Plug-n-Play Humidity and Temperature Controller

IHC-230

User Manual

Version 1.2s

INKBIRD

Inkbird Tech. Co., Ltd.

Disclaimer

Inkbird has made every effort to ensure that the information contained in this document is accurate and complete; however, the contents of this document are subject to revision without notice. Please contact Inkbird to ensure you have the latest version of this document.

Contents

1. Safety Precautions

- **WARNING - DO NOT** use this device to control any combination of heaters and humidifiers exceeding 1200 Watts (120v)/ 2200 Watts (220v).
- **DO NOT** touch the terminals at least while power is being supplied. Doing so may occasionally result in injury due to electric shock.
- **DO NOT** allow pieces of metal, wire clippings, or fine metallic shaving or filings from installation to enter the product. Doing so may occasionally result in electric shock, fire, or malfunction.
- **DO NOT** use the product where subject to flammable or explosive gas. Otherwise, injury from explosion may occasionally occur.
- **DO NOT** disassemble, modify or repair the product or touch any of the internal parts. Electric Shock, fire, or malfunction may occasionally occur.
- If the output relays have been used over 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.
- **DO NOT** immerse any components of the controller in water.
- **FOR INDOOR USE ONLY.**

2. Specification

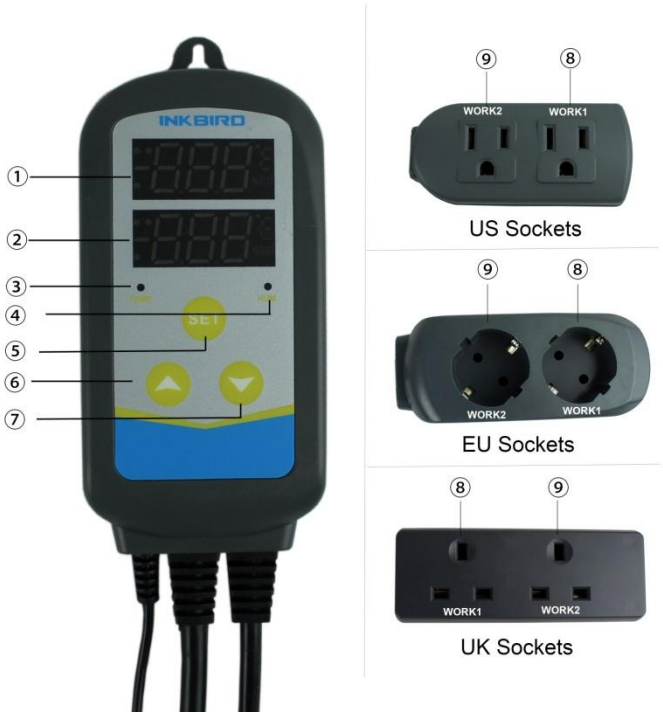
Power Input	100 ~240VAC, 50Hz/60Hz
Power Output	Max. 10A, 100V ~240V AC
Power consumption	<3W
Temperature Controller Range	-40℃~100℃/ -40℉~212℉
Temperature Resolution	0.1℃/℉ @ -40.0~99.9℃/℉ 1℉ @ 100~212℉
Temperature Accuracy	±0.5 ℃/ ±1℉
Humidity Measuring Range	0%-100%RH
Humidity Control Range	0%-99.9%RH
Humidity Resolution	0.1%RH
Humidity Accuracy	±3%RH
Sensor model	HTG3515CH
Sensor Length	2m / 6.56ft
Relay Contact Capacity	Humidity (12A, 100-240VAC)
	Temperature (12A, 100-240VAC)
Input Power Cable Length	1.5m (5ft)
Output Power Cable Length	30cm (1ft)
Dimension	Main Body: 140x68x33mm (5.5x2.7x1.3 inch) Socket (US Version): 85x42x24mm (3.3x1.7x1.0 inch) Socket (EU Version): 135x54x40mm (5.3x2.1x1.6 inch) Socket (UK Version): 140x51x27mm (5.5x2.0x1.0 inch)
Ambient Temperature	-30~ 75 ° C / -22~ 167 ° F
Storage	Temperature -30~ 75 ° C / -22~ 167 ° F
	Humidity 20~85% (No Condensate)
Warranty	1 Year

Main Features

- Control up to 1200 Watts (120v)/ 2200 Watts (220v) of Combined temperature and humidity control devices.
- Plug-n-play design, easy to use.
- 2-in-1 remote temperature/humidity sensor with 6.5 feet cable.
- Temperature Controller Range: -40℃~100℃/ -40℉~212℉

- Humidity Measuring Range: 5%-99.9%RH (Relative Humidity)
- Built-in memory stores setting in case of power failure.
- Temperature and humidity can be calibrated.
- Delay protection for Cooling and dehumidifying devices.
- Alarm will be on when temperature or humidity exceeds high/low alarm setting value.

3. Keys Instruction



① **Window 1:** Temperature measuring Value or Setting Menu Code.

② **Window 2:** Humidity Measuring Value or Setting value.

③ Temperature Indicator Lamp (Work1):

- On: Working
- Off: Stop Working
- Flickering: Delay Output

④ Humidity Indicator Lamp (Work2):

- On: Working
- Off: Stop Working
- Flickering: Delay Output

⑤ SET key

⑥ DECREASE key

⑦ **INCREASE key**

⑧ **Work 1 Socket:** Temperature output.

⑨ **Work 2 Socket:** Humidity output.

4. Key Operation Instruction

4.1 Enquiry Set Point

Under running mode, short press the INCREASE " ▲ " key, display code TS and temperature setting value; short press the DECREASE " ▼ " key, display code HS and humidity setting value. The screen will return to normal display without pressing any keys in 2 seconds.

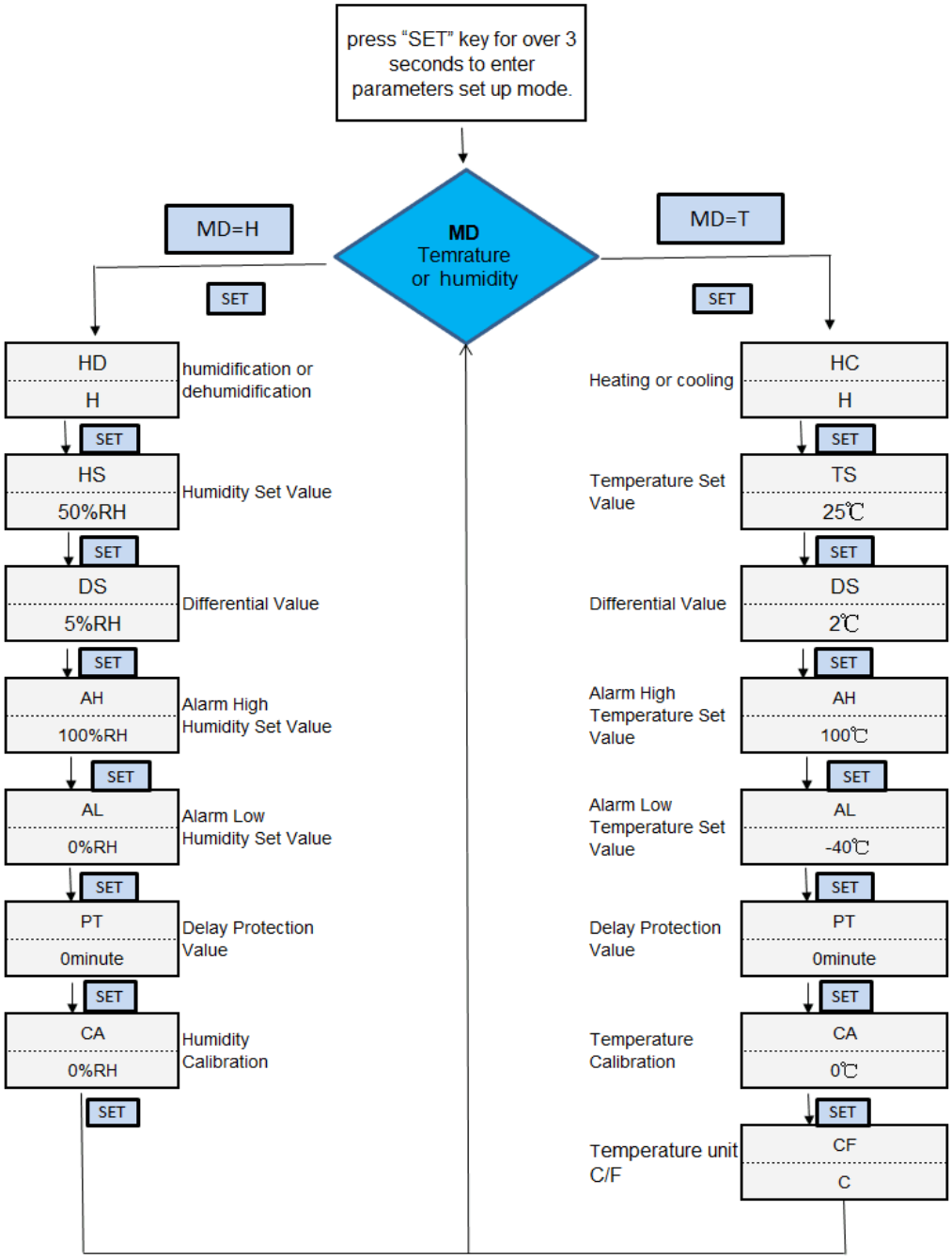
4.2 How to Set Parameters

Under running mode, press and hold **SET** key for 3 seconds to enter parameters setting mode, **window1** displays the first menu code "MD", while **window2** displays according setting value. Press **SET** key to page down the menu then the code will display, press " ▲ " " ▼ " key to change the current parameter values.

After finished settings, press and hold " ⏻ " key for 3 seconds at any status to save the parameter setting value and return to the normal displaying mode.

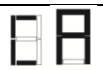
During setting, if there is no operation for 20 seconds, system will quit the menu automatically and return to the mode of normal displaying without saving the parameters modification.

4.3 Setup Flow Chart

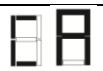


5. Menu Instruction

When MD=H (humidity setting mode)

Symbol	Code	Function	Setting Range	Default	Note
	HD	Humidity Control Mode	H:Humidifying D:Dehumidifying	H	5.1
	HS	Humidity Set Value	5～99%RH	50	
	DS	Humidity Control Differential	1～20%RH	5	
	AH	Humidity High Limit Alarm	50～100%RH	100	5.2
	AL	Humidity High Low Alarm	0～50%RH	0	
	PT	Humidity Protected Delay (Only for Dehumidifying)	0～10Minute	0	5.3
	CA	Humidity Calibration Offset	-15～15%RH	0	5.4

When MD=T (Temperature setting mode)

Symbol	Code	Function	Setting Range	Default	Note
	HC	Temperature Control Mode	H: Heating C: Cooling	H	5.1
	TS	Temperature Set Value	-40-100℃ (-40～212℉)	25	
	DS	Temperature Control Differential	1～20℃/℉	2	
	AH	Temperature High Limit Alarm	-40-100℃ (-40～212℉)	100	5.2
	AL	Temperature Low Limit Alarm	-40-100℃ (-40～212℉)	-40	
	PT	Temperature Protected Delay (Only for Cooling)	0～10Minute	0	5.3
	CA	Temperature Calibration Offset	-15～15%RH	0	5.4
	CF	Temperature unit	C:Celsius F: Fahrenheit	C	5.5

5.1 Control Range Setting

MD: Mode Setting

MD=H, being in Humidity Setting Mode, user can set humidity parameters in the following menu;

MD=T, being in Temperature Setting Mode, user can set temperature parameters in the following menu;

5.2 Humidity/Temperature Control (HD, HS, DS/ HC,TS,DS)

In Humidifying/Heating Control Mode (HD=H, HC=H)

When the measured humidity (temperature) drops down to **HS–DS (or TS-DS)**, the output will be on and the indicator lamp will light up; When the measured humidity/temperature reaches the set value **HS (TS)**, the output will be off and the indicator lamp will be off too.

In Dehumidifying/Cooling Control Mode (HD=D, HC=C)

When the measured humidity (temperature) rises to **HS+DS (or TS+DS)**, the output will be on and the indicator lamp will light up; when the measured humidity/temperature reaches the set value **HS (TS)**, the output will be off and the indicator lamp will be also off.

5.3 Alarm Limit Setting (AH, AL)

When the measured humidity (temperature) **higher than AH**, the humidity (temperature) high alarm will be on; when the measured humidity (temperature) **lower than AL**, the humidity (temperature) low alarm will be on.

When alarm is on, the display will be flashing between the measured value and alarm code with the "BI-BI-BIII" sound. The alarm sound can be stopped by pressing any key but the status of alarm will be not change until the value of measured humidity/temperature return to the normal range.

5.4 Compressor Delay (PT)

Under dehumidifying (cooling) control mode, after power on, if the measured humidity (temperature) higher than **HS+DS (TS+DS)**, the equipment won't start dehumidifying/cooling control immediately, but waiting for a delay time.

When the time interval between two dehumidifying (cooling) operation (or the time from power on to dehumidify (refrigeration) is larger than preset delay, the equipment will start dehumidifying (cooling) control immediately; when the time interval between two dehumidifying (cooling) (or the time from power on to dehumidifying/cooling) is less than preset delay, the equipment won't start dehumidifying (cooling) until preset delay is satisfied.

Delay time will be calculated once dehumidifying (cooling) stops.

5.5 Calibration (CA)

When there is deviation between measured value and actual value, the value can be calibrated by setting the CA. The corrected value is equal to value before calibration plus corrected value (corrected value could be positive value, 0 or negative value) .

5.6 Display in Fahrenheit or Centigrade unit (CF)

Fahrenheit or Centigrade degree displaying can be selected as needed. Default displaying is in Centigrade degree. Please set CF to F to change the displaying in Fahrenheit degree if needed.

Attentions: After CF value changed, all the setting value will be recovered to factory settings.

6. Error Description

Sensor Fault Alarm: when sensor is being in short circuit or open loop, the controller will initiate sensor fault mode by stopping all the operation with the buzzer alarming and ER displaying. Buzzer alarming can be dismissed by pressing any key. And the controller will return to normal working mode when the fault was removed.

7. Technical Assistance and Warranty

7.1 Technical Assistance

If you have any problems installing or using this thermostat, please carefully and thoroughly review the instruction manual. If you require assistance, please write us to cs@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 to find the answers of the common technical questions.

7.2 Warranty

INKBIRD TECH. C.L. warrants this thermostat for one years 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 thermostat. The original receipt is required for warranty purposes.
INKBIRD is not responsible for injury property damage or other consequential damages or damages of third parties arising directly from an actual or alleged in mater of workmanship of the product.
There are no representations, warranties, or conditions, express or implied, statutory or otherwise, other than herein contained in the sale of goods act or any other statue.

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