



Service Manual

Thermostat

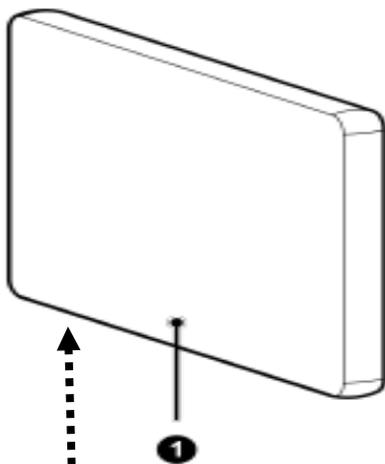
Model:
WK-010WC1
WK-010WD1

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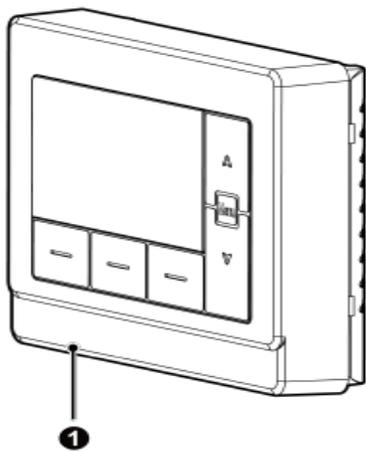
Installation

For the proper functioning of this product, the 2 parts are mandatory. Please take care to properly install the touchscreen thermostat where the user will have access and the master thermostat near the furnace (gas/electric) for a simple and efficient connection.



➤ Touchscreen thermostat

4 Wire
Connection



➤ Master thermostat

Wiring

Thermostat Terminal identification



18 AWG ~ 22AWG

- R-----24volts
- C-----Common
- H1-----RS485 comm
- H2-----RS485 comm

*H1/H2 are polarity sensitive. Miss wire will lead to E6 error.

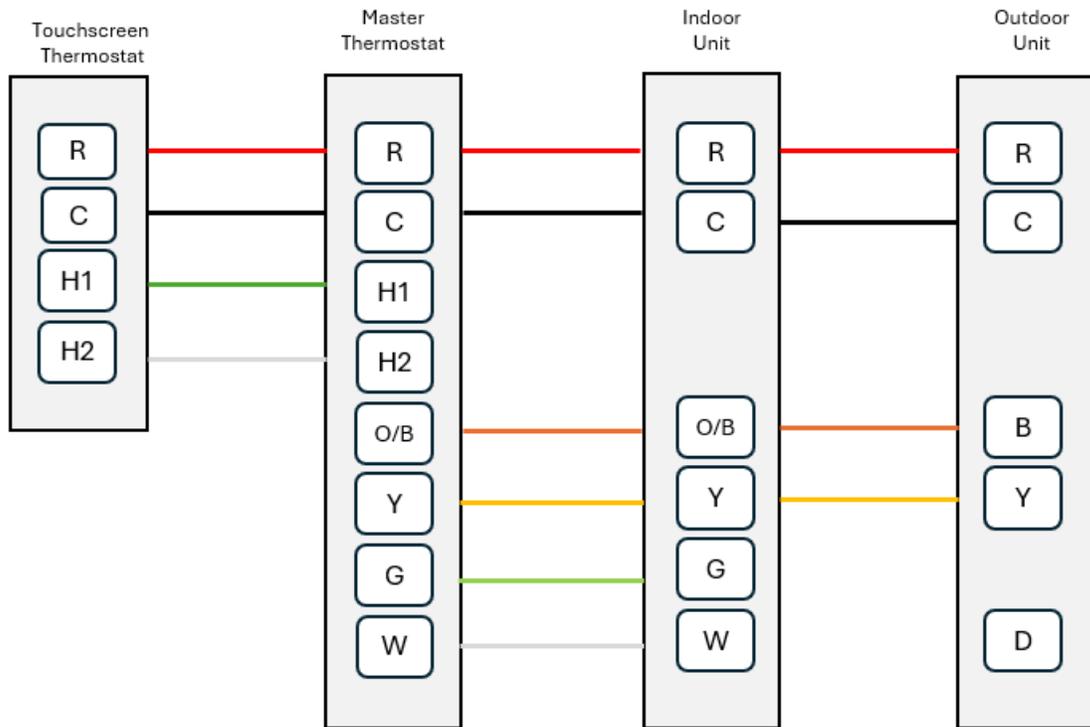


20AWG ~ 24AWG

- H1---RS485 comm
- H2---RS485 comm
- R----24volts
- C----Common
- S1---Optional Outdoor sensor
- S2---Optional Outdoor sensor
- L-----Refrigerant Leak Signal
- ERV--Dry contact to ERV
- O/B---4ways valve
- DH---Dry contact to DHUM
- Y-----Compressor Signal
- G-----Fan Signal
- HUM---Dry Contact to HUM
- W-----Gas Furnace Stage 1 Signal
- W2/AUX---Gas Furnace Stage 2/Air Handler Signal

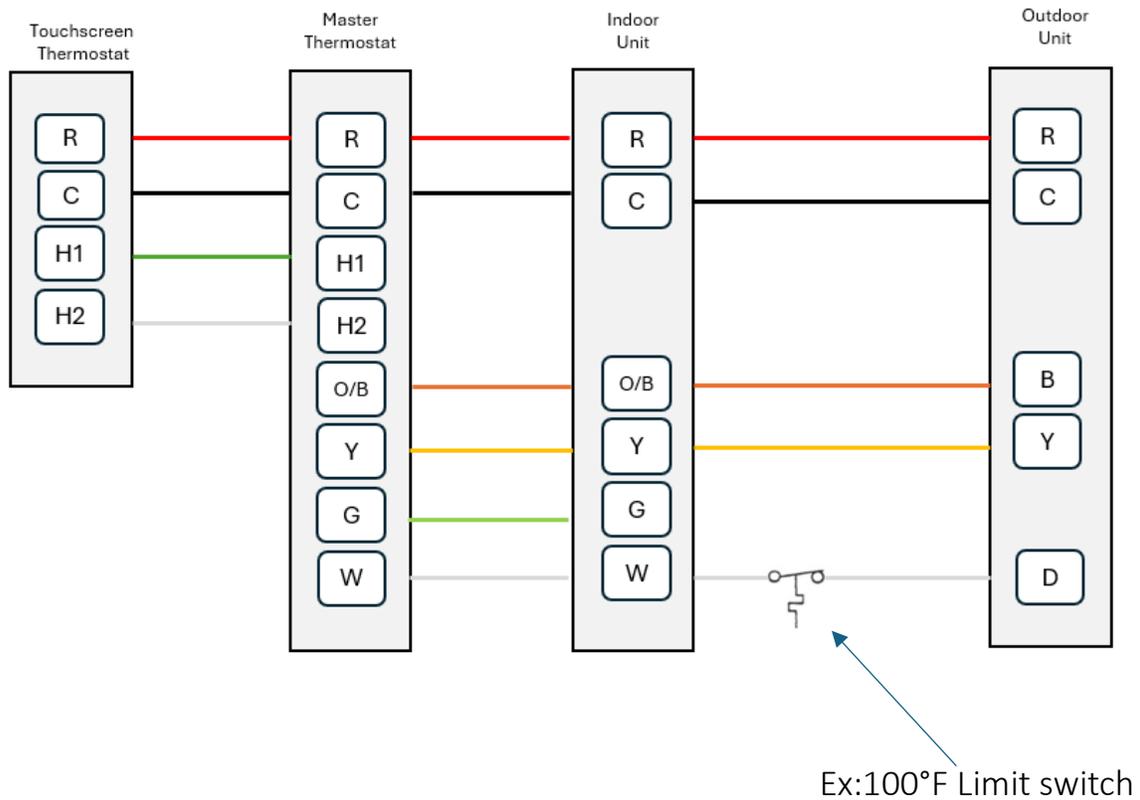
Wiring

Schematic with Gas Furnace



Wiring

Schematic with Gas Furnace / Defrost option

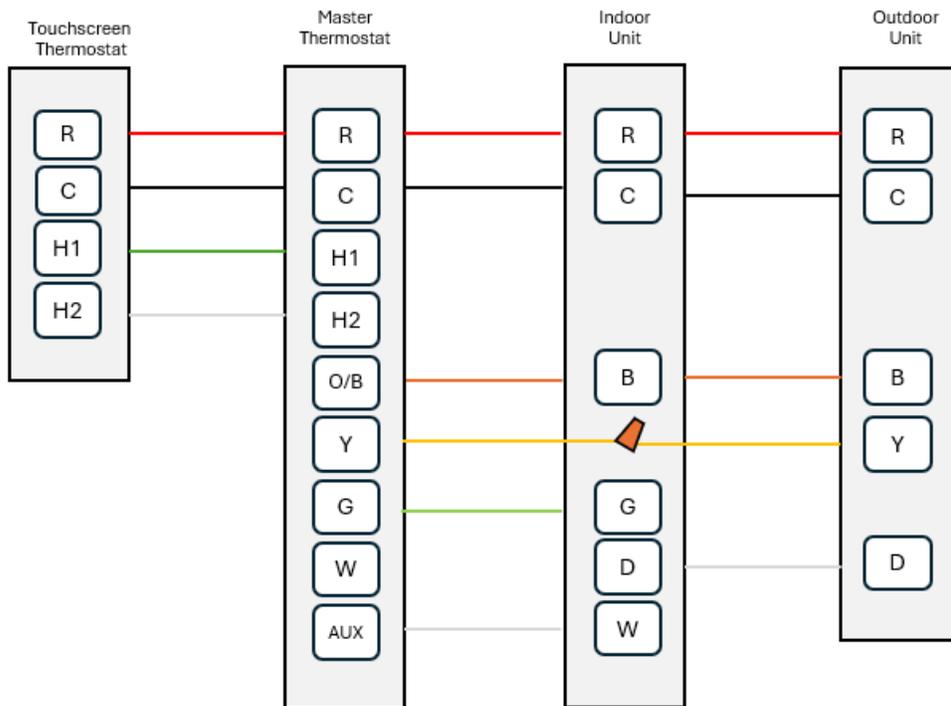


Note: Limit switch not sold by Kinghome.

*On a Defrost signal, 24volts is sent from the outdoor unit from D terminal to W at the furnace, once the temperature limit is reach, the 24volts signal will be cut off. This option will allow anti-cold draft air in the room and prevent the heat pump to reach a high-pressure switch error (E1) or the compressor to resume it operation. (H4)

Wiring

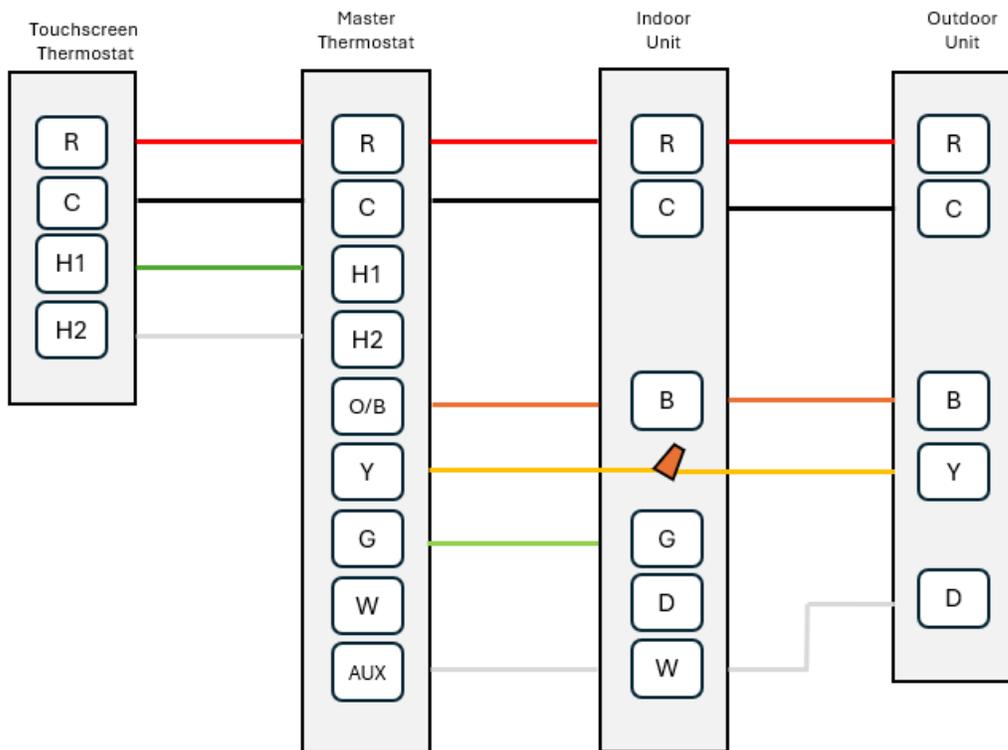
Schematic with Air Handler/Duct Heater



Note: During Defrost cycle, D terminal from the outdoor unit apply 24volts to D terminal at the indoor air handler, this signal will allow the indoor fan to stop to avoid cold draft air in the room.

Wiring

Schematic with Air Handler/Duct Heater



Note: During Defrost cycle, D terminal from the outdoor unit apply 24volts to W terminal at the indoor air handler, this signal will allow the duct heater to start and provide warm temperature in the room during the defrost cycle.

Configuration WK-010WC1

All configurations must be executed under "OFF Mode"

Click MENU and select INSTALLER SETUP (press SET to enter)

No.	Parameter	Range	Remarks
1	Thermostat Set	Reserved	Fixed to "Primary"
2	Communication	24V/RS485	Version 1.0 using 24V communication mode.
3	Outdoor unit type	AC/HP	Set HP for Ultrnix cold climate or Ultrnix ECO
4	Four-way valve Reserving	O/B	Set B for Ultrnix cold climate or Ultrnix ECO
5	Indoor Unit Type	Air Handler / 1 st Fur	Air handler = Y and W2/AUX simultaneously 1 st Fur = Y disable when W enable

Note: The 2nd Fur is not available for version 1.00 of the smart thermostat.

Configuration WK-010WC1

Air Handler configuration only.

*(W2/AUX) output terminal.

No.	Parameter	Range	Remarks
6	AUX on Timer	0~120min	AUX will be active after the selected time value.
7	Max Activate Temp for AUX	10~30°C 50~86°F	AUX disable when over the selected temperature value.
8	AUX On Temp Differential	0~5°C 0~10°F	AUX active when set point differential > selected value.
9	Satisfy Room Temp with AUX	YES/NO	Default is NO

Configuration WK-010WC1

Dual fuel configuration only.

*(W) output terminal.

No.	Parameter	Range	Remarks
10	Dual fuel Switch ODU Temp	-25~15°C -13~59°F	Over set temp value, HP is disabled , and Fur is activated.
11	Dual fuel Switch Timer	10~120min	When HP active > set time value, HP is disabled , and Fur is activated.
12	Furnace Min On Time	0~60min	Set time value to avoid short cycling of the Furnace.

Configuration WK-010WC1

Air Handler/Gas Furnace configuration.

No.	Parameter	Range	Remarks
13	Temp Display Set	-3~3°C -10~10°F	Adjust Temp display to room temperature. (Default is 0°)
14	Cool Swing	2~4°C 4~8°F	Set point differential under AUTO mode only.
15	Heat Swing	2~4°C 4~8°F	Set point differential under AUTO mode only.
16	Compressor On Timer	1~15min	Set time value to avoid short cycling of the HP. Y signal is delayed from the thermostat.
17	Min Compressor On	0~6min	Set time value to avoid short cycling of the HP. Y signal is maintained at the thermostat.
18	Fan Off Timer	0~10min	Delayed shutdown of G signal.
19	Factory Setting	YES/NO	Restore thermostat to factory setting.

Configuration WK-010WC1

Click MENU and select USER FUNCTION (press SET to enter)

No.	Parameter	Remarks
1	Dual Fuel	Standard/Smart mode
2	Humidifier	Enable/Disable
3	Humidifier set point	Adjust humidity % if HUM enable
4	ERV	Enable/Disable

*Standard mode: The system will work accordingly to the installer configuration.

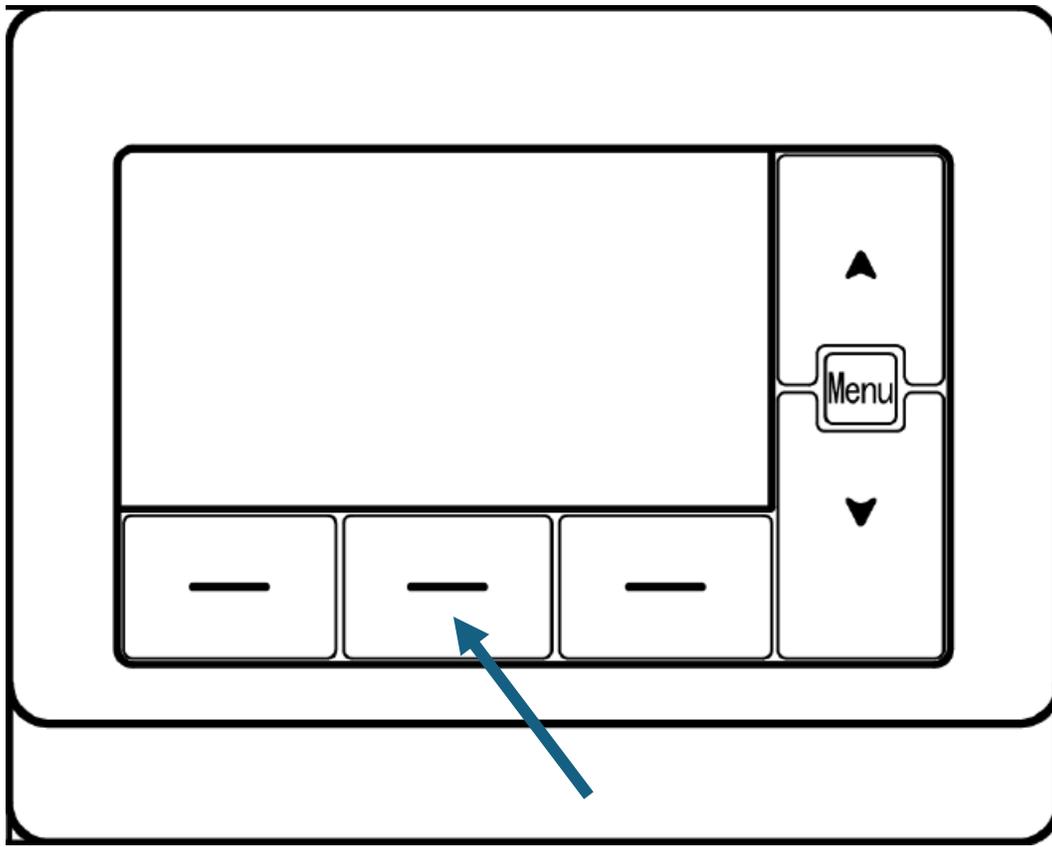
*Outdoor sensor is optional, if needed connect to S1/S2 with a 15 kohms thermistor otherwise the outdoor temperature will show 32°F (0°C).

*Smart mode: The system will use the Kinghome algorithm once connect via WIFI. Outdoor temperature will be provided by the weather channel in your area via the postal code.

*ERV: ON/OFF option chosen by the customer when fresh air is needed.

Schedule WK-010WC1

Create or Edit a schedule with the thermostat.



Under **Mode OFF**, click and hold the **function button #2** to enter de schedule function. Then, selected the require time mode.

Schedule WK-010WC1

Timed Mode		
<div style="display: flex; justify-content: center; gap: 10px;"> <div style="background-color: black; color: white; padding: 5px 15px; border-radius: 5px;">7 Day</div> <div style="border: 1px solid black; padding: 5px 15px; border-radius: 5px;">5-2</div> <div style="border: 1px solid black; padding: 5px 15px; border-radius: 5px;">1 Week</div> </div>		
^	v	Set

7 Day = Create a schedule for every single day of the week.

5-2 = Create a schedule base on weekday and weekend.

1 Week = Create a schedule for 7 days of a week.

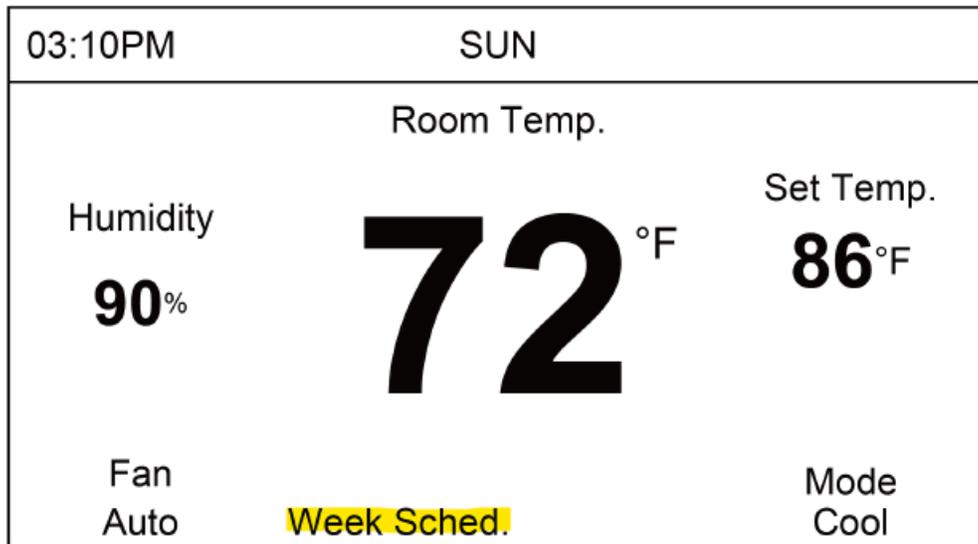
Mon			
Schedule	Time	Heat	Cool
Wake	06:00	70°F	75°F
Leave	08:00	61°F	82°F
Return	18:00	70°F	75°F
Sleep	22:00	61°F	79°F
<	>	Set	

Adjust Time and Temperature accordingly to your preferences in heating and cooling. Refer to the owner's manual for more details.

Schedule WK-010WC1

To activate the schedule, go back to the main screen.

Under Cool, Heat or AUX Heat, press the **Function button #2** once



Week Sched. will appear on the screen. It means that the schedule function is ready.

Schedule WK-010WC1

03:10PM	SUN	
Room Temp.		
Humidity 90%	72 °F	Set Temp. 86 °F
Fan Auto	Week Sched. Wake	Mode Cool

When Wake, Leave, Return or Sleep appear on the screen, it means the temperature set point has change to the pre-set temperature following the schedule.

Note: If no schedule is desire, make sure the Week Sched. disappear from the screen by touching the **function button #2** once.

Schedule WK-010WC1

*If the set point temperature is always back to 61°F in heat mode or 75°F in cool mode.

Verify that there is no active schedule.

There is 4 different ways the activate the schedule,

- 1: Touch screen thermostat
- 2: Master thermostat
- 3: Touch screen thermostat via the Kinghome + APP
- 4: Master thermostat via the Kinghome + APP

The version 1.00 of the WK-010WC1 cannot communicate the schedule from one device to another device.

The system will run the last command received from the latest schedule if multiple schedules is involved.

WiFi Function Setting

"Kinghome +" App can be used to control thermostat. When "Kinghome +" App is installed, register the account and add the device to achieve long-distance control and LAN control of Kinghome smart home appliances.

When using the App for the first time, please reset WiFi of thermostat at first (reset WiFi to factory setting).

When the WiFi icon is flickering in 0.5 seconds to 0.5 seconds, it means that the reset is successful.

NOTES:

(1) If the device is offline or router's name and password have been changed, please reset WiFi and add the device again.

(2) WiFi networking performance is related to the distance between the thermostat and the router and the obstacles between them. During the installation process, the distance between the thermostat and the router should be as close as possible, and the obstacles should be as little as possible. If the WiFi signal is not good, use the WiFi signal enhanced router. The specific situation depends on the actual installation.

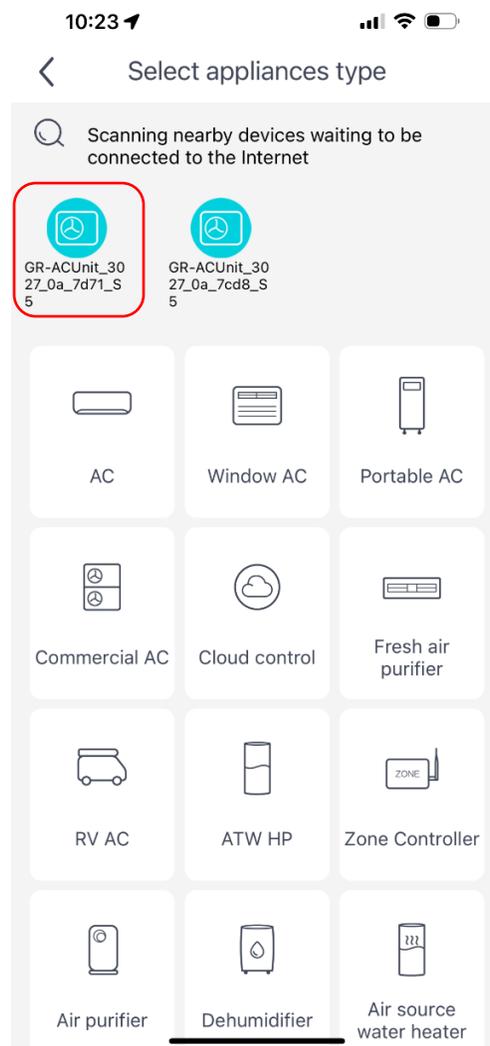
(3) When the thermostat is powered by the battery, the WiFi function is unavailable and cannot control the unit through the App. When the thermostat is powered by the unit, the WiFi function can be used normally.

WiFi Function Setting

Follow the step-by-step process to create an account on Kinghome + app.

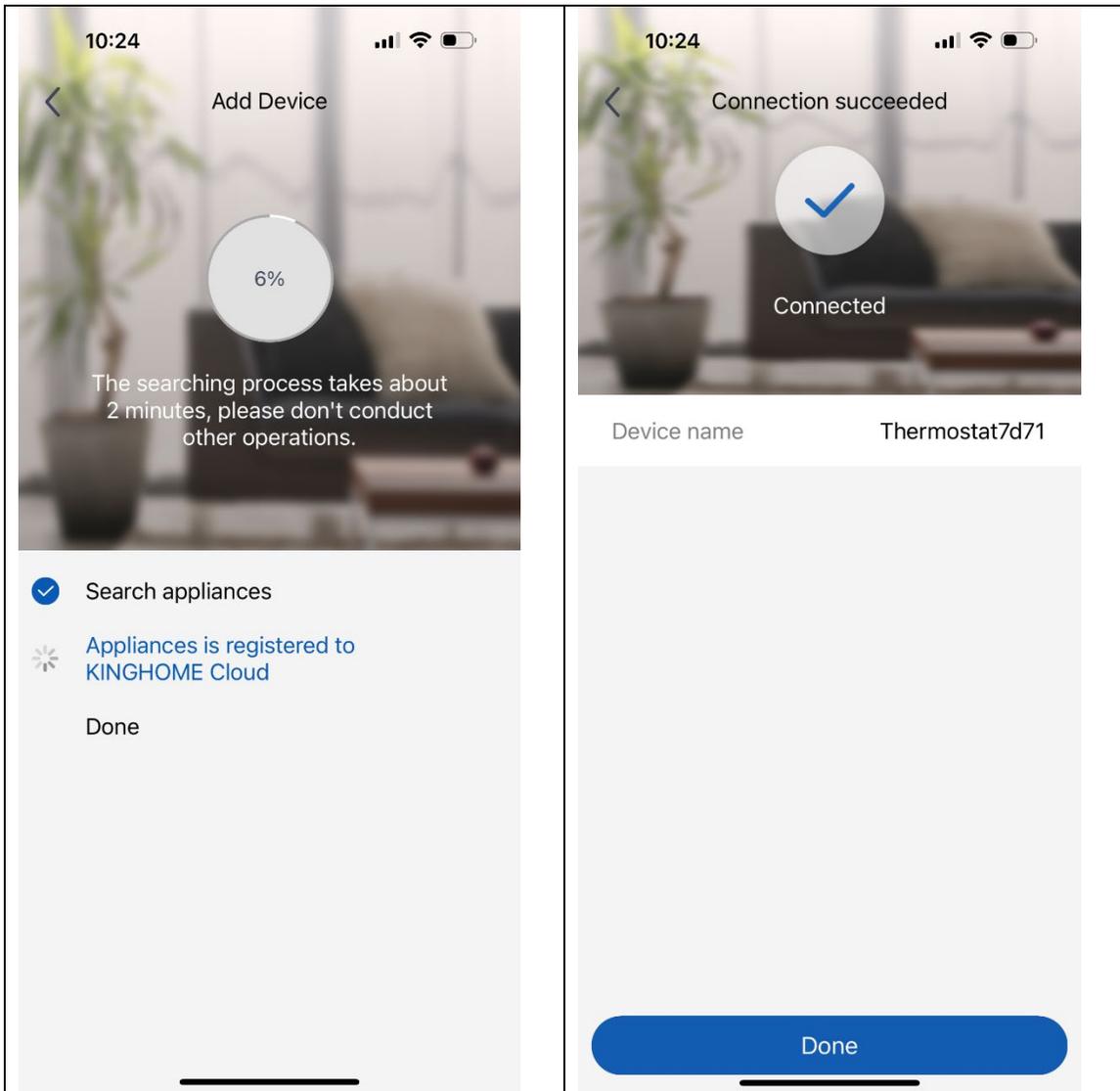
Once created, click on the + sign (top corner right) to find available WIFI unit near you.

The touchscreen thermostat and master thermostat are WIFI compatible, choose one device ID to configure.



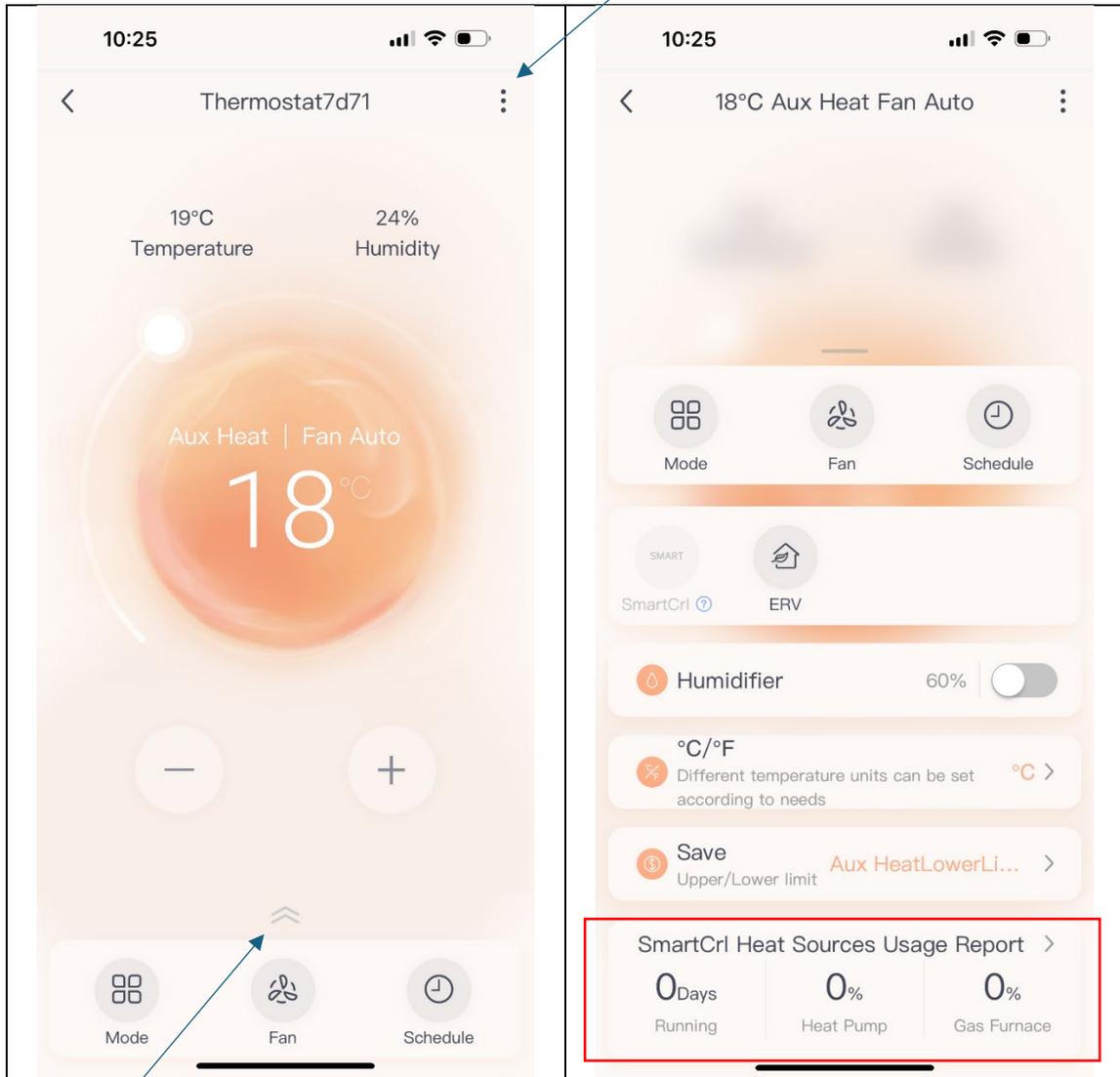
WiFi Function Setting

Confirm your home WIFI name/password to connect with the thermostat.
Kinghome Cloud will communicate with your device.
Wait till the process if finished.



WiFi Function Setting

Go back to the main screen and select your thermostat device recently added. You can click the 3 dots in the upper right corner and select Device Details to rename the Device name.



*Scroll up the bottom arrow to access more adjustment from the app.

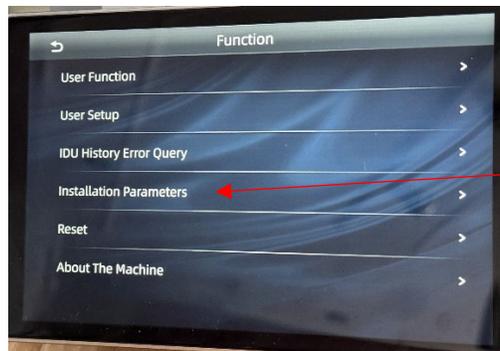
*SmartCrI Heat Sources Usage Report is only available when you have paired the Touchscreen Thermostat.

Configuration WK-010WD1

All configurations must be executed under "OFF Mode"

Click FUNCTION select INSTALLATION PARAMETERS

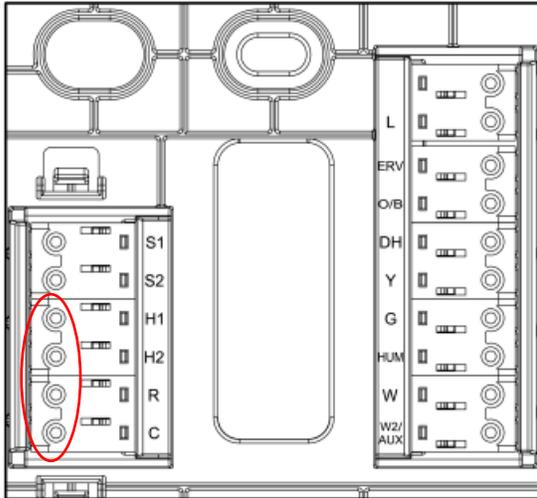
The touch screen thermostat uses the same installation parameter than the master thermostat, use the slider button to adjust the desired setting.



Troubleshooting

CO: Communication error between master thermostat and touchscreen thermostat.

H1/H2 terminal use RS485 communication line.

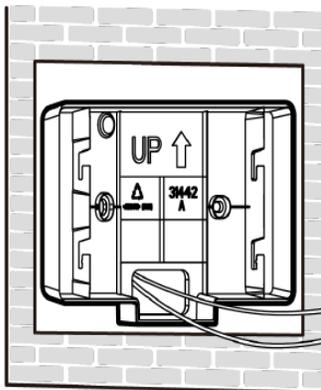


Check 24VAC power from the furnace/air handler on R-C.

Check H1/H2 terminal on the thermostat, you should see a pulsating value from -5VDC ~ 5VDC.

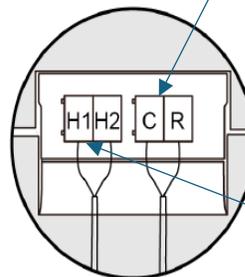
Check for signal wire damage, H1/H2 polarity, shielded wire recommended in high magnetic field environment.

**Use micro lead to take the reading.*



2

Check 24VAC power from the furnace/air handler on R-C Terminal.



Check H1/H2 terminal on the thermostat a pulsating value from (-5VDC ~ 5VDC).

Troubleshooting

Call for heat, using the heat pump.

Check for 24VAC on Terminal Y, B, G

Check Terminals C and Y = 24VAC

C and B = 24VAC

C and G = 24VAC

Call for AUX heat, using the gas furnace.

Check for 24VAC on Terminal W and G

Check Terminals C and W = 24VAC

C and G = 24VAC

Call for AUX heat, using the air handler.

Check for 24VAC on Terminal W and G

Check Terminals C and W2/AUX = 24VAC

C and G = 24VAC

Troubleshooting

Call for cool, using the heat pump.

Check for 24VAC on Terminal Y, G

Check Terminals C and Y = 24VAC

C and G = 24VAC

Call for Hum (Humidifier option)

- The Humidifier function must be enable in the User Function Setting

Check for 24VAC on Terminal Hum

Check Terminals C and Hum = 24VAC

Call for ERV (Fresh air option)

- The ERV turn on when enable in the User Function Setting

Check for 24VAC on Terminal ERV

Check Terminals C and ERV = 24VAC

