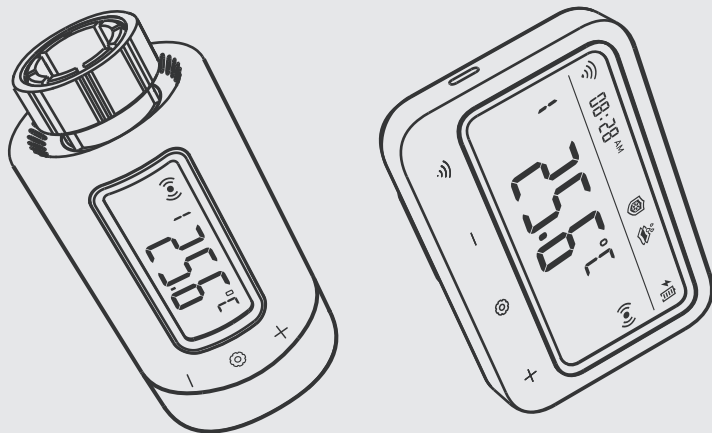# INKBIRD

SMART RADIATOR CONTROL VALVE
USER MANUAL

IRC-RW1

Scan to download

Please keep this manual properly for reference. You can also scan the QR code below to visit our official website for product usage videos. For any usage issues, please feel free to contact us at support@inkbird.com.

Warm tips

- To quickly jump to a specific chapter page, click on the relevant text on the contents page.

- You can also use the thumbnail or document outline in the top left corner to quickly find a specific page.

CONTENTS

01 Overview

INKBIRD smart radiator control valve helps you precisely detect radiator temperature and efficiently controls it in the desired temperature range. By sequentially linking the control valve, Wi-Fi Gateway, and smartphone, you can freely control the smart radiator control valve via your smartphone anytime, anywhere, including the remote setting of air temperature and checking temperature history. This control valve features multiple protective functions like anti-frost, anti-limescale, and vacation mode. It's an efficient product with power conservation and emission reduction, saving heating bills in winter and keeping your home warm and comfortable even in cold winters.

02 Safety Instruction

- As with all electronic products, this device should be placed out of the reach of children.
- Do not use this product in areas where electronic products are prohibited.
- Protect this product from dust, moisture, and excessive heat. Use only in dry rooms.
- Do not use this product in a wet environment to avoid splashing water.
- Do not subject this product to any violent impact.
- To prevent suffocation, keep the packaging material out of the reach of children.
- Do not bend or press the power cord.
- If the device is damaged, do not turn it on or continue to operate it.
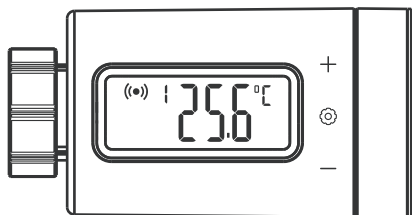- Do not attempt to service or repair this device by yourself.

03 *Technical Specifications*

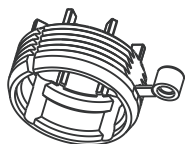| Product Model	IRC-RW1
Screen	LCD Screen; The screen on the control valve features a manual rotationtion function for easy viewing.
Power Source	Wi-Fi Gateway：powered by lithuim battery, DC5V, 1A；Control Valve：2*AA dry batteries (not included)
Temperature Heating Range	0.0℃~35.0℃
High Temperature Alarm Range	-10-50℃
Low Temperature Alarm Range	-10-50℃
Calibration Range	-4.9℃~4.9℃
Time Setting Range	00:00~23:59
Maximum Time Period Can Be Set	11
Maximum Number of Connectable Devices	Up to 5 control valves can be connected and controlled by a smartphone connected to the gateway.
Low Power Prompt	Reminds the user to replace batteries when the battery power of the control valve is too low.
Wi-Fi Gateway Dimension	110*80*48.7mm
Control Valve Dimension	Ø 57*110.9mm
Warranty Period	2 Years
Connection Range	Up to 180 meters of communication distance between the Wi-Fi gateway and the control valve

Wi-Fi Gateway

Control Valve
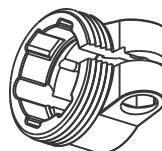
RAVL Connector

RAV Connector

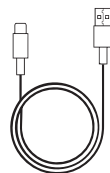*Round Ring*

RA Connector
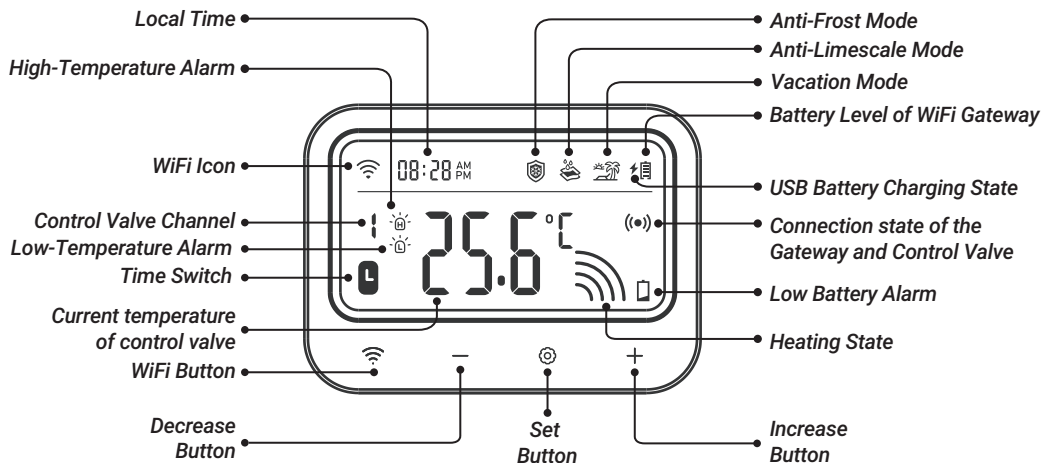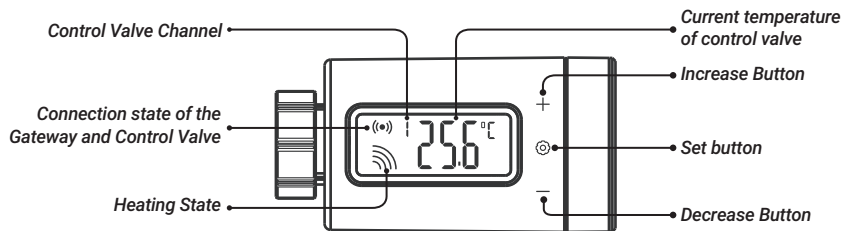
Type-c USB cable

- Local Time
- High-Temperature Alarm
- WiFi Icon
- Control Valve Channel
- Low-Temperature Alarm
- Time Switch
- Current temperature of control valve
- WiFi Button
- Decrease Button
- Set Button
- Increase Button
- Anti-Frost Mode
- Anti-Limescale Mode
- Vacation Mode
- Battery Level of WiFi Gateway
- USB Battery Charging State
- Connection state of the Gateway and Control Valve
- Low Battery Alarm
- Heating State

Control Valve Channel

Current temperature of control valve

Connection state of the Gateway and Control Valve

Increase Button

Set button

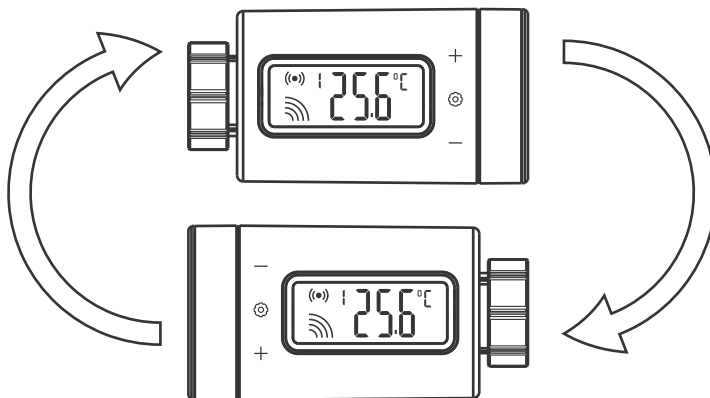Heating State

Decrease Button
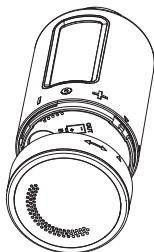
Manually screen rotation function
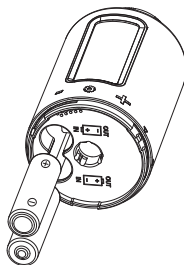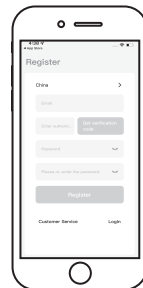
For easy viewing, short press the + key to rotate the screen 180 degrees.

Check if the control valve is compatible with the radiator
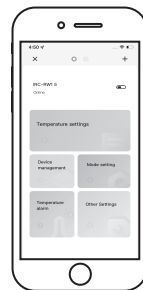
Install battery in the control valve

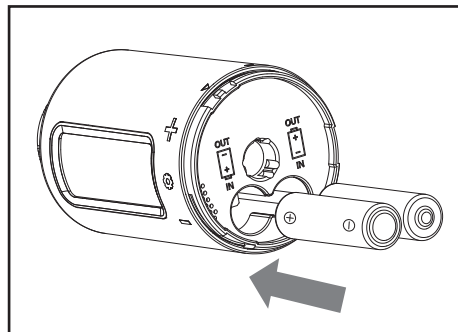Download and register the app
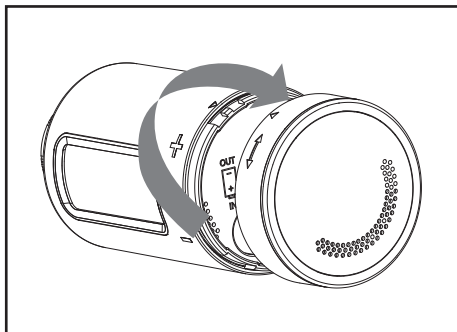
Add the gateway device to the app

Check if the control valve is paired with the gateway

Complete installation and start customizing the parameters.

7.1 Battery Installation

⚠ *Battery Precautions:*

- Make sure the polarity is correct when installing the batteries.
- If you are not going to use the device for a long time, please remove the battery from the device to avoid the risk of leakage.
- Please keep the battery out of the reach of children to prevent accidental ingestion and burns. Do not recharge spent batteries or try to reactivate them by heating or any other means. Do not short-circuit the battery. If you accidentally swallow a cell or battery, please seek medical attention immediately.

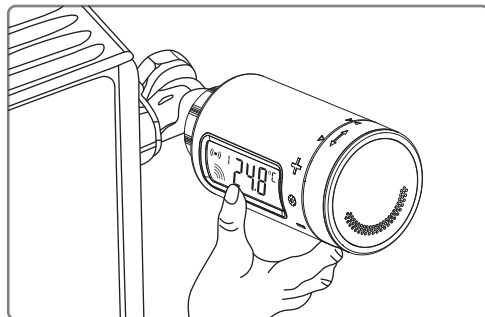## *7.2 Control Valve Installation*

RA

RAV
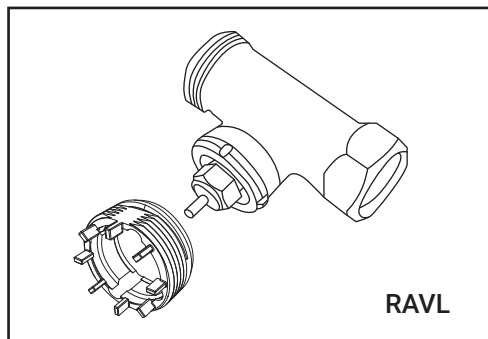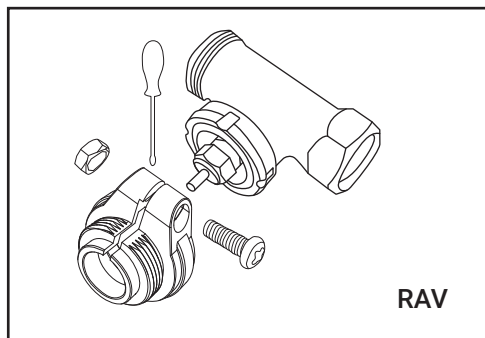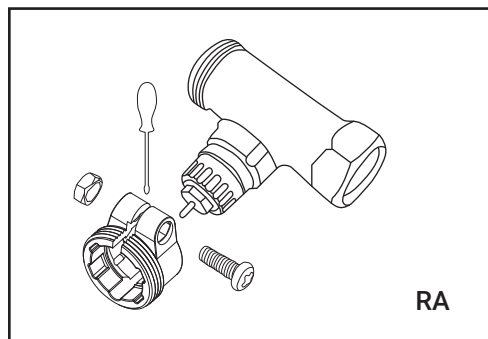
RAVL

7.2.1: Choose a connector for your radiator from the included connectors, RA type, RAV type, and RAVL type.
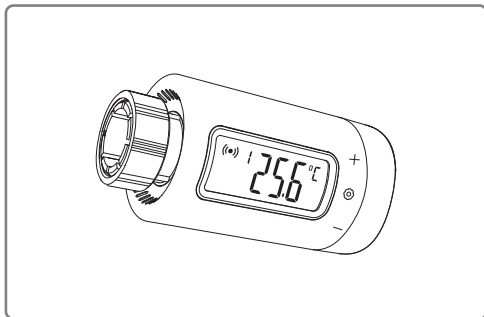
7.2.2: Install it on the control valve.
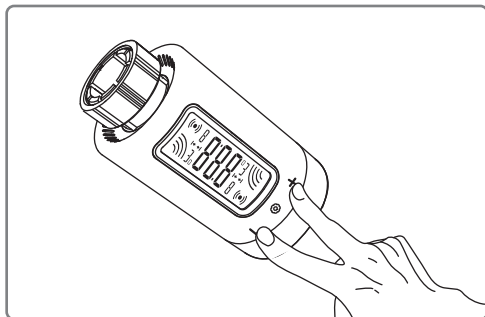

Heating symbol
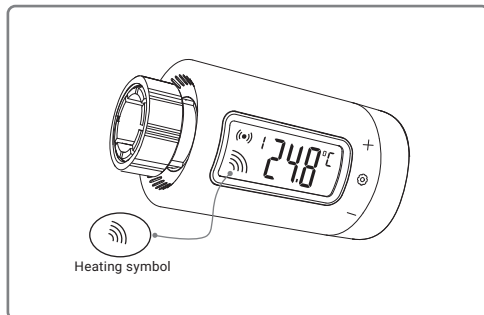
After installing the battery, if the control valve is in the heating-on state.

it can be installed directly on the radiator.

Otherwise, if the control valve is in the heating-off state, it should be installed according to the following steps.

Step1: Long-press the + and —buttons for 2 seconds to enter the installation mode.
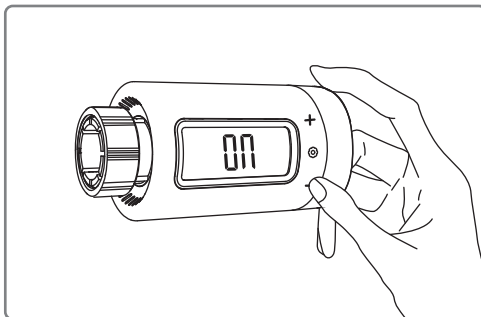
Step2: Press the —button: the LCD shows On, and the nut cap is sucked into place.

Step3: The installation begins.

Step4: After installation, press and hold the ⊚ button for 2 seconds to exit the installation mode.

8.1 How to Download the INKBIRD APP

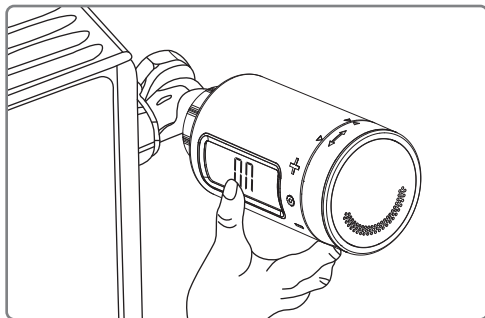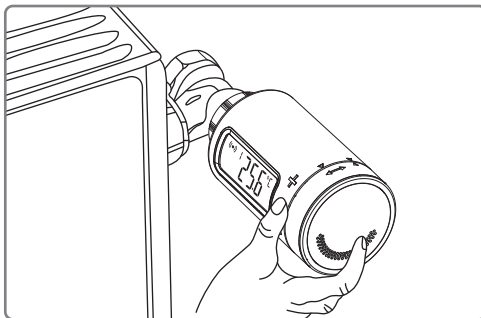Search "INKBIRD" in the App Store or Google Play or scan the QR code to download and install the INKBIRD application. Open the App, complete registration, and log in, then follow the app operation prompts to connect the gateway.

NOTES:

• Your iOS devices must be running iOS 12.0 or above to download the app smoothly.

• Your android devices must be running android 7.1 or above to download the app smoothly.

• The device supports a 2.4GHz Wi-Fi router only.

8.2 Registration

Step1: Open the app, select your Country/Region, and a verification code will be sent to you.

Step2: Enter the verification code to confirm your identity, and the registration is complete.
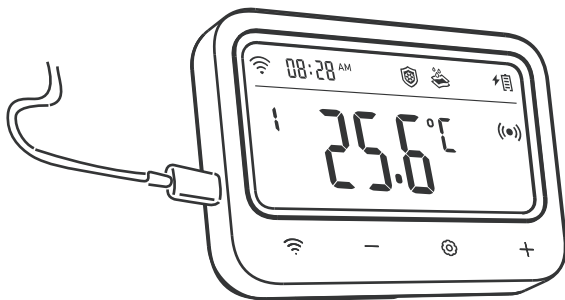
Step1: Plug the USB power connector directly into Gateway and keep it constantly connected when using.

Step2: Press and hold the 🛜 button until the icon quickly flashes to enter pairing mode.

Note: Please make sure your phone has Bluetooth enabled and keep the Gateway as close as possible to your router and smartphone.
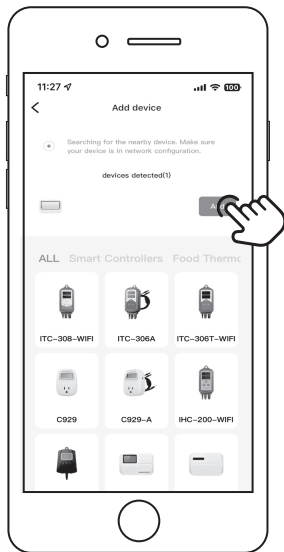
Step3: Open the INKBIRD app and click "Add" in the right corner. Add the IRC-RW1 after automatically searching the device.

Note: If the IRC-RW1 cannot be found automatically, please manually select the device model and follow the prompts to complete the connection.
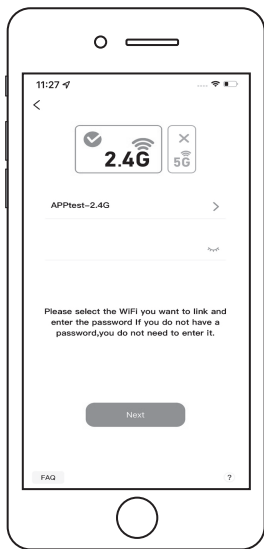
Step4: Choose a WiFi network and connect it, enter the password, then click Next Step.

Step5: The device is automatically pairing with your smartphone.

Step6: Pairing is successful.

10.1 The gateway control interface can set multiple control valves at the same time.

Central Control Interface, to send the same command to multiple sub-devices at the same time

Add Control Valves

Sub-Device Channels

IRC-RW1
Online

Temperature settings — Temperature Settings

Device Management — Device management

Mode setting — Working Mode Settings

Temperature Alarm Settings — Temperature alarm

Other Settings — Other Settings
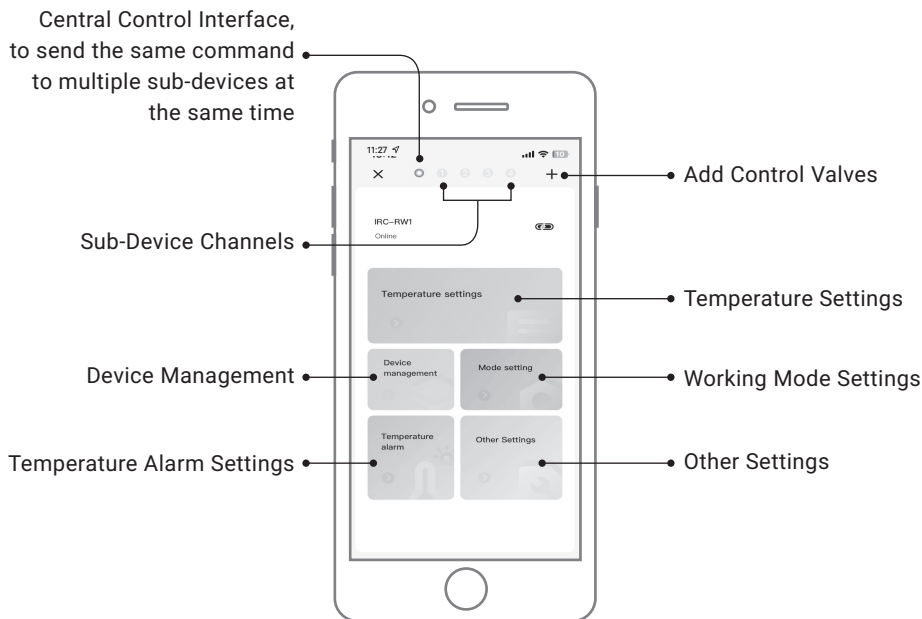
10.2 Control Valve Interface

Device Name

Current temperature

Current Target temperature range

Historical data

Enter Calibration Temperature Settings Interface

Single heating duration

Enter the settings

IRC-RW1-S1
Online

24.2 ℃
Current

25.0 ℃
to
26.0 ℃
Desired

00:06
Current run time

History

Temperature settings
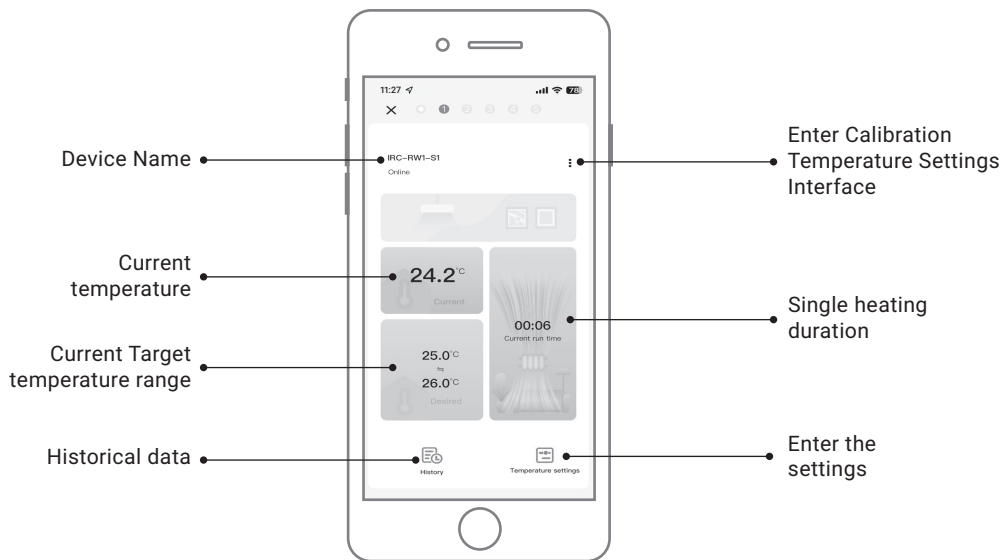
10.3 History Graph Interface

10.4 Control Valve Setting Interface

Export historical data

Temperature curve

Target Temperature Range for all day

Target Temperature Range at different times
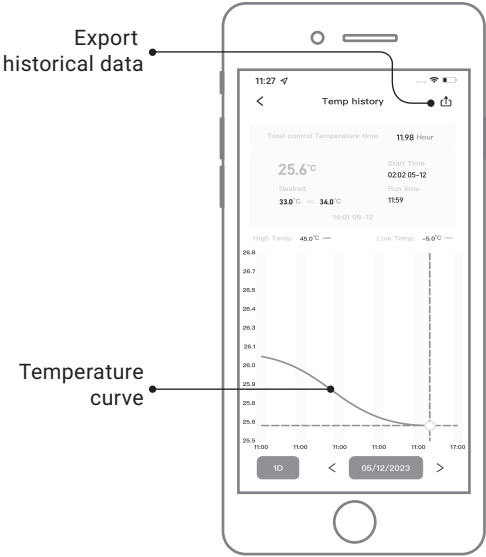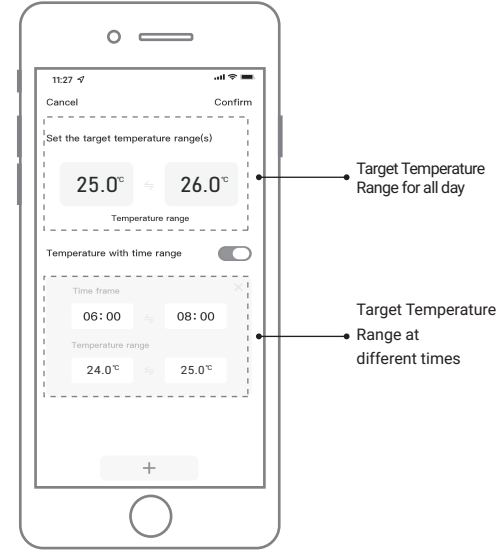
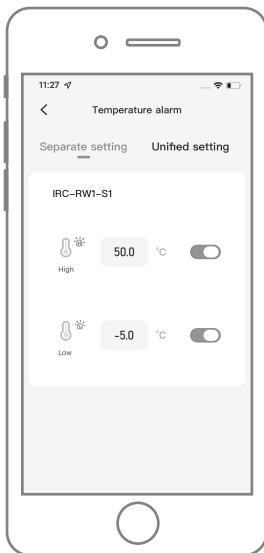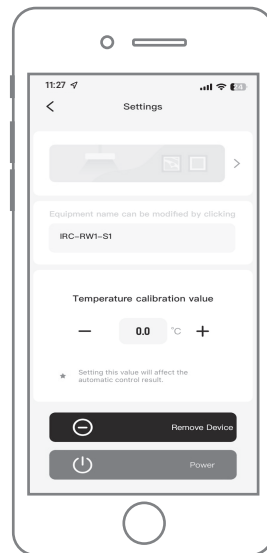Temperature Setting Interface

10.4 Control Valve Setting Interface
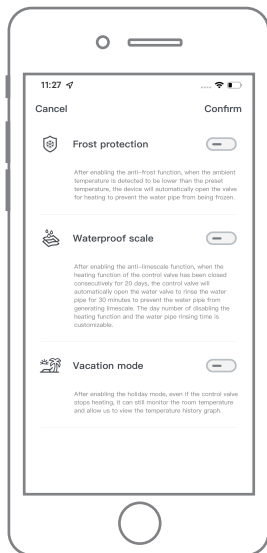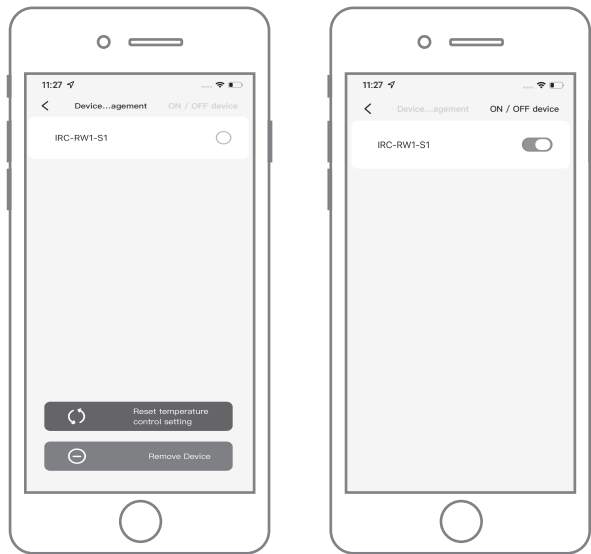

Mode Setting Interface

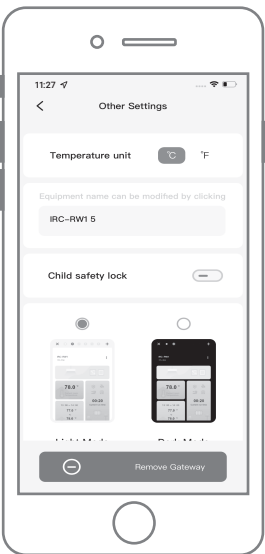High/Low-Temperature
Alarm Setting Interface

Calibration Temperature
Settings Interface

10.4 Control Valve Setting Interface

Device Management Interface

Other Setting Interface

11.1 Parameter Setting Range

| Code	Function	Default Setting	Setting Range
ST	Start Heating Temperature	25.0℃	0.0℃~35.0℃
SP	Stop Heating Temperature	26.0℃	0.0℃~35.0℃
ST1...ST11	Start Heating Time	00:00	00:00~23:59
SP1...SP11	Stop Heating Time	00:00	00:00~23:59
AH	High-Temperature Alarm Value	45.0℃	-10-50℃
AL	Low-Temperature Alarm Value	-5.0℃	-10-50℃
CA	Temperature Calibration Value	0.0℃	-4.9℃~4.9℃
CF	Temperature Unit	C	C/F
Note: The minimum setting differential value of ST and SP is 0.3℃.			

11.2 Working Principle

The valve will close to stop heating when the current temperature reaches the SP(stop heating temperature) and will open to start heating when it reaches the ST(start heating temperature).
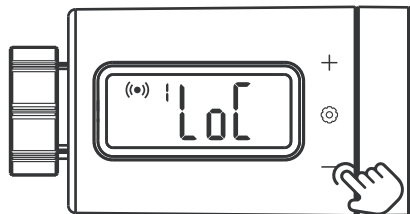
11.3 Child Safety Lock Function
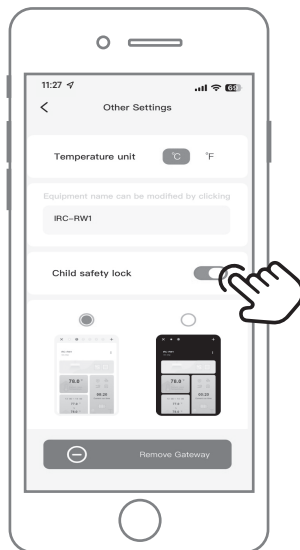
### How to enable the child safety lock?

When the child safety lock is enabled on App, pressing any button will immediately display the LoC character, and the buzzer will sound three times.

How to unlock the child safety lock on the Gateway or Control Valve ?

Press and hold the — button for 2 seconds to unlock the child safety lock on Gateway or Control Valve. If no button is pressed within 60 seconds, the function reverts to the locked state.

11.4 Low Battery Alarm Function
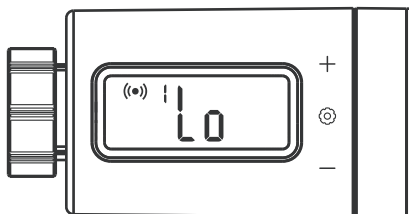
When the battery power is too low, the control valve will automatically be closed, and the character "Lo" will be displayed. At the same time, all action keys are disabled and the App sends you a low-battery notification. When the battery power is low, we strongly recommend replacing the battery immediately so as not to affect its normal work.

12 *Troubleshooting Guide*

1) What should you do if the connection between the WiFi gateway and the control valve is abnormal?

a. Remove the control valve from the App and add it again.

2) The WiFi network is often dropped, historical data is lost, or the network cannot be connected?

a. Make sure the WiFi signal is stable, and place the device as close to the router as possible.

b. Make sure there are as few barriers as possible between the device and the router.

c. Check to see if the battery level is low.

d. Enable Bluetooth and positioning functions, allow the App to obtain location information, and allow the local network (iOS System).

3) The alarm notification is not received or delayed?

a. Make sure the WiFi signal is stable, and place the device as close to the router as possible.

b. Make sure there are as few barriers as possible between the device and the router.

c. Check to see if the app notification permission is enabled.

13 *Precautions For Use*

1. Please do not disassemble the product if you are not a professional.
2. Use a slightly damp, lint-free cloth to clean the product. Do not use corrosive cleansers

14 *Customer Service*

This item carries a 2-year warranty against defects in either components or workmanship. During this period, products that prove to be defective will, at the discretion of INKBIRD, be either repaired or replaced without charge. For any problems in use, please feel free to contact us at support@inkbird.com. We will do our best to help you.

This product also supports setting parameters on the gateway and control valve. For detailed setting instruction, please scan the QR code.

UK CA CE RoHS V1.0

MADE IN CHINA