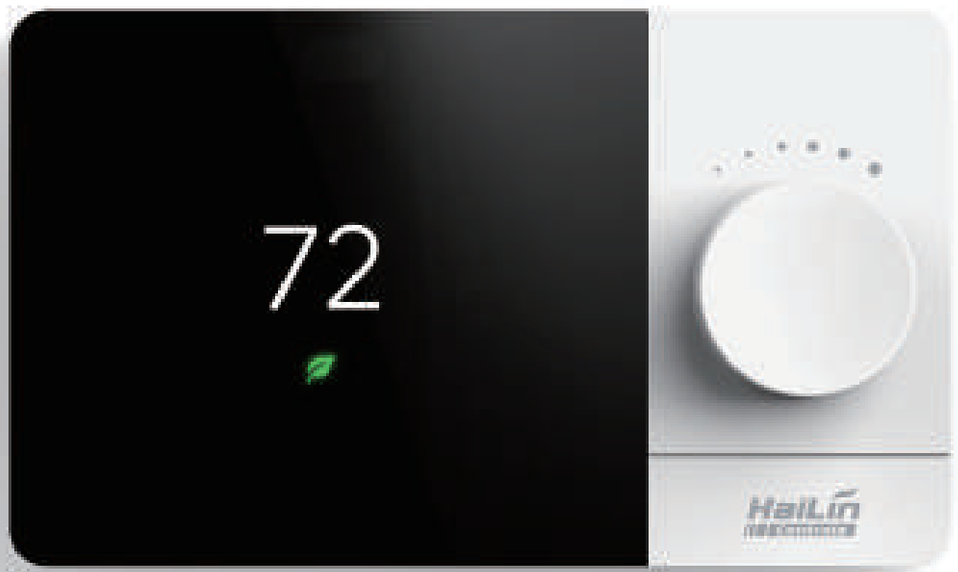
Easystat

Thermostat

User Guide



works with the Google Assistant

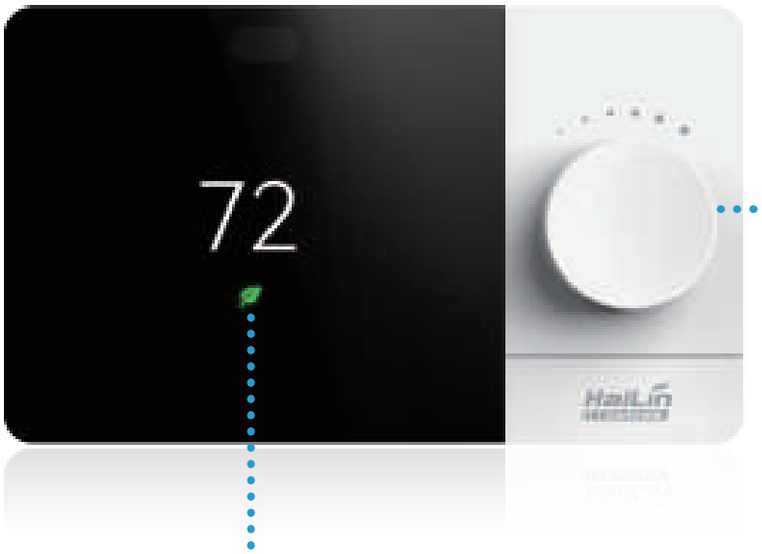
WORKS WITH alexa

Easystat WiFi color screen display programmable thermostat contain many models as follows:

Model name/number(s): ES-PW, ES-W, ES-PB, ES-B

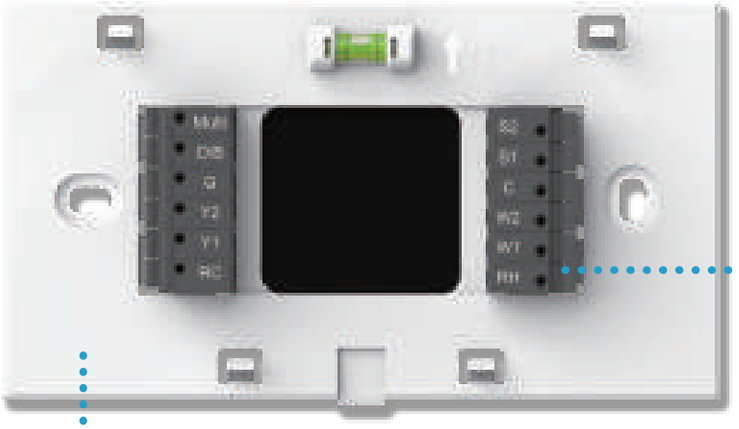
Model number	Difference
ES-PW	White shell, with built-in proximity sensor
ES-W	White shell, without built-in proximity sensor
ES-PB	Black shell, with built-in proximity sensor
ES-B	Black shell, without built-in proximity sensor

Installation Guide



Display

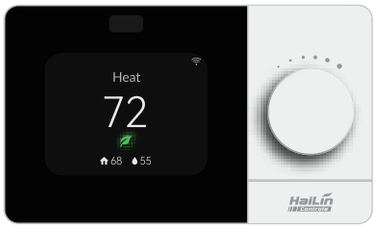
Control buttons



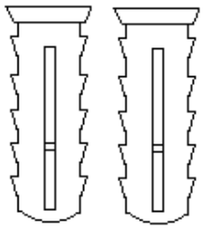
Wall Plate

Wire terminals

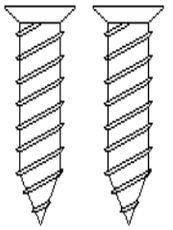
What's Included



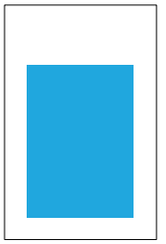
Easystat Thermostat



Wall Anchors (x2)



Screws (x2)



Wire Label Stickers

Additional tools you'll need:

- Screwdriver
- Pen or pencil (to mark drilling holes)

Additional tools you might need:

- Needle-nose pliers
- Wire stripper
- Drill and drill bit (7/32")

WiFi Requirements

- 2.4 GHz (802.11b/g/n) WiFi network
- WiFi name and password

Installation

The Easystat thermostat should be mounted in a suitable location.

- It is recommended to install the thermostat about 5 ft above the floor and in an open area with good air circulation.
- Do not install in locations that may affect the temperature reading, such as:
  - Drafty areas or poorly circulated areas.
  - Near ducts or appliances that blow hot or cold air.
  - Concealed pipes and chimneys.
  - Unheated (uncooled) areas such as an outside wall behind the thermostat.

WARNING

Failing to shut off the power could result in a serious injury, electrical shock, and/or risk of fire.

1. Turn off power.
Important: You must shut off the power at the breaker box that controls your heating/cooling system.

2. Test to make sure the power is off.
Sometimes there's some residual power in the thermostat so it could take up to 5 minutes for your old thermostat to turn completely off.

3. Remove your old thermostat.
Most thermostats allow you to just pull off the unit from its wall plate. However please make sure you're familiar with your old thermostat and the removal process, as you can potentially damage your wall if the process is incorrect.
Do NOT remove any wires yet from the old thermostat's wall plate.

4. Make sure the wires you have are supported.
If you have thick black wires, wire nuts connected on the wires coming from the wall, or uses 120V or higher, then your system is not compatible with the Easystat.

5. Take a picture of your current wiring setup.
Use your smartphone to take a picture of the wiring and connectors with the letters. You will use this as a reference when connecting to the Easystat thermostat.

6. Attach the included label stickers to the wires.
Wrap the label stickers around the appropriate wires. This will help when connectting them to the Easystat thermostat's connectors.

7 . Disconnect the wires and remove the old wall plate.

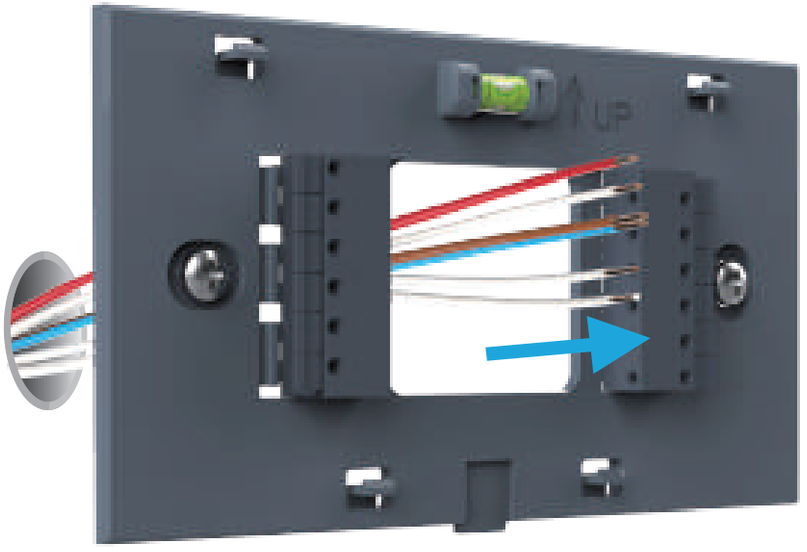
You may now start disconnecting the wires from the old thermostat's wall plate connectors.Make sure the wires do not fall back into the wall as they may be difficult to retrieve. Then,unscrew the wall plate from the wall to remove it.

8. Insert the wall anchors (optional).

You may choose to use the wall anchors to insert into the wall first before applying the new wall plate. First, hold the Easystat wall plate onto the wall where you'll be installing it and use a pen or pencil to mark the screw holes on the wall. Take off the wall plate and use a 7/32" drill bit to create the hole for the wall anchor,then insert the wall anchors.

9. Bring the wires through the Easystat wall plate.

Bundle the wires together and through the middle hole of the Easystat wall plate. Also check to make sure there is enough exposed wiring (at least ¼ inch) for each wire so they can insert into the wall plate connectors easily.



10. Connect your R wire(s).

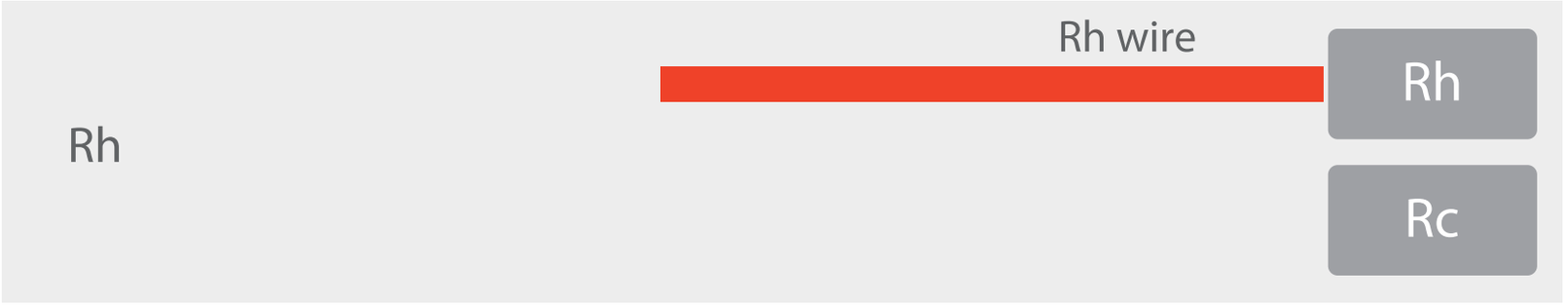
Depending on your heating/cooling system you may have an R, Rh, and/or Rc wire(s).The Easystat thermostat can accommodate for these three wires but some configurations require a “jumper” connect the power.

The jumper switch is located on the back of the thermostat as shown in the image below.

To determine the switch position, use the follow chart as a guide.

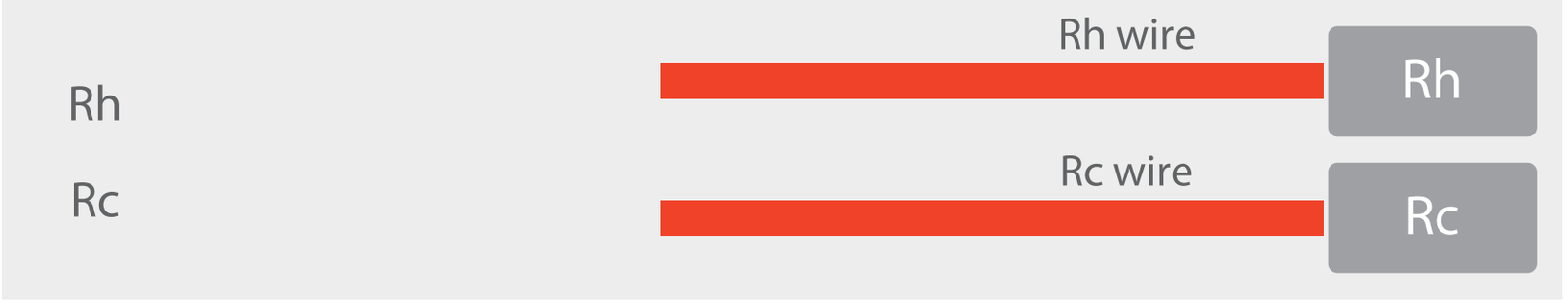
Turn the switch ON if:

Your heating and cooling equipment uses the same power supply



Turn the switch OFF if:

Your heating and cooling equipment unuses the same power supply



11. Connect the remaining wires.

Match your wires to the appropriate connectors on the wall plate. You will be connecting to the same labeled terminals as your old thermostat connections.

Note:

1. You may use Appendix 1 located in Page 20 as a reference if you encounter wiring issues.
2. Your wire colors may differ from the images shown below.

Terminal	Definition
C	AC 24V Common
RC	AC 24V power supply (transformer)
RH	AC 24V power supply (heating transformer)
W1	Heat 1 for Furnace/Boiler; Heat 1 for dual fuel
W2	Heat 2 for Furnace/Boiler; Auxiliary heat for heat pump
Y1	Cool 1 for AC; cool 1/heat 1 for heat pump
Y2	Cool 2 for AC; cool 2/heat 2 for heat pump
G	Fan output
O/B	Reverse (changeover) valve
Multi	Emergency heat; Heat 2 for dual fuel
S1	Outdoor sensor terminal 1/2
S2	Outdoor sensor terminal 2/2

12. Attach your Easystat WiFi Thermostat.

Firmly attach the Easystat thermostat to the wall plate.

13. Turn the power back ON.

Turn ON the power at the breaker box.

14. Follow on-screen instructions.

Once the power is back on, there will be a sequence of instructions to connect the WiFi， enter zip code, and app pairing.

App pairing

WARNING

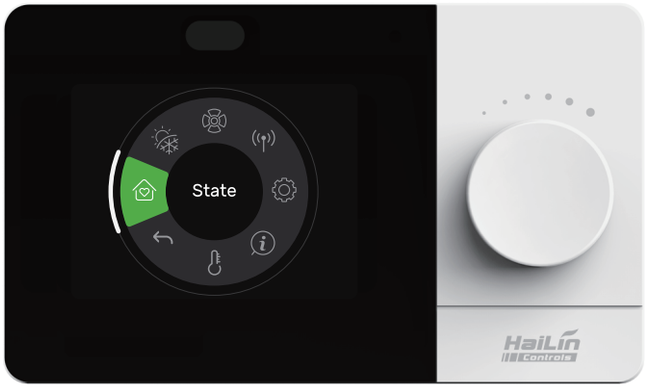
WiFi icon should flash when device is activated for the first time:

If you see WiFi icon flashing, please jump to **Step 4**.

If you did not see WiFi icon flashing, please follow **Step 1** to **3** to activate thermostat pairing state.

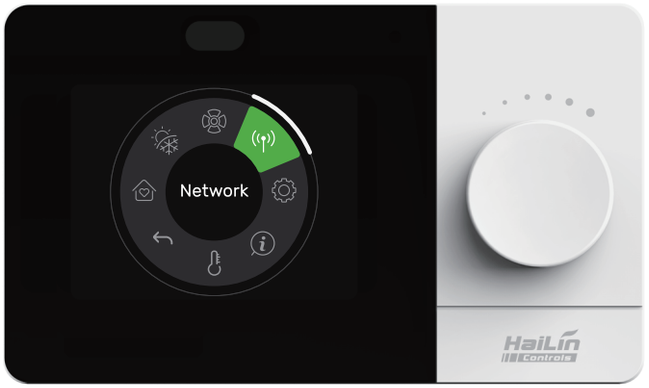
Step 1.

In home screen, press the knob to enter the main menu.



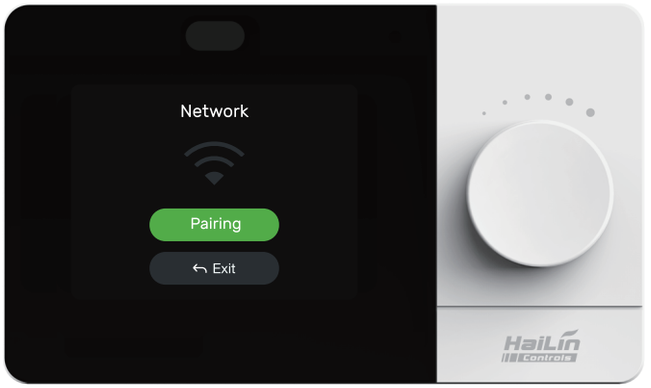
Step 2.

Rotate the knob to select the network setting, press the knob to enter.



Step 3.

Select Pairing and press knob to activate thermostat pairing state.

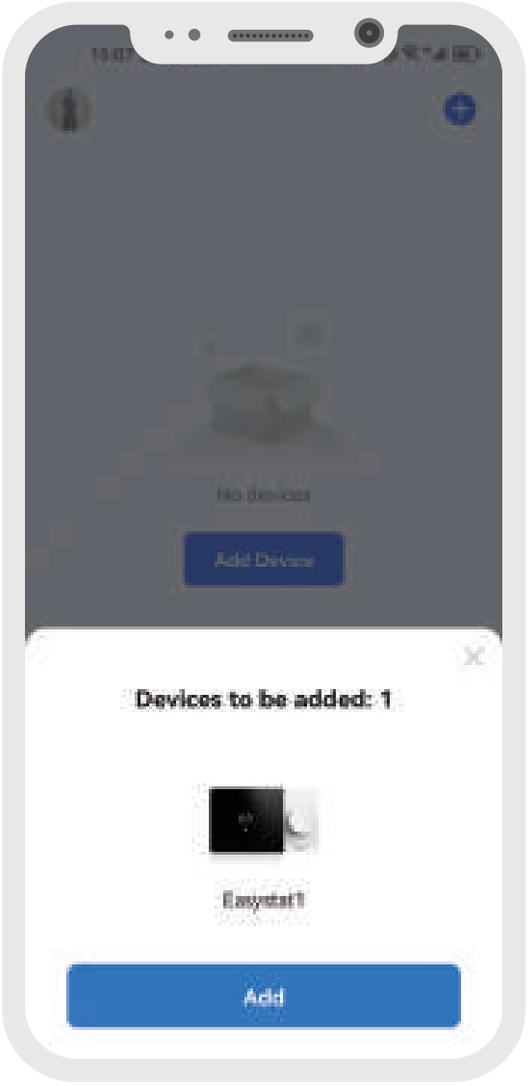


Step 4a.

Download and Login to **Smart Life** or **Tuya Smart** app, Easystat will be found automatically, a pop up page will appear as below.

Smart Life

Tuya Smart

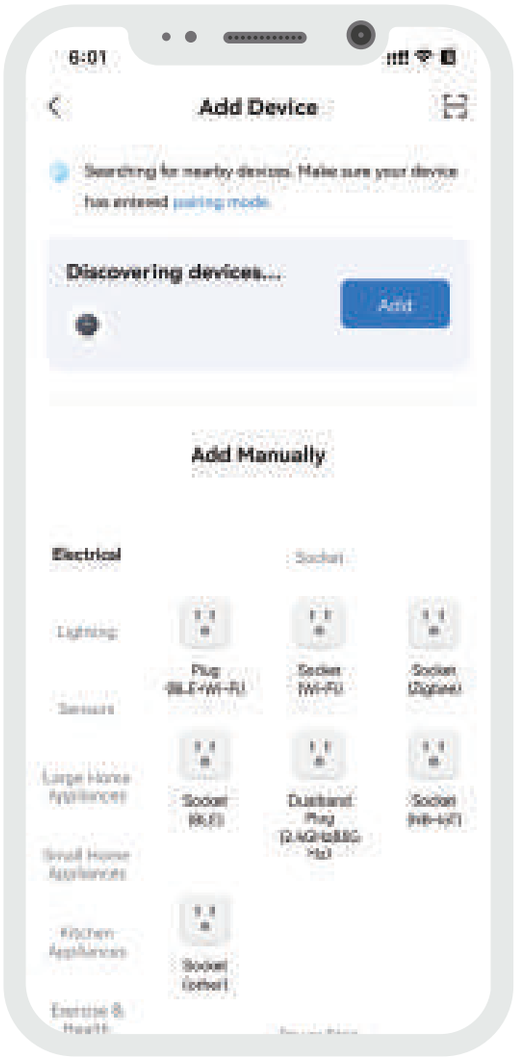


WARNING

Mobile phone should connect to a 2.4G WiFi, and bluetooth shoule be enabled.

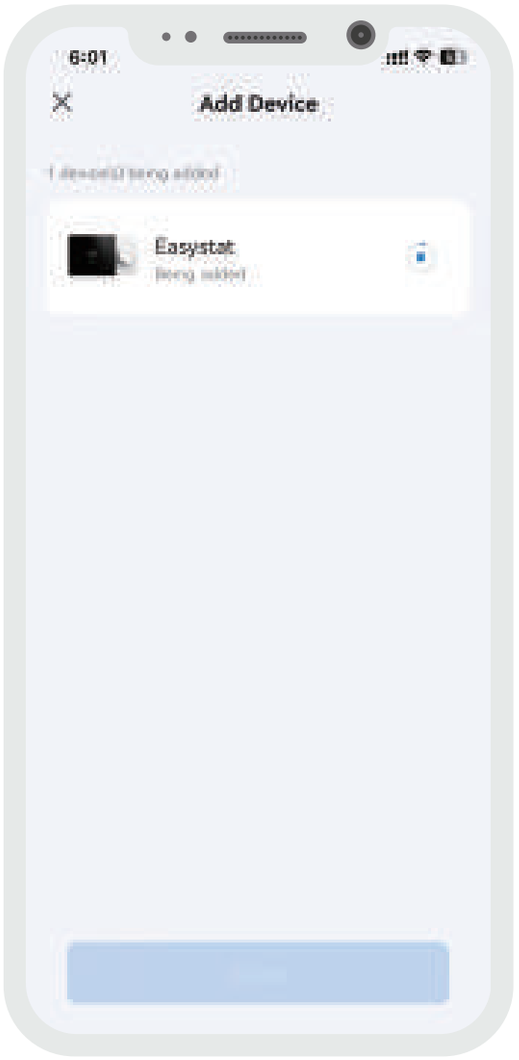
Step 4b.

If Easystat did not pop up automatically, click ⊕ in the upper right corner, and click Add .



Step 5.

Enter the WiFi password click Start to start pairing. If pairing fail please repeat previous steps.



Operation Guide

The Easystat WiFi Thermostat allows you remotely control and schedule your home's temperature with ease. It can support most home cooling and heating systems up to 4 stage heating and 2 stage cooling.

Key Features

- Smart phone control
- Weather aware
- Three operation states: Comfort, ECO, Schedule
- Schedule programmable
- Color screen display
- Local Knob Control
- Fan control
- Better temperature visibility and controls
- Compressor protection
- Knob lock
- Time synchronization
- UI friendly
- OTA upgrade
- Up to 4 heating and 2 cooling stage
- Early-On

Introduction

Proximity sensing
Pyroelectric infrared proximity sensing

WIFI
Shows current WIFI status

Set point
Shows current set point

Room temperature
Shows current room temperature

Humidity
Shows current humidity

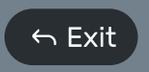
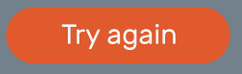
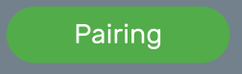
Three states
Shows ECO/Comfort/ Scheduling states

More icons you'll find:

Home Screen			
Icon	Definition	Icon	Definition
	State :ECO mode		WiFi signal strength
	State: Comfort mode		WiFi is not connected
	State: Scheduling mode		WiFi is only connected to router
	Minimum Compressor Off Time		Room temperature
Early-On	Early-On function start (check page 22)		Room humidity
	Fail to receive outdoor temperature		Knob lock
	Fail to receive weather forecast temperature		

Menu			
Icon	Definition	Icon	Definition
	State		Advanced setting
	System mode setting		Device info
	Fan mode setting		Temp & hum from different sources
	WiFi pairing setting		Exit

Menu

Icon	Definition	Icon	Definition
	System ON/OFF		Exit
	Cool mode		Next
	Heat mode		Try to pair WiFi again
	Cool/Heat auto switch mode		WiFi Paring Complete
	Emergency mode		Select to start paring
	Scheduling state		Reset setting to factory default
	Comfort state		Reset network setting to factory default
	Eco state		Temperature
	Reset setting		Humidity
	System test		
	System type		
	Fan mode		

Functions

Functions	Descriptions
System Modes	Off, Heat, Cool, Auto, Emergency
Fan	Auto, On
Operation states	ECO, Comfort, Scheduling. User can switch between these states via local contol & Mobile App
Room Temperature Display	Show the current room temperature.
Room Humidity Display	Show the room humidity
Minimum Compressor Off Time	A minimum Off time to make sure compressor cannot be started immediately after de-energized.
WiFi Connection	For OTA and remote control
Filter Change Reminder	Reminds to change filter based on timer
Knob Lock	Lock local control of thermostat
Early-On	To activate heat/cool equipment earlier dynamically and in time to make sure room temperature will reach to the scheduled temperature of next period on time.

Specifications

Temperature Accuracy	±2°F
Humidity Accuracy	±10% RH
Set Point Range	Heating:(40°F~90°F) /Cooling:(50°F~99°F)
Operating Temp/Humidity Range	32~122°F, 5~95% RH (non - condensing)
Screen Resolution	320x240 TFT LCD
Power Supply	AC 24V
Size	130x77x24 mm
Housing Material	PC+ABS V0
IP Rank	IP30
WiFi	2.4GHz only

Compatibility

- Compatible with most heating, cooling andheat pump systems.
- Required: 24 VAC power (“C” wire).
- Does not work with electric baseboard heat(120- 240V).
- Does not work with millivolt systems.
- Android or iOS smart phone, table or device.
- 2.4GHz (802.11b/g/n) for WiFi connectivity

Operations

1) System mode selection

In the home screen, press the knob to enter main menu, rotate the knob and select “System mode ”, press the knob to set system mode, including: OFF , COOL , HEAT , AUTO , and EMER . The thermostat turns off cooling or heating outputs, if fan is in AUTO mode, fan output is also turned off, if fan is in ON mode, fan output is on.

Note that not all homes will have every mode option available and depends on your HVAC system. The thermostat determines which modes are active according to the HVAC system type.

2) View or modify the temperature setpoint

In the home screen:

When OFF mode is selected, home screen will not display set point, select other mode to view and set setpoint.

When AUTO mode is selected, home screen will display both Heat and Cool setpoint, rotate the knob to select the setpoint that needs to be set, press the knob to activate setting state, rotate the knob to set, press the knob or wait for 30s to confirm the new setpoint.

When system mode is not AUTO or OFF , home screen will display Heat or Cool setpoint depend on the mode you set, rotate the knob to set, press the knob to confirm the new set point.

3) Thermostat running State selection

In home screen press and hold the knob for 1.5s or go to the main menu, to set thermostat running state between Scheduling, Comfort, and ECO

Scheduling state

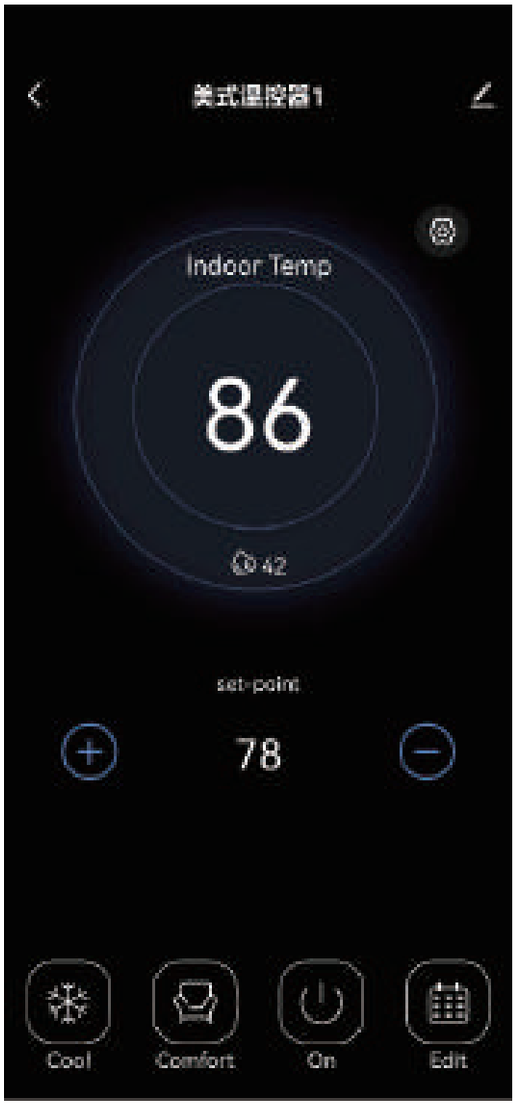
In this state, thermostat state is running following a programmed schedule, Default scheduling is as below:

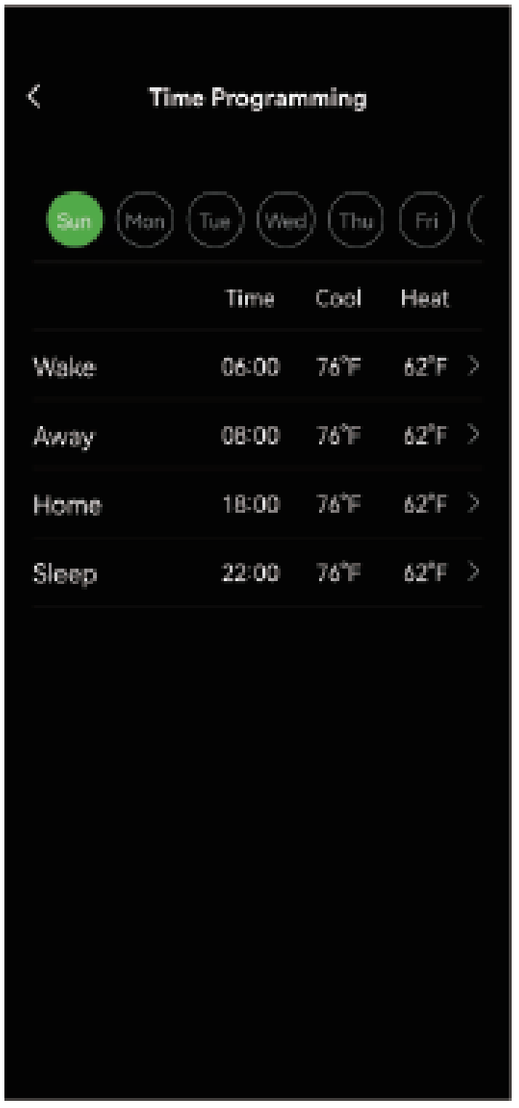
Period	Time	Heating	Cooling
Wake	6:00am	68 °F	78 °F
Away	8:00am	60 °F	85 °F
Home	4:00pm	68 °F	78 °F
Sleep	10:00pm	60 °F	82 °F

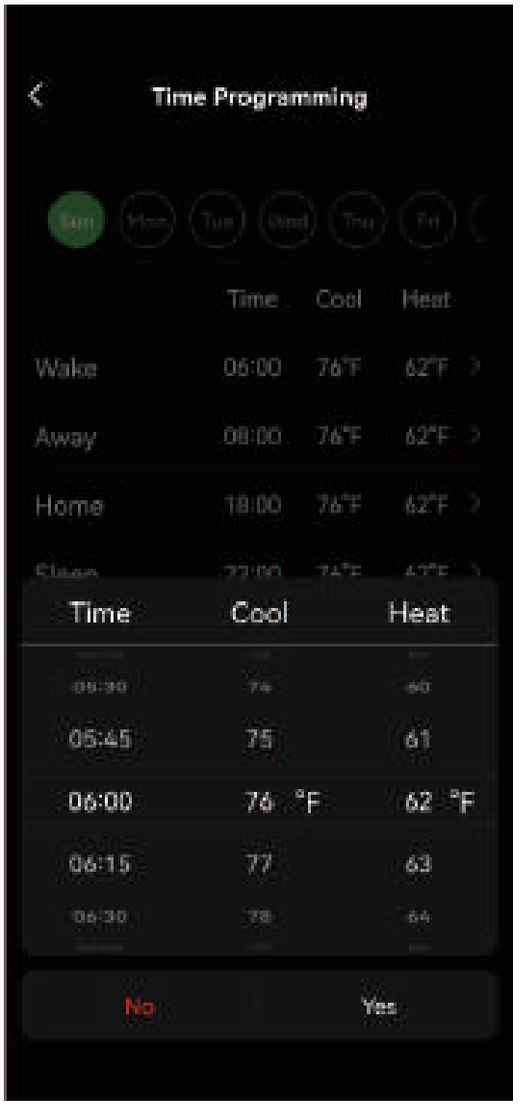
User can set the schedule only on the mobile APP:

Step 1 click ✎ to edit schedule

Step 2 click > to set the time and setpoint of each period.







Temporary hold scheduling: change the setpoint to temporarily hold current time period scheduling. Thermostat will go back to the programmed schedule when next time period is reached.

Permanent hold scheduling: select **Comfort** or **ECO** state to permanent hold scheduling.

Comfort & **ECO** state

You can define the setpoint of ECO & Comfort state. Easystat will remember the setpoints you set.

Default setpoint for **Comfort** mode: Heat setpoint = 72 ˚F; Cool setpoint = 78 ˚F

Default setpoint for **ECO** mode: Heat setpoint = 62 ˚F; Cool setpoint = 82 ˚F

4) Fan mode selection

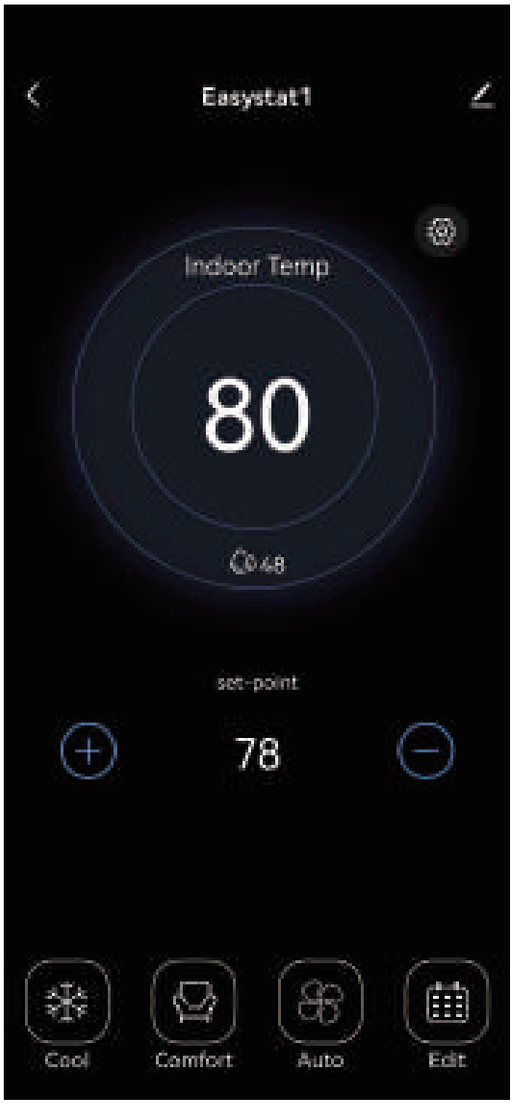
In the home screen, press the knob to enter main menu, rotate the knob and select “Fan mode”, Press the knob to set fan mode, including ON &, AUTO .

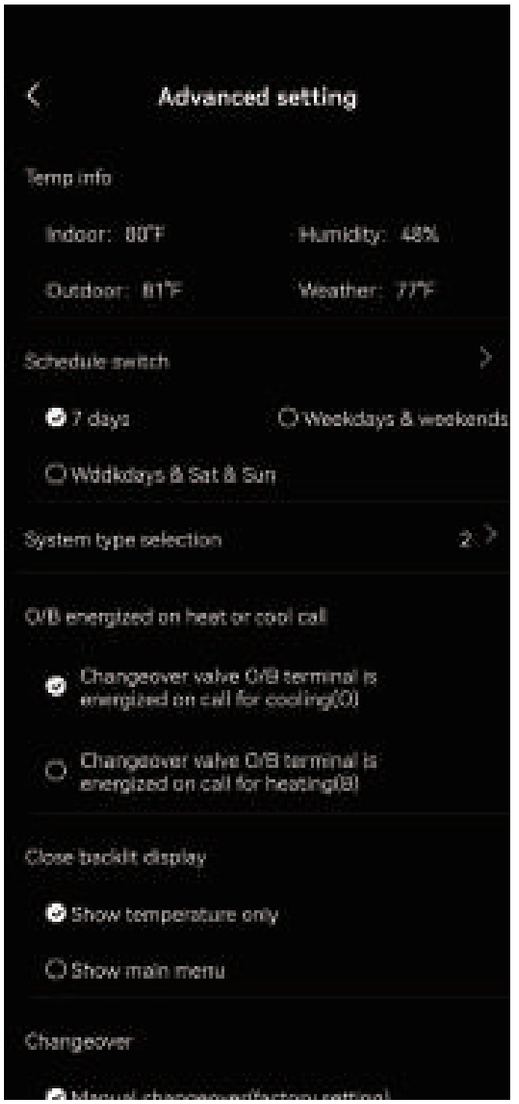
Advanced Settings

Press the settings icon on the app to enter the Advanced Settings interface.

Advanced setting is only available from mobile app.

> **WARNING**
>
> Do not change advanced setting without consulting with technical support.





Temp Info

Display all the temperature and humidity readings from various sources.

Schedule Type

Use this setting to change schedule types.
7 days scheduling allows users to set different schedule for each weekday.
Weekdays & weekends scheduling allow users to set different schedule for 5 weekdays and 2 weekend days.
Weekdays & Sat& Sun scheduling allow users to set different schedule for 5 weekdays, Saturday, and Sunday.

System type

Change this setting to make sure your thermostats control logic is aligned with your HVAC system. Please contact technical support if you are not clear with your HVAC system type.

Fan Control in Heat mode

Change this setting to define if you want Easystat to control the fan of your conventional Air Conditioning and Furnace system when fan mode is set to AUTO in heating mode. For Heat Pump application, this setting is hidden and set to thermostat controls fan when fan mode is set to AUTO in heat mode.

Dual fuel balance point

This setting defines what temperature should the dual fuel furnace kick on.

When outdoor temperature is 2F above balance point temperature, Heat Pump will be the heat source.

When outdoor temperature is 2F below balance point temperature, addtional heat equipment will be the heat source.

Dual fuel outdoor temperature source

Change this setting to define the outdoor temperature source to compare with balance point for heat system switch.

O/B energized on heat or cool call

This setting is for Heat Pump system only. The orientation setting O/B energizes the reversing valve. When energized, the reversing valve helps the heat pump to switch between the cooling and the heating modes. If your heat pump system blows hot air in cooling mode, or blows cool air in heating mode, you may check this setting.

Idle state display

Change this setting to set idle state display contents.

Auto changeover

Change this setting to enable or disable heat and cool mode auto switch function.

Auto changeover dead band

Change this setting to adjust the gap between heat and cool set point. This setting is only available when auto changeover is enabled. Main display will show both heat mode set point and cool mode set point when auto changeover is enabled. Note: cool mode set point should be always equal or larger than heat mode set point plus dead band value.

Temperature unit

Change this setting to switch between Celsius and Fahrenheit.

Cycle per hour for cool/Cycle per hour for heat

Use these settings to define how many times per hour your heating or cooling system will turn on and off.

Filter change reminder

Change this setting to set a filter reminder. When the set running time is reached, Easystat will remind you to change the filter. The filter timer can be reset by press the “Reset filter” button.

Early-on

Enable this function will allow thermostat to activate heat/cool equipment earlier dynamically and in time to make sure room temperature will reach to the scheduled temperature of next period on time.

Minimum compressor off time

This function is designed to protect your equipment by keeping the compressor off for a few minutes before restarting, the minimum off timer is activated after the compressor turns off.

Do not change this setting if you are not a trained technical expert.

Heat set-point range/Cool set-point range

Change this setting to change set-point range of heat and cool, default heat set-point range is 40F to 90F, you can only set the upper limit of heat set-point; default cooling set-point range is 50F to 99F, you can only set the lower limit of cool set-point.

Delayed fan on time – heat/ Delayed fan on time -cool

Change this setting to define if fan needs to keep running for a period to blow the remaining heat or cool out of the system. Only functional when thermostat is controlling your fan output and fan is set to Auto mode.

Knob lock

Change this setting to lock or unlock the control knob of Easystat. Once the knob is locked, you cannot control the EasyStat locally.

Temperature reading offset

Change this setting to add a plus or minus offset to display value of room temperature.

Screen normal state brightness/Screen idle state brightness

Change these settings to adjust the brightness, when screen is in normal state and idle state.

Reset thermostat

You can reset your Easystat by this seting.
Choose “Reset settings” will reset all settings to factory state, after reset is complete, EasyStat will restart and connect to mobile App automatically.
Choose “Reset Network Settings” will reset your network setting only, you will need to go through the WiFi pairing process to connect EasyStat with your mobile App.

Hard Reset

In case of abnormal operation on Easystat, such as a crash or no response of the knob, please press the reset button to force Easystat to restart. The position of the reset button is shown in the right figure:

Appendix 1

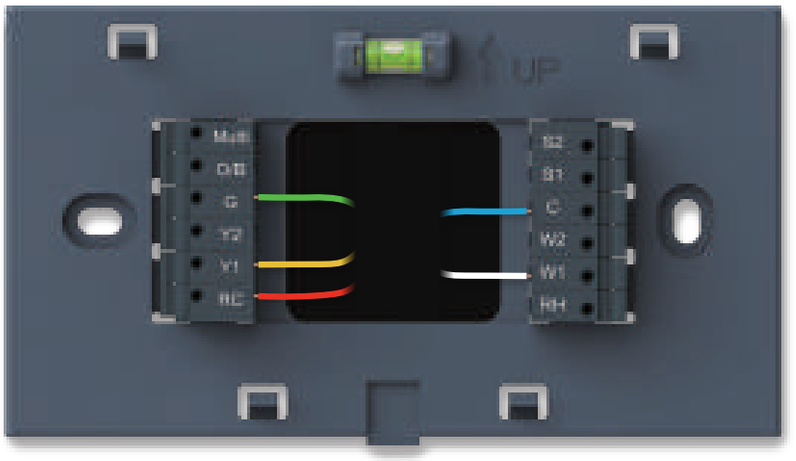
Terminal	Definition
C	AC 24V Common
RC	AC 24V power supply (transformer)
RH	AC 24V power supply (heating transformer)
W1	Heat 1 for Furnace/Boiler; Heat 1 for dual fuel
W2	Heat 2 for Furnace/Boiler; Auxiliary heat for heat pump
Y1	Cool 1 for AC; cool 1/heat 1 for heat pump
Y2	Cool 2 for AC; cool 2/heat 2 for heat pump
G	Fan output
O/B	Reverse (changeover) valve
Multi	Emergency heat; Heat 2 for dual fuel
S1	Outdoor sensor terminal 1/2
S2	Outdoor sensor terminal 2/2

Note:

The default mode of jump switch is in ON mode, in this mode the RC and RH are jumping together by the switch. If your system has two transformer or the system type is set to 10-12, 14, 16-18, please turn the jump switch to OFF mode.

1-1heat/1cool conventional (default setting)

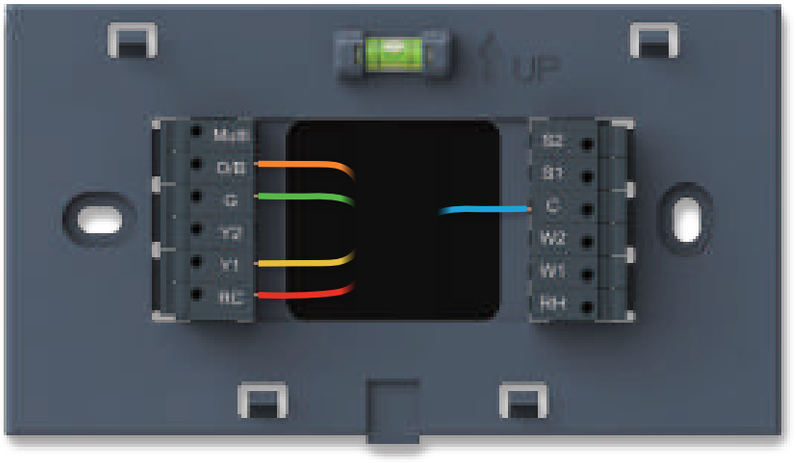
Terminal	Definition
Multi	--
O/B	--
G	Fan output
Y2	--
Y1	Cool 1 for AC
RC	AC 24V power supply (transformer)
S2	--
S1	--
C	AC 24V Common
W2	--
W1	Heat 1 for Furnace
RH	--



Jumper switch

2-1heat/1cool heat pump (no AUX heat)

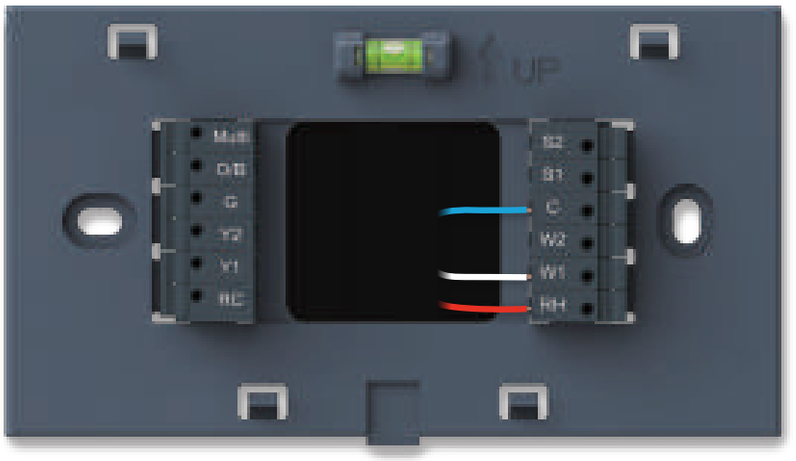
Terminal	Definition
Multi	--
O/B	Reverse (changeover) valve
G	Fan output
Y2	--
Y1	Cool 1/heat 1 for heat pump
RC	AC 24V power supply (transformer)
S2	--
S1	--
C	AC 24V Common
W2	--
W1	--
RH	--



Jumper switch

3-Heat only conventional (no fan)

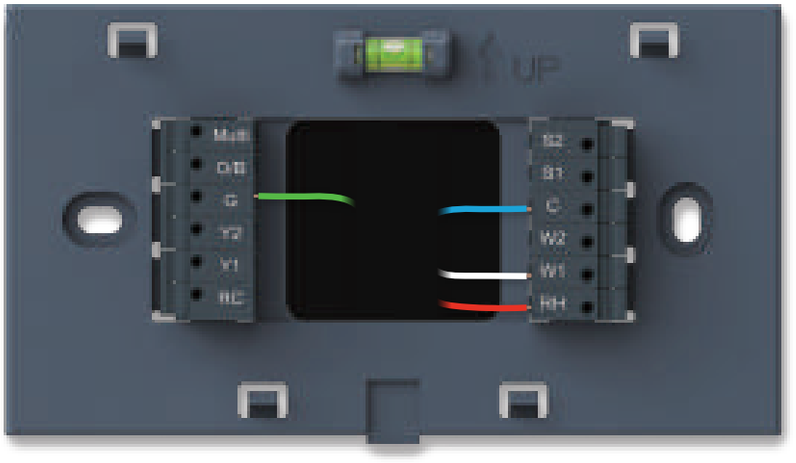
Terminal	Definition
Multi	--
O/B	--
G	--
Y2	--
Y1	--
RC	--
S2	--
S1	--
C	AC 24V Common
W2	--
W1	Heat for Boiler
RH	AC 24V power supply



Jumper switch

4-heat only conventional (with fan)

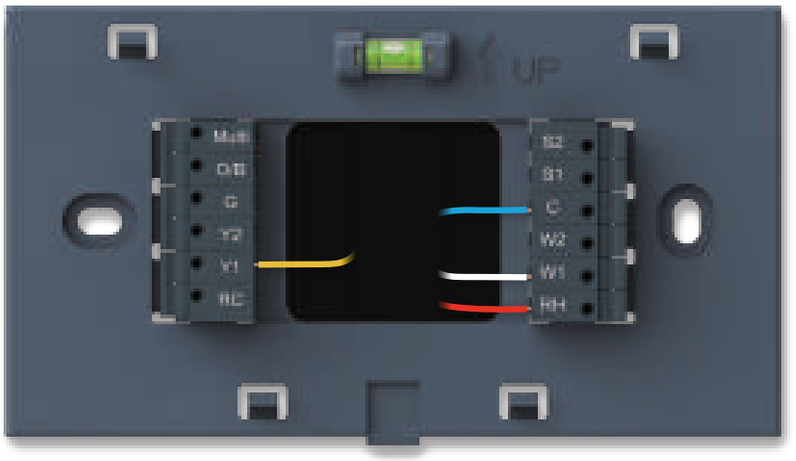
Terminal	Definition
Multi	--
O/B	--
G	Fan output
Y2	--
Y1	--
RC	--
S2	--
S1	--
C	AC 24V Common
W2	--
W1	Heat for Furnace
RH	AC 24V power supply



Jumper switch

5-heat only (power to open and close zone valves or normal-open zone valves)

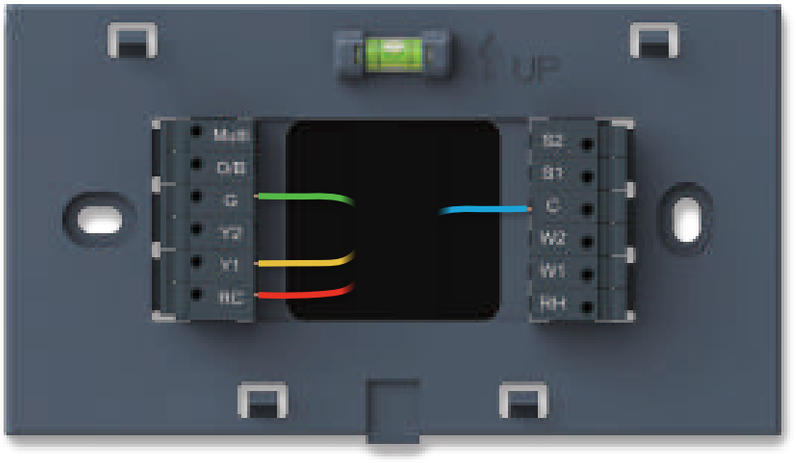
Terminal	Definition
Multi	--
O/B	--
G	--
Y2	--
Y1	Valve close
RC	--
S2	--
S1	--
C	AC 24V Common
W2	--
W1	Valve open
RH	AC 24V power supply



Jumper switch

6-cool only conventional

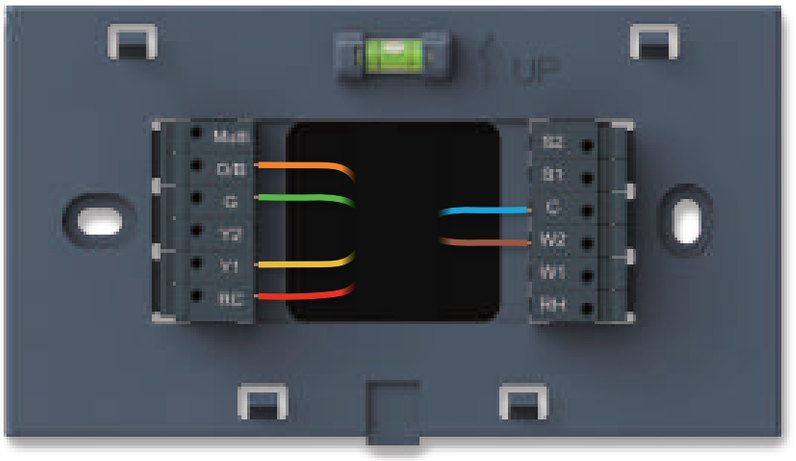
Terminal	Definition
Multi	--
O/B	--
G	Fan output
Y2	--
Y1	Cool 1 for AC
RC	AC 24V power supply
S2	--
S1	--
C	AC 24V Common
W2	--
W1	--
RH	--



Jumper switch

7-2heat/1cool heat pump (with AUX heat)

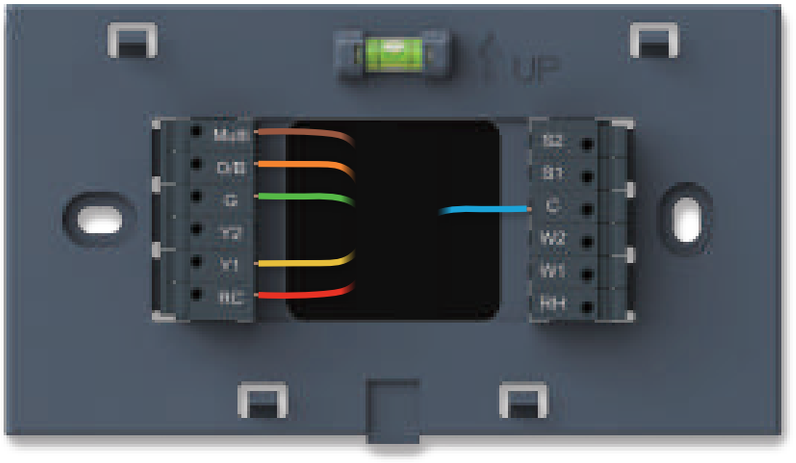
Terminal	Definition
Multi	--
O/B	Reverse (changeover) valve
G	Fan output
Y2	--
Y1	Cool 1/heat 1 for heat pump
RC	AC 24V power supply
S2	--
S1	--
C	AC 24V Common
W2	Auxiliary heat for heat pump
W1	--
RH	--



Jumper switch

8-2heat/1cool heat pump (with E heat)

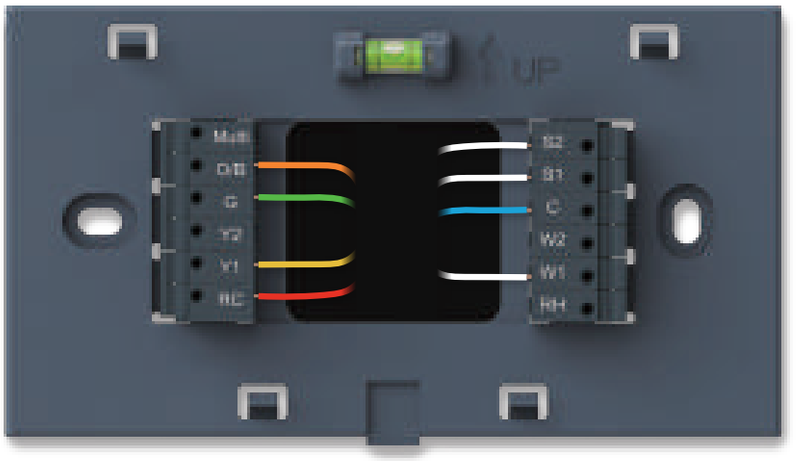
Terminal	Definition
Multi	Emergency heat
O/B	Reverse (changeover) valve
G	Fan output
Y2	--
Y1	Cool 1/heat 1 for heat pump
RC	AC 24V power supply
S2	--
S1	--
C	AC 24V Common
W2	--
W1	--
RH	--



Jumper switch

9-2heat/1cool Dual Fuel

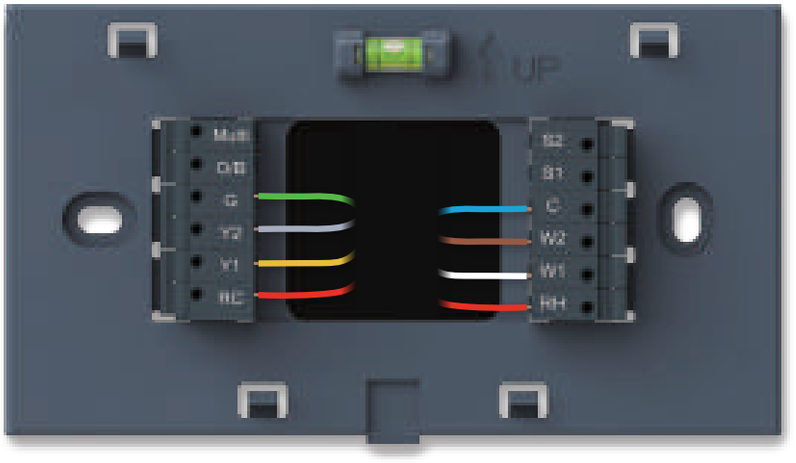
Terminal	Definition
Multi	--
O/B	Reverse (changeover) valve
G	Fan output
Y2	--
Y1	Cool 1/heat 1 for heat pump
RC	AC 24V power supply
S2	Outdoor sensor terminal 2/2
S1	Outdoor sensor terminal 1/2
C	AC 24V Common
W2	--
W1	Heat 1 for dual fuel
RH	--



Jumper switch

10-2heat/2cool multistage conventional

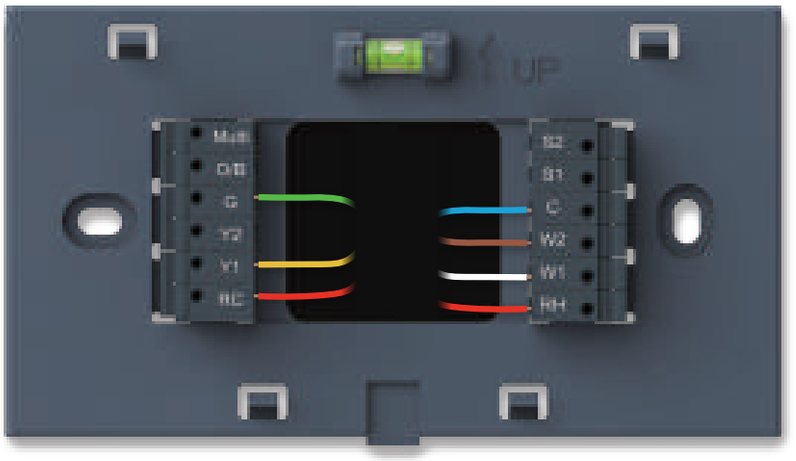
Terminal	Definition
Multi	--
O/B	--
G	Fan output
Y2	Cool 2 for AC
Y1	Cool 1 for AC
RC	AC 24V power supply
S2	--
S1	--
C	AC 24V Common
W2	Heat 2 for Furnace
W1	Heat 1 for Furnace
RH	AC 24V power supply



Jumper switch

11-2heat/1cool multistage conventional

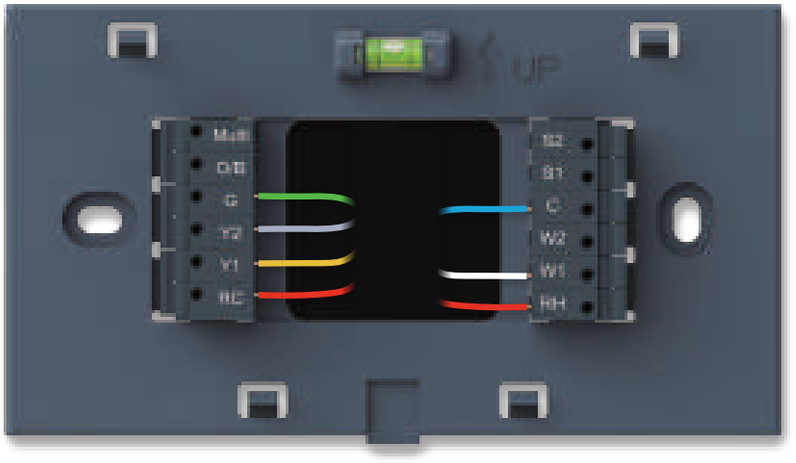
Terminal	Definition
Multi	--
O/B	--
G	Fan output
Y2	--
Y1	Cool 1 for AC
RC	AC 24V power supply
S2	--
S1	--
C	AC 24V Common
W2	Heat 2 for Furnace
W1	Heat 1 for Furnace
RH	AC 24V power supply



Jumper switch

12-1heat/2cool multistage conventional

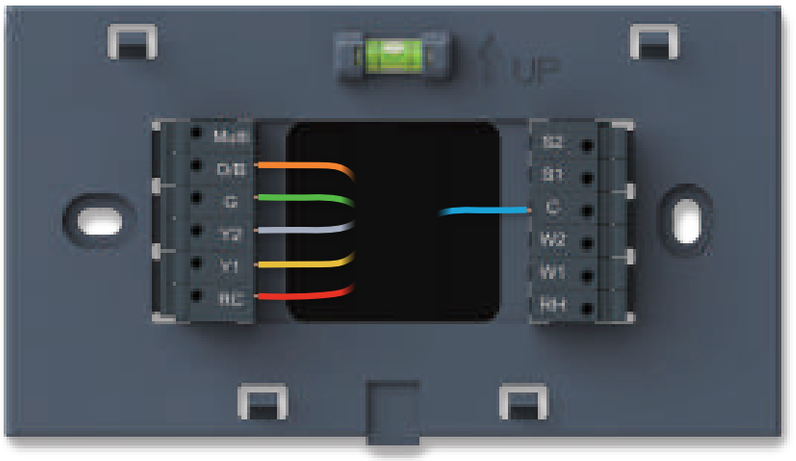
Terminal	Definition
Multi	--
O/B	--
G	Fan output
Y2	Cool 2 for AC
Y1	Cool 1 for AC
RC	AC 24V power supply
S2	--
S1	--
C	AC 24V Common
W2	--
W1	Heat 1 for Furnace
RH	AC 24V power supply



Jumper switch

13-2heat/2cool heat pump (no AUX heat)

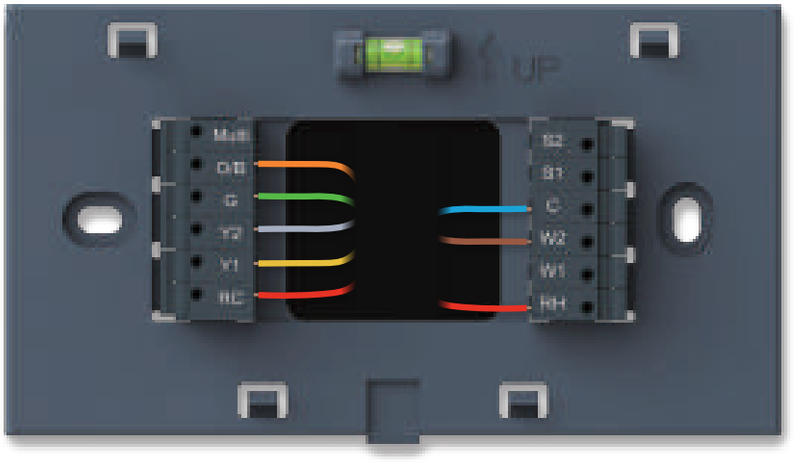
Terminal	Definition
Multi	--
O/B	Reverse (changeover) valve
G	Fan output
Y2	Cool 2/heat 2 for heat pump
Y1	Cool 1/heat 1 for heat pump
RC	AC 24V power supply
S2	--
S1	--
C	AC 24V Common
W2	--
W1	--
RH	--



Jumper switch

14-3heat/2cool heat pump (with AUX heat)

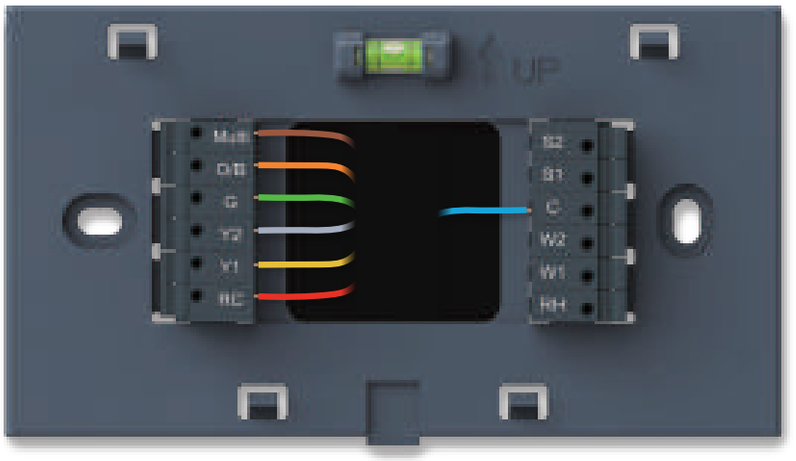
Terminal	Definition
Multi	--
O/B	Reverse (changeover) valve
G	Fan output
Y2	Cool 2/heat 2 for heat pump
Y1	Cool 1/heat 1 for heat pump
RC	AC 24V power supply
S2	--
S1	--
C	AC 24V Common
W2	Auxiliary heat for heat pump
W1	--
RH	AC 24V power supply



Jumper switch

15-3heat/2cool heat pump (with Emergency heat)

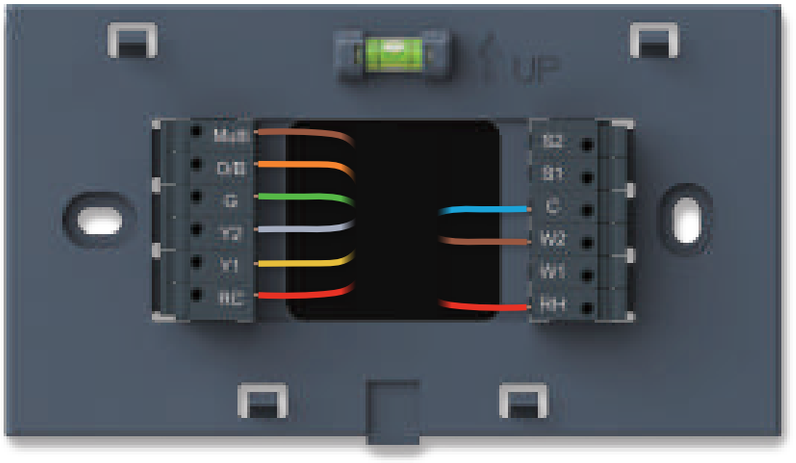
Terminal	Definition
Multi	Emergency heat
O/B	Reverse (changeover) valve
G	Fan output
Y2	Cool 2/heat 2 for heat pump
Y1	Cool 1/heat 1 for heat pump
RC	AC 24V power supply
S2	--
S1	--
C	AC 24V Common
W2	--
W1	--
RH	--



Jumper switch

16-4heat/2cool heat pump (with AUX & Emergency heat)

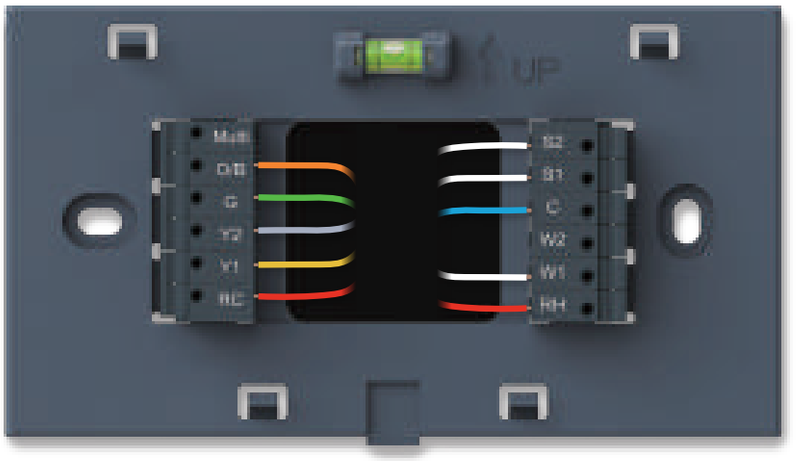
Terminal	Definition
Multi	Emergency heat
O/B	Reverse (changeover) valve
G	Fan output
Y2	Cool 2/heat 2 for heat pump
Y1	Cool 1/heat 1 for heat pump
RC	AC 24V power supply
S2	--
S1	--
C	AC 24V Common
W2	Auxiliary heat for heat pump
W1	--
RH	AC 24V power supply



Jumper switch

17-3heat/2cool dual fuel

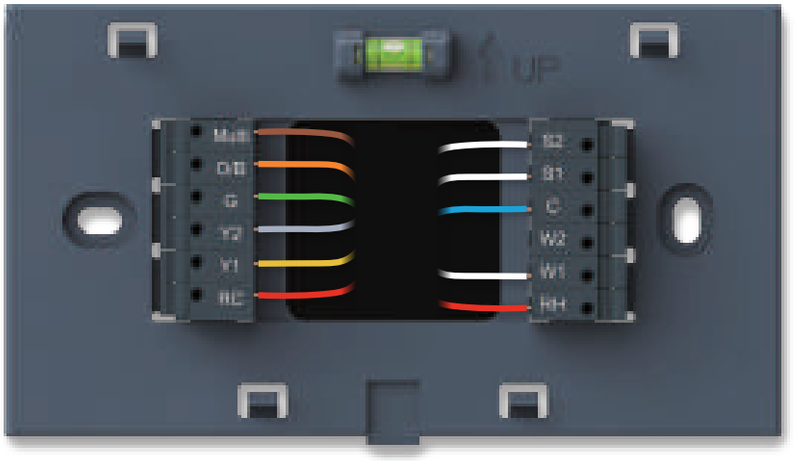
Terminal	Definition
Multi	--
O/B	Reverse (changeover) valve
G	Fan output
Y2	Cool 2/heat 2 for heat pump
Y1	Cool 1/heat 1 for heat pump
RC	AC 24V power supply
S2	Outdoor sensor terminal 2/2
S1	Outdoor sensor terminal 1/2
C	AC 24V Common
W2	--
W1	Heat 1 for dual fuel
RH	AC 24V power supply



Jumper switch

18-4heat/2cool dual fuel

Terminal	Definition
Multi	Heat 2 for dual fuel
O/B	Reverse (changeover) valve
G	Fan output
Y2	Cool 2/heat 2 for heat pump
Y1	Cool 1/heat 1 for heat pump
RC	AC 24V power supply
S2	Outdoor sensor terminal 2/2
S1	Outdoor sensor terminal 1/2
C	AC 24V Common
W2	--
W1	Heat 1 for dual fuel
RH	AC 24V power supply



Jumper switch

FCC Compliance

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.

Attention that changes or modification not expressly approved by the party that may cause that may cause compliance could void the user’s authority to operate the equipment.

Note: This product 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 product generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the nstructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occ ur in a particular installation.If this product 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.

This equipment should be installed and operated with a minimum distance 20cm between the radiator and your body.

Manufacturer:

Beijing HaiLin Control Technology Inc.

International Information Industry Basement, Huilongguan North,

Changping District, Beijing, 102206, P. R. C

Tel: 86-10-52816666 Fax: 86-10-52816677

Version 1.0