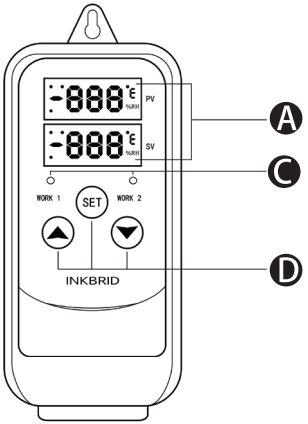
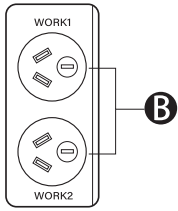
Part 6

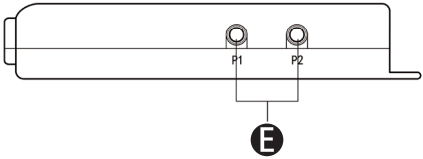
ITC-308
TEMPERATURE HUMIDITY
Controller Manual

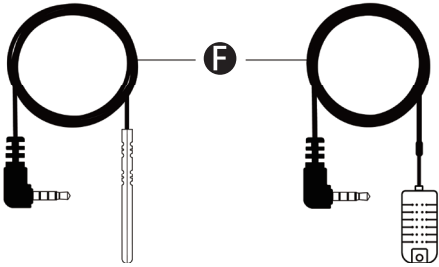
Equivalent to IHTC-230
Temperature & Humidity
Controller Manual

1 Get to Know the Controller



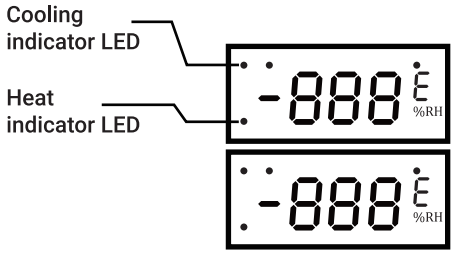






Ⓐ Functions on screen

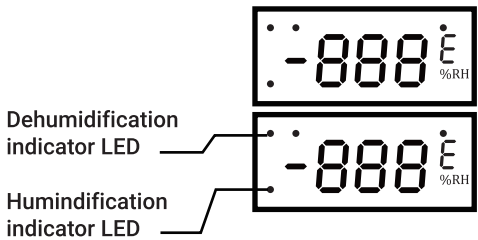
PV: In normal mode, the measured temperature is displayed. In settings mode, it will display menu code.



Heating indicator LED: If Temperature Control Function selected heating mode, the indicator LED is on, otherwise off.

Cooling indicator LED: If Temperature Control Function selected cooling mode, the indicator LED is on, otherwise off.

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



Humidification indicator LED: If humidity Control Function selected humidification mode, the indicator LED is on, otherwise off.

Dehumidification indicator LED: If humidity Control Function selected dehumidification mode, the indicator LED is on, otherwise off.

Ⓑ Output(WORK1/WORK2) Instruction

WORK1: The heating/cooling output
WORK2: The humidification/dehumidification output

Ⓒ Indicator LED:

● Red LED is on → WORK1 output is on.
● Red LED is blinking → WORK1 output is performing the function of compressor delay.
● Green LED is on → WORK2 output is on.
● Green LED is blinking → WORK2 output is performing the function of compressor delay.

Ⓓ Button Instruction

Please read the detail on **2.Button Operation Instructions** below

Ⓔ Probe interface

Temperature or humidity probe can be insert into P1 or P2

Ⓕ Temperature&humidity probe

● If the controller display Er, you may get a false temperature or humidity probe, please try harder to insert the probe and rotate it to make good contact. If the problem is still persists, it is likely the internal probe wire has been damaged by the moisture or heat temperature.
● The probe and cable cannot be touched by the flame.
● Do not exceed the probe temperature or humidity range to avoid damaging.

2 Button Operation Instructions

2.1 Restore Default Settings

Press and hold the "▼" button to power on, the buzzer will make a short call, indicating that all parameters of the user's temperature and humidity probe function return to the default setting value.

2.2 "▲" and "▼"Button Function in Normal Operation Mode

Press the "▲", PV shows the current temperature setting value , SV shows current humidification value; press "▼", PV shows current temperature value, SV the current humidification setting value , and It will be back to the normal display if there is no operation for 3 seconds orpressing the "**SET**" button.

2.3 "SET" Button Function in Normal Operation Mode

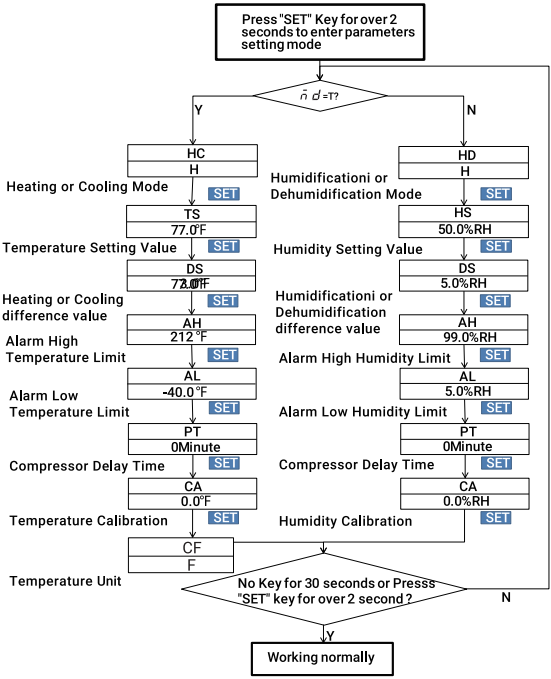
Short press the "**SET**" button to enter the quick setting temperature and humidity value mode. PV shows the current temperature setting value and flashes, and short press "▲" or "▼" button to increase or decrease the setting value, long press "▲" or "▼"button to quickly increase or decrease the setting value, Short press the "**SET**" button again， SV shows the current humidity setting value and flashes, and short press "▲" or "▼" button to increase or decrease the setting value, long press "▲" or "▼"button to quickly increase or decrease the setting value and lastly press the "**SET**" button again to confirm and exit. If there is no operation, it will automatically exit after 10 seconds and save the setting value.

2.4 Button Function in Setting Mode

When the controller is working normally, press the "**SET**" button for 2 seconds to enter the setting mode， the PV shows the first menu code"$\bar{n}d$", SV shows the corresponding setting value. Press "**SET**" button to scroll down the menu item and save the parameters of the previous menu item. Press "▲" or "▼"button to change the current setting value. Selected T to enter the temperature parameter modification mode; selected H to enter the humidity parameter modification mode. If in the setting state, there is no operation within 30 seconds or long press "**SET**" button for 2 seconds, it will exit and save the setting state and return to normal operation mode.

3 Menu Instruction

3.1 Setting mode Flow Chart



3.2 Setting Menu Instruction

3.21 When nd is H

Code	Symbol	Function	Setting Range	Default Setting	Annotation
HD	Hd	Humidification or Dehumidification Mode	H or D	H	More details on 4.2
HS	HS	Humidity Setting Value	5.0%RH ~99.0%RH	50%RH	
DS	dS	Humidification or Dehumidification Difference Value	1.0%RH ~20.0%RH	5%RH	
AH	AH	Alarm High Humidity Limit	5.0%RH ~99.0%RH	99.0%RH	More details on 4.4
AL	AL	Alarm Low Humidity Limit	5.0%RH ~99.0%RH	5.0%RH	
PT	Pt	Compressor Delay Time	0~10 minutes	0 minute	More details on 4.5
CA	CA	Humidity Calibration	20.0%RH ~20.0%RH	0.0%RH	More details on 4.6

3.3.2When $\bar{n}\,d$ is T

Code	Symbol	Function	Setting Range	Default Setting	Annotation
HC	HC	Heating or Cooling Mode	H or C	H	More details on 4.1
TS	tS	Temperature Setting Value	-40.0°C~100°C -40.0°F~100°F	25°C 77°F	
DS	dS	Heating or Cooling Difference Value	0.°C~15°C 1.0°F~30°F	2°C 3°F	
AH	AH	Alarm High TemperatureLimit	-40.0°C~100°C -40.0°F~212°F	100°C 212°F	More details on 4.3
AL	AL	Alarm Low Temperature Limit	-40.0°C~100°C -40.0°F~212°F	-40°C -40°F	
PT	Pt	Compressor Delay Time	0~10 minutes	0 minute	More details on 4.5
CA	CA	Temperature Calibration	-9.9°C~9.9°C -15.0°F~15.0°F	0.0°C 0.0°F	More details on 4.6
CF	CF	Fahrenheit or Celsius Settings	C or F	F	More details on 4.7

4. Control Function Instruction

When the controller is working normally, the PV displays the measured temperature .Use Heating indicator LED and Cooling indicator LED to indicate whether the user has chosen heating or cooling. The SV displays the measured humidity. Use Humidification indicator LED and Dehumidification indicator LED to indicate whether the user has chosen humidification or dehumidification. The WORK1 is output control of Temperature, furthermore the red led is the WORK1 output status indicator; the WORK2 is the output control of humidity, furthermore the green led is the WORK2 output status indicator.

4.1 Temperature Control Function(HC,TS,DS)

When HC=H, it is heating mode, Heating indicator LED is on. When PV(measured temperature) ≤ TS(temperature setting value) – DS（heating or cooling difference setting value）, red led is on, WORK1 output works; when PV (measured temperature) ≥ TS(temperature setting value),red led is off, and the WORK1 output is off.

When HC=C, it is cooling mode, Cooling indicator LED is on. When PV(measured temperature) ≥ TS(temperature setting value) + DS(heating or cooling difference setting value),red led is on, and the WORK1 output works; red led flashes, indicating the cooling device is in the delay protection state; when PV(measured temperature) ≤ TS(temperature setting value), red led is off and the WORK1 output is off.

4.2 Humidity Control Function(HD,HS,DS)

When HD=H, it is humidification mode, Humidification indicator LED is on . When PV(measured humidity) ≤ HS(humidity setting value) – DS(humidification or dehumidification difference setting value),green led is on, WORK2 output works; when PV(measured humidity) ≥ HS(humidity setting value),green led is off, and the WORK2 output is off.

When HD=D, it is dehumidification mode, Dehumidification indicator LED is on. When SV(measured humidity) ≥ HS(humidity setting value) + DS(humidification or dehumidification difference setting value),green led is on, and the WORK2 output works; green led is blinking , indicating the dehumidification device is in the delay protection state; when SV(measured humidity) ≤ HS(humidity setting value), green led is off and the WORK2 output is off.

4.3 Alarm High / Low Temperature Limit Settings(AH,AL)

When measured temperature ≥ AH, high temperature limit alarm, PV shows alternate AH with current temperature , buzzer will “bi-bi-Biii” alarm, until the temperature <AH, buzzer off and return to normal display and control. Or press the button to turn the buzzer alarm off only.

When measured temperature ≤ AL, low temperature limit alarm, PV shows alternate AL with current temperature, buzzer will “bi-bi-Biii” alarm, until the temperature >AL, buzzer off and return to normal display and control. Or press the button to turn the buzzer alarm off only.

4.4 Alarm High / Low Humidity Limit Settings(AH,AL)

When measured humidity ≥ AH, high humidity limit alarm, SV shows alternate AH with current humidity, buzzer will “bi-bi-Biii” alarm, until the humidity <AH, buzzer off and return to normal display and control. Or press the button to turn the buzzer alarm off only.

When measured humidity ≤ AL, low humidity limit alarm, PV shows alternate AL with current humidity, buzzer will “bi-bi-Biii” alarm, until the humidity <AL, buzzer off and return to normal display and control. Or press the button to turn the buzzer alarm off only.

4.5 Cooling /Dehumidification Delay Protection Time(PT)

In cooling mode， when the power is turned on for the first time, it will not start the cooling immediately when PV(measured temperature value) ≥TS(temperature setting value)+DS(heating or cooling difference value),but waiting for a delay time(PT).

When two adjacent of cooling starting intervals are greater than the delay time, it will immediately start cooling ; When two adjacent of cooling starting intervals are less than the delay time, it needs to operate the remaining delay time to start the cooling.

Delay time will start counting from the WORK1 output off.

In dehumidification mode， when the power is turned on for the first time, it will not start dehumidification immediately when SV(measured humidity value) ≥HS(humidity setting value)+DS(humidification or dehumidification difference value),but waiting for a delay time(PT).
When two adjacent of dehumidification starting intervals are greater than the delay time, it will immediately start dehumidification ; When two adjacent of dehumidification starting intervals are less than the delay time, it needs to operate the remaining delay time to start dehumidification .
Delay time will start counting from the WORK2 output off.

4.6 Temperature and Humidity Calibration(CA)

When the measured temperature or humidity deviates from the standard temperature or humidity, the temperature or humidity calibration function can be used to make the measured the value of the instrument consistent with the standard value. The calibrated temperature or humidity is equal to the measured temperature or measured humidity value + the calibration value.

4.7 Fahrenheit or Celsius Settings(CF)

The user can set the display unit to Fahrenheit or Celsius according to their habits. P1 temperature mode display unit is Fahrenheit or Celsius, the default is Fahrenheit. If you need to display the unit in Celsius, then set the CF to C. Please note that when the CF changes state, all setting values are restored to the default setting and the buzzer gives a short beeping prompt.