



# Wi-Fi Touchscreen Thermostat Quick Start Guide

# Safety Handling

**WARNING:** Failure to follow these safety notices could result in fire, electric shock, other injuries, or damage to the Thermostat and other property. Read all the safety notices below before using the Thermostat.

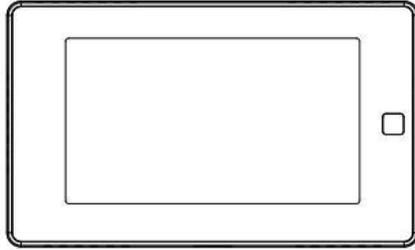
- Avoid high humidity or extreme temperatures.
- Avoid long exposure to direct sunlight or strong ultraviolet light.
- Do not drop or expose the unit to intense vibration.
- Do not disassemble or try to repair the unit on your own.
- Do not expose the unit or its accessories to flammable liquids, gases or other explosives.

# **1** Welcome

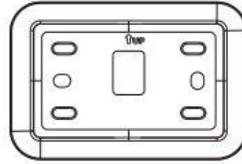
The Wi-Fi Touchscreen thermostat makes it easier and smarter to control your household temperature. With the help of zone sensors, you can balance hot or cold spots throughout the home to achieve best comfort. You can schedule your thermostat working hours so it will work based on your plan.

This guide will provide you with an overview of the product and will help you understand how to use it.

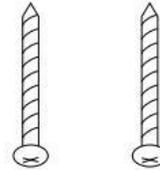
## 2 In the box



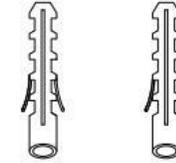
PCT513  
Wi-Fi Touchscreen Thermostat



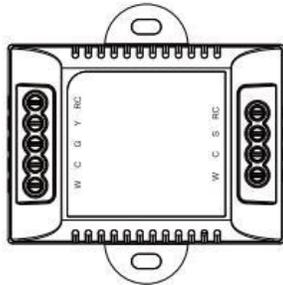
Wall Plate



2\*Screws



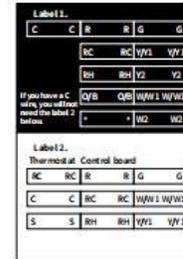
2\*Drywall plugs



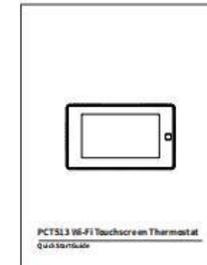
Power module SWB511  
(optional)



Remote Zone Sensor  
(optional)



Wire Tags



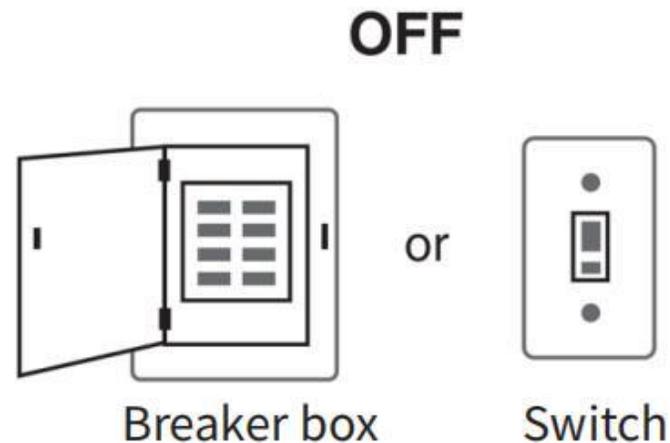
User guide

# 3 Installation Guide

## 3-1 Removing your old thermostat

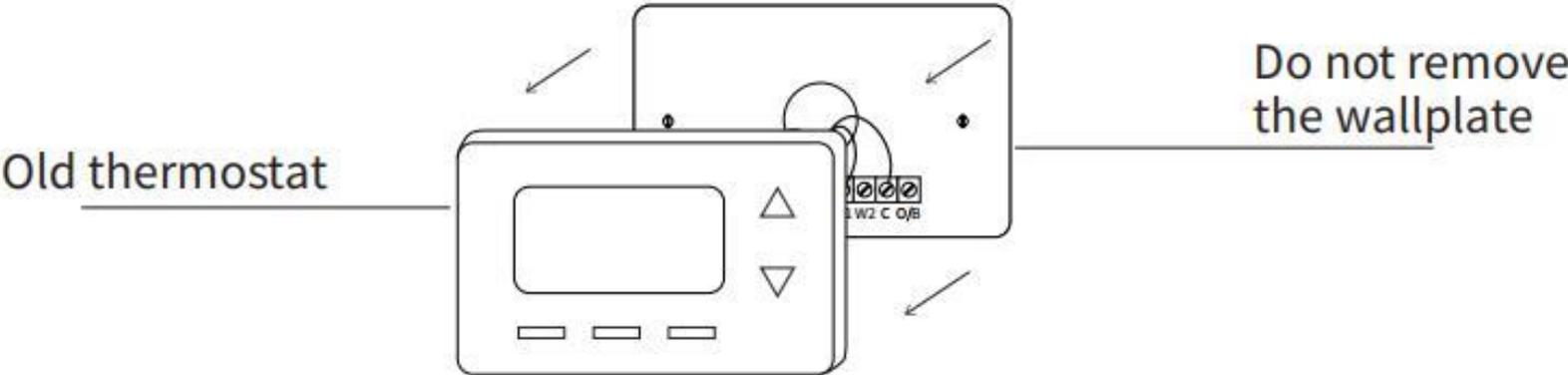
### Step 1. Switch off your HVAC system

Before you start, please switch off your HVAC system to protect you and avoid blowing a fuse. Wait a few minutes, try to adjust the temperature in your old thermostat to double check if the system is off.



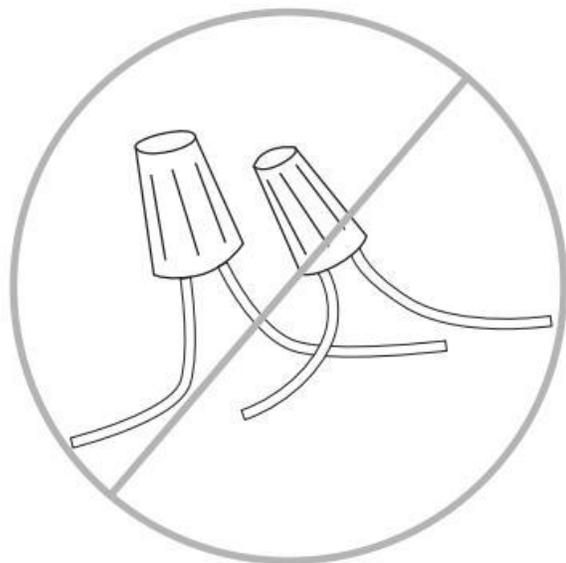
# Step 2. Remove the old thermostat

Remove the old thermostat from the wall, keep the wallplate with wires.

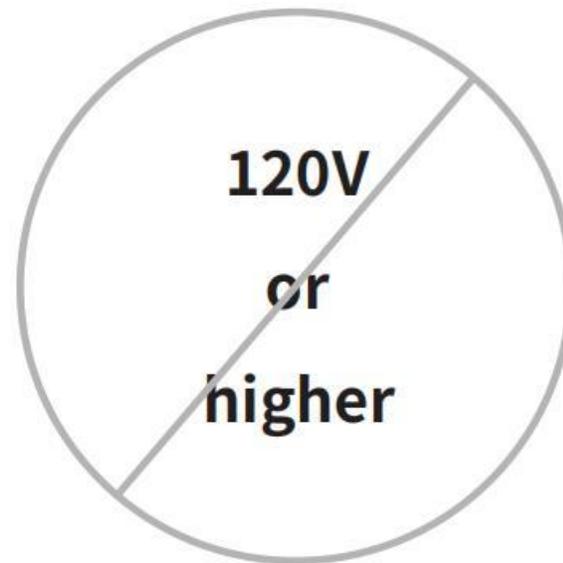


## Step 3. Compatibility Check

If you find a thick wire with wire nuts on the backplate of the old thermostat, or if the voltage of your old system is 120v or higher, it will not be compatible with PCT513. If none of the above, then please proceed to the next step.

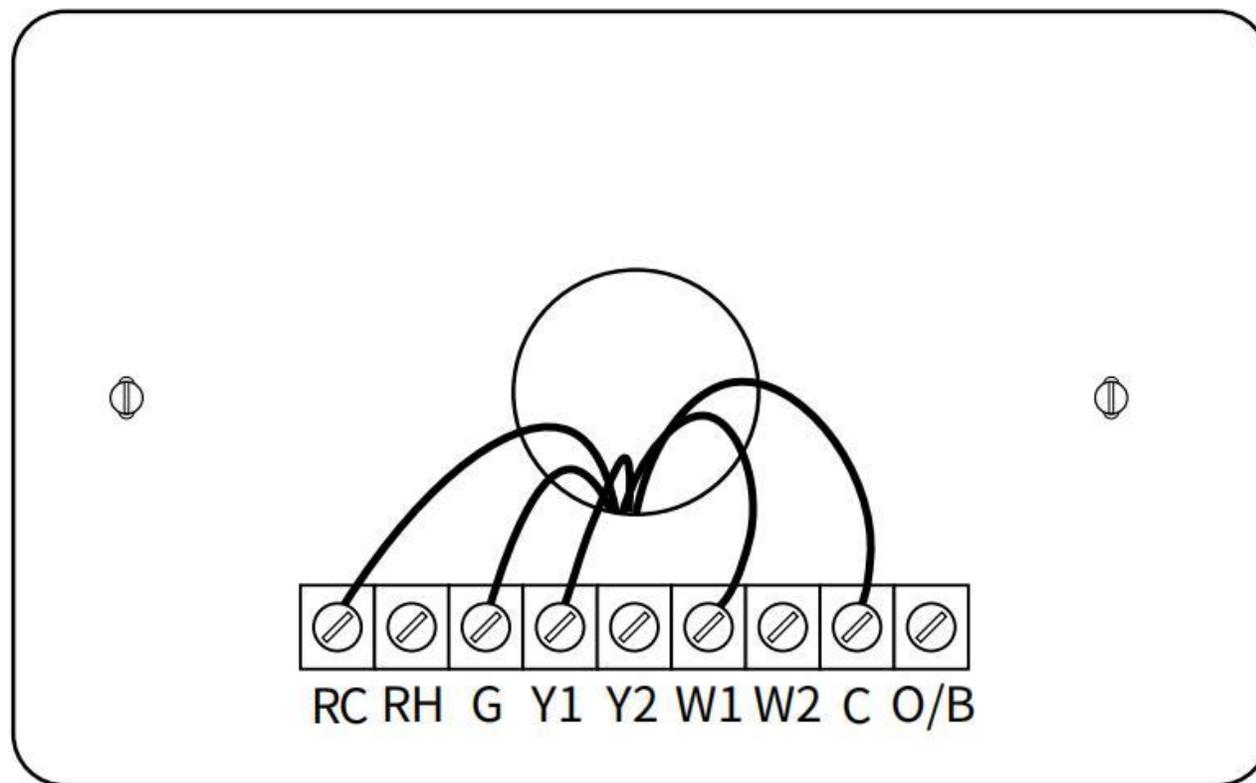


OR



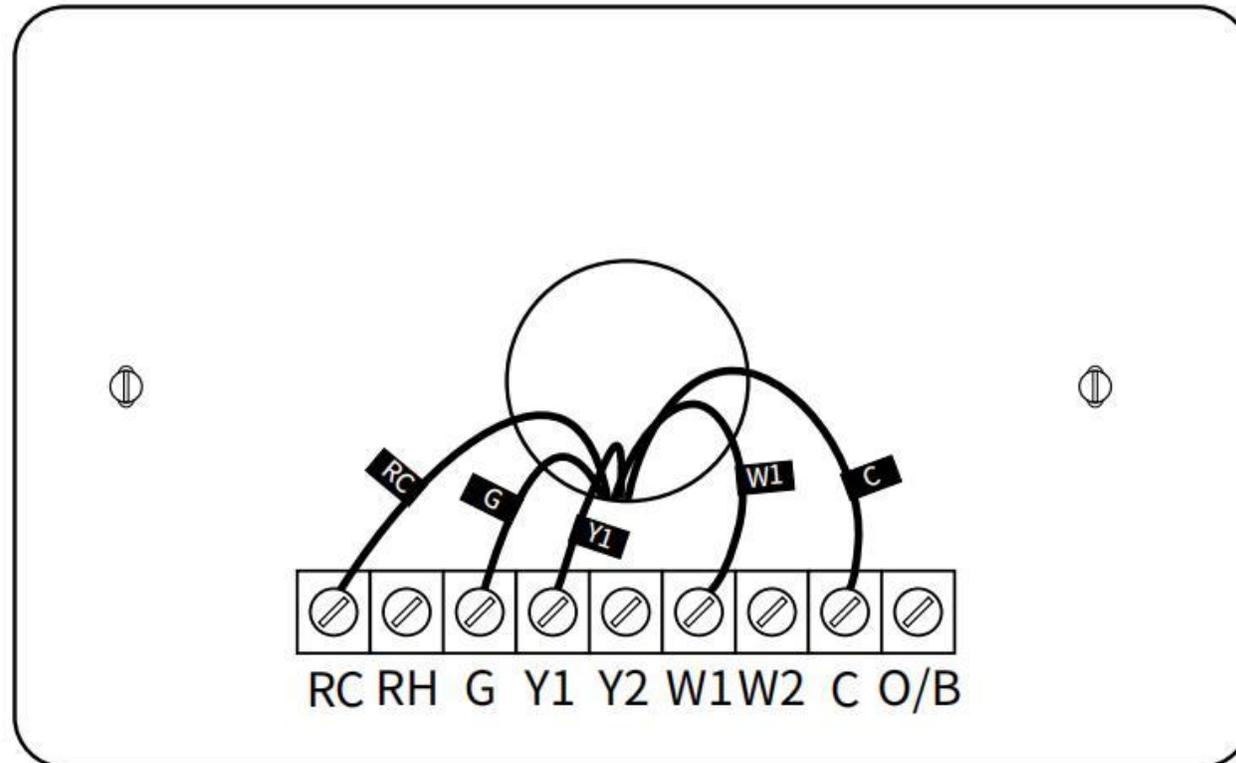
## Step 4. Take a photo

Take a picture of the wires connected to the terminal of your old thermostat. You may need to reference this photo later.

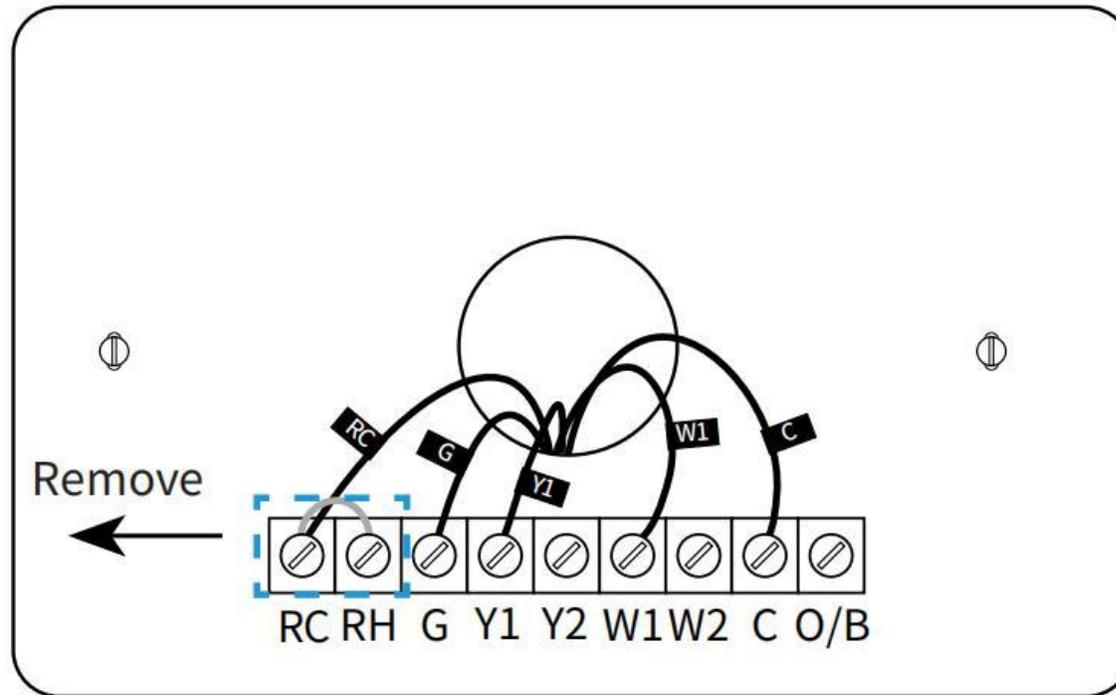


## Step 5. Label the Wires with Tags

Label each wire on the wallplate with the tags (**label 1**) provided. Then carefully disconnect the wires.



**Note:** If there are any jumper wires between **Rh**, **Rc**, or **R** terminals, do not label them. Thermostat does not need jumpers. Remove them and save along with your old thermostat.

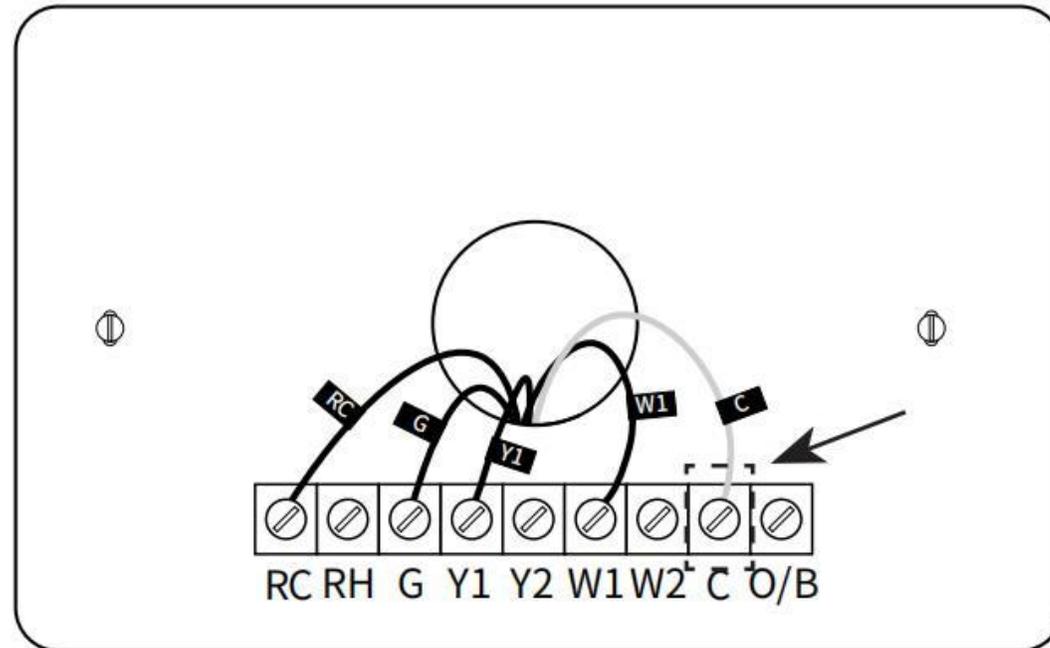


# 3-2 Connect wires

Do you have a C wire connected to your old thermostat?

YES → 3-2-1

NO → 3-2-2



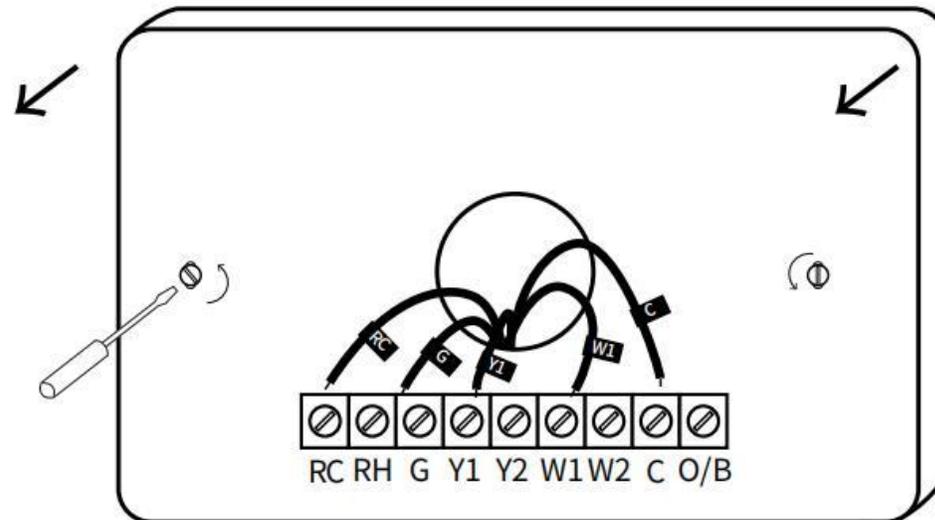
## Terminal designation:

Terminals	What it means
RC	24VAC primary for cooling
RH	24VAC primary for heating
C	24VAC common
W1	1st stage Primary heating relay / Aux heat
W2	2nd stage Secondary heating relay / Aux heat
Y1	1st stage Primary compressor contactor
Y2	2nd stage Secondary compressor contactor
G	Fan relay
O/B	Changeover valve for heat pumps
S	Optional wiring module terminal to combine Y and G, while reserve an extra in-wall wire to power on the thermostat

# 3-2-1 Install the thermostat **with a C-wire** **C-wire**

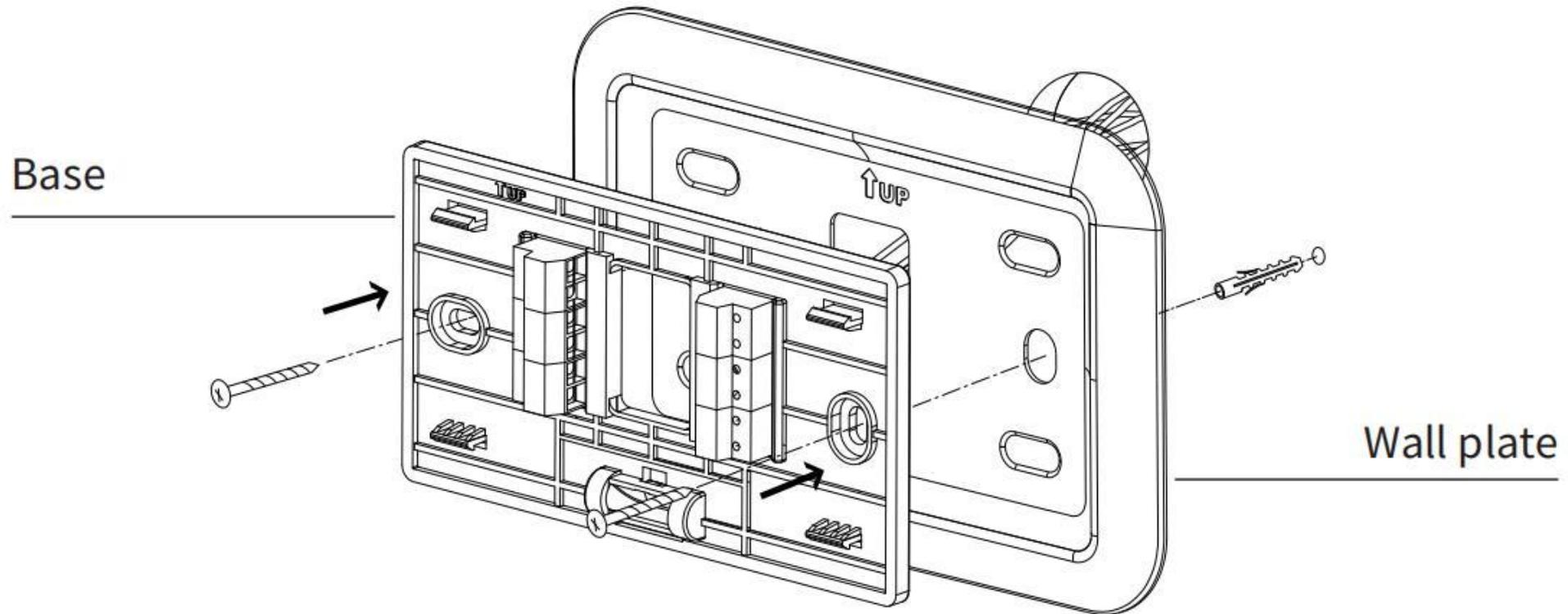
## Step 1. Remove the wallplate

Unscrew the wallplate from the wall, gently pull it out to ensure the wires will not fall back into the hole.



## Step 2. Attach the base of Thermostat to the wall

Bundle and insert the wires through the hole of wall plate and the base of PCT513, then attach the base to the wall with the screws.



## **Step 3. Connect the wires**

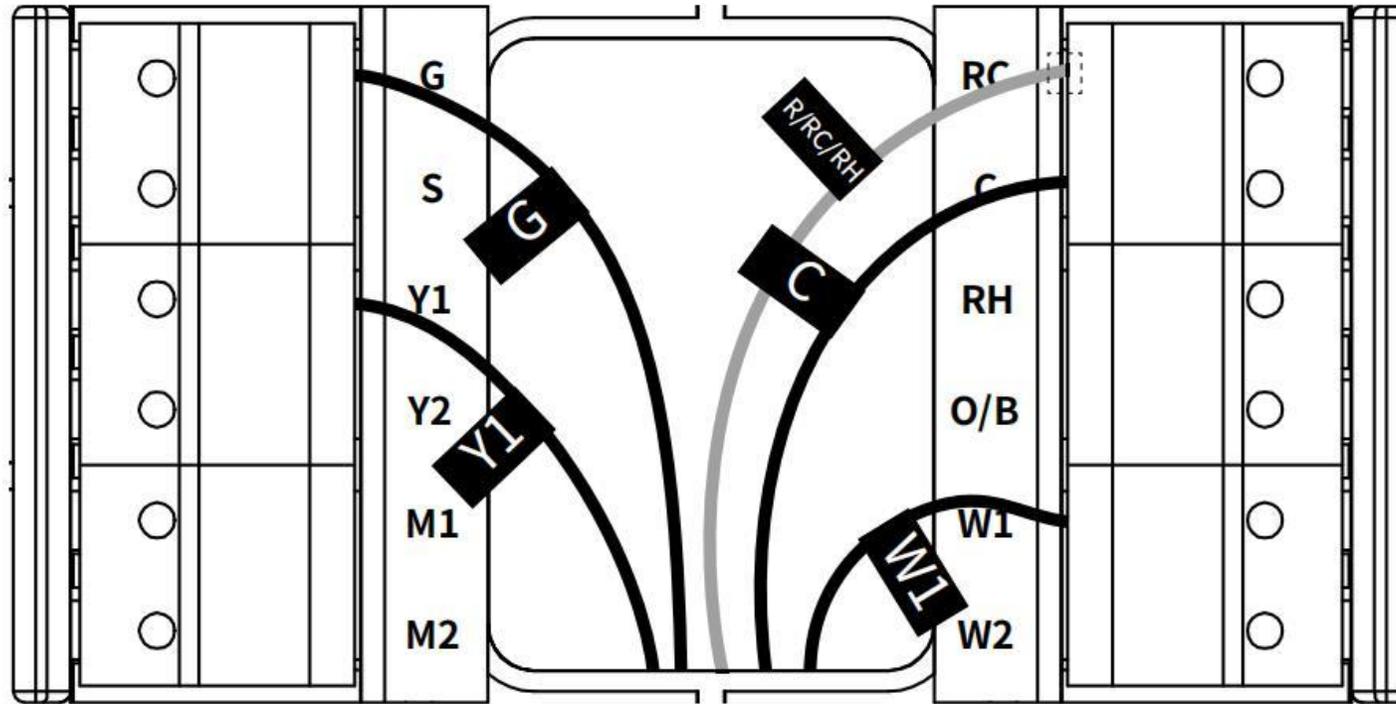
Connect wires to the corresponding terminal in the base. Take a picture of the wires when you finished. You may need to refer it for the wirings in the setup wizard later.

Do you have more than one R wire (R, RC, and RH)?



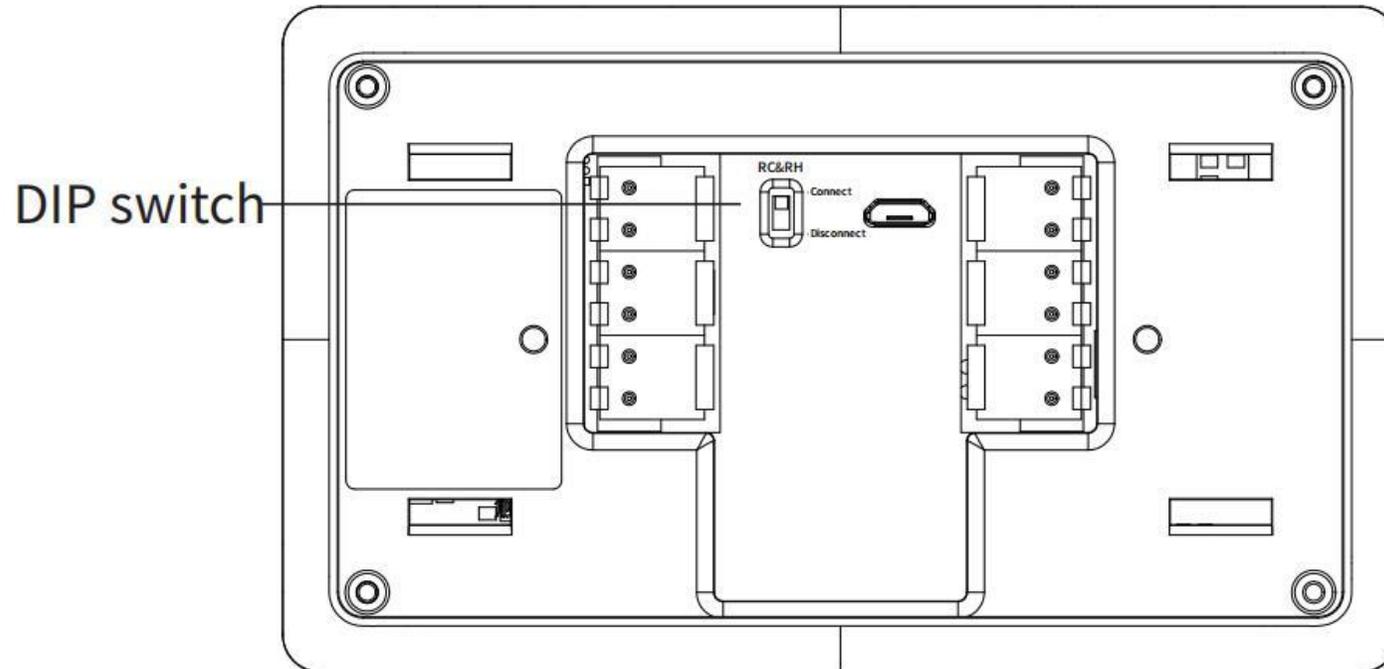
**NO:**

R, RC, or RH wire into the RC terminal



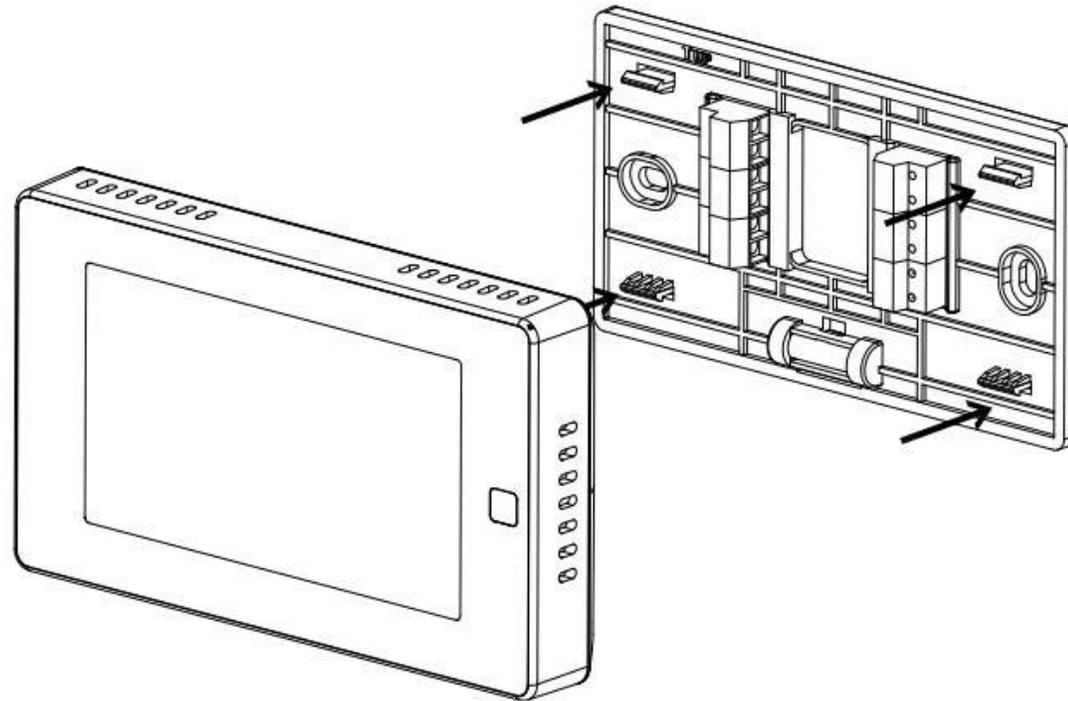
## Step 4. DIP Switch

Adjust the DIP switch on the back of the thermostat to '**Disconnect**' if you have connected both the RC-wire and the RH-wire to the wallplate, otherwise, switch it to the '**Connect**' side.



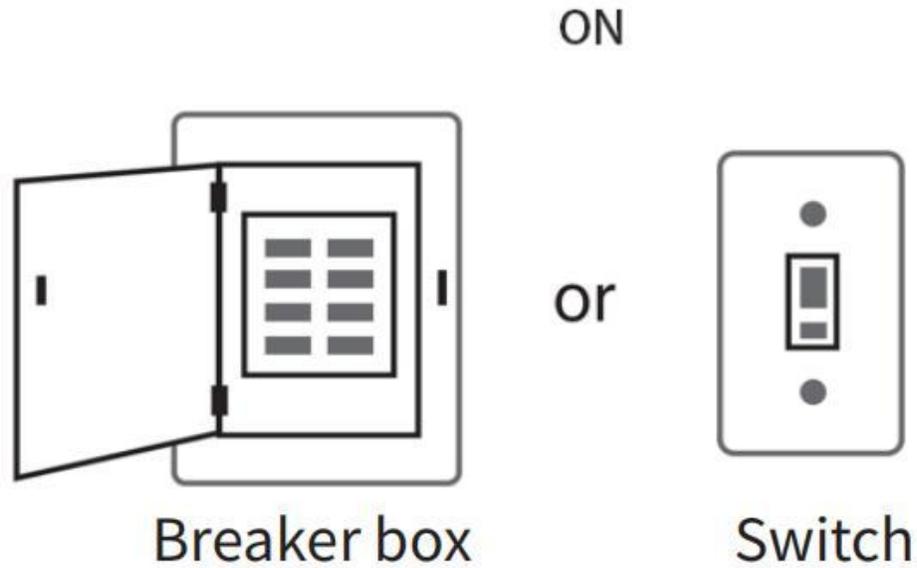
## Step 5. Attach the Thermostat to the base

Gently press the Thermostat into the base until it clicks.

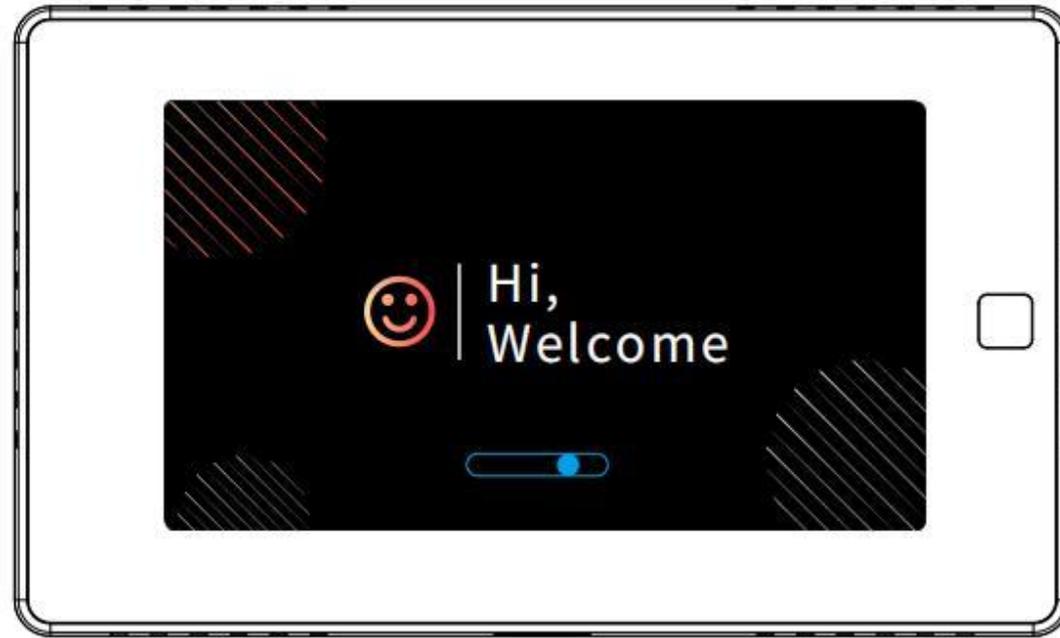


## Step 6. Power on your system

Congratulation! The installation is finished. Please power on your HVAC system.

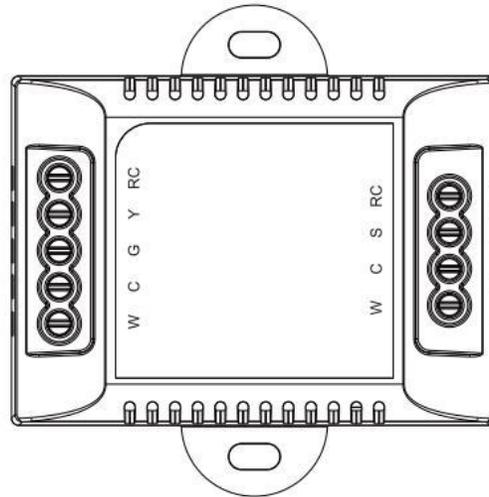


When the power is successfully energized, the thermostat's screen will light up and go into wizard. You can complete the following configuration according to section 4.



## 3-2-2 Install the thermostat **without a C-wire** (Optional)

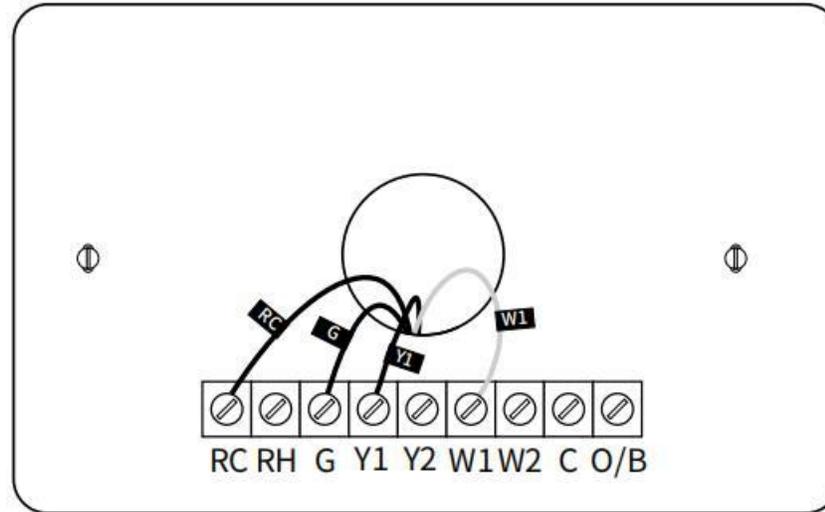
Power module →



Power module requires your system to have the following wires:

**4 wires: W/W1, Y/Y1, G, and R (or Rc or Rh)**

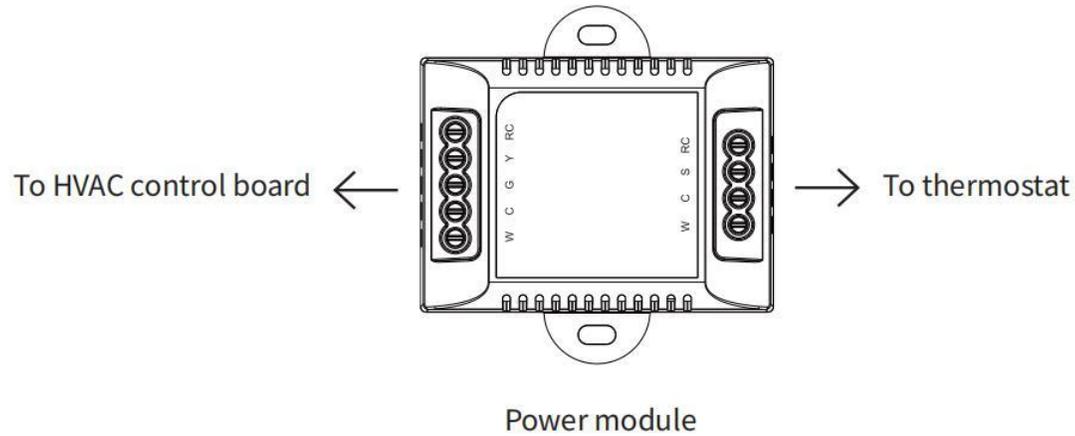
**or 3 wires: Y/Y1, G, and R (or Rc or Rh)**



If you do not have these wires, your system may not be compatible with the power module.

## Description:

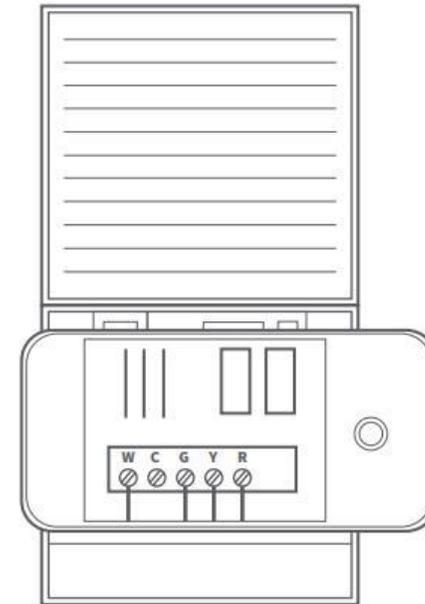
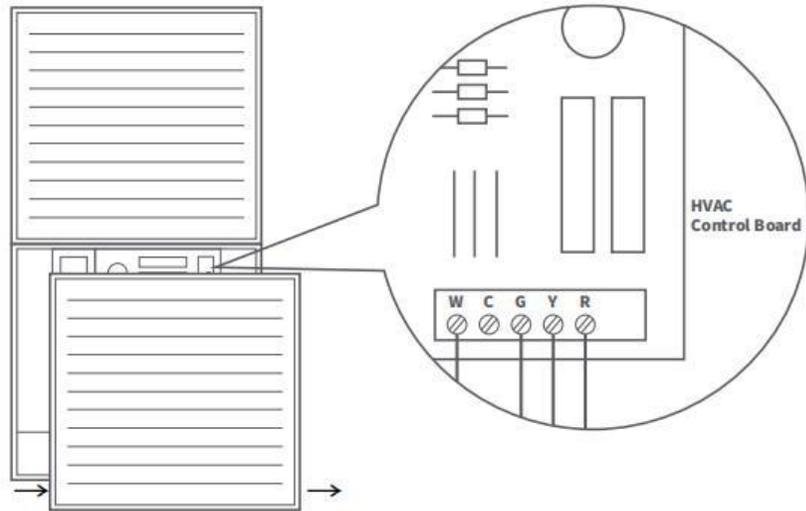
The C-wire is used to provide power to the thermostat. If your system does not have "C" wire, you can use the power module to power your thermostat using the existing wires.



There are two sides with connections. One side (4 terminals) is for thermostat connections, the other side, pre-wired (5 terminals), is for the control board connections.

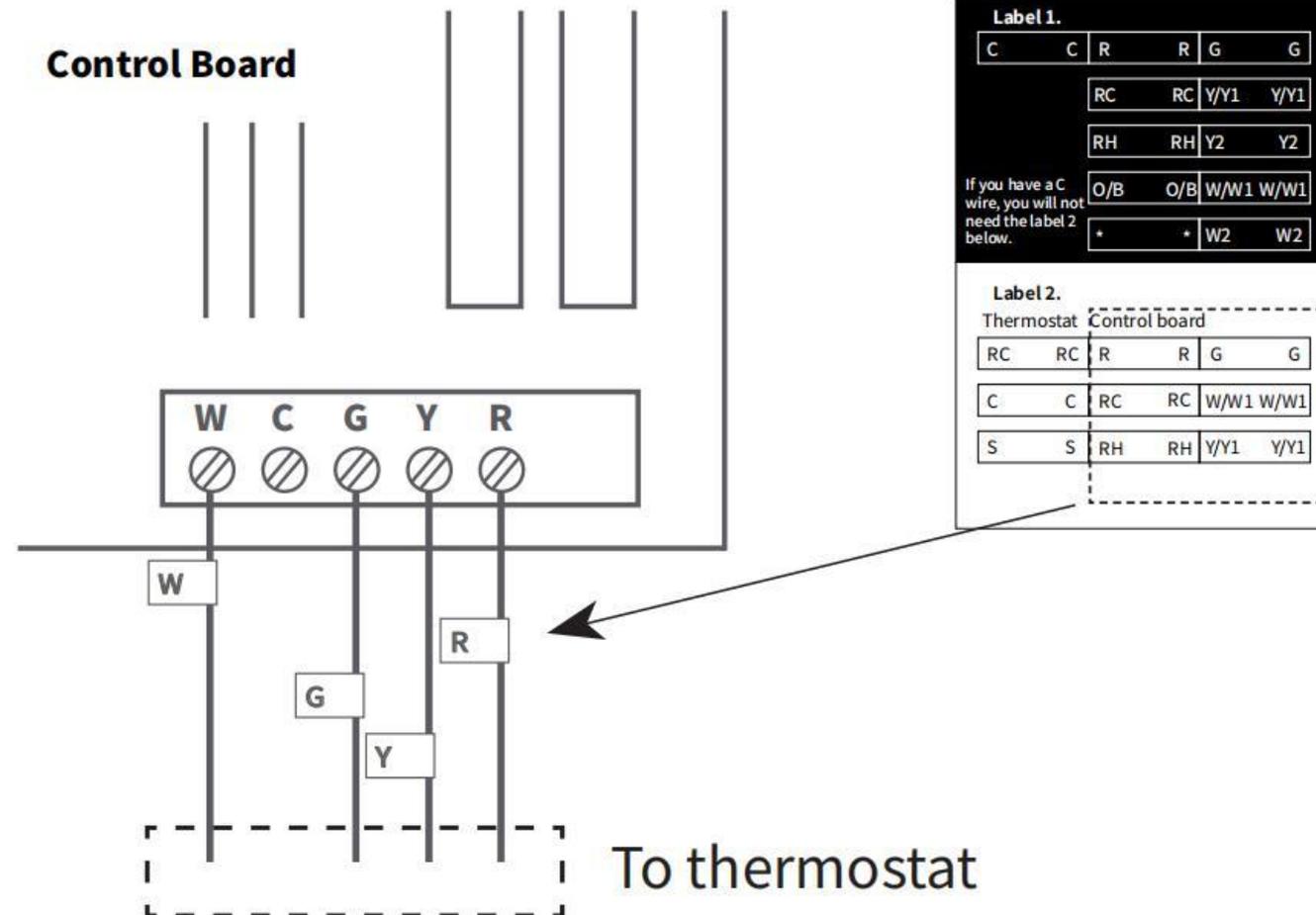
# Step 1. Find the HVAC terminals

Find the control board of your HVAC system. Open your HVAC system's cover and take a picture of the wires connected to the terminals of your old thermostat. You may need to reference this photo later.



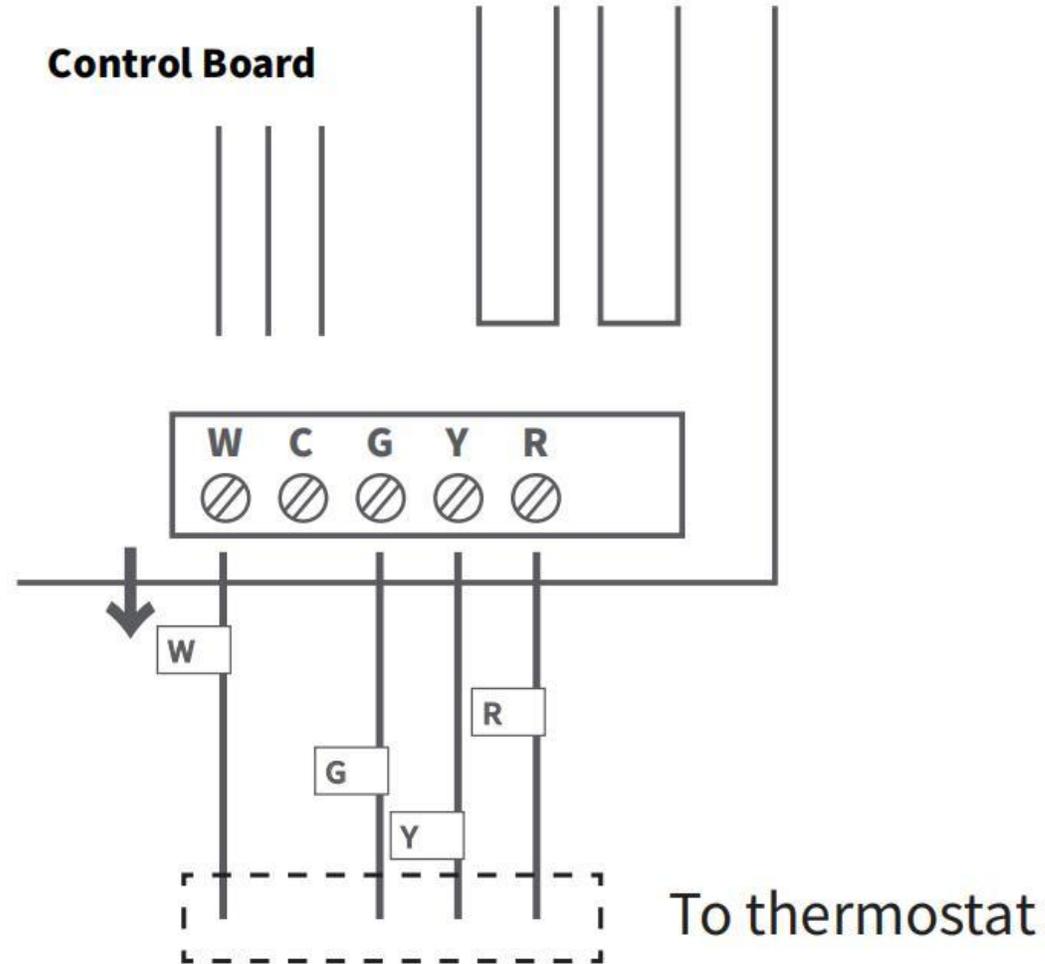
## Step 2. Label the wires

Label only the wires from the control board to your old thermostat with the tags provided (**label 2 control board**).



## Step 3. Disconnect the wires

Disconnect the W/W1, G, Y/Y1, R wires from the control board.



## Step 4. Connect the wiring module

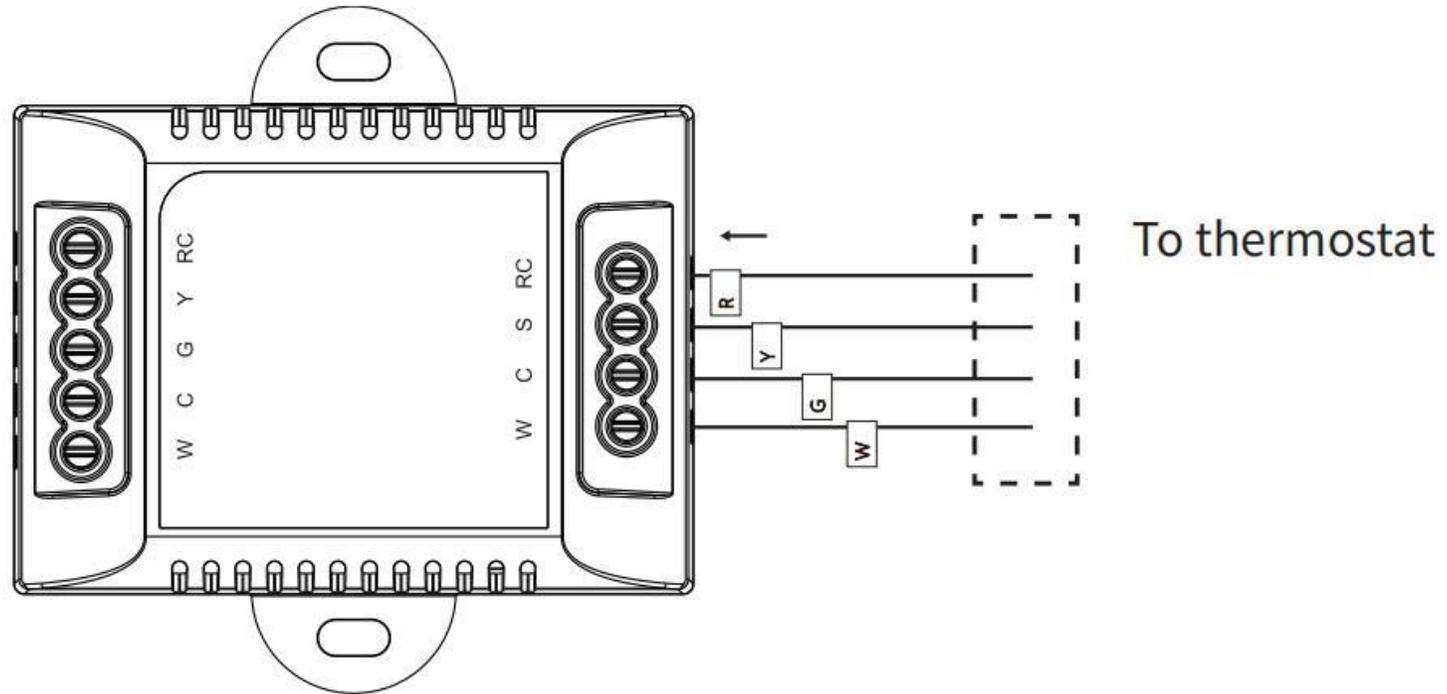
Reconnect them correspondingly to the 4 terminals side of the power module.

**R→RC**

**W/W1→W**

**G→C**

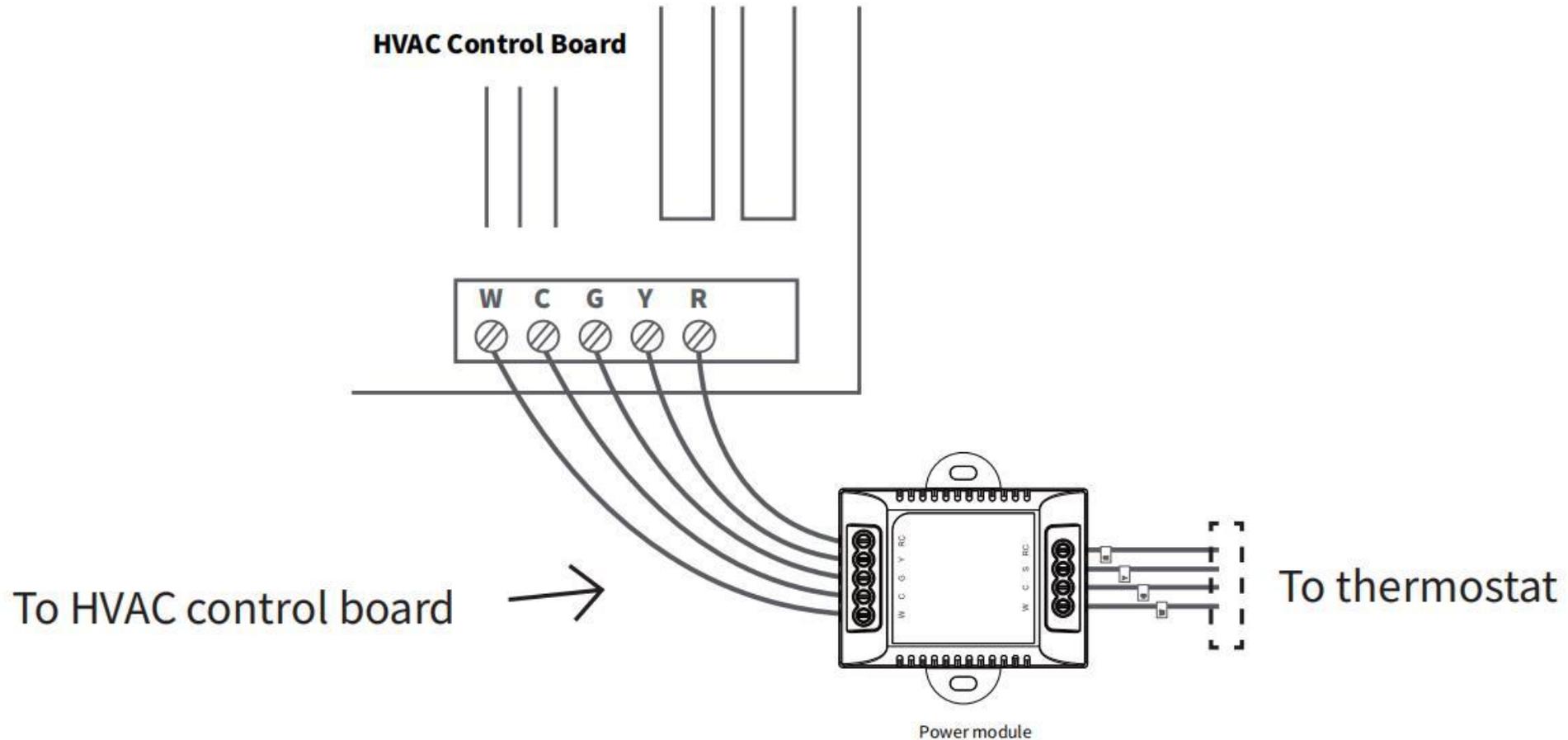
**Y/Y1→S**



Power module

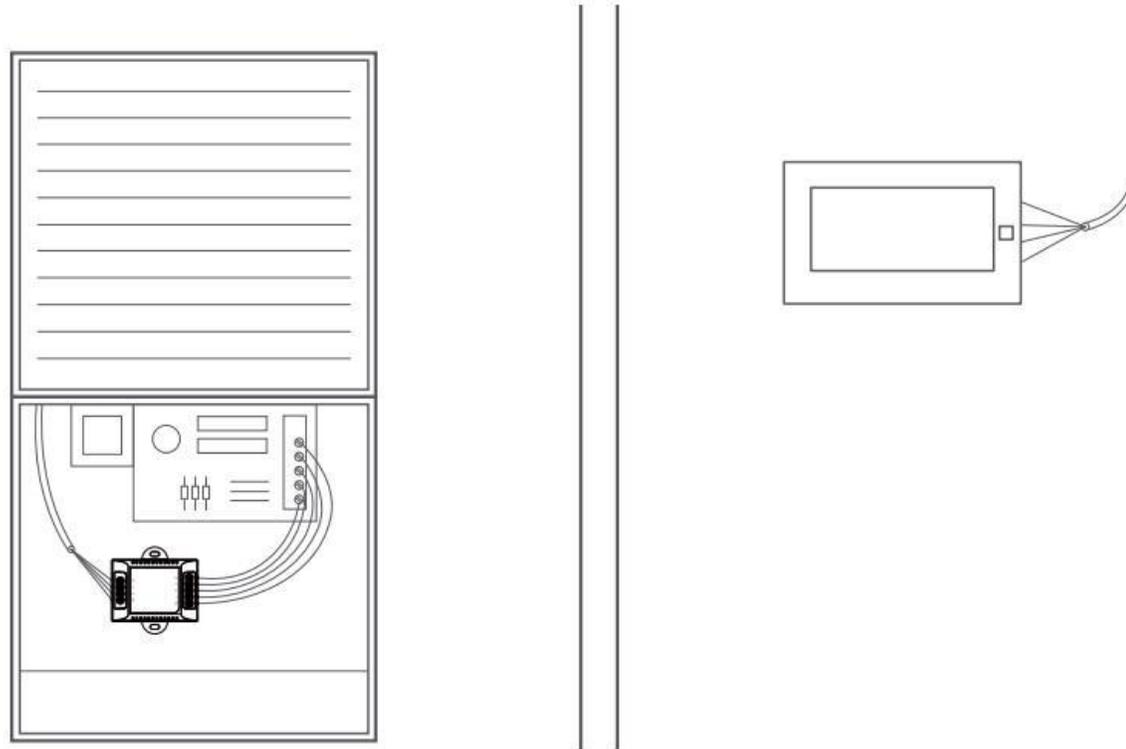
## Step 5. Connect the wires

Generally, the control board will have W, C, G, Y, R terminal, connect the pre-wired side of the power module (5 terminals) to the corresponding terminals.



## Step 6. Position the wiring module

The power module should be installed between your thermostat wiring and your control board. Install it at the right position then close the HVAC cover panel securely and return to your thermostat.



# Step 7. Add new tags

Add new tags to the following tags to simplify your wiring:

**R/RC/RH → RC**

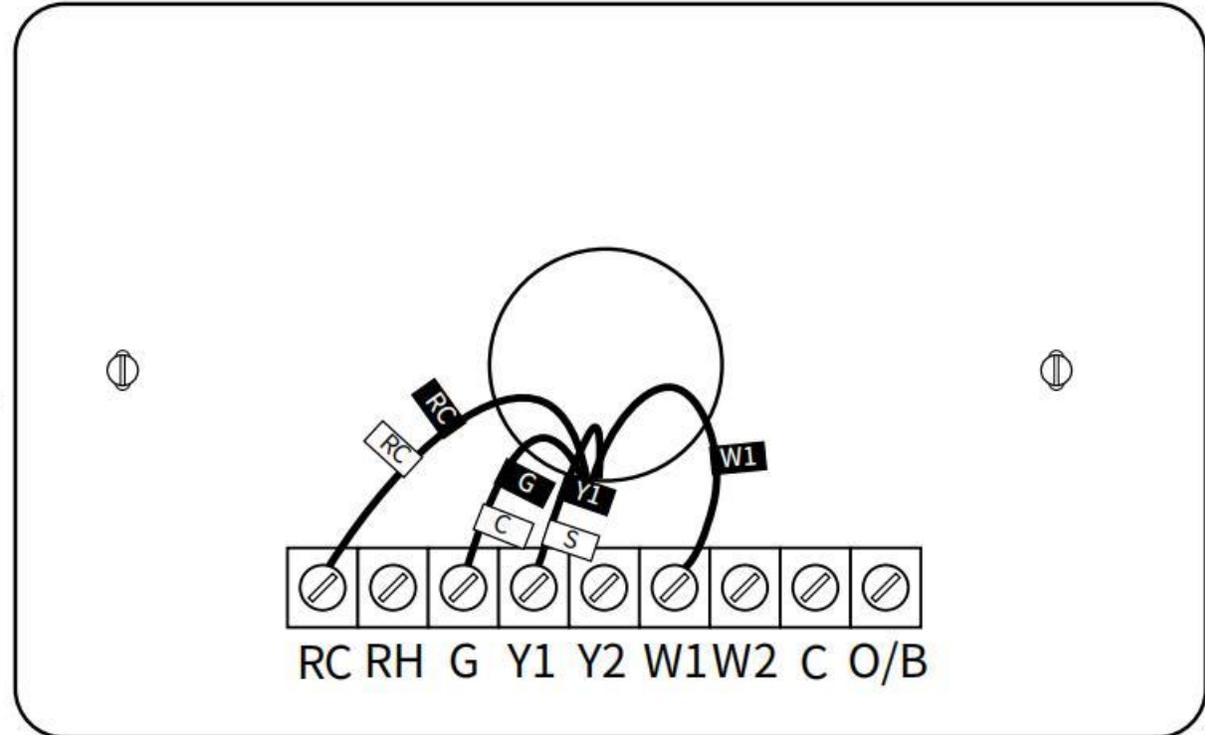
**G → C**

**Y/Y1 → S**

Label 1.					
C	C	R	R	G	G
		RC	RC	Y/Y1	Y/Y1
		RH	RH	Y2	Y2
If you have a C wire, you will not need the label 2 below.		O/B	O/B	W/W1	W/W1
		*	*	W2	W2

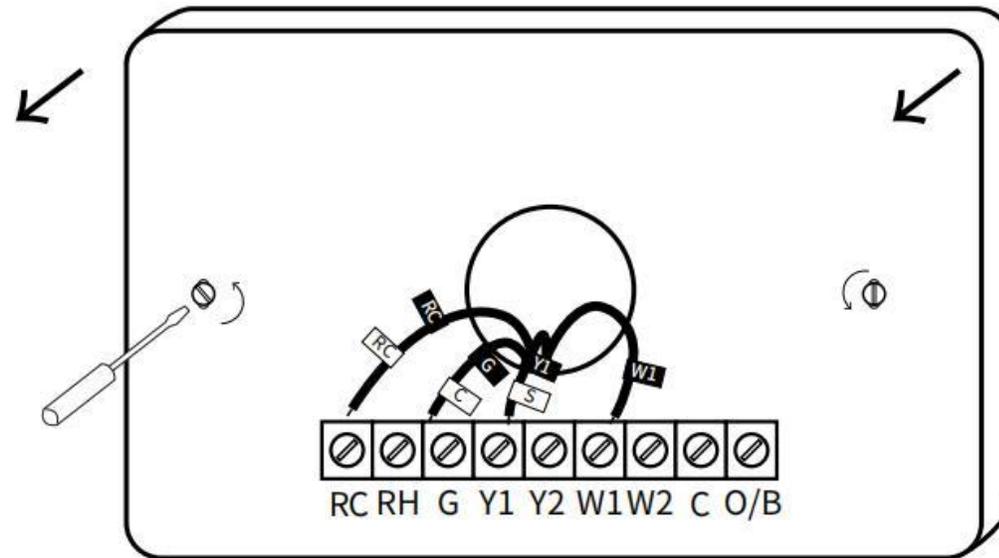
  

Label 2.					
Thermostat			Control board		
RC	RC	R	R	G	G
C	C	RC	RC	W/W1	W/W1
S	S	RH	RH	Y/Y1	Y/Y1



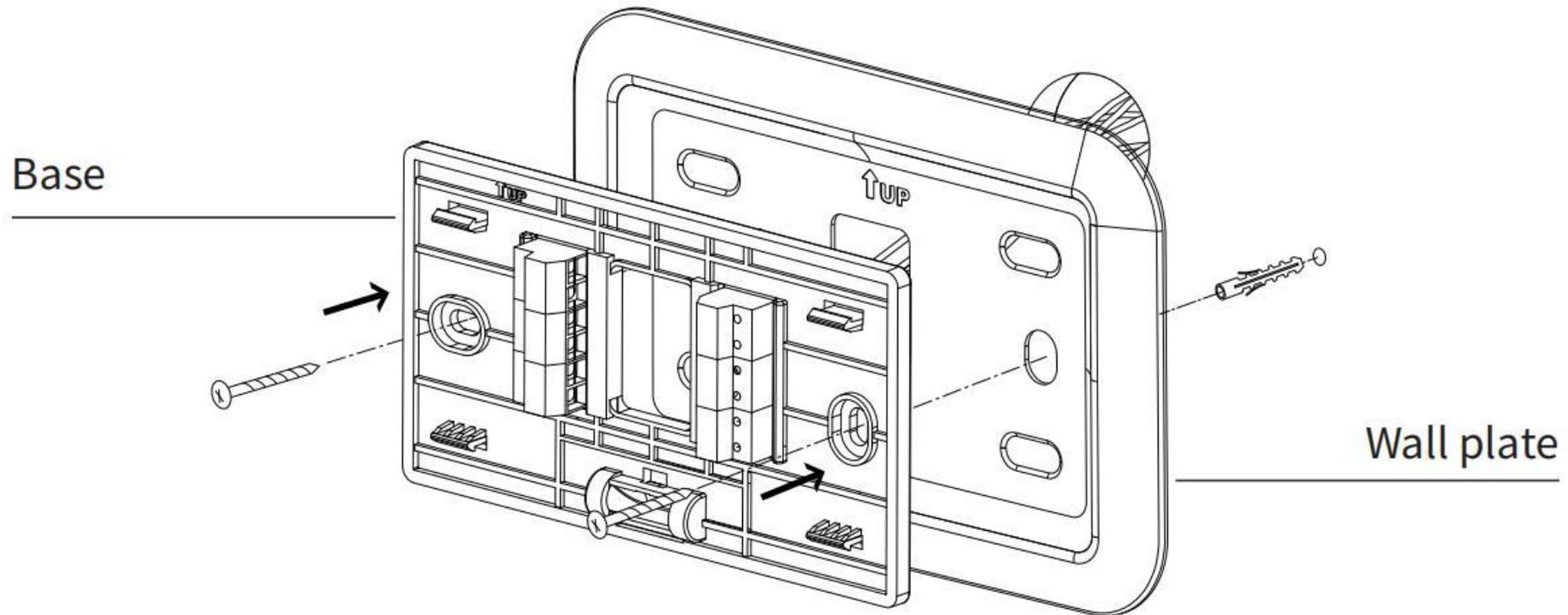
## Step 8. Remove the wallplate

Unscrew the wallplate from the wall, gently pull it out and ensure the wires will not fall back into the hole.



## Step 9. Attach the base of Thermostat to the wall

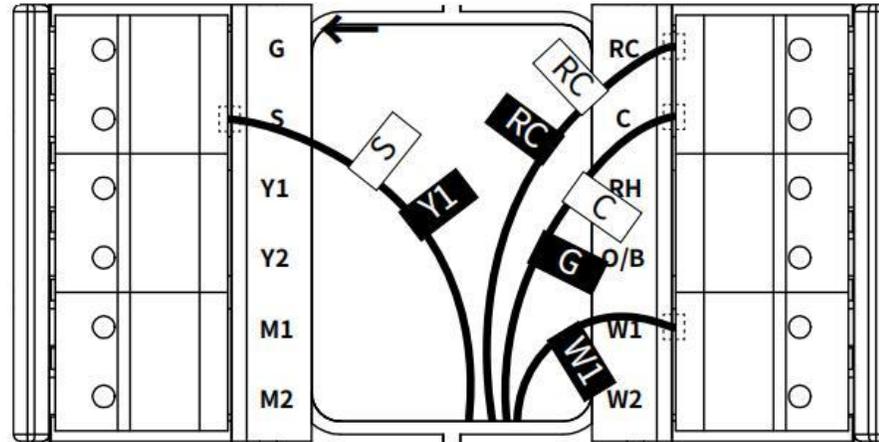
Bundle and insert the wires through the hole of wall plate and the base of PCT513, then attach the base to the wall with the screws.



## Step 10. Connect the wires

First, connect 3 wires as shown below:

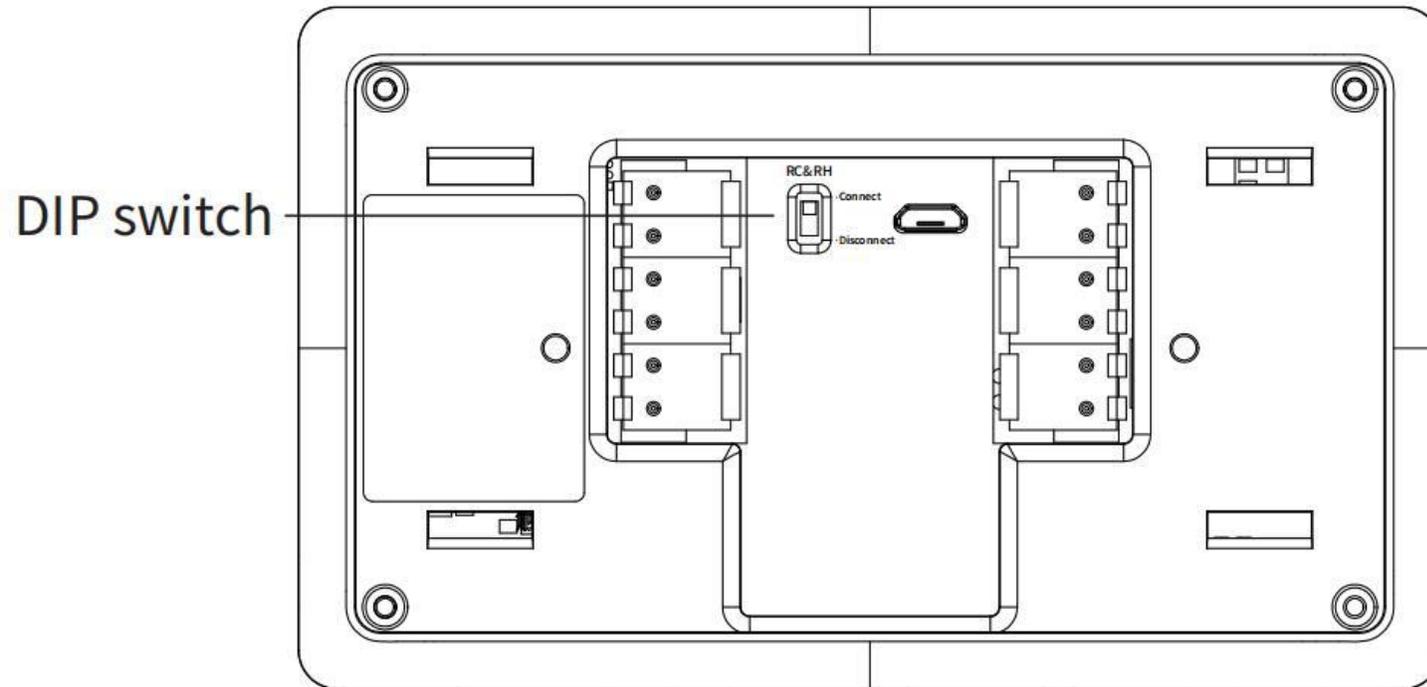
**RC, C, S**



Then connect other wires to the corresponding terminal in the base. Take a picture of the wires when you finished. You may need to refer it for the wirings in the setup wizard later.

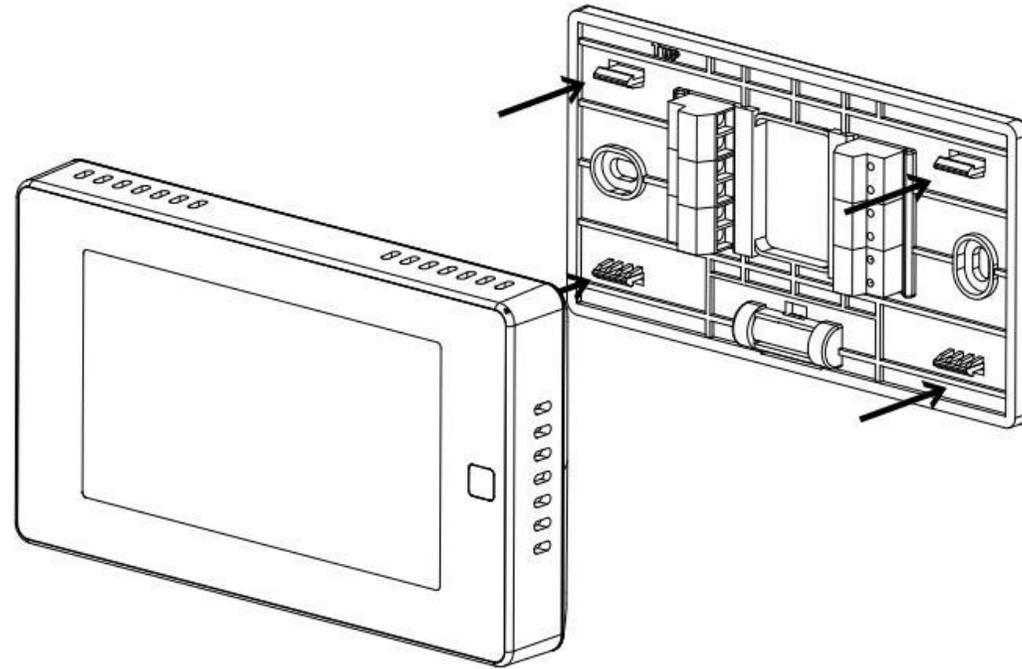
## Step 11. DIP Switch

Adjust the DIP switch on the back of the thermostat to the '**Connect**' side.



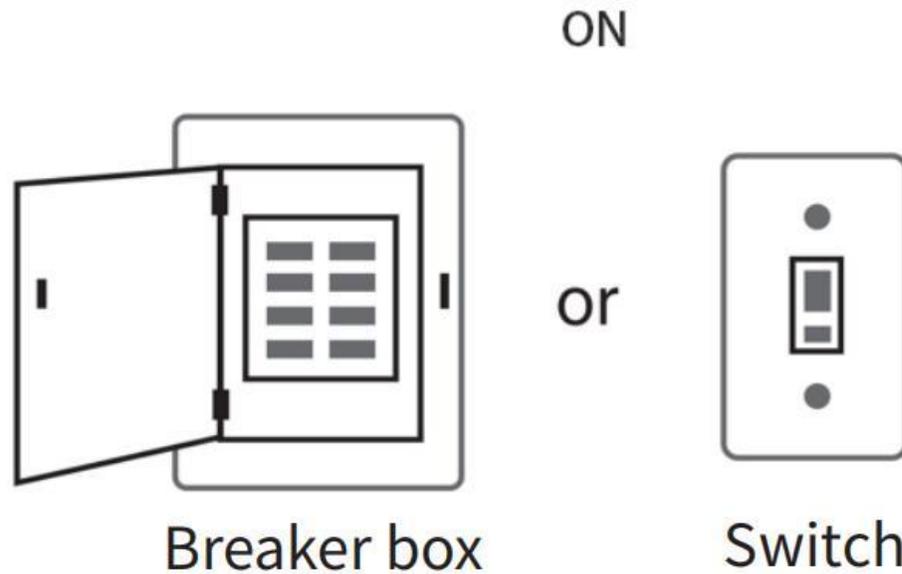
## Step 12. Attach the Thermostat to the base

Gently press the Thermostat into the base until it clicks.



## Step 13. Power on your system

Congratulation! The installation is finished. Please power on your HVAC system.



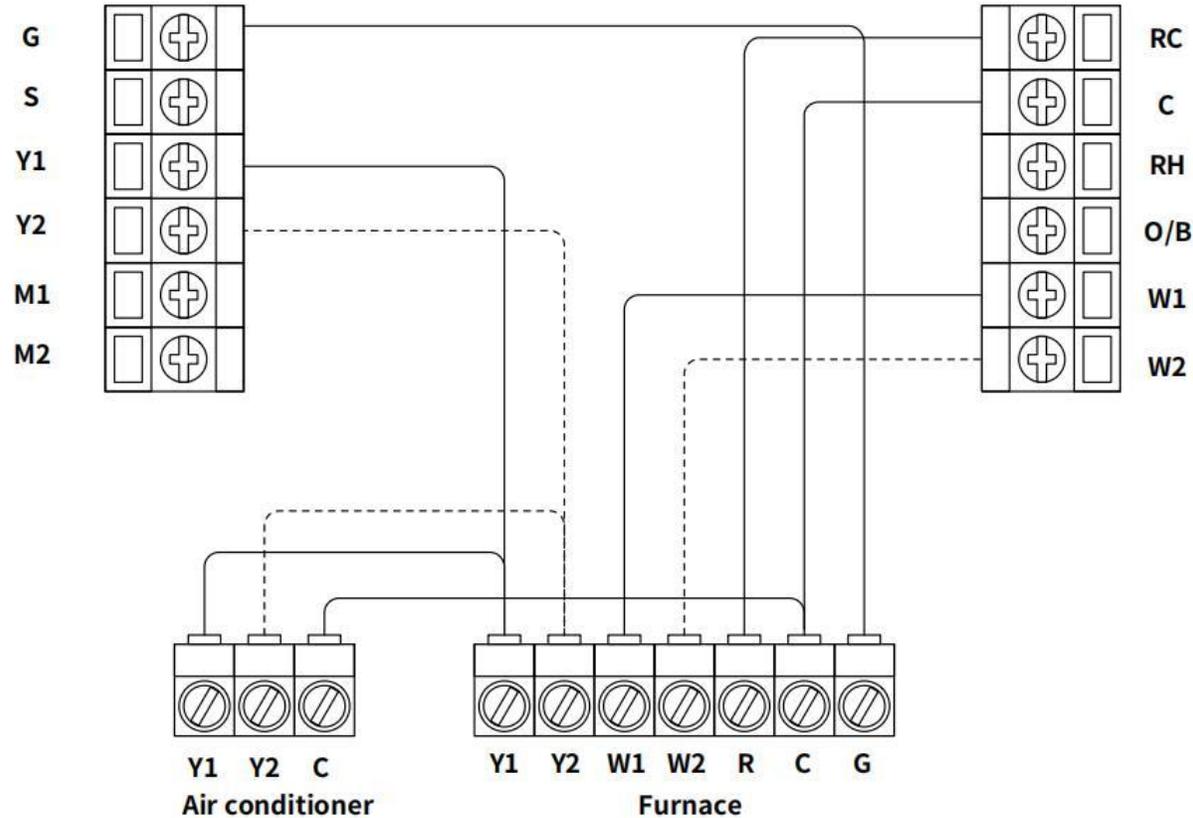
When the power is successfully energized, the thermostat's screen will light up and go into wizard. You can complete the following configuration according to section 4.



# Wiring diagrams

Below are the wiring diagrams for common HVAC equipment.

## Conventional heating and cooling system

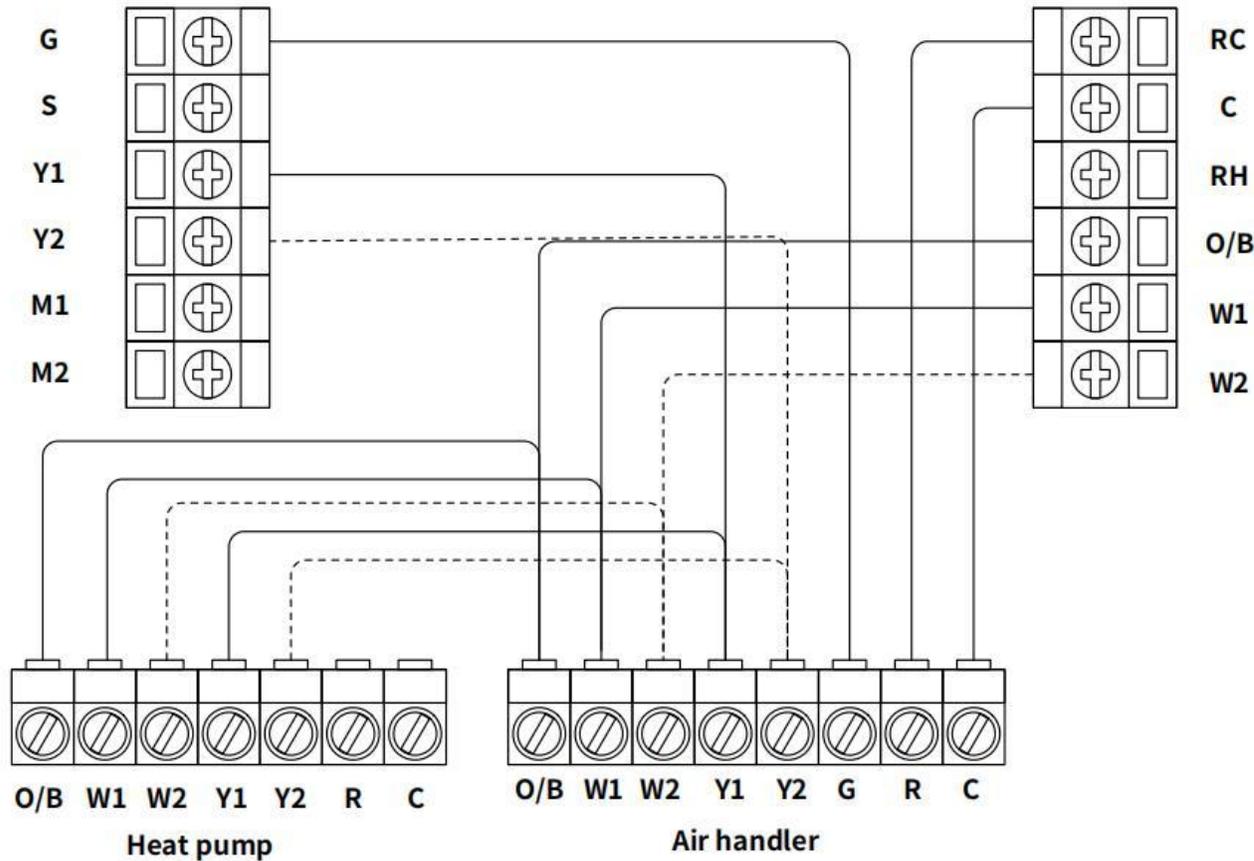


Remove the jumper between Rh, Rc, or R terminals, adjust the DIP switch on the back of the thermostat to **'Disconnect'** if you have connected both RC-wire and RH-wire to the wallplate, otherwise switch it to the **'Connect'** side.

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For dual heat and cooling system, if applicable.

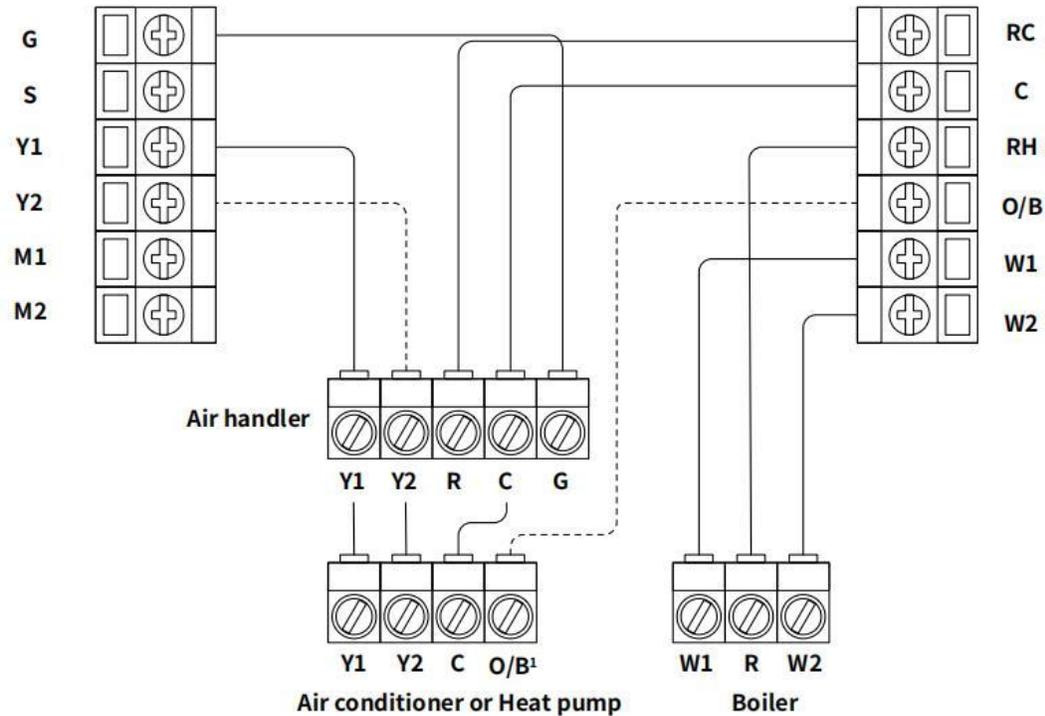
# Heat pump (air or geothermal) with auxiliary heat



Remove the jumper between Rh, Rc, or R terminals, adjust the DIP switch on the back of the thermostat to **'Disconnect'** if you have connected both RC-wire and RH-wire to the wallplate, otherwise switch it to the **'Connect'** side.

-----  
 For dual heat and cooling system, if applicable.

# Boiler or radiant system with air handler and conventional cooling or heat pump



Remove the jumper between Rh, Rc, or R terminals, adjust the DIP switch on the back of the thermostat to **'Disconnect'** if you have connected both RC-wire and RH-wire to the wallplate, otherwise switch it to the **'Connect'** side.

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For dual heat and cooling system,  
if applicable.

For heat pump only.

**Congratulations,  
you have completed the wiring!**



**To complete your setup,  
follow the  
instructions on the  
configuration guide  
below.**

## **4** Get started

### **4.1 To get started, you will need:**

- Connect your smart mobile phone to your home Wi-Fi network.
- A mobile phone with a 'MySmartH' APP installed.

Follow the wizard first to complete the thermostat setup based on your HVAC system.

# Install Free App

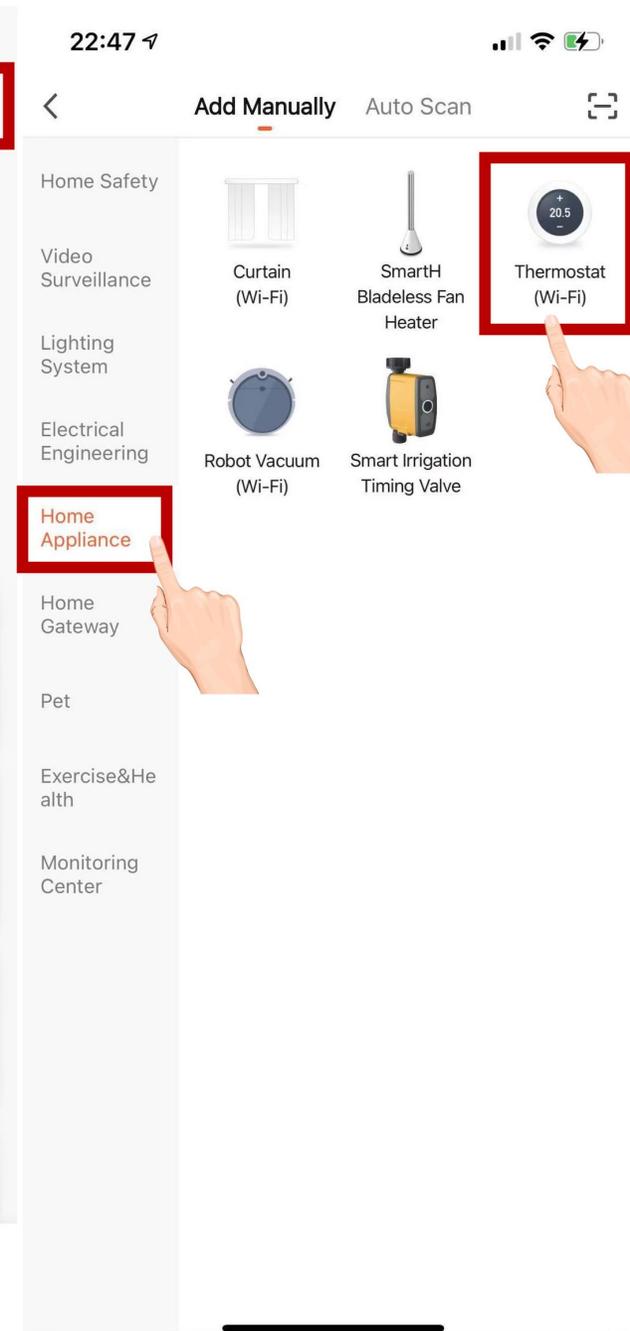
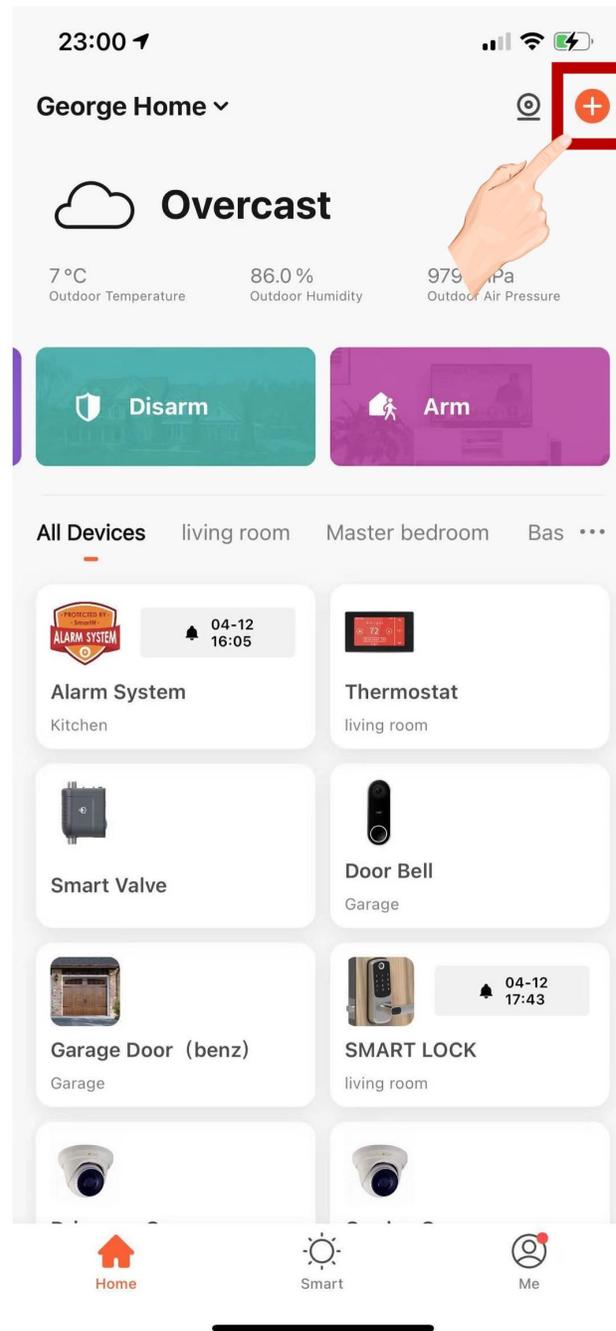
Download APP: scan the QR code below to download and install. Register and login: open the "MySmarth" APP to register and login according to the prompts.



Make sure Wi-Fi is available and connected to the Internet.

-Open "MySmarth" APP, press the '+' in the upper right corner of the main screen;

-choose "Home Appliance", click "Thermostat" to add; and then click "Next step";

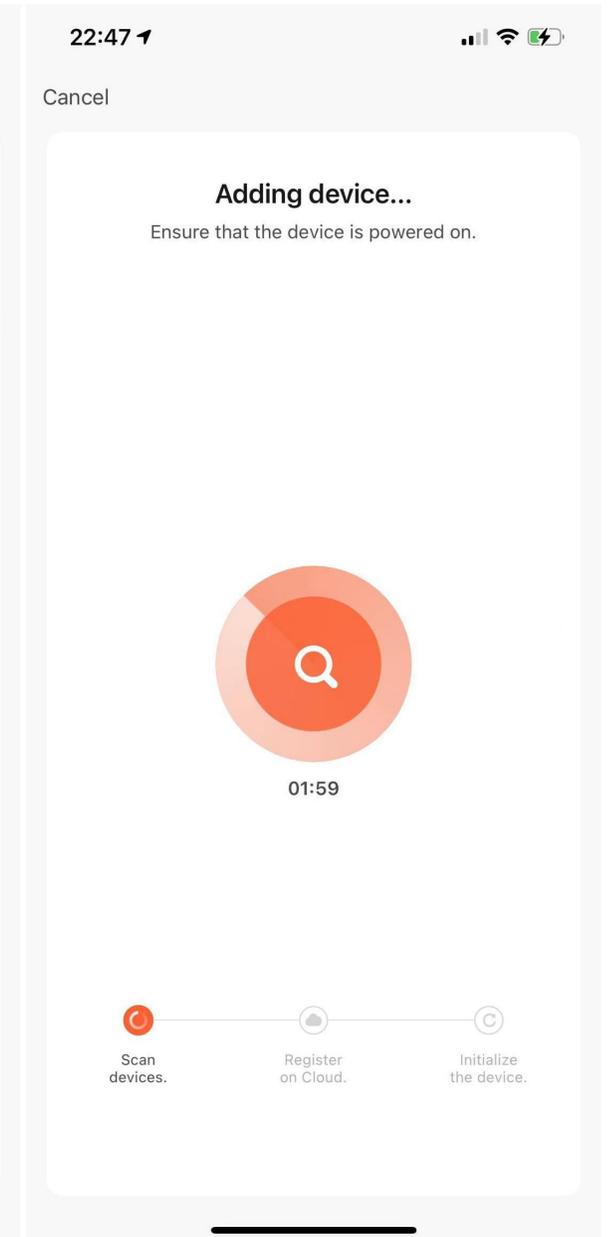
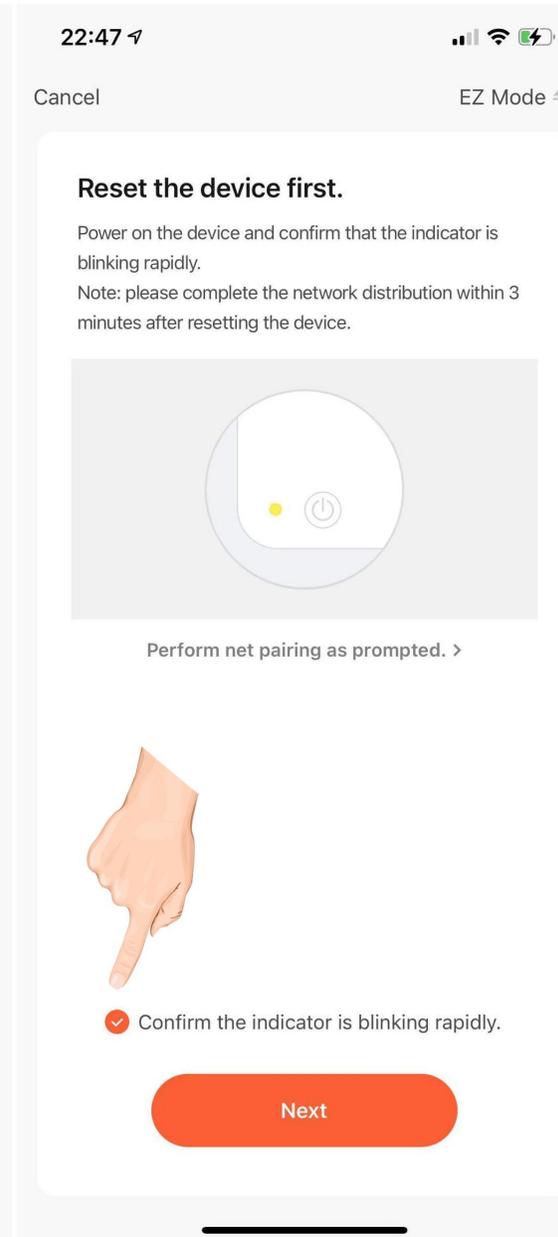
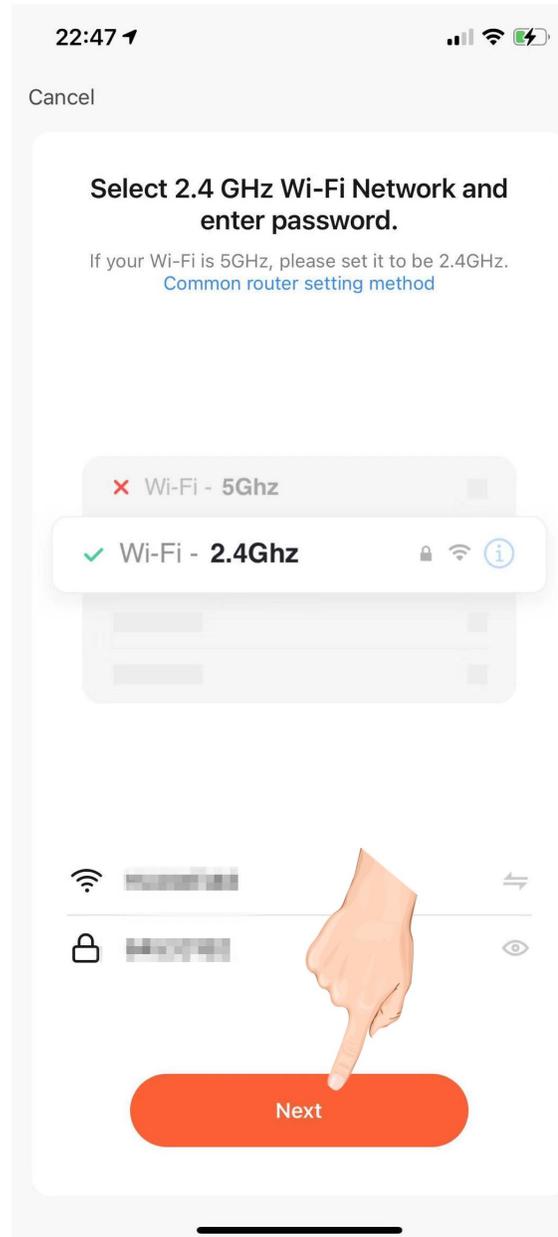


-If the mobile phone is not connected to wi-fi, please click "Connect to Wi-fi" ;

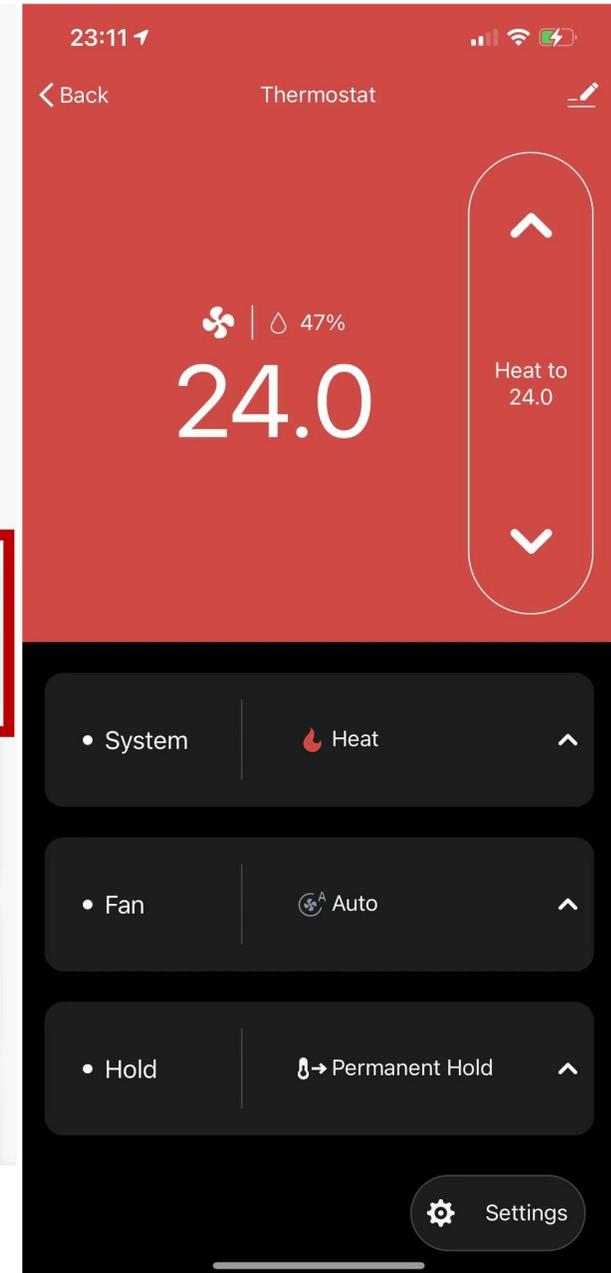
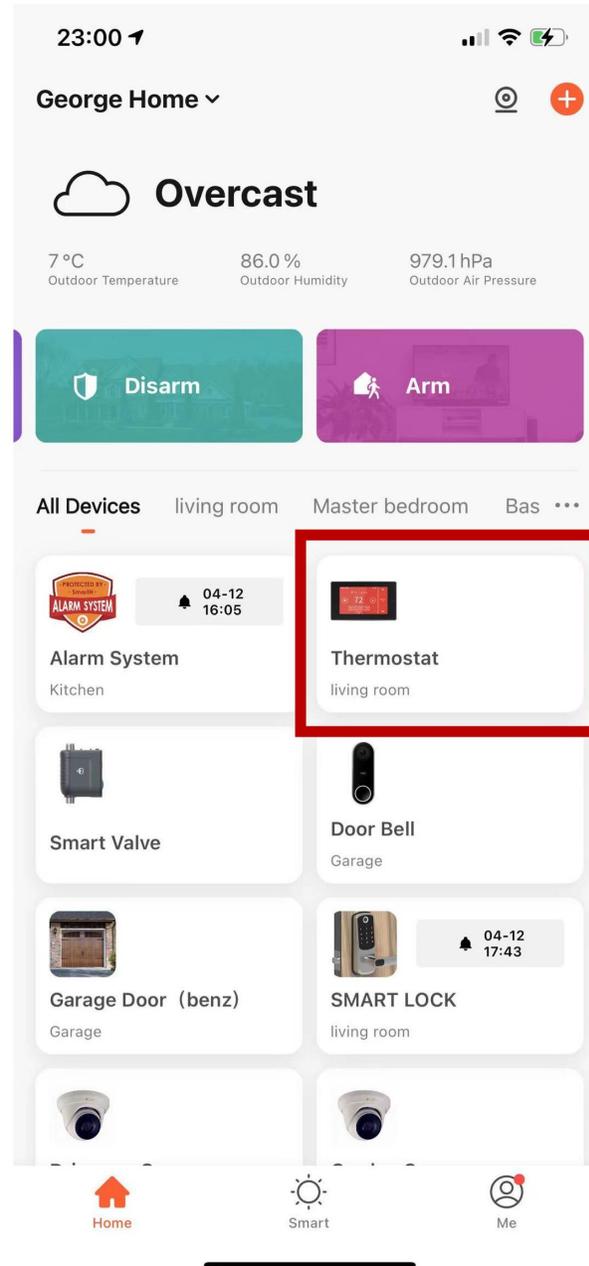
-It will jump to the WLAN interface and connects Wi-Fi. Please note that only 2.4 GHz Wi-Fi network is supported;

-Enter WIFI password

-When the progress reaches 100%, connection completed, and click "Done";



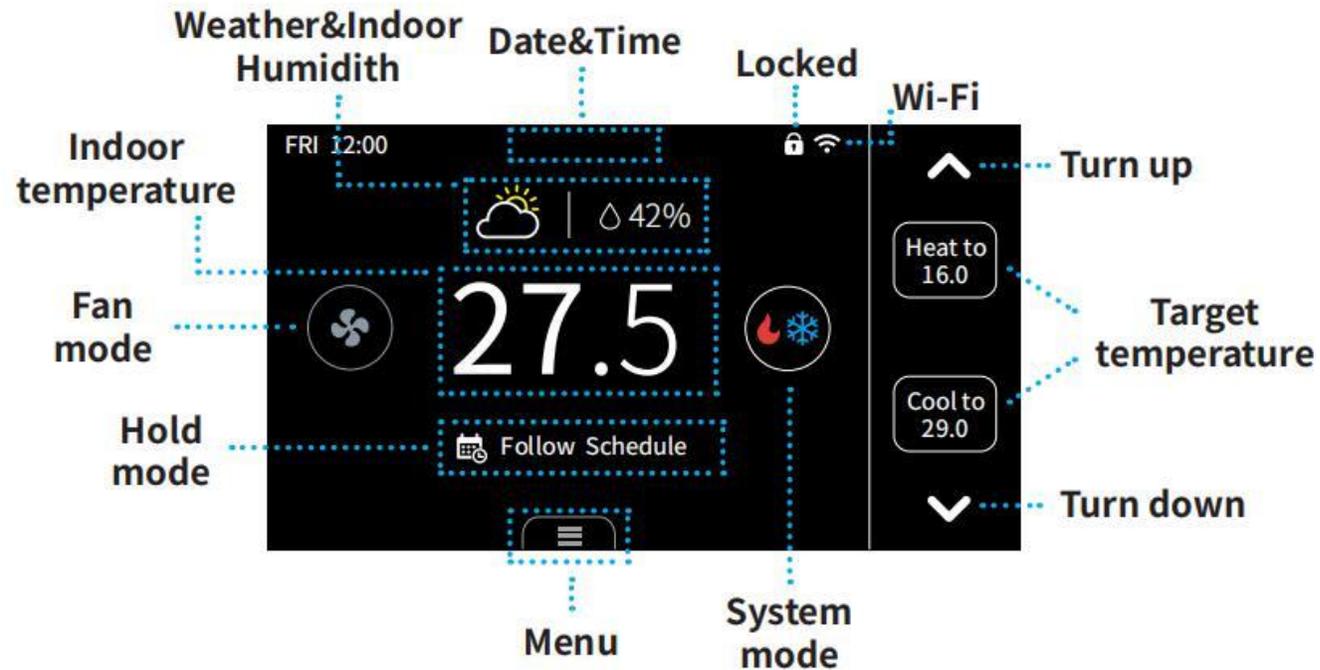
At this time, the connected device will appear on the APP home page . Then you can click directly to the device interface



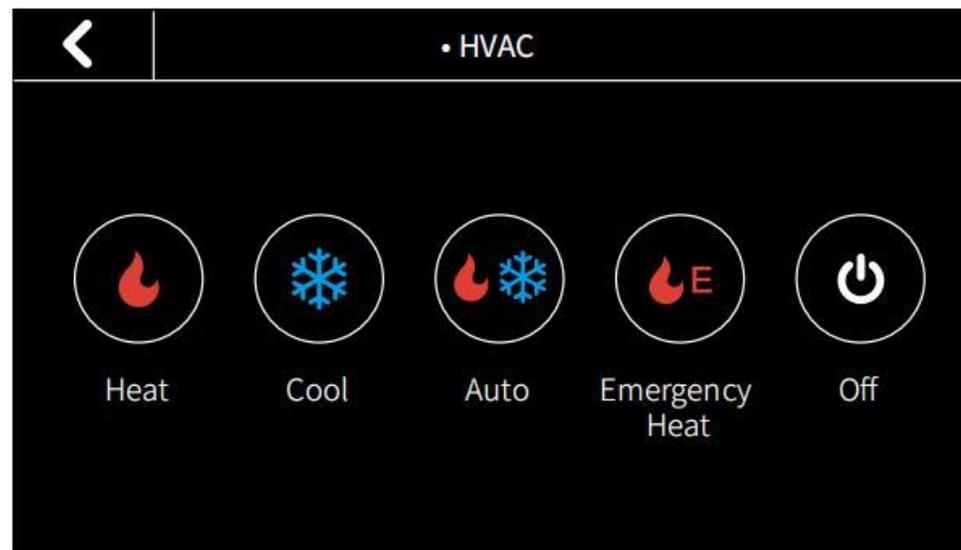
# 5 Meet Your Thermostat

## 5.1 Device Overview

Main page



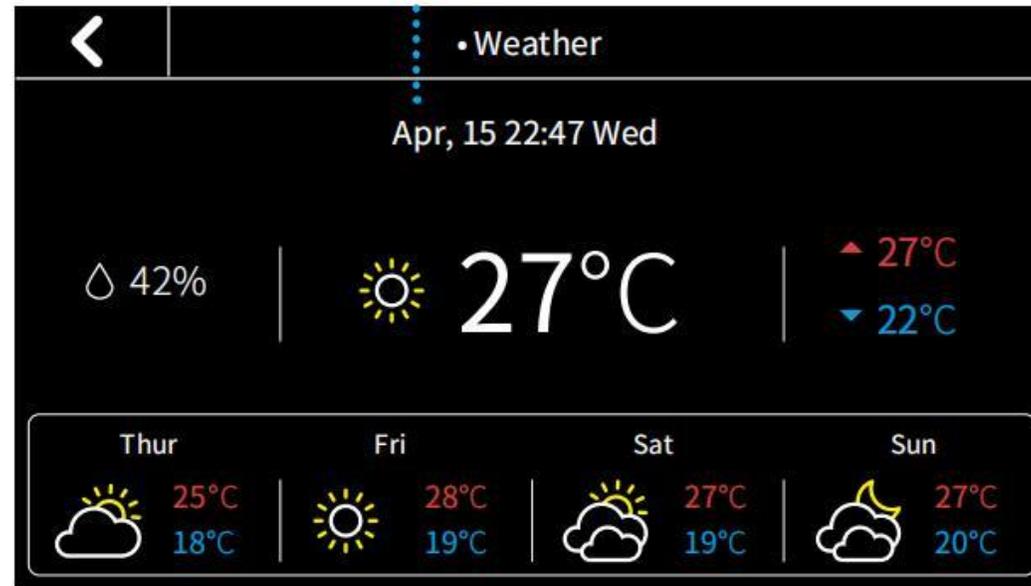
# System mode



-  **Heat:** Heating only
-  **Cool:** Cooling only
-  **Auto:** Automatic control of heating and cooling based on ambient temperature
-  **Emergency Heat:** This only works when the device connects Heat pump and W wire
-  **Off:** Turn the system off

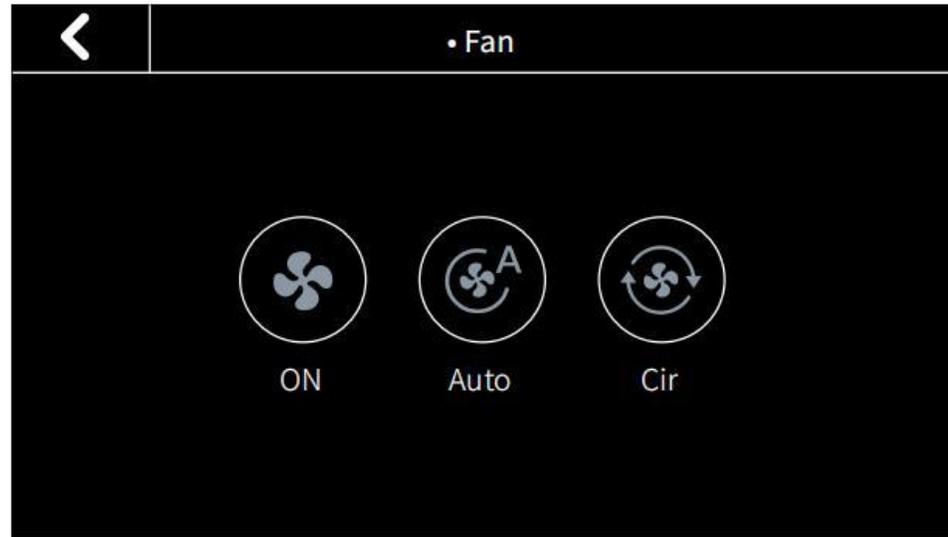
# Weather

The latest update time



Click the weather icon to display the highest/lowest temperatures and weather conditions for the current days in your home location.

# Fan mode



-  **On:** Runs continuously
-  **Auto:** Automatically adjust fan according to the system mode
-  **Cir:** Runs at intervals to circulate air

# Hold mode

There are four hold modes you can select





- **Follow Schedule:** Follow the settings of schedule to adjust the temperature. When you remove hold, the mode will turn to '**Follow Schedule**'



- **Permanent Hold:** Always hold the current target temperature even meet the schedule. It will override the current schedule settings.



- **Temporary Hold:** Keep the current target temperature until the next scheduled activity begins. You can select this mode manually or adjusting the target temperature under '**Follow Schedule**' mode, it will turn to '**Temporary Hold**'



Undo

Hold temperature until next schedule

## Vacation mode

You can set the vacation mode in '**Menu**'->'**Vacation**'. Set the time of departure and return, as well as the highest and lowest temperatures during this period. The thermostat will automatically hold this temperature range.



Note: When the thermostat is under this mode, you cannot manually change the target temperature. You can change the Hold/System mode manually, click "undo" or delete the vacation in menu to exit the vacation mode.

# Display

Here are some changes on the screen and what that means:

①

Red: Heating



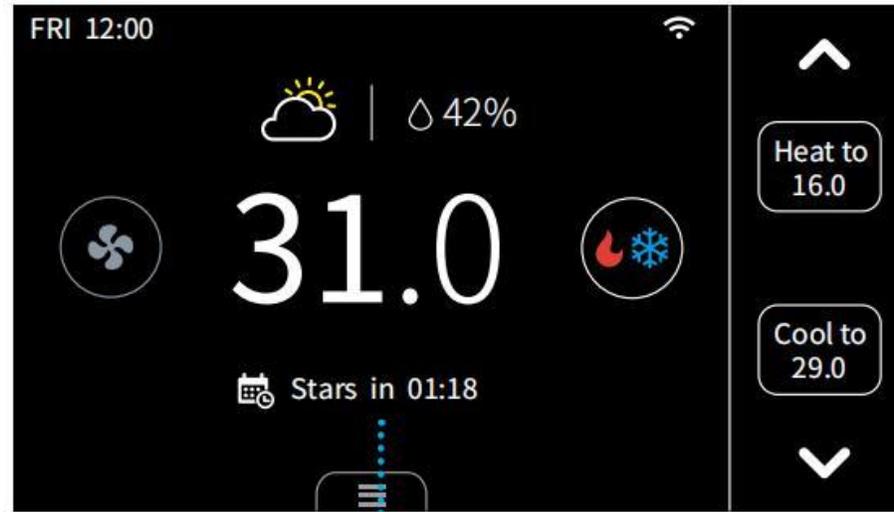
Select the heating target temperature

Blue: Cooling



Select the cooling target temperature

②



Time interval

When you turn on the compressor frequently, there will be a time countdown to protect the compressor. This will occur in the following case:

Heat pump: heating, cooling    Conventional: cooling

You can set the time countdown in **'Menu' ->'Installation' ->'Advanced' ->'Compressor Protect Time'**

3



When the outdoor temperature is below the 'Compressor Min



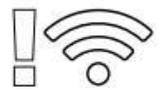
Outdoor Temp' you set, the icon on system mode will display **!** and the compressor will be turned off automatically.



When the outdoor temperature is higher than the 'AUX Heat Max Outdoor Temp' you set, the icon on system mode will

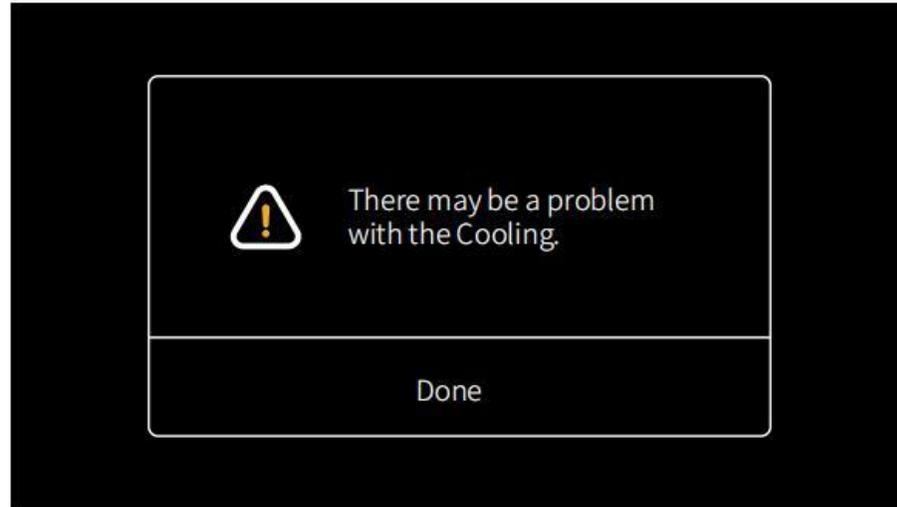


display **⊘** and the AUX Heat will be turned off automatically.



The thermostat is connected to the router, but the router is not connected to the network

4

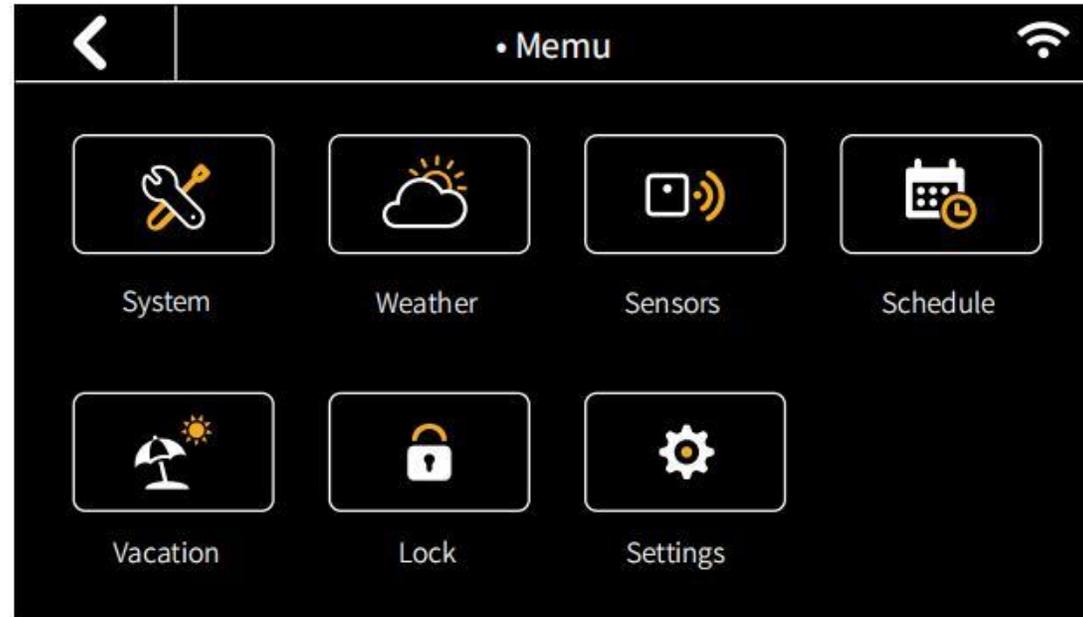


### **Unusual heating or cooling alert:**

When the following occurs, this prompt appears on the thermostat

1. When your thermostat is cooling, the temperature in the room does not go down for a long time but instead temperature still raises.
2. When your thermostat is heating, the temperature in the room does not go up for a long time but instead the temperature still falls.

# Menu



## System

- HVAC: Switch system mode (Heat/Cool/Auto/Emergency Heat/Off)
- Fan: Switch fan mode (ON/Auto/Cir)



## **Weather**

Weather conditions for the current days in your home location.



## **Sensors**

Add multi sensors to balance the current temperature throughout the home.



## **Schedule**

Set Schedule to change the temperature automatically.



## **Vacation**

Set vacation to change the temperature automatically.



## **Lock**

Multi-level keypad lockout to avoid others tampering with the settings. After locking, the corresponding functions are not available and the corresponding settings icon will go dim. An icon of a small lock will appear on top of main page

## Settings

-  Date & Time: Set time format. You can also set the time manually when the device is not configured with a network.
-  Fan Run Time: Set minimum fan run time in '**Cir**' mode
-  Wi-Fi: Configure and display Wi-Fi information
-  **A** Smart Warm-up: When smart warm-up is enabled, your thermostat automatically calculates when to turn on heating or cooling so your home will reach a scheduled temperature on time. This only works in '**Follow Schedule**' mode.

-  Device Name: Rename your device
-  Temp Unit: Celsius or Fahrenheit
-  Temp Range: Set the adjustment range of heating and cooling
-  Screen: Adjust screen brightness on active/standby/sleep and standby time
-  Calibrate: Adjust the accuracy of temperature and humidity to match your environment
-  Installation:

**Equipment:** Reconfigure your wiring setting on thermostat

# Advanced(Different wiring configurations will display different settings):

## 1. Heat/Cool Dissipation Time

When the heating/cooling stops, the fan shuts off with a delay.

## 2. Compressor Protect Time

A time countdown to protect compressor to start frequently.

## 3. Compressor Min Outdoor Temp

When the outdoor temperature is below this temperature, the compressor will not be used.

## 4. Compressor/(Aux) Heat min on time during heating/cooling cycles

## 5. Compressor/(Aux) Heat Stage 2 Temperature Delta

When the difference between the indoor temperature and the target temperature reaches this value, the second stage is automatically turned on.

## 6. Compressor/(Aux) Heat Stage 1 Max Runtime

If the first stage fails to reach the target temperature after this time, the second stage will be automatically turned on.

## 7. Aux Heat Max Outdoor Temp

Auxiliary heat is turned on only when the outdoor temperature is below this value.

Equipment Test: Test whether the corresponding function of the equipment can run normally as required

-  Filter: Filter change reminder
-  Reset:

## **Reset setting**

**Reset schedule** (Reset system schedule and clear vacation)

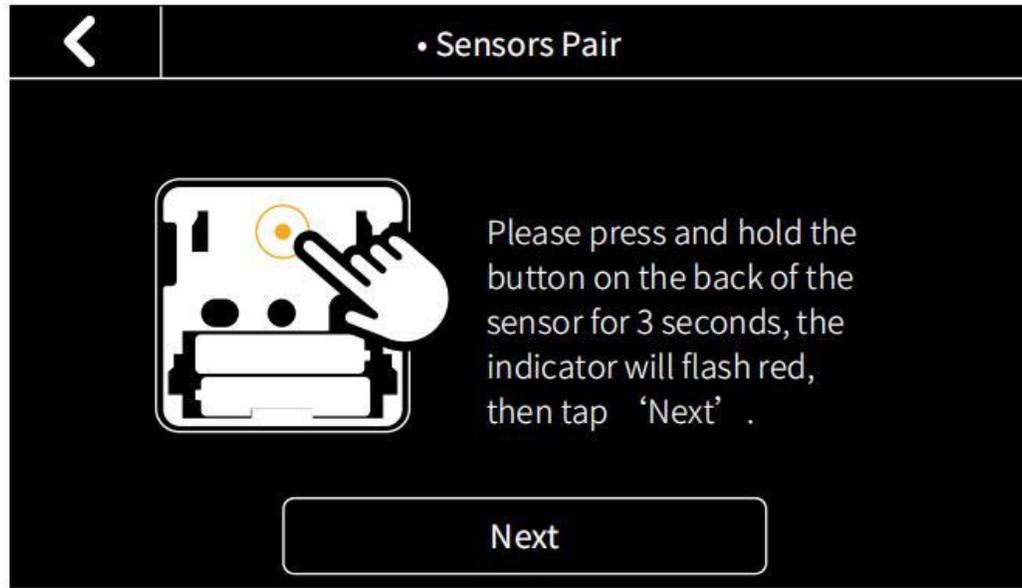
**Reset all** (reset the thermostat to default factory setting)

-  About: Show device information

## 6 FAQ

### 1. How to pair the thermostat with Remote Zone Sensors ?

1. Click the '+' button at the top right of the interface in 'Menu' -> 'Sensors' on the thermostat and tap 'Next'.



2. Remove the rear cover of the sensor.
3. Press and hold the button on the back of the sensor for 3 seconds until the indicator on the front of the sensor flash red.
4. Wait for sensors to pair automatically. When the pairing is successful, the sensor flashes green light for 3 times.

Now you can set the participation period of the sensor. During this period, the thermostat will calculate the average temperature of all the sensors in the occupied state as a reference and use it as the indoor temperature on the main screen.

Tip: When you change the setting of sensor, the indoor temperature on the main screen need update in 2 minutes. If there is no one in the room where the sensor is located, that sensor will not participate in that calculation.

## **2. Wi-Fi configuration of the thermostat failed**

Confirm the device, mobile phone, and router are as close as possible.

- Please confirm the network is stable:

Put the phone besides your device and make sure they are in the same network environment, try to open a website to judge if the network can be used.

- Confirm adding device is under 2.4G WI-FI channel. If 2.4G and 5G WIFI use the same name, it is recommended to change to a different name.

- Confirm the entered router password is correct.

- If it still does not work, it is recommended to change the router and try again.

# Technical specifications

## Thermostat:

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### Compatibility

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#### Compatible systems

- Conventional: 2-stage heating and 2-stage cooling HVAC systems
- Heat Pump: 2-stage heating, 2-stage cooling, 2-aux heating
- Supports natural gas, electric, hot water, steam or gravity, gas fireplaces (24 Volts), oil heat sources
- Supports heat pump, dual fuel

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# HVAC Control Functions

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System Mode

- Heat, Cool, Auto, Off, Emergency Heat (Heat Pump only)
- 

Fan Mode

- On, Auto, Circle(adjustable)
- 

Advanced

- Setting temperature locally or remotely
- Auto-changeover between heat and cool mode (System Auto)
- Compressor protection time is available for select
- Failure protection by cutting off all circuit relays
- Smart warmup
- Low temperature protection

## Physical Specifications

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LCD Screen

- 4.3-inch color touch screen
- 

PIR Sensor

- Sensing Distance 3m, Angle 70°
- 

Electrical Rating

- 24 VAC, 1A Carry; 5A Surge 50/60 Hz
- 

Max. Load Current

- 1A
- 

Operating Environment

- 0~ 50° C, 32 ~122° F
  - Humidity range: 5%~95%
- 

Storage Temperature

- -30 ~ 60° C , -22° F ~ 140° F
- 

Wiring

- 18 AWG, Requires both R and C wires from the HVAC System
- 

Dimensions

- 131(L) × 78 (W) × 29.2(H) mm
- 

Mounting Type

- Wall Mounting
-

# Remote Zone Sensor:

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Battery • DC 3V (2\*AAA batteries)

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Radio • 915MHZ

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LED • 2-color LED (Red, Green)

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PIR • Detect occupancy  
• Sensing Distance 5m, Angle 120°

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Operating Environment • 0~ 50° C, 32 ~122° F (Indoor only)  
• Humidity range: 5%~95%

---

Dimension • 62(L) × 62 (W) × 15.5(H) mm

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Mounting Type • Tabletop stand or Wall mounting

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