

ITC-1000F (12V) Temperature Controller Manual



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Thank you very much for selecting INKBIRD products. Read the instruction manual carefully before use, for right application and maintenance.

Safety Precautions

- Ensure the product using within the specification.
 - Do not touch when electrified. Otherwise, it may cause personal injury due to electric shock.
 - Do not allow metal fragments, wire clippings or fine metal shaving or filing to enter the product during installation. Otherwise, it may lead to electric shock, fire or malfunction.
 - Do not use this product in the environment of flammable and explosive gases. Otherwise, explosive damage may occur.
 - Do not touch any internal parts while disassembling, modifying or repairing the product. Otherwise, failure, electric shock or fire may occur.
- If the output relays are used past their life expectancy, contact fusing or burning may occasionally occur. Always consider the application conditions and use the output relays within their rated load and electrical life expectancy. The life expectancy of output relays varies considerably with the output load and switch conditions.

Main Function:

- Fahrenheit and Celsius display can be chosen;
- More user-friendly operating;
- Switch between cooling and heating modes;
- Control the temperature by setting the temperature set value and the difference value;
- Temperature calibrating;
- Refrigerating control output delay protection;
- Alarm when temperature exceeds the limit or the sensor is faulty;

Mounting dimension:

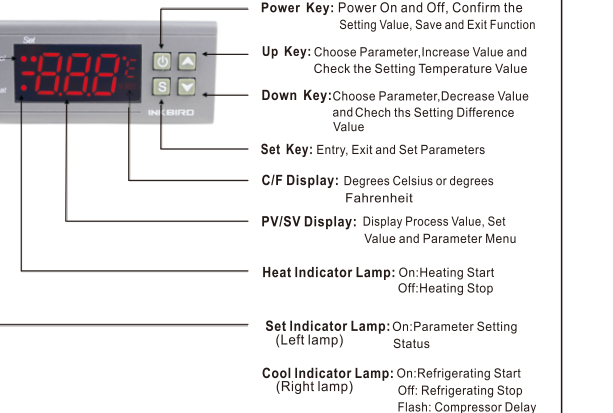
Front Panel Size: 75(L)*34.5(W)mm
Mounting Size: 71(L)*29(W)mm
Product Size : 75(L)*34.5(W)*85(D)mm
Sensor Length: 2m (include the probe)

Technical Parameter:

Temperature Measuring Range: -50~210 °F / -50°C-99 °C
Resolution: 0.1 °F / 0.1 °C
Accuracy: ±1 °F(-50 °F -160 °F) / ±1 °C(-50°C -70 °C)
Power Supply: 12V
Power Consumption: <3W

Sensor: NTC Sensor
Relay Contact Capacity: Cooling(10A) / Heating(10A)
Ambient Temperature: 0 °C-60 °C
Storage Temperature: -30 °C-75 °C
Relative Humidity: 20-85% (No Condensate)

Panel Instruction:



Key Operating instruction:

- 1. Check Parameter:**
In normal working status, press “▲” key once, it will display the setting temperature value; press “▼” key once, it will display the difference value;
- 2. Parameter Setting:**
In normal working status, keep pressing “S” for more than 3s to enter set mode, set indicator lamp is on, screen displays the first menu code “TS”.
Press “▲” key or “▼” key to move up or down the menu item and display the menu code.
Press “S” key to enter the parameter setting of current menu, the parameter value starts to flash.
Press “▲” key or “▼” key to adjust the parameter value of current menu.
After the set, press “S” key to exit the parameter setting of current menu, the parameter value stops to flash. User can set the other functions as above steps.
In any status, press “⏻” key to save the parameter modified value, and return to the normal temperature value. If no operating within 10s, it will exit the menu automatically and return to normal temperature display status, and does not save the parameter of this modification.

Operating instruction:

In normal working status, press and hold “⏻” key for more than 3s to turn off the controller; in Power-off Status, press and hold “⏻” key for more than 1s to turn on the controller. In normal working status, screen displays the current measuring value, the controller switch modes between heating and cooling automatically. If the measuring temperature \geq temperature set value + difference set value, the controller starts refrigerating, the cool indicator lamp lights on, and the refrigerating relay is connected. When cool indicator lamp flashes, indicating that the refrigerating device is under compressor delay protecting status.
If the measuring temperature \leq temperature set value, the cool indicator lamp turns off, and the refrigerating relay is disconnected.
If the measuring temperature \leq temperature set value difference set value, the controller starts heating, the heat indicator lamp lights on, and the heating relay is connected.
If the measuring temperature \geq temperature set value, the heat indicator lamp turns off, and the heating relay is disconnected.

Menu Instruction:

1. When the set temperature is degrees Celsius (FC→C)

Code	Function	Set range	Default	Note
TS	Temperature Set Value	-50 ~ 99.9 °C	10.0 °C	
DS	Difference Set Value	0.3 ~ 15 °C	1.0 °C	
PT	Compressor Delay	0 ~ 10 minutes	3minutes	
CA	Temperature Calibration Value	-15 °C ~ 15 °C	0 °C	
CF	Fahrenheit or Celsius Setting		C	

2. When the set temperature is degrees Fahrenheit (FC→F)

Code	Function	Set range	Default	Note
TS	Temperature Set Value	-50 ~ 210 °F	50 °F	Min. Unit 1 °F
DS	Difference Set Value	1 ~ 30 °F	3 °F	
PT	Compressor Delay	0 ~ 10 minutes	3 minutes	
CA	Temperature Calibration Value	-15 ~ 15 °F	0 °F	
CF	Fahrenheit or Celsius Setting		F	

Note:

When CF value change, all the set values restore to default value.

Error Description

Sensor Error Alarm: When the temperature sensor circuit is short circuit or open circuit, the controller starts sensor error mode and closes all running status, the buzzer alarm sounds, screen displays ER. Press

any keys can cancel buzzer alarm, the system returns to the normal working status after error is cleared.

Over-temperature Alarm: When the measuring temperature exceeds the temperature measuring range, the controller starts over-temperature error alarm mode and closes all running status, the buzzer alarm sounds, screen displays HL. Press any keys can cancel buzzer alarm, the system returns to the normal working status after the temperature returns to measuring range.

Wiring Diagram

