



# ITC-306A

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Smart Wi-Fi Temperature  
Controller for Aquarium

## 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 controlling, one for control output, another for abnormal protection
- Support Celsius and Fahrenheit reading
- Dual display window for simultaneous display of measured temperature and stop heating temperature
- Dual temperature probes to ensure the accuracy of the water temperature
- Temperature calibration
- High and low temperature alarm
- Probe abnormal alarm
- Continuous heating time alarm

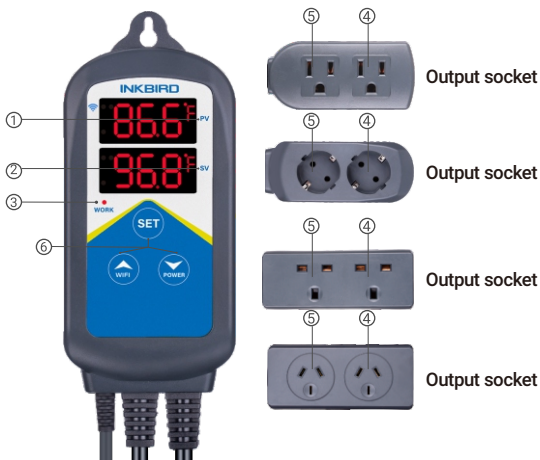
## 03 | Technical Parameters



- Voltage: 100~240Vac 50/60Hz
- Current: 10A Max
- Wattage: 1200W(120Vac), 2200W(220Vac)
- Type of temperature probe:  $R_{25^{\circ}\text{C}}=10\text{K}\Omega\pm 1\%$   $R_{0^{\circ}\text{C}}=26.74\sim 27.83\text{K}\Omega$   $B_{25/85^{\circ}\text{C}}=3435\text{K}\pm 1\%$
- Temperature control range:  $20.0^{\circ}\text{C}\sim 35.0^{\circ}\text{C}/68.0^{\circ}\text{F}\sim 95.0^{\circ}\text{F}$
- Temperature measurement range:  $-40.0^{\circ}\text{C}\sim 100^{\circ}\text{C}/-40.0^{\circ}\text{F}\sim 212^{\circ}\text{F}$
- Temperature display accuracy:  $0.1^{\circ}\text{C}/^{\circ}\text{F}(<100^{\circ}\text{C}/^{\circ}\text{F})$ ,  $1^{\circ}\text{C}/^{\circ}\text{F}(\geq 100^{\circ}\text{C}/^{\circ}\text{F})$
- Temperature measurement accuracy:

Range of Temperature(T) Celsius	Celsius Error	Range of Temperature(T) Fahrenheit	Fahrenheit Error
$-40^{\circ}\text{C} \leq T < 10^{\circ}\text{C}$	$\pm 2^{\circ}\text{C}$	$-40^{\circ}\text{F} \leq T < 50^{\circ}\text{F}$	$\pm 3^{\circ}\text{F}$
$10^{\circ}\text{C} \leq T < 80^{\circ}\text{C}$	$\pm 1^{\circ}\text{C}$	$50^{\circ}\text{F} \leq T < 176^{\circ}\text{F}$	$\pm 2^{\circ}\text{F}$
$80^{\circ}\text{C} \leq T \leq 100^{\circ}\text{C}$	$\pm 2^{\circ}\text{C}$	$176^{\circ}\text{F} \leq T \leq 212^{\circ}\text{F}$	$\pm 3^{\circ}\text{F}$

- Display unit: Celsius  $^{\circ}\text{C}$  or Fahrenheit  $^{\circ}\text{F}$
- Ambient temperature:  $-20^{\circ}\text{C} \sim 40^{\circ}\text{C} / -4.0^{\circ}\text{F} \sim 104^{\circ}\text{F}$
- Storage environment:  
Temperature:  $0^{\circ}\text{C} \sim 60^{\circ}\text{C} / 32^{\circ}\text{F} \sim 140^{\circ}\text{F}$ ;  
Humidity: 20~80%RH (Unfrozen or condensation state)
- Warranty: Controller 2 years, probe 1 year

## 04 | Control Panel



- ① PV: In the normal mode, it displays current temperature; in the setting mode, it displays menu code.
- ② SV: In the normal mode, it displays the temperature value when stopping heating; in the setting mode, it displays menu setting.
- ③ Red indicator: ON - heating output is turned on; OFF- heating output is off.
- ④/⑤ Output socket
- ⑥ Setting button (SET), Increase button () , Decrease button ():  
Please refer to the button description for more details.

### 5.1 Download the APP

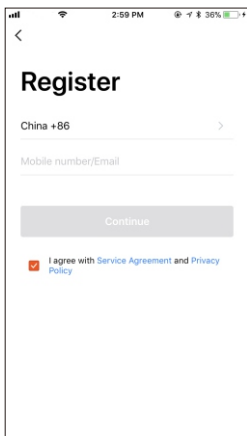
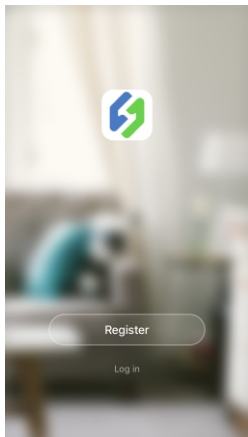
Search the keyword “InkbirdSmart” in Appstore or Google Play, or scan the following QR code to download and install the APP.





InkbirdSmart

### 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 your Mobile number or Email to finish the registration. Then press “Add Home” button to create your home.

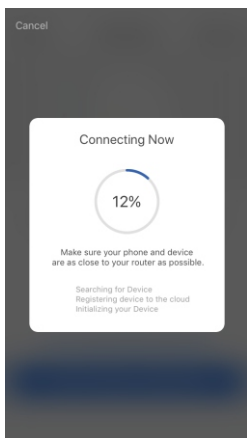
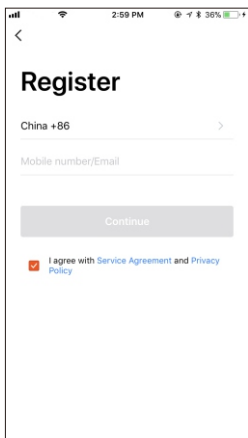


- ② Tap “+” or “add device” button in home page of the APP to add the device.
- ③ If the controller is in the normal working state, you can long press  2 seconds to reset the WIFI. It will enter the Smartconfig configuration state by default. You can short press  to switch the Smartconfig configuration state and the AP mode. If you change the WIFI state, it will take about 5

seconds to display the corresponding LED symbol and state, because of the WIFI module data processing.

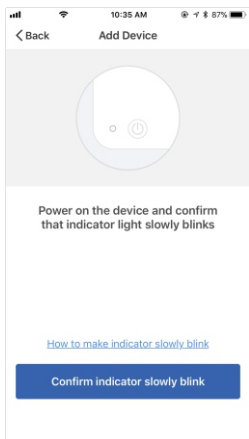
### Add device in quick connection:

- 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:

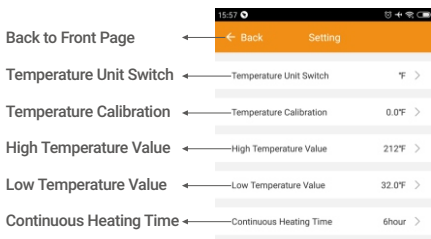
- Plug the device in the socket and make sure that the device is in the AP Configuration State (the LED symbol is flashing slowly, interval flashing 1500ms).
- Click "Confirm indicator slowly blink" and then select Wi-Fi network, enter Wi-Fi password, click "confirm" to enter connection process.
- Press "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 putting in password.
- Go back to app to enter into the automatic connection interface.



④ Click "Done" after adding device successfully and enter into device controlling interface .

⑤ In the temperature control mode, user can set control function via APP.






## 06 | Controlling Function Description

### 6.1 Button Description









#### 6.1.1 Restore to Factory Settings

Press and hold the decrease button  to power on, the buzzer will beep once, that all parameters will restore to the factory settings.



#### 6.1.2 Power Button

In any case, press and hold  for 2 seconds to turn off, there will be no output. After power off, short press to turn on the power. In the power on state, short press to turn on or pause the socket power. In the paused state, PV displays the current temperature, SV displays "P", there will be no output.

#### 6.1.3 Quickly Set the Control Temperature Mode

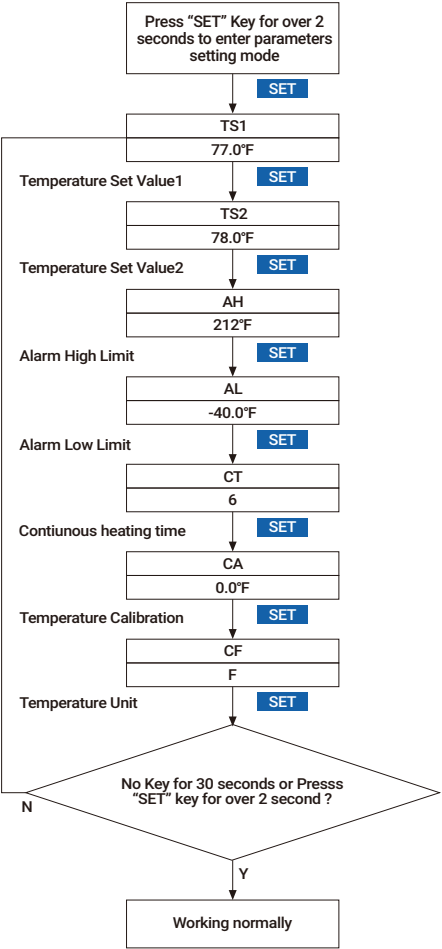
Tap "SET" button to enter the quick setting control temperature mode, SV displays the temperature setting value1 and flashes. At this time, press  or  to increase or decrease the setting value. Long press and hold the  or  button to increase or decrease the setting value quickly. Then press again SET button, SV displays the temperature setting value2 and flashing, At this time, press  or  to increase or decrease the setting value. Long press and hold the  or  button to increase or decrease the setting value quickly, press SET button again to confirm and exit. If there is no operation, it will automatically exit after 10 seconds and save the set value.

#### 6.1.4 Button Function in Setting Mode

When the controller is working normally, press and hold the SET button for 2 seconds to enter the setting mode. PV displays the code "TS1", and SV displays the corresponding setting value. Press the SET button to scroll down the menu and save the parameters of the previous menu item, or press the  or  button to change the current setting value. If there is no button operation within 30 seconds or long press the SET 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 Changing Settings

Code	Symbol	Menu Function	Setting Range	Default Settings	Remarks
TS1	TS1	Temperature Setting 1	20.0°C~35.0°C	25.0°C	
			68.0°F~95.0°F	77.0°F	
TS2	TS2	Temperature Setting 2	20.0°C~35.0°C	26.0°C	
			68.0°F~95.0°F	78.0°F	
AH	AH	High Temperature Alarm	0.0°C~100°C	100°C	
			32.0°F~212°F	212°F	
AL	AL	Low Temperature Alarm	0.0°C~100°C	0.0°C	
			32.0°F~212°F	32.0°F	
CT	CT	Continuous Heating Time	1~72 Hour	6 Hours	
CA	CA	Temperature Calibration	-9.9°C~9.9°C	0.0°C	
			-15.0°F~15.0°F	0.0°F	
CF	CF	Fahrenheit or Celsius Setting	C or F	F	

### 6.4 Control Function Description

When the controller is working normally, the controller will automatically select the smaller temperature value of the two settings TS1 and TS2 to start the heating, and will stop heating when the temperature reach the larger one (the minimum absolute value of TS1 and TS2 is 0.3 °C or 0.5°F), PV displays the current temperature measurement value, and the SV displays the temperature at which heating stops.

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

When measured temperature  $\geq$  the setting value of high temperature AH, it will alarm and turn off heating output. The screen will rotate to display “AH” and current temperature, buzzer will “bi-bi-Biii”, until the temperature < AH, buzzer will be off and return to normal display and control. Or press any button to only turn the buzzer alarm off.

When measured temperature  $\leq$  the setting value of low temperature AL, it will alarm. The screen will rotate to display “AL” and current temperature, buzzer will “bi-bi-Biii”, until the temperature > AL, buzzer will be off and return to normal display and control. Or press any button to only turn the buzzer alarm off. High and low temperature alarm will be pushed to mobile APP and remind the customer that the product is in alarm state.

### 6.6 Continuous Heating Time Alarm(CT)

When measured temperature  $\leq$  the starting heating temperature, the output

control is turned on. If the continuous heating time arrives, but the measured temperature has not risen to the stop heating temperature, at this time the heater is abnormal or the probe is abnormal, and the output is forcibly turned off. PV will show E5, the buzzer keeps ringing, and the alarm status is pushed to the mobile APP to remind the customer that the product is in an alarm state and need to check in time.

## 6.7 (CA) Temperature Correction

When the measured temperature deviates from the standard temperature, the temperature calibration function can be used to calibrate the measured value consistent with the standard value. The calibrated temperature = the measured temperature value + the calibration value.

## 6.8 Selection between Degree Fahrenheit and Degrees Celsius

Support setting Fahrenheit or Celsius. The default temperature unit is Fahrenheit. If you need to display the unit in Celsius, please set the CF to C and note that when the CF is changed, all setting values will be restored to the default setting and the buzzer will beep once.

# 07 | Abnormal Situation

## 7.1 Abnormal Temperature

The temperature difference between the two temperature probes is greater than or equal to 3°C/5°F

## 7.2 Probe Abnormal

Either the probe is not plugged in properly, or there is a short circuit inside or inside the probe.

### Note:

When the product is abnormal, the PV will show as follows:

Er: Both probes have problems at the same time

E1 or E2: Temperature Probe Abnormal

E4: The temperature difference between the two temperature probes is greater than or equal to 3°C/5.0°F

E5: Continuous Heating Time Alarm

Status	Possible Reason	Preliminary Solution
Login failed	Password or account entry error	Double check the account and password
	Network server maintenance	Try again later
Connection failed	Improper steps (ignoring some important steps)	Confirm the correct steps and try again
	WiFi password input error	Plain-text input WiFi password
	Poor network	Try again or change the network environment later
	Phone model and system version	Please change to another mobile phone to try again
Fail to load data	Network server maintenance	Try again later
APP Blank Screen	App running in the background occupy too much memory	Clear App running in the background
	Incomplete installation	Uninstall InkbirdSmart 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@ink-bird.com](mailto:support@ink-bird.com). We will reply your emails in 24 hours from Monday through Saturday. You can also visit our web site [www.ink-bird.com](http://www.ink-bird.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.



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