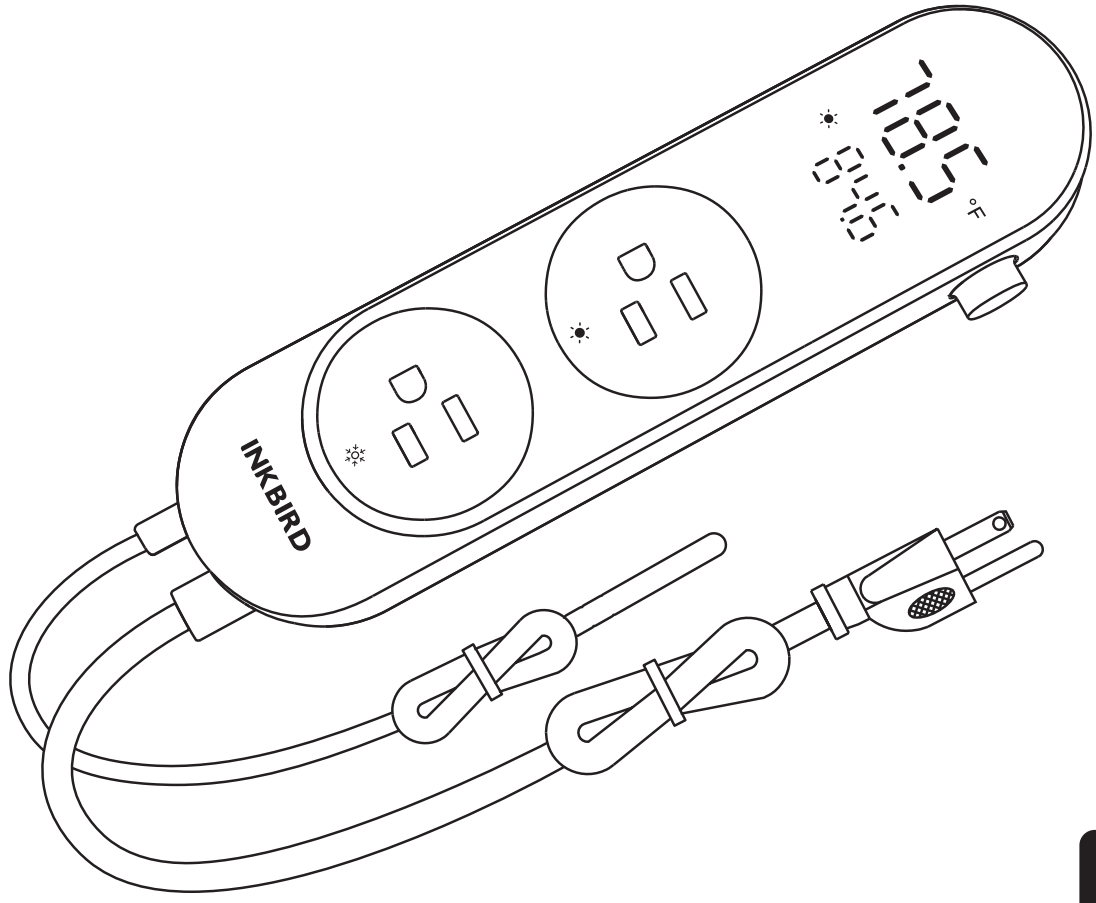
INKBIRD



ITC-312

BLUETOOTH SMART TEMPERATURE CONTROLLER

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.

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

01 Overview

The ITC-312 Bluetooth Smart Temperature Controller has three control functions--general temperature mode, day/night mode, and time mode, and supports two setting methods--range method and return differential method, making it more flexible to use. Users can choose the setting method according to their usage habits. At the same time, it supports a Bluetooth function, which enables app operation, which is more convenient. The device can store 30 days of temperature history and the phone app can store up to 1 year of temperature data. It also has high and low-temperature alarm functions and is an intelligent controller that is widely used for heating, cultivation, seedling growing, wood sheds, home living, and more.

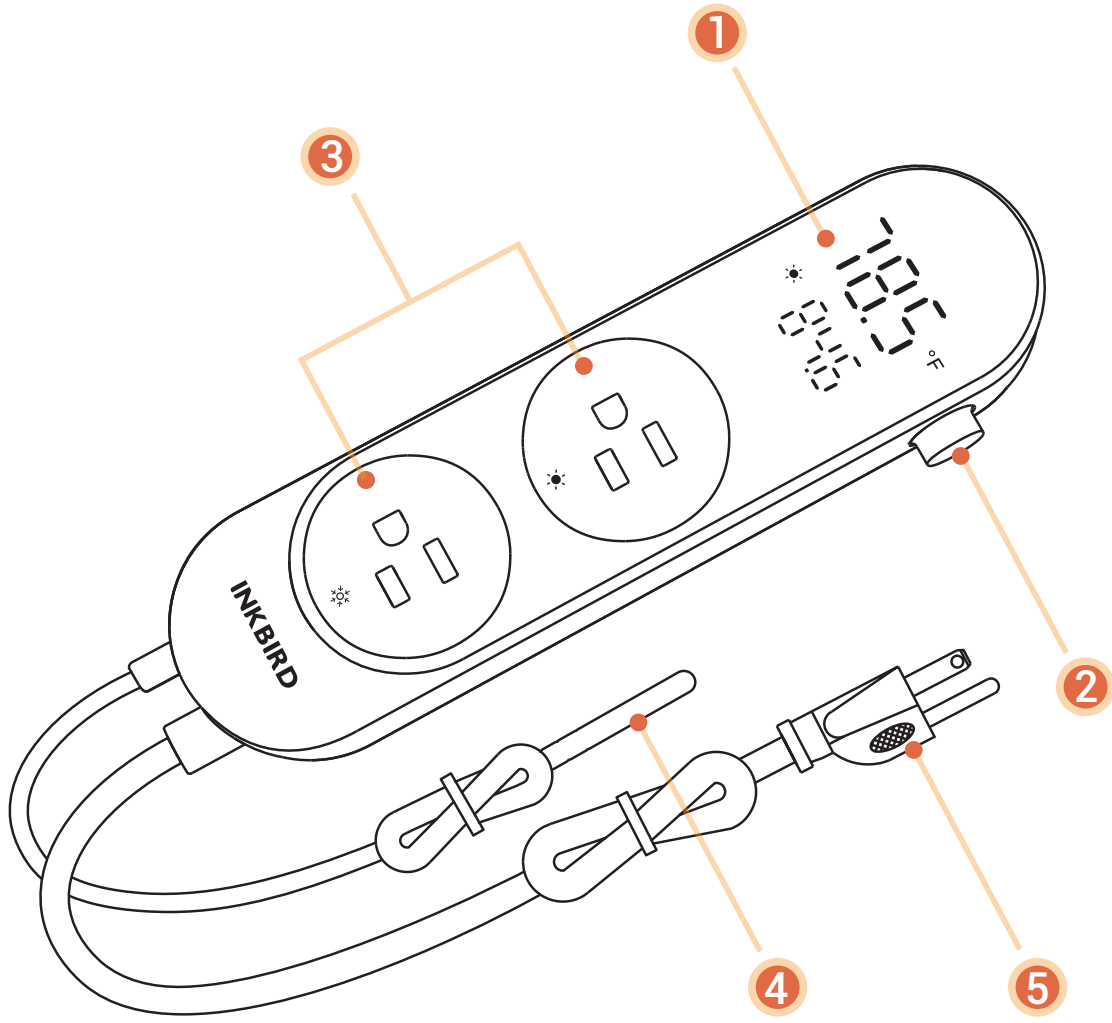
02 Technical Specifications

Brand	INKBIRD
Model	ITC-312
Input	120Vac, 60Hz, 10A Max
Output	120Vac,60Hz,10A,1200W (total two receptacles)Max
Temperature Control Range	-40℉~212℉/-40℃~100℃
Temperature Measurement Error	±2.0℉/1.0℃
Bluetooth Function	BLE 5.0
Bluetooth Distance	100 meters in an open area

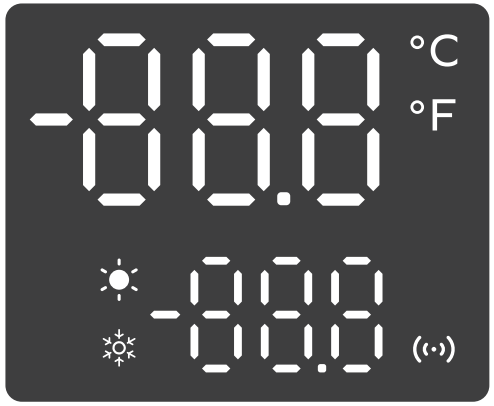
NOTE:

For the first use or after unplugging the controller for more than 10 days (when HE is displayed on the device), please login to the INKBIRD app to connect the controller to have it synchronize the clock and work regularly.

03 Product Diagram



❶ White Light LED



Current Temperature and Unit

Target Temperature

Temperature Unit

Heating Symbol

Cooling Symbol

Bluetooth Symbol

❷ Rotary Button

Button	Function
Rotary Button	Press and hold it for 2 seconds to enter or exit setting; in the setting state, short press to select the setting menu; in the non-setting state, short press to authorize Bluetooth connection; rotate up or down to adjust the parameter.

❸ Output Port (HEATING & COOLING)

❹ Temperature Probe(Length: 6.56ft (2m), IP67 Waterproof)

❺ Input Power Cord

04 *Operation Instructions*

4.1 Setting Guideline

Select the device setting method through the App: Temperature range setting mode or Temperature return difference setting mode.

Temperature range setting mode: Separately set start and stop temperatures for heating and cooling devices. (Recommended)

Temperature return difference setting mode: Set the target temperature and the return difference value of heating and cooling temperatures. (Select this method if you are more accustomed to the setting logic of the ITC-308.)

4.2 Running Mode Guideline

Select the device operating mode through the App: Temperature mode (default), Day/Night mode, or Time mode.

Temperature Mode: Power on or off the plug-in devices according to the current temperature and target temperature.

Day/Night Mode: 2 target temperatures can be set in a day, and the controller will perform different temperature controls according to the 2 preset control periods.

Time Mode: Up to 12 target temperatures can be set in a day, and the controller will perform different temperature controls according to the preset time periods.

4.3 Description of the Menu Characters

Character	Function	Range	Default
CF	Temperature unit switch	C or F	F
AH	High-temperature alarm	-40.0℃~100℃	50℃
		-40.0℉~212℉	122℉
AL	Low-temperature alarm	-40.0℃~100℃	0℃
		-40.0℉~212℉	32℉
rd	Refrigeration delay	0~10 minutes	0 minute
CA	Temperature calibration	-4.9℃~4.9℃	0.0℃
		-9.9℉~9.9℉	0.0℉
AS	Alarm sound	ON or OFF	ON

4.4 How To Quick Set Target Temperature

4.4.1 Temperature Range Setting Mode

Press the knob button to enter the quick setting of target temperature. The screen will display the character SH and the start heating temperature, with the latter flashing. Turn the knob button to adjust the parameter, then press the knob button to confirm and switch to the setting of end heating temperature (EH), start cooling temperature (SC) and end cooling temperature (EC). If there is no operation within 10 seconds, the device will automatically exit quick setting, or, when EC is displayed, press the knob button again to exit the setting.

Character	Function	Range	Default
SH	Start heating temperature	-40.0℃~100℃	23.0℃
		-40.0℉~212℉	74.0℉
EH	End heating temperature	-40.0℃~100℃	25.0℃
		-40.0℉~212℉	77.0℉
SC	Start cooling temperature	-40.0℃~100℃	27.0℃
		-40.0℉~212℉	80.0℉

EC	End cooling temperature	-40.0℃~100℃	25.0℃
		-40.0℉~212℉	77.0℉

4.4.2 Temperature Return Difference Setting Mode

Press the knob button to enter the quick setting of target temperature. The screen will display the character tt and the start heating temperature, with the latter flashing. Turn the knob button to adjust the parameter, then press the knob button to confirm and switch to the setting of heating differential value (Hd) and cooling differential value (Cd). If there is no operation within 10 seconds, the device will automatically exit quick setting, or, when Cd is displayed, press the knob button again to exit the setting.

Character	Function	Range	Default
tt	Target temperature	-40.0℃~100℃	25.0℃
		-40.0℉~212℉	77.0℉
Hd	Heating differential	0.2℃~15.0℃	2.0℃
		0.3℉~25.0℉	3.0℉

Cd	Cooling differential	0.2℃~15.0℃	2.0℃
		0.3℉~25.0℉	3.0℉

NOTE:

1.In timer mode and day/night mode, quick setting can only modify the target temperature for the current time.

2.In timer mode, if the current time is not within the preset time range, where - - - is displayed, the quick setting is not available.

05 *APP Installation & Connection*

INKBIRD APP

5.1 Search the INKBIRD App from Google Play or App Store to get it for free, or you can scan the QR code to download it directly.

NOTE:

1. Your iOS devices must be running iOS 12.0 or above to download the app smoothly.
2. Your Android devices must be running android 7.1 or above to download the app smoothly.
3. APP Location Permission Requirement: We need to obtain your location information to discover and add nearby devices. INKBIRD promises to keep your location information strictly confidential. And your location information will only be used for the location function of the App and will not be collected, used, or disclosed to any third party. Your privacy is very important to us. We will abide by relevant laws and regulations and take reasonable security measures to protect your information security.

5.2 Registration

Step1: Registering an account is necessary before using the INKBIRD app for the first time.

Step2: Open the app, select your Country/Region, and a verification code will be sent to you.

Step3: Enter the verification code to confirm your identity, and the registration is complete.

5.3 How to Connect

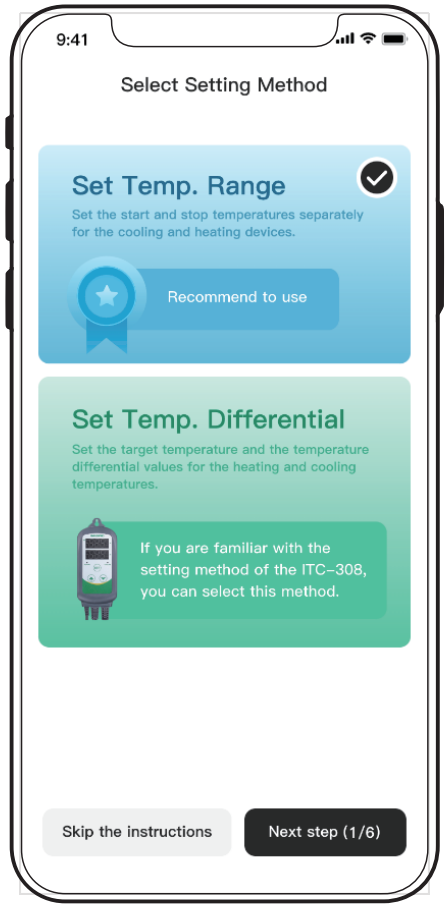
Open the INKBIRD app and click the "+" in the top right corner to add a device. Then follow the app's instructions to complete the connection. Please make sure to place the device as close to your smartphone as possible during the connection process.

5.4 Application Instructions

5.4.1 App Guideline

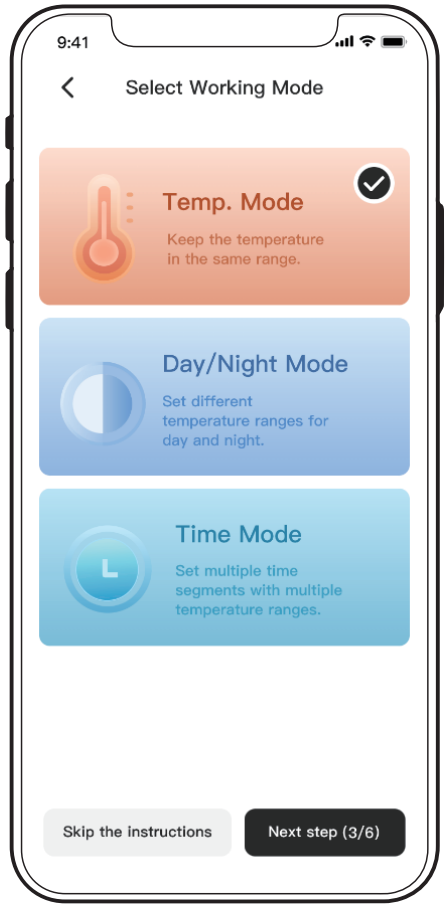
For the first time connecting the product, the App will guide the user through the following operation:

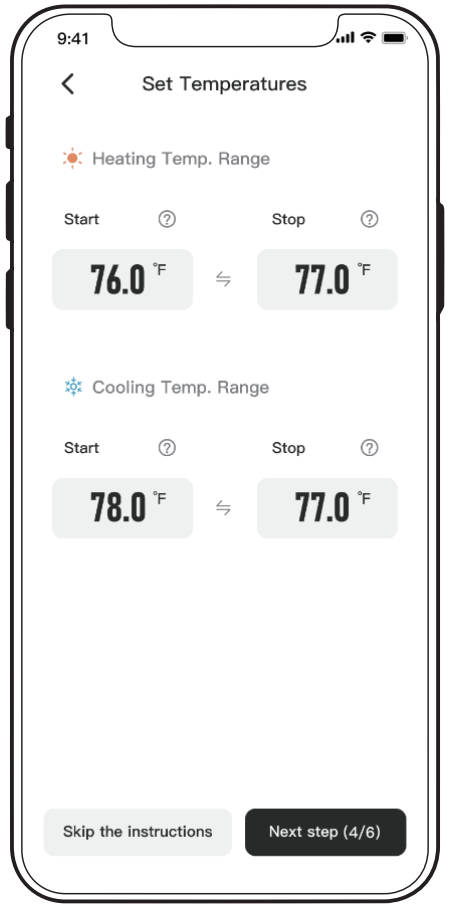
1. Select the setting method (Set temperature range or Set temperature return difference)
2. Set the temperature unit
3. Select the running mode of the device (Temp Mode, Day/Night Mode, or Time Mode)
4. Set the temperatures
5. Set the high and low-temperature alarms
6. Set the refrigeration delay.



❶ Select the setting method
(Set temperature range or Set temperature return difference)

❷ Set the temperature unit

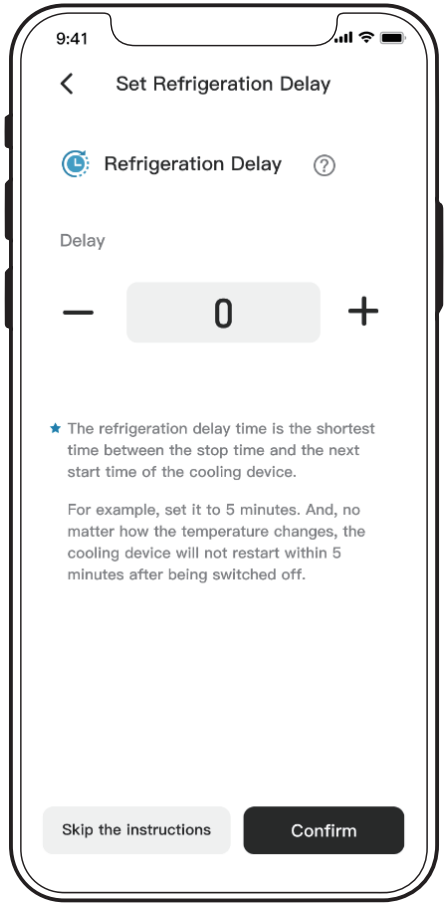




❸ Select the running mode of the device *(Temp Mode, Day/Night Mode, or Time Mode)*

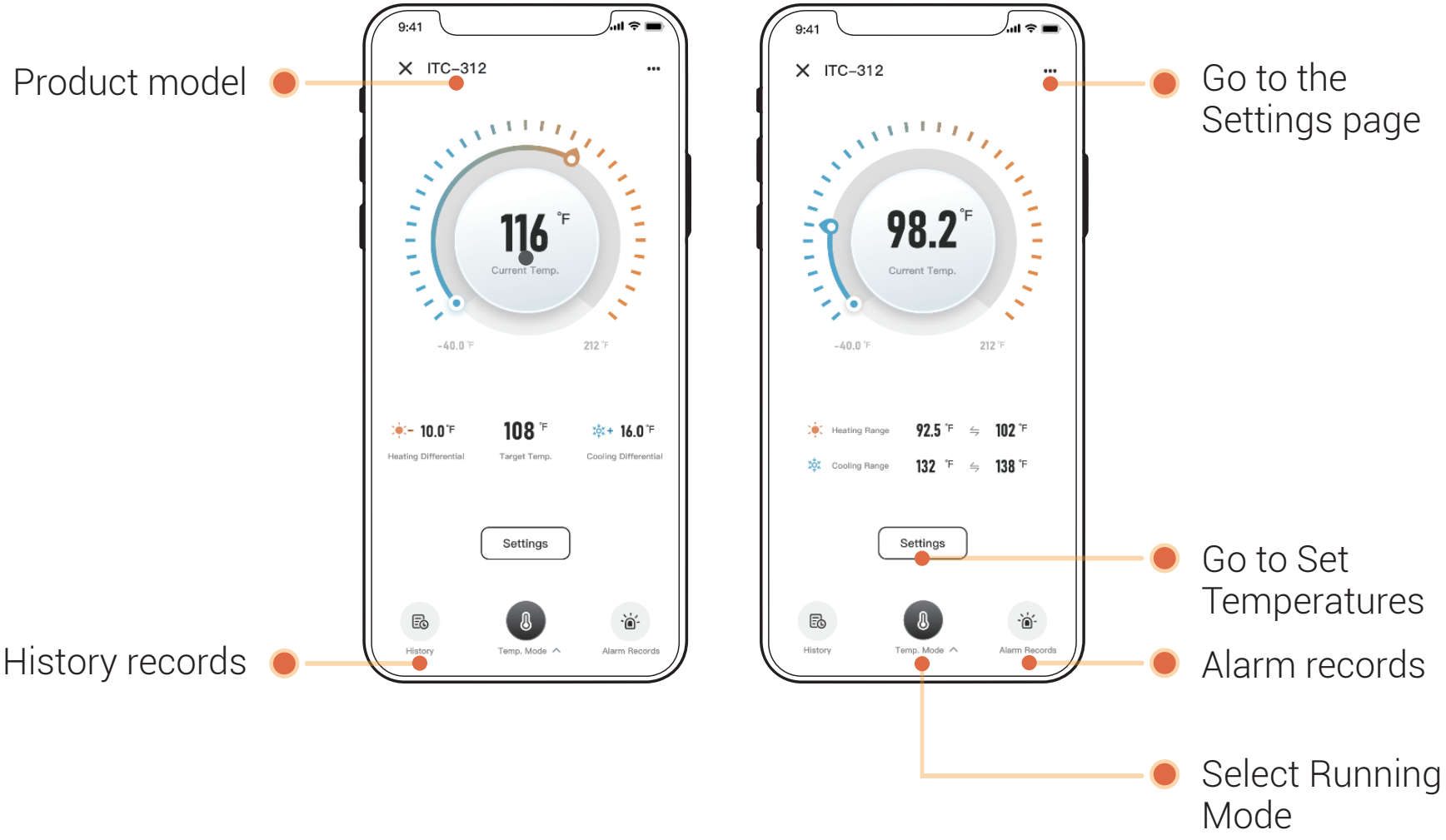
❹ Set the temperatures

5 Set the high and low-temperature alarms

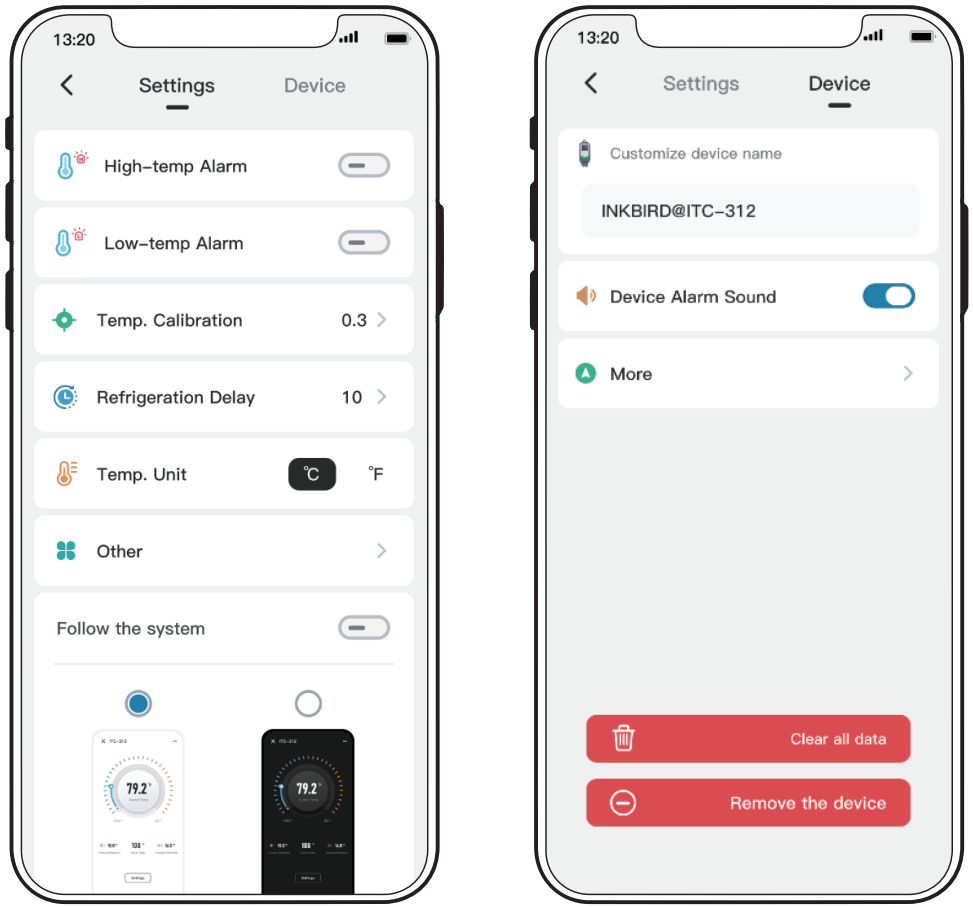


6 Set the refrigeration delay

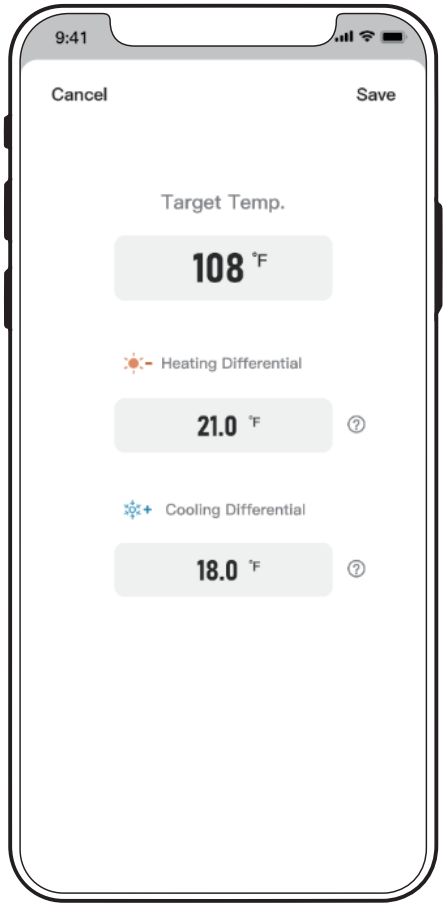
5.4.2 Main Interface Introduction

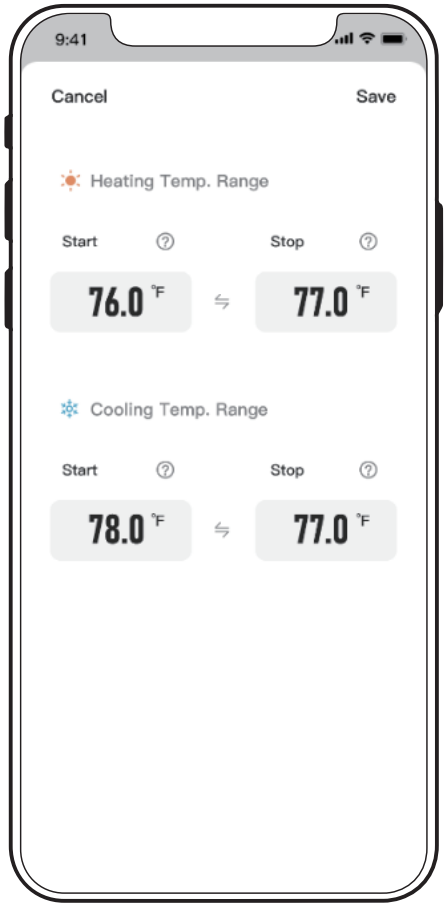


5.4.3 Setting Interface Introduction



- Go to the Settings page

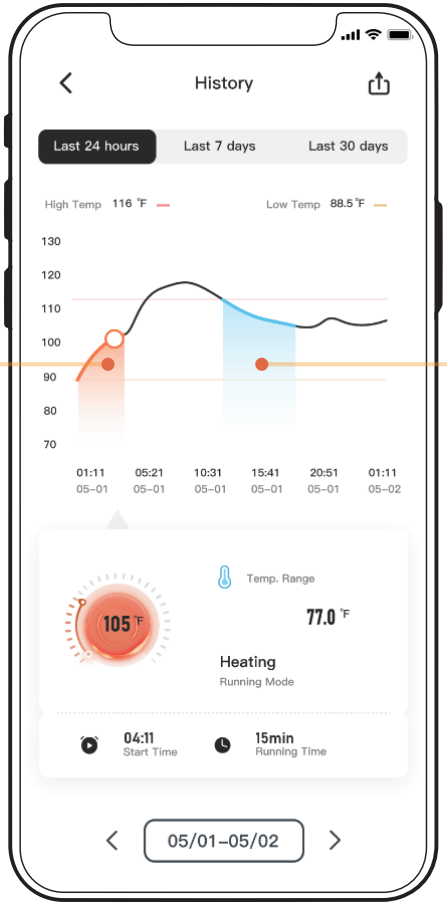




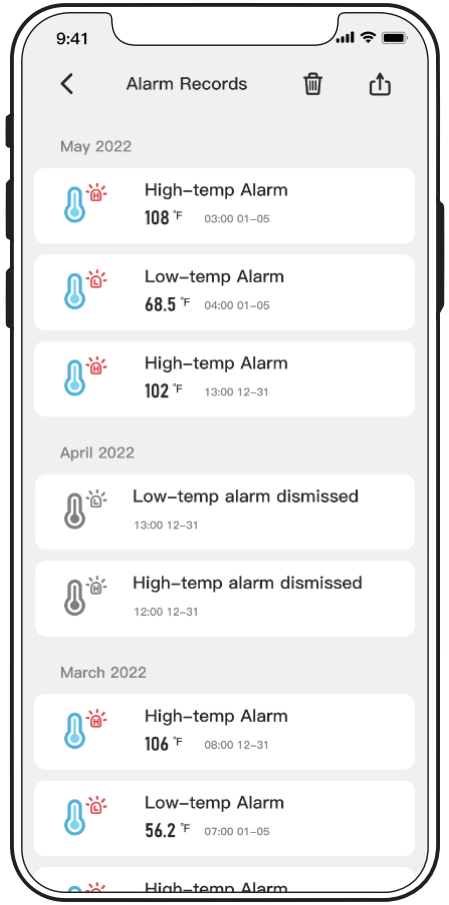
Set the Temperatures

Select Running Mode

Heating condition



Cooling condition



History records

Alarm records

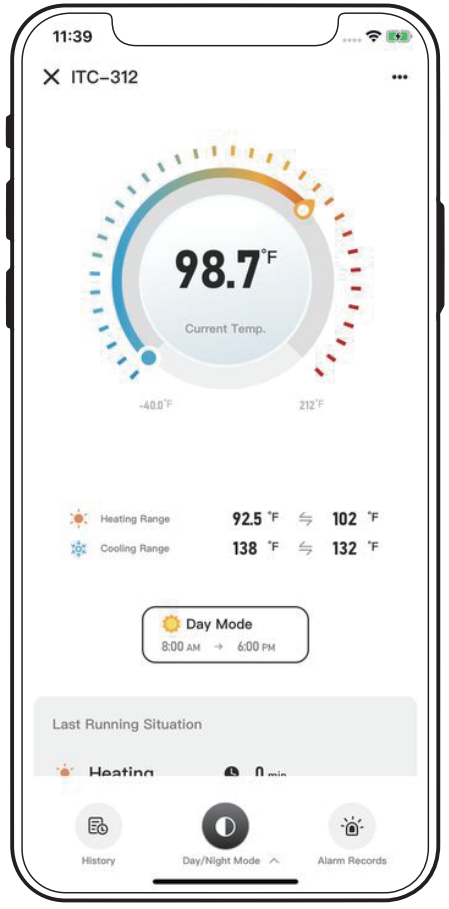
5.4.4 Introduction to the Temperature Range Main Interface and the Temperature Setting Pop-up Window

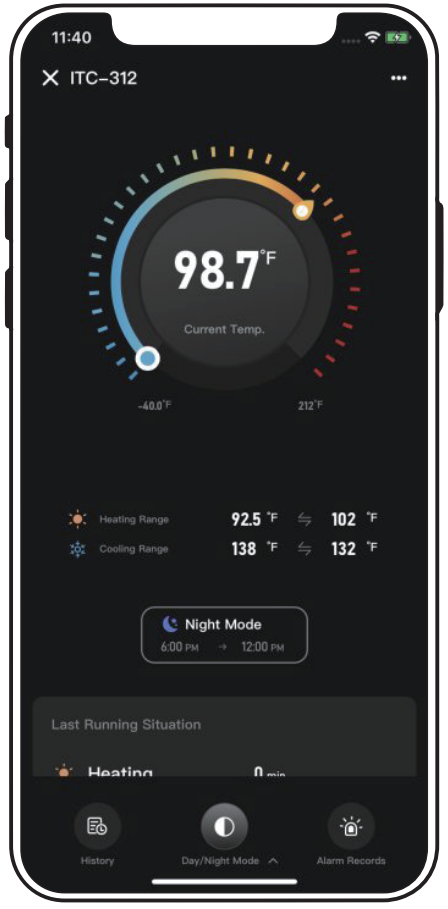
Temp Mode

Heating/Cooling in progress and working time

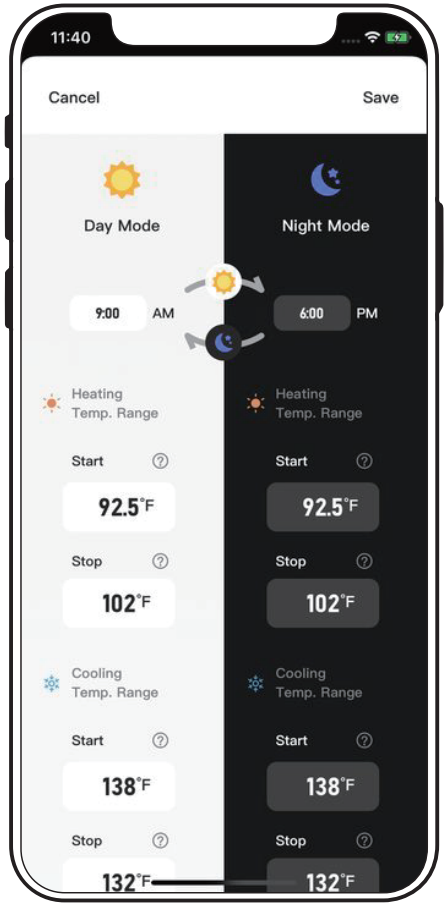
Main interface

Day/Night Mode



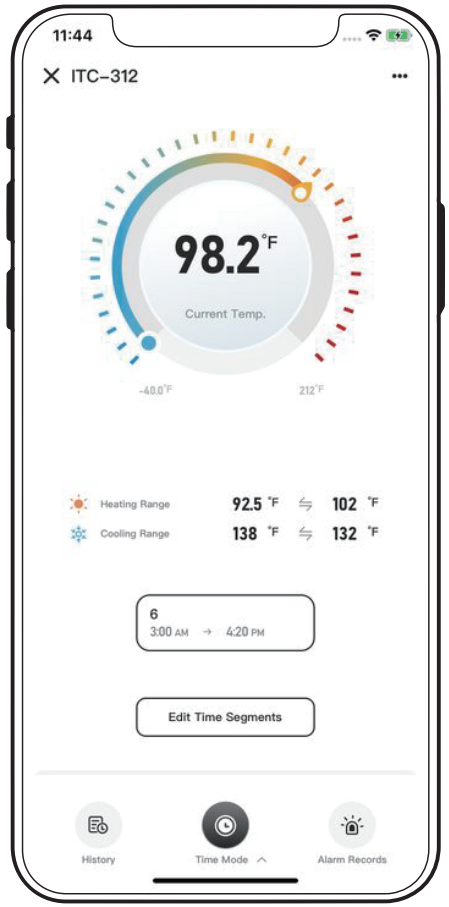


Main interface

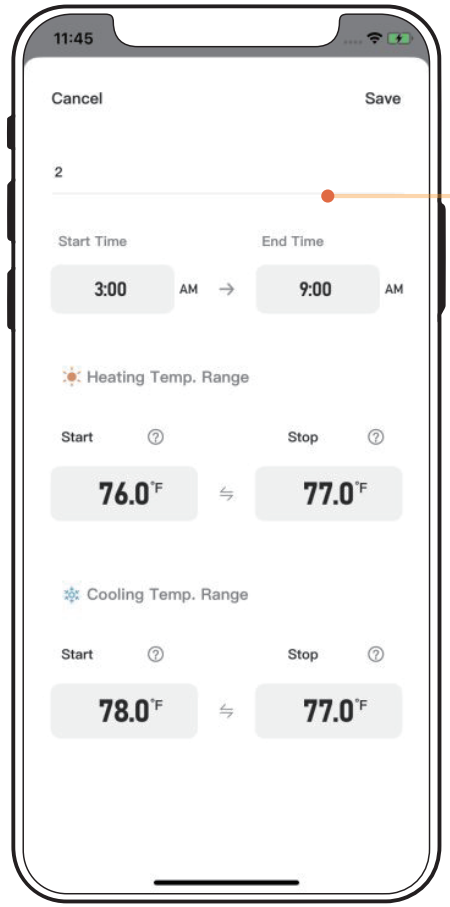


Set the temperatures for Day/Night

Time Mode



Main interface



Rename the current time segment

Set the periodic temperatures

06 Cleaning and Maintenance

6.1 Please make sure to unplug the temperature controller before cleaning. If cleaning is necessary, use a dry, clean cloth to wipe it; do not clean with water or a wet cloth.
6.2 Do not place it where children can touch it. Store in a dry, ventilated place.

07 Important Notes/Warnings

7.1 KEEP CHILDREN AWAY.
7.2 USE INDOORS ONLY TO REDUCE THE RISK OF ELECTRIC SHOCK.
7.3 DO NOT CONNECT TO OTHER RELOCATABLE POWER SOURCES OR EXTENSION CORDS.
7.4 USE IN A DRY PLACE ONLY.
7.5 DO NOT PLACE NEAR WATER TO REDUCE THE RISK OF ELECTRIC SHOCK.
7.6 DO NOT EXPOSE TO HIGH TEMPERATURES.
7.7 THE HOUSING OF THE TEMPERATURE PROBE IS MADE OF STAINLESS STEEL MATERIALS. WIPE OFF ANY STAINS TO AVOID AFFECTING THE ACCURACY OR RESPONSE TIME OF THE PROBE.
7.8 DO NOT CONNECT IT TO A PRODUCT THAT IS NOT RATED FOR ITS VOLTAGE, WHICH MAY CAUSE FIRE HAZARDS.

08 Troubleshooting Guide

Cannot connect Bluetooth?

1. Check that your smartphone has Bluetooth enabled.
2. Check that the device is in the connecting state.

Display ?

Please login to the INKBIRD app to connect the controller to have it synchronize the clock and work regularly.

Incorrect probe readings?

Wipe to clean the stainless steel part of the probe and blow with a hairdryer to completely evaporate the moisture inside the probe (making sure that the device is disconnected from the power supply).

Failure to switch on or off the heating/cooling output?

1. Test the electric power:
   A. Unplug the controller, and plug a heating or cooling device. (Note that the device voltage must not exceed the rated voltage of this product.)
   B. Press and hold the SET button (until the Controller is turned on).
   C. Connect the power supply to start up, then release the SET button.

D. Turn the knob button to the left, and the heating symbol will light up on the LED, indicating that the heating output is open. At this point, check that the unit is turned on.

E. Turn the knob button to the right, and the cooling symbol will light up on the LED, indicating that the cooling output is open. At this point, check that the unit is turned on.

2. Please check that the load power of the external device is within the rated power of this product, 1200W (120Vac) or 2200W (220Vac). If the above operational steps still do not resolve your issue, please contact our customer support team.

The screen of the controller gets stuck/frozen?

Unplug the controller and reboot it. If the problem persists, please contact Customer Support.

The controller will sound an alarm and AL/AH will flash on the screen. How to turn off the AL/AH alarm sound?

1.Set through the device: Enter the setting mode, choose AS (Alarm sound) on the menu, and then select ON (turn on the alarm sound) or OFF (turn off the alarm sound).
2.Set through the App: Enter the setting interface, select "Device", and then go to "Device Alarm Sound" to toggle ON or OFF.

Probe readings are changing repeatedly (sudden rise or fall)/Readings are changing very slowly?

Wipe to clean the stainless steel part of the probe and blow with a hairdryer to completely evaporate the moisture inside the probe (making sure that the device is disconnected from the power supply).

Outlet melted/burnt?

Please check that the load power of the external device is within the rated power of this product, 1200W (120Vac) or 2200W (220Vac), or contact Customer Support instead.

Deficient screen display / The screen keeps flashing / The sound of electricity is audible / Displaying Er / Displaying Err ?

Please contact Customer Support.

09 *FCC Requirement*

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:
(1) this device may not cause harmful interference, and
(2) this device must accept any interference received, including interference that may cause undesired operation.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy, and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or elevision 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 complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20cm between the radiator & your body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

10 IC Warning

This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:
(1) This device may not cause interference.
(2) This device must accept any interference, including interference that may cause undesired operation of the device.

L'émetteur/récepteur exempt de licence contenu dans le présent appareil est conforme aux CNR d'Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :
1)L'appareil ne doit pas produire de brouillage;
2)L'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

The device meets the exemption from the routine evaluation limits in section 2.5 of RSS 102 and compliance with RSS-102 RF exposure, users can obtain Canadian information on RF exposure and compliance.

Le dispositif rencontre l'exemption des limites courantes d'évaluation dans la section 2.5 de RSS 102 etla conformité à l'exposition de RSS-102 rf, utilisateurs peut obtenir l'information canadienne surl'exposition et la conformité de rf.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter. This equipment should be installed and operated with a minimum distance of 20 centimeters between the radiator and your body.

Cet émetteur ne doit pas être Co-placé ou ne fonctionnant en même temps qu'aucune autre antenne ouémetteur. Cet équipement devrait être installé et actionné avec une distance minimum de 20 centimètres entre le radiateur et votre corps.

11 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.

Shenzhen Inkbird Technology Co.,Ltd.

support@inkbird.com

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Office Address: Room 1803, Guowei Building, No.68 Guowei Road, Xianhu Community, Liantang, Luohu District, Shenzhen, China
Manufacturer: Shenzhen Inkbird Technology Co., Ltd.
Factory Address: 6th Floor, Building 713, Pengji Liantang Industrial Area, No.2 Pengxing Road, Luohu District, Shenzhen, China

MADE IN CHINA
DESIGNED BY INKBIRD