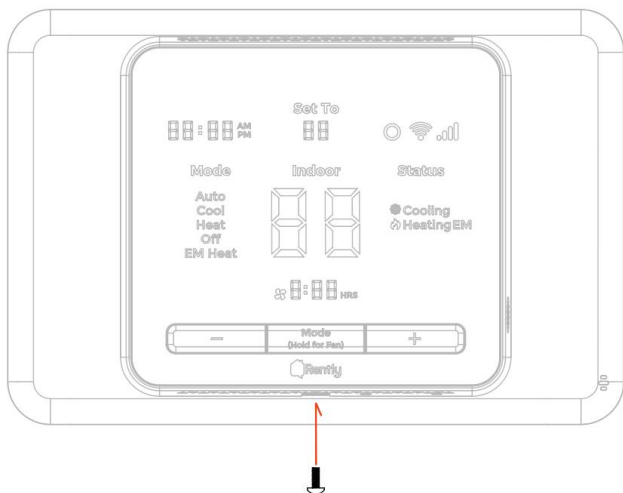




4VAC



3. Tighten a screw at the bottom of the Hub to secure it to the mounting plate.



Installer setup – Setup using the Rently SmartHome app

1. Download and install Rently Smart Home App by scan the QR code below:



2. Login to the App via TECHNICIAN LOGIN
3. After the Hub has powered up, follow the in-app instructions to setup Installer setup options (ISU).

Table1. Installer setup options

Name	Options (defaults in bold)	Notes
System type	Conventional Forced Air Heat Pump Boiler Cool Only	Basic selection of system your thermostat will control
Equipment type	Conventional Forced Air Heat: Standard Gas (STD GAS) High Efficiency Gas (EFF GAS) Oil Electric Fan Coil* Heat Pump: Air To Air Geothermal Boiler: Hot Water Steam	Note: This option selects the equipment type your thermostat will control. This option is NOT displayed if the system type is set to Cool Only. *Fan coil setting is for a residential application with a hot water coil in an air-handler

Reversing Valve	0/B on Cool 0/B on Heat	This option is only displayed if the system type is set to Heat Pump. Select whether reversing valve 0/B should energize on cool or on heat
Cool Stages	0, 1, 2	Only 1 compressor stage available if configured for heat pump
Heat Stages/Aux/E Stages	Heat Stages: 0, 1, 2 AUX/E Stages: 0, 1	Maximum of 2 Heat Stages for conventional systems. Maximum of 1 Aux/E stages for heat pump systems
Cool Warm	5 - 120 minutes Default 5.	Minimum running time of cooling in stage 1 before starting stage 2.
Heat Warm	5 - 120 minutes Default 5.	Minimum running time of heating in stage 1 before starting stage 2.
Fan Control	Equipment Thermostat	Note: This option is only displayed if Equipment type is set to Electric Forced Air or Fan Coil.
Aux/E Control	Both Aux/E Either Aux/E	Note: Set "EITHER AUX/E" if you want to setup and control Auxiliary and Emergency heating separately. This option is only displayed if System type is set to Heat Pump AND if Heat Stages Aux/E stages = 1.
Aux Heat Type	Electric Gas/Oil (or Fossil Forced Air)	This ISU is displayed only if the system type is set to heat pump AND if Heat stages Aux/E heat stages = 1.
EM Heat Type	Electric Gas/Oil (or Fossil Forced Air)	This option is displayed only if the system type is set to Heat Pump AND if Heat stages Aux/E heat stages = 1 AND if Aux/E control is set to run AUX/E heat separately.
Auto Differential	1 °F to 5 °F	Differential is the minimum number of degrees rise or fall required during off-cycle to switch from the last active mode (heat or cool) to the opposite mode when the thermostat is in auto-changeover. Differential is NOT deadband. The deadband temperature between when heating (or cooling) cycles on and cycles off to maintain setpoint is not adjustable.

Aux Heat Droop	Default 5 °F 2 °F to 15 °F from setpoint (in 1 °F increments) or 1.0 °C to 7.5 °C from setpoint (in 0.5 °C increments)	Aux heat droop can be set on heat pump systems with an auxiliary heat stage. The Comfort setting is NOT available for Dual Fuel systems. Default setting is 0 °F (Comfort) for Electric while 2 °F for Gas/Oil. The indoor temperature must drop to the selected droop setting before the thermostat will turn Aux Heat on. For example, if Aux Heat is set to 2 °F (1.0 °C), the indoor temperature must be 2 °F (1.0 °C) away from the setpoint before Aux Heat turns on. When set to Comfort, the thermostat will use Aux Heat as needed to keep the indoor temperature within 1 °F (0.5 °C) degree of the setpoint.
Up Stage Timer Aux Heat	30 , 45, 60, 75, 90 minutes 2, 3, 4, 5, 6, 8, 10, 12, 14, 16 hours	The Auxiliary Heat Up stage Timer starts when the highest stage of the previous heating equipment type turns on. Auxiliary heat will be used (if needed) when the timer expires. This ISU is only displayed when ISU 340 (AUX Heat Droop) is set to 2 °F or higher.
Balance Point (Compressor Lockout)	Off , 5 °F to 60 °F (in 5 °F increments) or -15.0 °C to 15.5 °C (in 2.5 °C or 3.0 °C increments)	Compressor Lockout requires an outdoor temperature. Set Compressor Lockout to the temperature below which it is inefficient to run the heat pump. When the outside temperature is below this setting, the thermostat will lock out the heat pump and run Aux Heat only. This option is only displayed if the system type is set to Heat Pump, Heat Stages Aux/E stages = 1, AND Fossil Kit control is set to Thermostat. Default is 40 °F if Heating Equipment is Air to Air Heat Pump and Aux Heat Type is Gas/Oil. Default is Off if Heating Equipment is Air to Air Heat Pump and Aux Heat Type is Electric. Default is Off

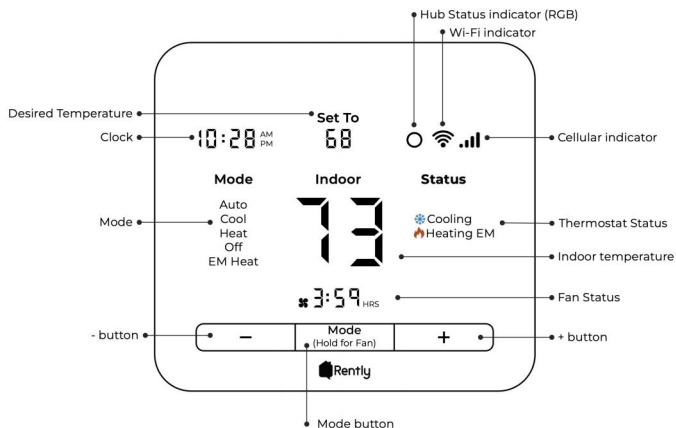
		if Heating Equipment is Geothermal. Compressor Lockout is optional for any type of heat pump (Air to Air Heat Pump, Geothermal Heat Pump).
Aux Heat Lockout (Aux Heat Outdoor Lockout)	Off , 5 °F to 65 °F (in 5 °F increments) or -15.0 °C to 18.5 °C (in 2.5 °C or 3.0 °C increments)	Aux Heat Lockout requires an outdoor temperature. Set Aux Heat Lockout to optimize energy bills and to not allow it to run the more expensive Aux Heat source above a certain outdoor temperature limit. This option is only displayed if the system type is set to Heat Pump, AND Fossil Kit Control is set to Thermostat control AND if Heat stages 1 Aux/E stages = 1.
Compressor Protection	1 - 5 minutes	The thermostat has a built in compressor protection (minimum off timer) that prevents the compressor from restarting too early after a shutdown. The minimum-off timer is activated after the compressor turns off. This option is displayed if Cool Stages is set to at least 1 stage.
Ext Fan Run Time in Cool	Off , 1 - 15 minutes	After the call for cooling ends, the thermostat keeps the fan on for the selected amount of time for increased efficiency. This may reintroduce humidity into the living space. This option is displayed if Cool Stages is set to at least 1 stage.
Ext Fan Run Time in Heat	Off , 1 - 15 minutes	After the call for heating ends, the thermostat keeps the fan on for the selected amount of time for increased efficiency. This ISU is displayed if Fan Control is set to Thermostat Controls Fan.
Temp Offset	Off , -10 °F to 10 °F (in 1 °F increments)	The thermostat can display up to 10 °F lower or higher than the actual measured temperature.
Humidity display offset	Off , -10% to 10% (in 1% increments)	The thermostat can display up to 10 % lower or higher than the actual measured Humidity..

Performing a system calibration and test

Follow the in-app instructions to complete the thermostat calibration and test.

Reference Guide

Display and buttons



Desired Temperature

Shows desired indoor temperature

Indoor Temperature

Shows current indoor temperature

Adjust temperature

Press + or – button to set your desired temperature

Clock

Shows actual time

Mode

Shows current mode

Mode (Hold for Fan) button

Press to select system mode:

- Auto
- Heat
- Cool
- Off

Fan Status

Shows current Fan status
Auto mode: Off
On mode: Shows fan icon and timer

Status

Shows current thermostat status

- Cooling: Cooling is running
- Heating: Heating is running
- Heating EM: EM Heating is running

Wi-Fi / Cellular indicator

blinking when connecting to Wi-Fi or Cellular.
Shows the Wi-Fi or Cellular signal strength.

Hub status indicator

Shows status of the Hub

Hub Status	Indicator status
Adding device	Blinking Green 1Hz
Removing device	Blinking Green 2Hz
Hub offline, connecting to the server	Blinking Red 1Hz
Hub is online	Solid blue
Hub malfunction	Solid Yellow

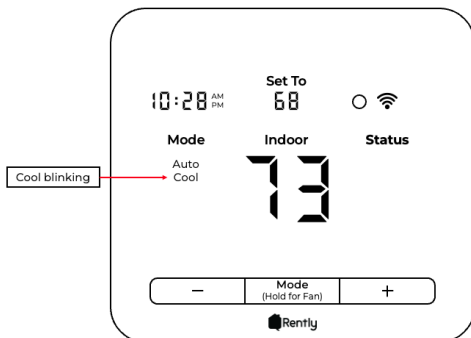
System operation settings

1. Press the **"MODE"** button to cycle to the next available system mode.
2. Press the **"+"** or **"-"** button to change the desired temperature setpoint.
3. Cycle through the modes until the required system mode is displayed and leave it to activate

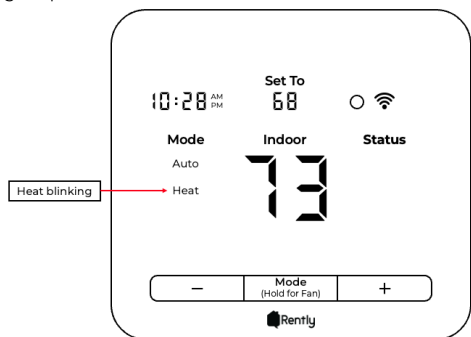
Note: EM Heat is only available if the equipment type is set to Heat pump system and EM Heat is enabled in the settings of the Rently Smart home App.

Auto mode Cool and Heat setpoints setting

1. Press the **"MODE"** button to cycle to **"AUTO"** mode.
2. **"Cool"** will begin flashing and you can press the **"+"** or **"-"** buttons to change the cooling set point.



3. Press the **"MODE"** button again to switch to Heating setpoint setting.
4. "Heat" will begin flashing and you can press the "+" or "-" buttons to change the heating set point.



5. If you press the **"MODE"** button again, it will navigate back to the cooling setpoint setting again.
6. Without button operation for 4 seconds, it will complete the setting and start running Auto mode.

Fan operation settings

Press and hold the **"MODE"** button for more than 5 seconds to switch the fan between **On** and **Auto** mode. When **On** mode is selected, the fan will turn on for 1 hour even if the cooling or heating is Off.

Note: Default fan on timer is 1 hour, it is configurable on the Rently Smart Home App up to 10 hours.

Fan modes:

- **Auto (Default):** Fan runs only when the heating or cooling system is on.
- **On:** Keep running within the timer

Schedule settings

You can set the thermostat schedule in the App.

Built-in compressor protection

Damage can occur if the compressor is restarted too soon after shutdown. This feature forces the compressor to wait for a few minutes before restarting.

Troubleshooting

If you have any issues, please visit our support center:

<https://help.rently.com/>

Or call us at (855)-248-8144 For assistance, please see the Rently Help Center or scan the QR code below:



Regulatory Compliance

FCC Statement

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception,

which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver .
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Note: The Grantee is not responsible for any changes or modifications not expressly approved by the party responsible for compliance. such modifications could void the user's authority to operate the equipment.

The device has been evaluated to meet general RF exposure requirement.

To maintain compliance with FCC's RF exposure guidelines, the distance must be at least 20 cm between the radiator and your body, and fully supported by the operating and installation configurations of the transmitter and its antenna(s).

FCC ID: 2AH4J-HUB510

IC Caution:

RSS-Gen Issue 5 "&" RSS-Gen numéro 5

- English:

This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:

- (1) This device may not cause interference.
- (2) This device must accept any interference, including interference that may cause undesired operation of the device.

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

RF exposure statement:

The equipment complies with IC Radiation exposure limit set forth for uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator and your body.

- French:

Cet appareil contient des émetteurs / récepteurs exemptés de licence conformes aux RSS(RSS) d'Innovation, Sciences et Développement économique Canada. Le fonctionnement est soumis aux deux conditions suivantes:

- (1) Cet appareil ne doit pas causer d'interférences.
 - (2) Cet appareil doit accepter toutes les interférences, y compris celles susceptibles de provoquer un fonctionnement indésirable de l'appareil.
- Tout changement ou modification non expressément approuvé par la partie responsable de la conformité pourrait annuler l'autorité de l'utilisateur à utiliser l'équipement.

Déclaration d'exposition RF:

L'équipement est conforme à la limite d'exposition aux radiations de la IC établie pour un environnement non contrôlé. Cet équipement doit être installé et utilisé avec une distance minimale de 20 cm entre le radiateur et votre corps.