INKBIRD

ITC-2T

Smart Temperature Controller

Warm tips

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1.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

2.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
- Temperature calibration
- High and low temperature alarm
- Probe abnormal alarm

3.Specification

Model	ITC-2T
Brand name	INKBIRD
Input	100~240Vac 50/60Hz 10A 1200W(120Vac) Max, 2200W(220Vac) Max
Output	100~240Vac 50/60Hz 10A 1200W(120Vac)/2200W(220Vac) (total two sockets)

Temperature Probe

- **Type of temperature probe:**
  R25°C=10KΩ±1%, R0°C=26.74~27.83KΩ ,
  B25/85°C=3435K±1%

- **Temperature control range:**
  -50°C~99.0°C/-58.0°F~210°F

- **Temperature measurement range:**
  -50.0°C~120°C/-58.0°F~248°F

Temperature measurement accuracy:

Range of Temperature(T)	Celsius Error
-50℃≤T<10℃	±2℃
10℃≤T<100℃	±1℃
100℃≤T<120℃	±2℃

Range of Temperature(T) Fahrenheit	Fahrenheit Error
-58℉≤T<50℉	±3℉
50℉≤T<212℉	±2℉
176℉≤T<248℉	±3℉

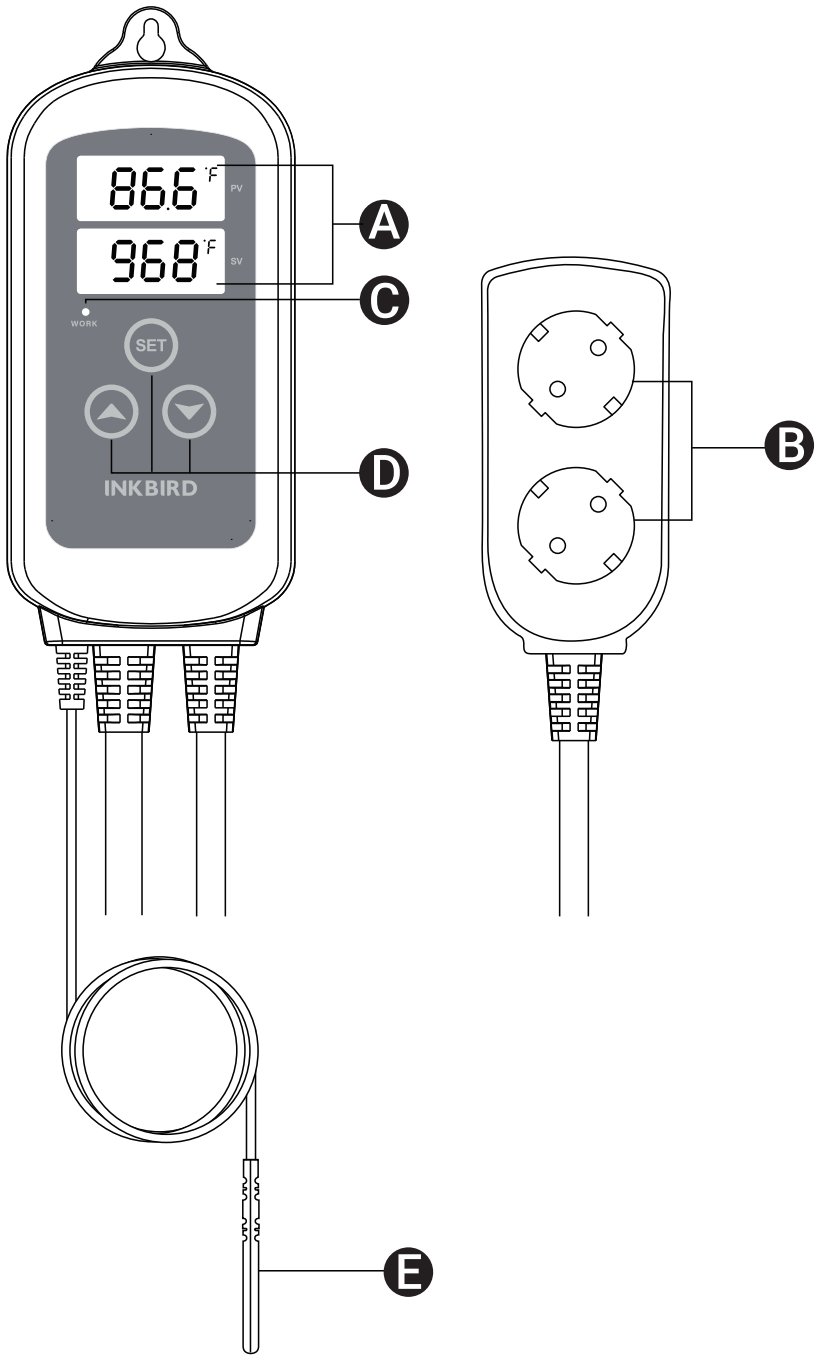
Ambient

- **Ambient temperature**:
  Room temperature
- **Storage environment:**
  temperature:0°C~60°C/32°F~140°F
- **humidity:**
  20~80%RH
  (Unfrozen or condensation state)

Warranty

- **Controller:**
  Two years warranty
- **Temperature and Humidity Probe:**
  One year warranty

4.Get to Know the Controller



Ⓐ Functions on screen

PV: In normal mode,
the measured temperature is displayed.
In settings mode, it will display menu code.

SV: In normal mode,
the temperature setting value is displayed.
it will display the setting value.

Ⓑ Output Socket

Both Sockets are only for heating

Ⓒ Indicator LED

Red LED is on Output is on.

Ⓓ Button Instruction

Please read the detail on **5.Button Operation Instructions** below.

Ⓔ Temperature probe

5.Button Operation Instructions

5.1 Factory Reset

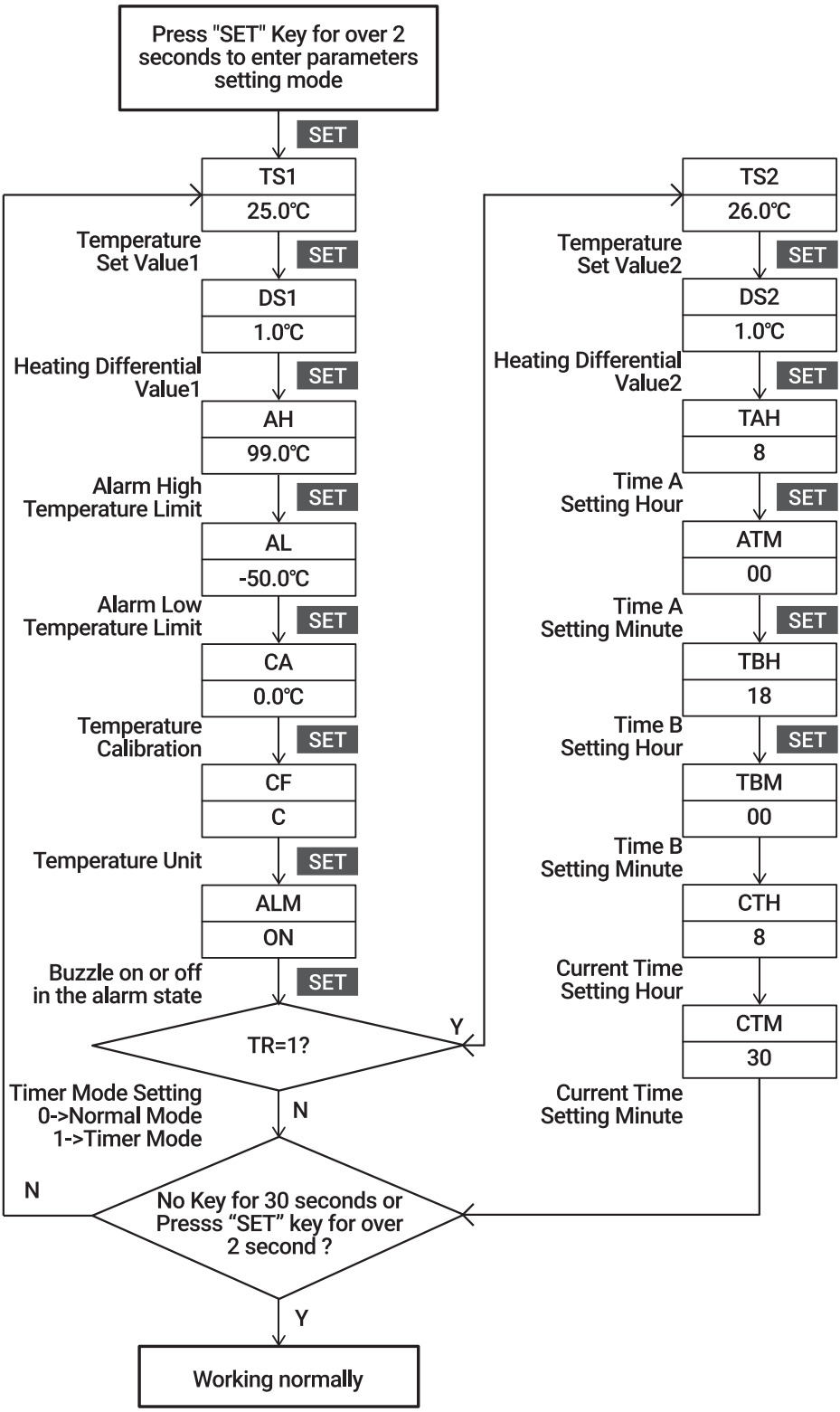
Hold the ▼ button to power on, the buzzer will beep once, and all parameters will restore to factory settings.

5.2 Button Instruction in the Setting Mode

When the controller is working normally, press SET 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 SET 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 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.Menu Instruction

6.1 Setting mode Flow Chart



6.2 Setup Menu Instruction

When TR=0(Default), the time mode function is off, the menu settings are as follows.

Menu Code	Display Symbol	Menu Function	Setting Range	Default Setting	Remarks
TS1	tS1	Temperature Set Value 1	-50.0℃~99.0℃	25.0℃	7.1
			-58.0℉~210℉	77.0	
DS1	dS1	Heating Differential Value 1	0.3℃~15.0℃	1.0℃	
			1.0℉~30.0℉	2.0℉	
AH	AH	High Temperature Alarm	-50.0℃~99.0℃	99.0℃	7.3
			-58.0℉~210℉	210℉	
AL	AL	Low Temperature Alarm	-50.0℃~99.0℃	-50.0℃	
			-58.0℉~210℉	-58.0℉	
CA	CA	Temperature Calibration	-15.0℃~15.0℃	0.0℃	7.4
			-15.0℉~15.0℉	0.0℉	
CF	CF	Fahrenheit or Celsius Setting	C/F	C	7.5
ALM	ALn	Buzzer Sound	ON/OFF	ON	7.6
TR	tr	Timer Mode Setting	0: Normal Mode 1: Timer Mode	0: Normal Mode	7.2

For example, TS1=25.0°C, DS1=3.0°C, when the measured temperature ≤ 22°C (TS1-DS1), the output sockets turn on; when the measured temperature ≥ 25°C (TS1), the output sockets turn off.

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	tS2	Temperature Set Value 2	-50.0℃~99.0℃	26.0℃	7.2
			-58.0℉~210℉	78.0	
DS2	dS2	Heating Differential Value 2	0.3℃~15.0℃	1.0℃	
			1.0℉~30.0℉	2.0℉	
TAH	tAH	Time A setting Hour	0~23 hours	08	
TAM	tAn	Time A setting Minute	0~59 minutes	00	
TBH	tbH	Time B setting Hour	0~23 hours	18	
TBM	tbn	Time B setting Minute	0~59 minutes	00	
CTH	CtH	Current Hour Setting	0~23 hours	08	
CTM	Ctn	Current Minute Setting	0~59 minutes	30	

For example: Set TS1=27.0°C, DS1=2.0°C, TR=1, TS2=25.0°C, DS2=2.0°C, TAH=8, TAM=00, TBH=18, TBM=00, CTH=9, CTM=30, CTH and CTM are the current time setting, the setting time is 9:30.
During 8:00-18:00 (Time A~Time B), the temperature controls between 25.0°C (TS1-DS1)~27.0°C (TS1);
During 18:00-8:00 (Time B~Time A), the temperature controls between 22.0°C (TS2-DS2)~25.0°C (TS2).

7.Control Function Instruction

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

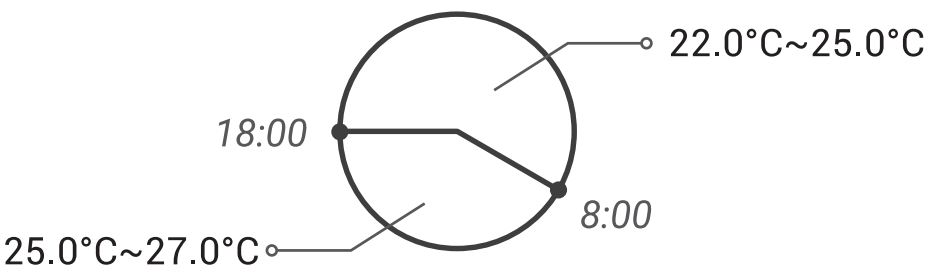
For example, TS1=25.0°C, DS1=3.0°C, when the measured temperature ≤ 22.0°C (TS1-DS1), the output sockets turn on; when the measured temperature ≥ 25.0°C (TS1), the output sockets turn off.

7.2 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=27.0°C, DS1=2.0°C, TR=1, TS2=25.0°C, DS2=2.0°C, TAH=8, TAM=00, TBH=18, TBM=00, CTH=9, CTM=30, CTH and CTM are the current time setting, the setting time is 9:30. During 8:00-18:00 (Time A~Time B), the temperature controls between 25.0°C (TS1-DS1)~27.0°C (TS1); During 18:00-8:00 (Time B~Time A), the temperature controls between 22.0°C (TS2-DS2)~25.0°C (TS2).



7.3 High/Low Temperature Alarm *(AH,AL)*

After the high/low temperature value is preset, buzzer will sound “Bi-Bi-Biii” when it exceeds or falls below. AL stands for Low temperature Alarm and AH stands for High Temperature Alarm.
For example, set AL as 15°C and AH as 30°C .

- When the temperature is below 15°C , it will trigger alarm. If the temperature > 15°C , buzzer will be off and return to normal display and control.
- When the temperature is higher than 30°C, It will trigger an alarm and turn off heating output. If the temperature < 30°C, buzzer will be off and return to normal display and control.
- When the alarm is triggered, you can also press any button to turn the buzzer alarm off.

Note: The Low Temperature Alarm (AL) should be less than the High Temperature Alarm (AH).

7.4 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.

7.5 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.

7.6 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.

8.Error Situation

8.1 Probe Error

The PV window show Er when the probe is short circuit inside the probe. When ALM=ON, the buzzer will kept beeping, the sound can be cut off by press any button.

8.2 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.

8.3 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.

9.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.

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V1.0

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