

# INKBIRD

SMART HOME SMART LIFE



## ITC-306T-WIFI

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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## **01 | Caution**

- **KEEP CHILDREN AWAY**
- **TO REDUCE THE RISK OF ELECTRIC SHOCK, USE ONLY INDOORS**
- **RISK OF ELECTRIC SHOCK. DO NOT PLUG INTO ANOTHER RELOCATABLE POWER TAPS OR AN EXTENSION CORD.**
- **USE ONLY IN DRY LOCATION**

## **02 | Product Features**

- **Plug and play, easy to use.**
- **Dual relay control, one for output control, another for abnormal protection**
- **Support Celsius and Fahrenheit reading**
- **Dual display window for simultaneous display of measured temperature and the target temperature**
- **Temperature calibration**
- **High and low temperature alarm**
- **Probe abnormal alarm**
- **Clock abnormal alarm**
- **Time reset alarm**



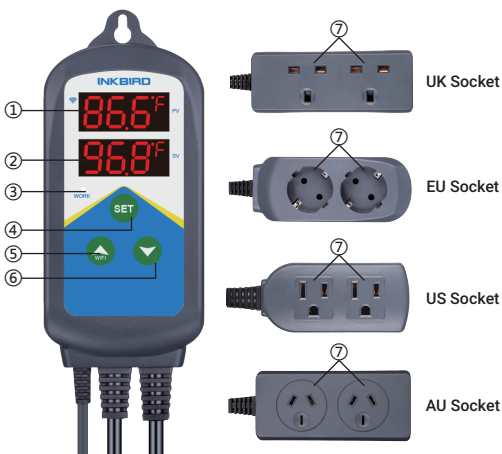
## 03 | Technical Parameters

- Power: 100~240Vac 50/60Hz 10A MAX
- Type of temperature probe: R25°C=10KΩ±1%  
R0°C=26.74~27.83KΩ B25/85°C=3435K±1%
- Temperature control range:  
-50.0°C~99.0°C/-58.0°F~210°F
- Temperature measurement range:  
-50.0°C~120°C/-58.0°F~248°F
- Temperature display accuracy:  
0.1°C/°F(<100°C/°F), 1°C/°F(>=100°C/°F)
- Temperature measurement accuracy:

Range of Temperature (T) Celsius	Celsius Error	Range of Temperature (T) Fahrenheit	Fahrenheit Error
-50°C≤T<10°C	±2°C	-58°F≤T<50°F	±3°F
10°C≤T≤100°C	±1°C	50°F≤T≤212°F	±2°F
100°C<T≤120°C	±2°C	176°F<T≤248°F	±3°F

- Display unit: Celsius °C or Fahrenheit °F
- Ambient temperature:-20°C~40°C/-4.0°F~104°F
- Storage environment:  
Temperature: 0°C~60°C/32°F~140°F;  
Humidity: 20~80%RH (unfrozen or condensation state)
- Warranty: Controller 2 year, probe 1 years

## 04 | Control Panel



① PV: In the normal mode, it displays the current temperature; in the setting mode, it displays menu code.

② SV: In the normal mode, it displays the temperature at which the heating is stopped; in the setting mode, it displays menu setting.

③ Red indicator: ON-heating output is turned on; OFF-heating output is turned off.

④⑤⑥ Set Key (SET), Increase Key (▲), Decrease Key (▼): Please refer to "6.1 Button Instruction" for more details.

⑦ Output socket: Both sockets are only for heating.

## 05 | INKBIRD APP Setting

### 5.1 Download the APP

Search the keyword “INKBIRD” in Appstore or Google Play to get the app, or scan the following QR code directly to download and install the APP.





### 5.2 Pair with your phone

① Open the app, it will ask you to register or log in your account on the APP. Select the country and enter Email to finish the registration. Then press “Add Home” button to create your home.

A screenshot of a mobile app's registration screen. At the top, the status bar shows the time 10:24 and signal/battery icons. The app title 'Register' is in blue. Below it, a white card contains the registration form. The form starts with a country selector showing 'United States' and a chevron. Then there are input fields for 'Email', 'Enter authentication code' (with a 'Send' button), 'Password', and 'Enter password again' (both with eye icons). At the bottom of the card are 'Register' and 'Login' buttons. The entire screen is framed by a light gray border.

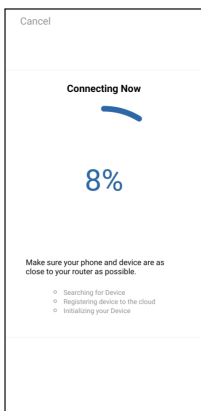
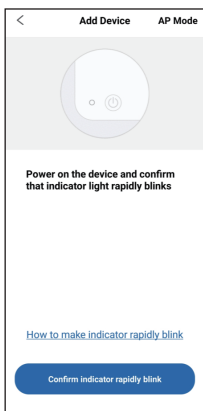
② Tap “+” or “add device” button in home page of the APP to add the device.

③ If the controller is in the normal working state, you can long press  2 seconds to reset the Wi-Fi. It will enter the Smartconfig configuration state by default. You can short press  to switch the Smartconfig

configuration state and the AP mode. If you change the Wi-Fi state, it will take about 5 seconds to display the corresponding LED symbol and state, because of the Wi-Fi module data processing.

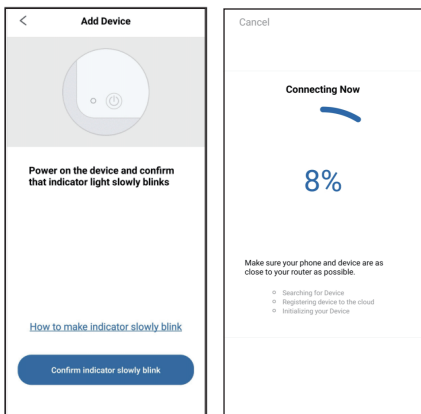
### Add device in quick connection:

- Plug the device in the socket and make sure that the device is in the Smartconfig.
- Configuration state (the LED symbol is flashing, interval flashing 250ms). Click “Confirm indicator rapidly blink” and then select Wi-Fi network, enter Wi-Fi password, click “confirm” to enter connection process.
- The device only supports 2.4GHz Wi-Fi router.



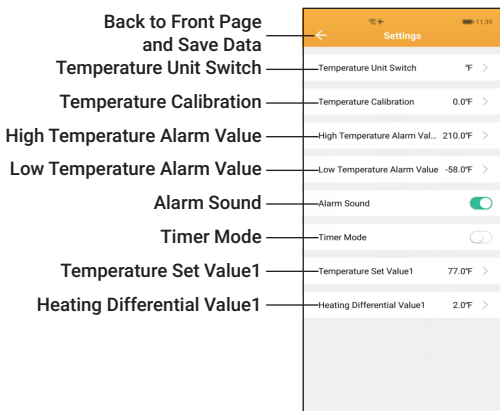
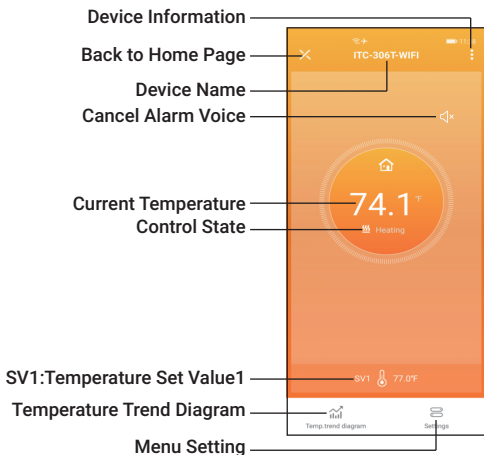
## Add device in AP mode:

- Plug the device in the socket and make sure that the device is in the AP Configuration State (the LED symbol is flashing slowly, interval flashing 1500ms).
- Click “Confirm indicator slowly blink” and then select Wi-Fi network, enter Wi-Fi password, click “confirm” to enter connection process.
- Press “Connect now” and it will go to your WLAN Setting in your smart phone, select the “SmartLife-XXXX” to directly connect to the router without providing a password.
- Go back to app to enter into the automatic connection interface.

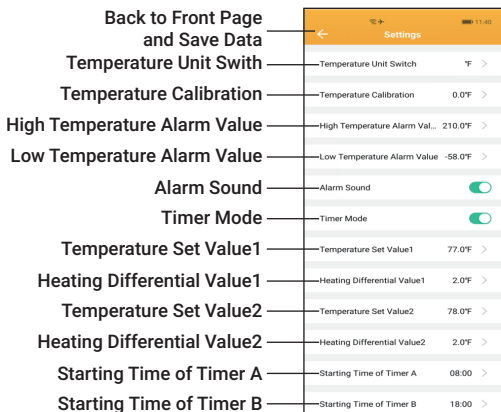
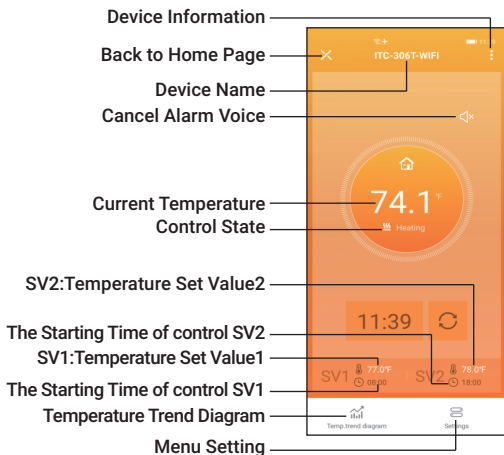


- ④ Click “Done” after device is added successfully and enter into device controlling interface .
- ⑤ In the temperature control mode, user can set control function via APP.

# Normal Mode




## Timer Mode








## 06 | Function Instruction

### 6.1 Button Instruction

#### 6.1.1 Factory Reset

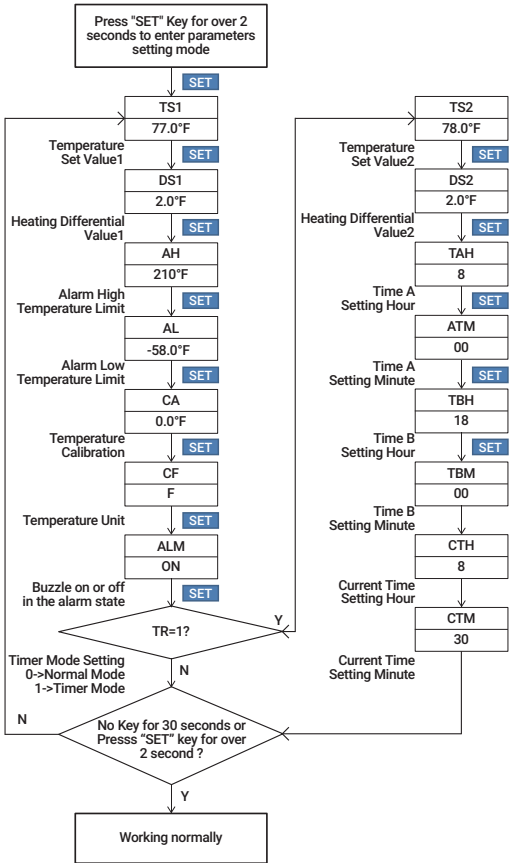
Hold the “” button to power on, the buzzer will beep once, and all parameters will restore to factory settings.

#### 6.1.2 Button Instruction in the Setting Mode

When the controller is working normally, press “” key for 2 seconds to enter parameter setting mode. PV window displays the first menu code “TS1”, while SV window displays the setting value. Press the “” button to scroll down the menu and save the previous menu parameters, press the “” or “” button to change the current setting value. If there is no button operation within 30 seconds or long press the “” button for 2 seconds in the setting state, it will exit and save the setting state, then return to the normal working mode.



# 6.2 Menu Setting Flow Chart



## 6.3 Setup Menu Instruction

Menu Code	Display Symbol	Menu Function	Setting Range	Default Setting	Remarks
TS1	tS1	Temperature Set Value 1	-50.0°C~99.0°C	25.0°C	6.4.1
			-58.0°F~210°F	77.0	
DS1	dS1	Heating Differential Value 1	0.3°C~15.0°C	1.0°C	
			1.0°F~30.0°F	2.0°F	
AH	RH	High Temperature Alarm	-50.0°C~99.0°C	99.0°C	6.5
			-58.0°F~210°F	210°F	
AL	RL	Low Temperature Alarm	-50.0°C~99.0°C	-50.0°C	
			-58.0°F~210°F	-58.0°F	
CA	cA	Temperature Calibration	-15.0°C~15.0°C	0.0°C	6.6
			-15.0°F~15.0°F	0.0°F	
CF	cF	Fahrenheit or Celsius Setting	C/F	F	6.7
ALM	ALM	Buzzer Sound	ON/OFF	ON	6.8
TR	tr	Timer Mode Setting	0: Normal Mode 1: Timer Mode	0: Normal Mode	6.4.2

**When TR=1, the time mode function is on,  
the menu settings are as follows.**

Menu Code	Display Symbol	Menu Function	Setting Range	Default Setting	Remarks
TS2	t52	Temperature Set Value 2	-50.0°C~99.0°C	26.0°C	6.4.2
			-58.0°F~210°F	78.0	
DS2	d52	Heating Differential Value 2	0.3°C~15.0°C	1.0°C	
			1.0°F~30.0°F	2.0°F	
TAH	tAH	Time A setting Hour	0~23 hours	08	
TAM	tA <sup>n</sup>	Time A setting Minute	0~59 minutes	00	
TBH	tBH	Time B setting Hour	0~23 hours	18	
TBM	tB <sup>n</sup>	Time B setting Minute	0~59 minutes	00	
CTH	CtH	Current Hour Setting	0~23 hours	08	
CTM	Ct <sup>n</sup>	Current Minute Setting	0~59 minutes	30	

## **6.4 Control Function Instruction**

### **6.4.1 Temperature Control Instruction in the Normal Mode (TS1,DS1,TR=0)**

When the controller is working normally, PV window displays the measured temperature, SV window displays temperature set value.

When the measured temperature  $PV \geq TS1$  (Temperature Set Value1), the WORK indicator is off, the output sockets turn off; When the measured temperature  $PV \leq TS1$  (Temperature Set Value1)-DS1 (Heating Differential Value 1), the WORK indicator is on, and the output sockets turn on.

For example,  $TS1=25.0^{\circ}\text{C}$ ,  $DS1=3.0^{\circ}\text{C}$ , when the measured temperature  $\leq 22^{\circ}\text{C}$  ( $TS1-DS1$ ), the output sockets turn on; when the measured temperature  $\geq 25^{\circ}\text{C}$  ( $TS1$ ), the output sockets turn off.

### **6.4.2 Temperature Control Instruction in the Timer Mode (TS1, DS1, TR=1 , TS2, DS2, TAH, TAM, TBH, TBM, CTH, CTM)**

When  $TR=0$ , the timer mode function is off, the parameters TS2, DS2, TAH, TAM, TBH, TBM, CTH, CTM don't show up in the menu.

When  $TR=1$ , the Timer Mode is on. Time A~Time B~Time A is a cycle, 24 hours.

During Time A~Time B, the controller runs as TS1 (Temperature Set Value1) and DS1 (Heating Differential Value1); during Time B~Time A, the controller runs as TS1

(Temperature Set Value2) and DS1(Heating

Differential Value2).

For example: Set TS1=25, DS1=2, TR=1, TS2=18, DS2=2, TAH=8, TAM=30, TBH=18, TBM=00, CTH=9, CTM=30, CTH and CTM are the current time setting, the setting time is 9:30.

During 8:30-18:00 (Time A~Time B), the temperature controls between 22°C (TS1-DS1)~25°C (TS1);

During 18:00-8:30 (Time B~Time A), the temperature controls between 16°C (TS2-DS2)~18°C (TS2).

## **6.5 High/Low Temperature Alarm (AH,AL)**

When the measured temperature  $\geq$  High Temperature Alarm (AH), it will alarm and turn off heating output. The PV window will display "AH" and the measured temperature at the 1Hz frequency alternately, buzzer will "Bi-Bi-Biii" when ALM=ON, until the measured temperature  $<$  AH, buzzer will be off and return to normal display and control. Or press any button to turn the buzzer alarm off;

When the measured temperature  $\leq$  Low Temperature Alarm (AL), it will alarm. The PV window will display "AL" and the measured temperature at the 1Hz frequency alternately, buzzer will "Bi-Bi-Biii" when ALM=ON, until the temperature  $>$  AL, buzzer will be off and return to normal display and control. Or press any button to turn the buzzer alarm off.

Note: The Low Temperature Alarm (AL) should be less than the High Temperature Alarm (AH). The high or low temperature alarm will be pushed to mobile APP and remind the user that the device is in alarm state.

## **6.6 Temperature Calibration (CA)**

When there is deviation between measured temperature and actual temperature, the temperature calibration function can be used to calibrate the measured value and make it consistent with the standard value, the calibrated temperature = the measured temperature value + the calibration value.

## **6.7 Display in Fahrenheit or Celsius unit (C/F)**

Optional setting the display unit as Fahrenheit or Celsius. The default temperature unit is Fahrenheit. In need of displaying in Celsius , set CF value as C.

Note: When CF is changed, all setting values will be restored to the default setting and the buzzer will beep once.

## **6.8 Buzzer Sound ON/OFF Under Abnormal Alarm (ALM)**

Users can choose whether to turn on the sound function of the buzzer when an abnormal alarm occurs according to actual use. When choosing ON, the buzzer will make a sound, when choosing OFF, the buzzer will close the sound when there is abnormal alarm.

## **07 | Error Situation**

### **7.1 Probe Error**

The PV window show Er when the probe is not plugged in properly or there is short circuit inside the probe. When ALM=ON, the buzzer will kept beeping, the sound can be cut off by press any button.

### **7.2 Time Error**

When time abnormal, PV window indicate Err. When ALM=ON, the buzzer will kept beeping, the sound can be cut off by press any button.

### **7.3 Time Reset Error**

When TR=1, when the device is power-on again after power off, and when PV window alternately display the current temperature and TE at 1 Hertz frequency. If ALM=ON, the buzzer will go off every two seconds which mean the timer should be reset. You can press any button to stop the alarm, if long press for 2 seconds, it will enter to the setting menu and skip to CTH menu code,

setting the CTH and CTM value then save the parameter, the device will back to normal operation; normal operation can also be restored by tapping the synchronization time via the app.

## 08 | How to deal with common problems in APP use?

Status	possible cause	preliminary solution
Login Failure	Incorrect account and password	Re-type password and confirm
	Network server under maintenance	Try again later
Connection Failure	Misoperation (Ignore important steps)	Confirm the correct steps and try again
	Incorrect WiFi password	Plain-text input password
	Poor network condition	Try again or change network environment
	Phone model & system version	Switch to another phone and try again
Data Load Failure	Network server under maintenance	Try again later
APP Black Screen	Running app takes up too much memory	Clear the running APP
	Incomplete installation	Uninstall INKBIRD App and re-install

## 09 | Technical Assistance and Warranty

### 9.1 Technical Assistance

If you have any problems installing or using this controller, please carefully and thoroughly review the instruction manual. If you require assistance, please write us to [support@inkbird.com](mailto:support@inkbird.com). We will reply your emails in 24 hours from Monday through Saturday. You can also visit our web site



[www.inkbird.com](http://www.inkbird.com) to find the answers of the common technical questions.

## **9.2 Warranty**

INKBIRD TECH. C.L. warrants this controller for two years (temperature for one year) from the date of purchase when operated under normal condition by the original purchaser (not transferable), against defects caused by INKBIRD's workmanship or materials. This warranty is limited to the repair or replacement, at INKBIRD's discretion, of all or part of the controller. The original receipt is required for warranty purposes.

## **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 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 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.

## INKBIRD TECH.C.L

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