# REGULATING Thermostat, Hygrostat



## THERMOSTAT JTO 011/JTS 011

#### JTO 011:

Thermostat (Normally Closed): Commonly used to connect heaters and disconnect the circuit when the temperature reaches the set value.

Thermostat (Normally Open): Commonly used to monitor filter fans, heat exchangers, or close circuit output signals when the temperature exceeds the set value.

- Small and compact
- · Long electrical life
- Easy to install with 35mm DIN rail
- High switching performance
- · Convenient wiring and simple setup
- Small size









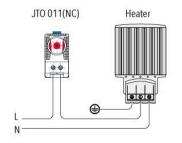
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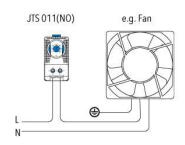
Model	JTO 011	JTS 011
Contact	NC	NO
Temperature	0~0	60°C
Switching temperature difference	7k(± 4k	tolerance)
Sensing element	Bimetallic temperature sensing material	
Service life	>100000 cycles	
Maximum switching load	250VAC, 10A, 120VAC, 15A, DC15A	
Connection method	ScrewT	[erminal
Shell	UL94-V-0	
Install	Installation of 35mm din rail	
Size	64x33x44mm	
Weight	40g	

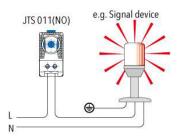




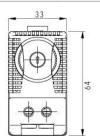
#### Connection Example

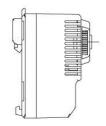


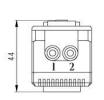


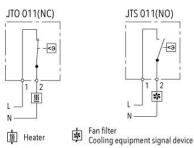


#### DIMENSION (mm)













#### KTO 011:

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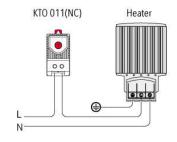
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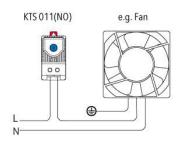
Model	KTO 011	KTS 011
Contact	NC	NO
Temperature	0~6	60°C
Switching temperature difference	7k(± 4k1	tolerance)
Sensing element	Bimetallic temperature sensing material	
Service life	>100000 cycles	
Maximum switching load	250VAC, 10A, 120VAC, 15A, DC15A	
Connection method	ScrewT	erminal
Shell	UL94-V-0	
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Size	64x33x44mm	
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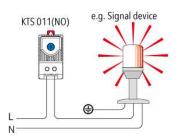




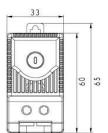
#### **Connection Example**

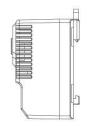






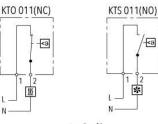
#### DIMENSION (mm)



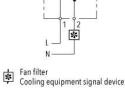




#### WIRING DIAGRAM







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#### A temperature controller with two temperature settings

- **Normally open contact:** commonly used to monitor filter fans, heat exchangers, or close circuit output signals when the temperature exceeds the set value.
- **Normally closed contact:** commonly used to connect heaters and disconnect the circuit when the temperature reaches the set value.

The heater and refrigeration equipment can be independently switched to avoid temperature deviation caused by traditional switching.

- Wide setting range
- NO and NC integrated together
- Bimetallic temperature sensing material
- Easy to install with 35mm DIN rail
- High switching performance
- Independent temperature setting









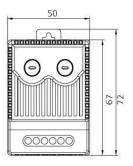
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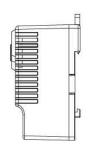
Model	ZR 011	
Contact	NC+NO	
Temperature	0~60°C	
Switching temperature difference	7k(± 4k tolerance)	
Sensing element	Bimetallic temperature sensing material	
Service life	>100000 cycles	
Maximum switching load	250VAC, 10A, 120VAC, 15A, DC15A	
Connection method	Screw Terminal	
Shell	UL94-V-0	
Install	Installation of 35mm din rail	
Size	67x50x46mm	
Weight	88g	

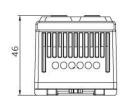


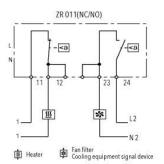


DIMENSION (mm)









### **HYGROTHERMOSTAT**



#### Features:

Four working modes are optional, and the ambient temperature and humidity thresholds can be set.

- Capacitive humidity sensor, low power consumption, stable performance;
- Passive relay output, can be used to drive cooling fan, TEC, heating wire and other devices;
- The working status of the relay is indicated by the LED indicator;
- Working power supply voltage AC 85-240V;
- Ultra small size, only 18mm width, 35mm card rail installation;
- Used to control the temperature and humidity range of power distribution cabinets.



#### IP20

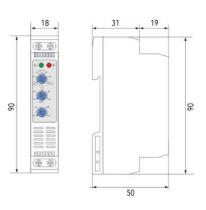




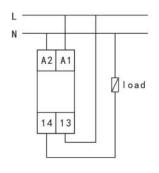
#### **SPECIFICATION**

Model	KTEMF012
Dimensions	90x18x50mm
Voltage	AC 100-240V 50/60Hz
Power	1W
Weight	65g
Power terminal	A1-A2
Temperature range	10°C~60°C
Humidity range	50%~90%RH
Working temperature	-20°C~+80°C
Installation mode	35mm din rail
Connection	1*2.5mm² / 2*1.5mm² 0.4N·m

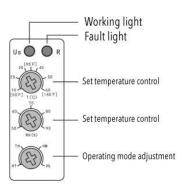
#### DIMENSION (mm)



#### WIRING DIAGRAM



#### PANEL DIAGRAM







## THERMOSTAT KNC 011/KNO 011

#### Control heater-

When the temperature inside the cabinet is lower than the minimum set value, close the circuit to increase temperature; When the temperature exceeds the set value, Disconnect the line.

#### Control fan filter-

When the temperature inside the cabinet exceeds the maximum set value, close the circuit to cool down; When the temperature is below the set value, Disconnect the line.

- · Small and compact
- Jump type metal temperature sensing contact
- · SLong electrical life
- · Convenient wiring and simple setup,
- Easy to install with 35mm DIN rail
- Wide setting range



Alarm output contact, passive contact, AC 250V 5A

NC normally open, closed when dehumidification function fails

Definition of dehumidification function failure: Temperature or humidity sensor failure;

The dehumidifier operates continuously for 24 hours,

The relative humidity is still not less than 80%











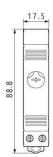
#### **SPECIFICATION**

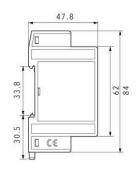
Model	KNC 011	KNO 011
Contact	NC	NO
Temperature	0~6	60°C
Switching temperature difference	7k(± 4k	tolerance)
Sensing element	Bimetallic temperature sensing material	
Service life	>100000 cycles	
Maximum switching load	250VAC, 10A, 120VAC, 15A, DC15A	
Connection method	Screw Terminal	
Shell	UL94-V-0	
Install	Installation of 35mm din rail	
Size	84x17.5x47.8mm	
Weight	40 g	

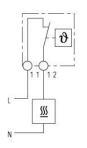


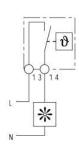


**VENTILATION CONTROL** DIMENSION (mm) **HEATING CONTROL** 









## **THERMOSTAT**



#### Panel Thermo-Hygrostat

- Compact design
- Electronic control
- LED status indication contact ON
- 35 mm rail (EN 60715) mount







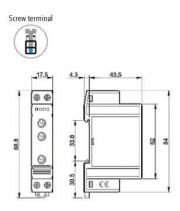


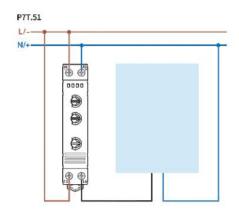


#### **SPECIFICATION**

Model	KNMF012
Contact	NO
Rated current/Maximum peak current	10/15A
Rated voltage/Maximum switching voltage	250/400V AC
Service life	>100000 cycles
Size	89x17.5x48mm
Temperature specifications	
Setting range (ventilation)	-20~+80°C
Switch differential	4 ± 2K
Setting accuracy full range	-1+3K
Humidity specifications	
Setting range (humidity)	5090%
Hysteresis	4 ± 2%
Setting accuracy	5%

#### DIMENSION (mm)





Especially suitable for controlling filter fans, heaters, and heat exchangers, As a signal generator, this temperature regulator is also suitable for monitoring the internal temperature of the control cabinet.

- Small and compact
- · Convenient wiring, terminal wiring method
- Dynamic heating, high temperature limitation
- Easy to install with 35mm DIN rail
- Wide voltage range
- Long service life

#### Performance

Bi-metal controller as a temperature sensitive element with thermal feedback Contact population: Single-pole change-over contact as a quick-break contact Voltage scope is wide, any type could be used from 24-230 V Time-saving connection terminal block could be installed screw from outside Easy installation, could be installed to 35mm din rail vertically or horizontally according to EN50 022it could be clipped to TS/35 cabinet profile with itsaccessory adapter.









#### **SPECIFICATION**

Temperature measurement range	-20~80 °C	
Rated working voltage	230/115/60/48/24V(AC) 60/48/24V(DC)	
Temperature sensing element	Bimetallic temperat	ure sensing material
Size	71x71x33.5mm	
Weight	About 105g	
Switch difference	Approximately 1K ± 0.8K	
Permissible contact load	KI.5-3 (heating)	KI.5-4 (cooling)
(1))=inductive load	Communication 10 (4) 1) A,	Communication 5 (4) 1) A,
At $\cos \phi = \text{at } 0.6 \text{ hours}$	DC=30W	DC=30W

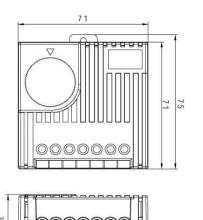




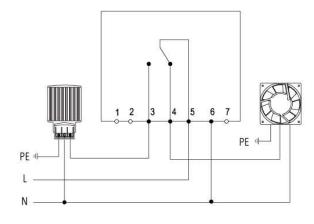
#### TERMINAL NUMBER

<u>\$\$\$</u>	₩	(1) L	(L2*)250V N
3	4	5	6

DIMENSION (mm) WIRING DIAGRAM







## THERMOSTAT ELECTHONIC DUAL













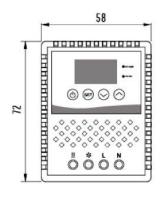


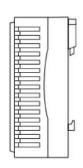
#### **SPECIFICATION**

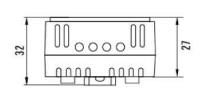
Model	THR 011	
Contact	NC+NO	
Voltage	230VAC	
Temperature	-20~80°C	
Switching temperature difference	7k (± 4k tolerance)	
Sensing element	Electronic components	
Service life	>100000 cycles	
Maximum switching load	250VAC, 5A	
Connection method	Screw Terminal Screw Terminal	
Shell	UL94-V-0	
Install	Installation of 35mm din rail	
Size	72X58X32mm	
Weight	65g	











#### Controlling

Working principle: By adjusting the range knob, the working range of the humidifier is determined, and the humidity sensor detects itWhen the actual humidity value in the air is less than the set value, the output power is supplied. When the actual value is greater than the set valueWhen setting the value; Output power outage. To prevent the load from frequently turning on at the set point, this product increases by 5% to 10%Afterwards, work again.

Load selection: The product can choose different sizes and types of loads according to customer requirements.

- 35% to 95% adjustable relative humidity
- · High switching performance
- Three contact conversion
- Easy to install with 35mm DIN rail
- · Long service life



### IP20





#### **SPECIFICATION**

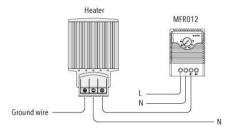
Switching error	4% relative humidity (± 3% tolerance)
Relative humidity range	35%~95%
Allowable wind speed	15m/sec
Contactor type	Conversion contact
Contactor resistance	<10m Ω
Service life	> 50000 cycles
Minimum switching capacity	20VAC/DC 100mA
Maximum switching load	250V AC, 5 (1) A, DC 20W
Connection method	3-pole wiring terminal, maximum clamping torque 0.5Nm: 2.5mm² for steel wire,
	1.5mm <sup>2</sup> for multi-stranded glued wire (end)
Shell	UL94 V-0 plastic, light gray,
Install	Installation of 35mm DIN rail
Size	67x50x38mm
Weight	60g
Protection level	IP20

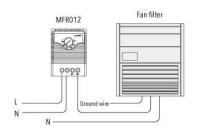
Florectionlevel	IFZU	
Model	Set Range	
MFR 012	35~95% RH	



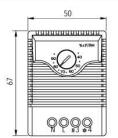


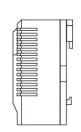
#### CONNECTION EXAMPLE

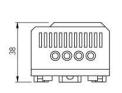


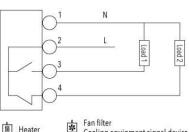


#### DIMENSION (mm)











Cooling equipment signal device

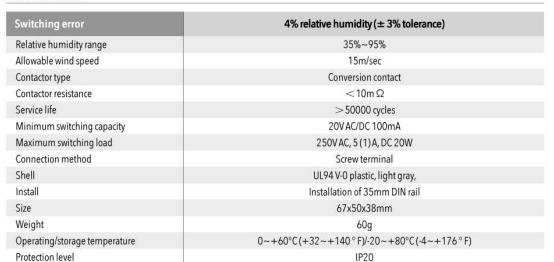


The humidistat MFR 012-2 is designed to control the heater in the switch box, which is wet when the humidity exceeds 65%Gas will be expelled, and this method can effectively prevent water droplets and rust.

- · Adjustable relative humidity
- Easy access
- Transition contact
- Rail clamp
- · High conversion capacity
- · Long service life



#### **SPECIFICATION**





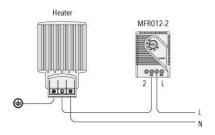
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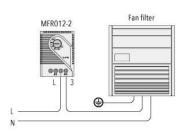
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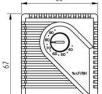


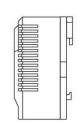
#### CONNECTION EXAMPLE





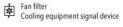
#### DIMENSION (mm)



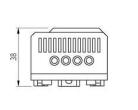


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#### HYGROSTAT ELECTRONIC

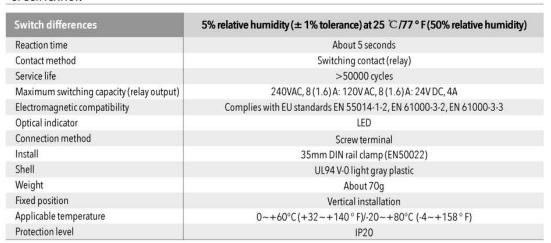


The electronic humidity controller can sense the relative humidity inside the electrical box and turn on the heater at the set point to prevent the formation of water droplets inside the box. The LED screen at the adjustment knob will light up when the heater is

- · Adjustable and preset relative humidity
- Optional working display (LED)
- · High switching performance
- Easy to install with 35mm DIN rail
- Temperature compensation
- · Long service life



#### **SPECIFICATION**



Model	Working voltage	Setting Range
01245.0-00	230v ac, 50/60hz	40 ~ 90% RH
01246.9-00	120v ac. 50/60hz	40 ~ 90% RH





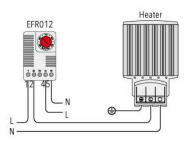




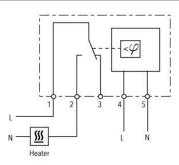


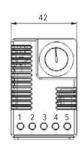


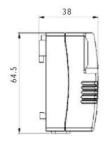
#### CONNECTION EXAMPLE



#### WIRING DIAGRAM









### HYGROSTAT ELECTRONIC



Used to control heating and cooling equipment, filter fans, or signal devices. During operation, the LED screen willOn (e.g. heater working).

- Adjustable and preset relative humidity
- Optional working display (LED)
- High switching performance
- Easy to install with 35mm DIN rail
- Temperature compensation
- · Long service life



#### **SPECIFICATION**

Switch differences	5% relative humidity (± 1% tolerance) at 25 °C/77 °F (50% relative humidity)
Sensor element	NTC
Reaction time	5 seconds
Contact method	Conversion contact (relay)
Service life	>50000 cycles
Maximum switching capacity (relay output)	240V AC, 8 (1.6) A 120V AC, 8 (1.6) A ` 100WDC at 24V DC
Maximum inrush current	16A AC in 10 seconds
Optical indicator	LED
Connection method	Screw terminal
Install	35mm DIN rail clamp, compliant with EU EN60715 standard
Shell	Light gray plastic, symbol UL 94 V-0 standard
Size	64.5x42x38mm
Weight	About 70g
Installation position	Vertical
Operating/Storage Temperature	-20~+80°C(-40~+185°F)
Operating/Storage Humidity	Maximum humidity 90% (non condensing)

Working voltage

230V AC, 50/60Hz

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	1.4
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4	EEV

**C** € -20 +80

IP20



Setting Range

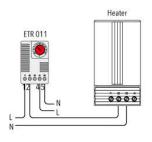
-20~60°C

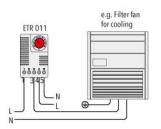


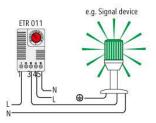
#### CONNECTION EXAMPLE

Model

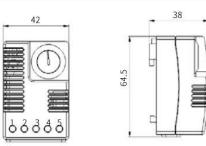
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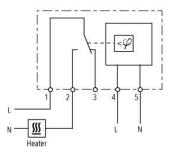




WIRING DIAGRAM









### HYGROTHERMOSTAT BIMETALLIC

## KTOMF012/KTSMF012

KTOMF012 humidity controller+temperature controller (heating) KTSMF012 humidity controller+temperature controller (refrigeration)

- · Integrated temperature and humidity control
- · With work indicator light
- · Miniaturization suitable for various applications
- Stable and reliable long-term work
- · Easy to install with 35mm DIN rail
- ROHS compliant

#### Advantage

- · Integrated temperature and humidity control, with AC input and output for easy use
- · Equipped with a work indicator light for easy identification of whether it is working properly
- · Miniaturization suitable for various applications
- · Stable and reliable long-term work
- · Complies with ROHS standards

#### Performance:

- · Temperature control: Reach the set temperature point automatic power off, ±1~3°C
- · Humidity control: Reach the set humidity point automatic power off, 5%-10%RH return difference value-
- · Power supply: AC220V (other voltage optional)
- · Power consumption: about MAX 46mA
- · Working range: temperature -10~+50°C; Humidity 40-90%RH
- · Storage conditions: temperature -20~+60°C; Humidity 20-95%RH
- · Temperature sensitive element: bimetal sensor
- · Temperature sensitive element: bimetal sensor



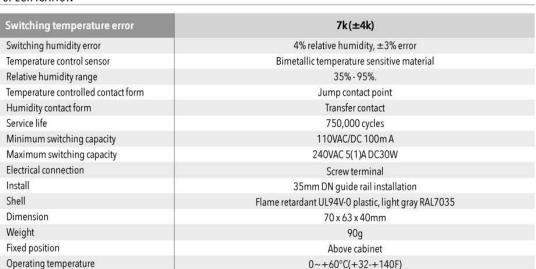














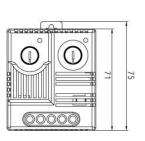


#### DIMENSION (mm)

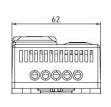
Storage temperature

Class of protection

#### WIRING DIAGRAM

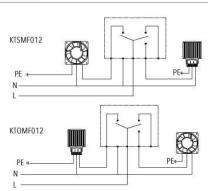






-20~+80°C(-4-+176F)

IP20



### HYGROTHERMOSTAT ELECTRONIC



#### Performance:

The electronic humidity controller can sense the temperature and relative humidity inside the electrical box and turn on the heater at the set point(or replace with a fan) to prevent the generation of water droplets inside the box, and adjust the LED at the knob when the connecting device is workingThe screen will light up.

- Emperature and humidity adjustable
- Optical operating display (led)
- · High switching capacity
- Easy to install with 35mm DIN rail
- High switching capacity
- Long service life



#### **SPECIFICATION**

Switching differences (temperature)	2K(±1% tolerance) at 25 °C/77°F (50% relative humidity)
Switching differences (humidity)	4% relative humidity (±1% tolerance) at 25°C/77°F (50% relative humidity)
Reaction time (humidity)	About 5 seconds
Contact method	Switching contact (relay)
Contact impedance	<10mΩ
Service life	NC:>50000 cycles NO:>100000 cycles
Maximum switching capacity (relay output)	NC: 240VAC, 6 (1) A NO: 240VAC, 8 (1.6) A, NC: 120VAC, 6 (1) A NO: 120VAC, 8 (1.6) A 24V DC, 44
Electromagnetic compatibility	Acc.to EN 55014-1-2, EN 61000-3-2, EN 61000-3-3
Optical indicator	LED
Connection method	5-pole terminal
Install	35mm DIN rail clamp (EN50022)
Shell	UL94 V-0 light gray plastic
Size	77x60x43mm
Weight	About 0.20kg
Applicable temperature	0~+60°C(+32~+140°F)/-20~+80°C(-4~+176°F)
Protection level	IP20

	- 0	0.4	
<u>A</u>	40	4	
	-	CHESTRA	
	-	-	

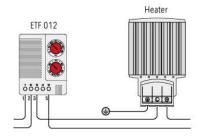
IP20 C€

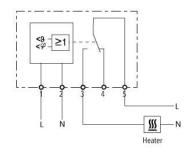


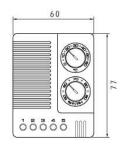
Model	Working voltage	Setting temperature	Setting Range
01230.0-00	230VAC, 50/60Hz	0~60°C	50 ~ 90% RH
01230.9-01	120V AC, 50/60Hz	0~60°C	50 ~90% RH

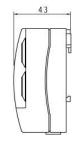
#### CONNECTION EXAMPLE

### WIRING DIAGRAM





















Exteral senser



#### Overview

The product adopts MCU control system, respectively real-time temperature and humidity detection, and achieve real-time control, in order to ensure Verify that the temperature and humidity in the environment are in an appropriate range. Intelligent communication function, the temperature and humidity measurement value through the microprocessor 485 signal directly transmitted to the background computer, the userYou can observe the environment of the remote control cabinet in real time.

#### 1. Function description

The temperature and humidity values are displayed on a high definition LCD screen. Displaying diagram as below, I.E. (Figure A):

- Displaying humidity measurement by 2digits,i.e:60%RH
- Displaying humidity set value: In the set state,500ms/time,humidity set value is blinking,i.e: 40%RH
- Displaying temperature measurement value by 2 digits,i.e.:25°C
- Displaying temperature set value:In set state,500ms/time,temperature set value is blinking: i.e.:25°C
- Dehumidifying mode indication, i.e.(Figure B): When the equipment is in dehumidifying mode, it display the status by the dynamic fan
- Heating mode indication, i.e. (Figure C): when the equipment is in heating mode, it display the status by heating signal



(Figure A)





Figure B

(Figure C)



( Figure D )

#### **SPECIFICATION**

Supply voltage	$AC220V \pm 10\%$ , other voltages can be customized
Humidity measurement range	20-90% RH (without condensation)
Humidity measurement accuracy	± 5% RH (tested at 25°C)
Temperature measurement range	5~60°C
Temperature measurement accuracy	± 1°C (tested at 25°C)
Humidity setting range	10-80% RH
Product Work Environment	Temperature 5~60°C, humidity 10~95% RH (no condensation)
Product storage environment	Temperature -10~40°C, humidity 10~90% RH (no condensation)
Humidification load size	Pure resistance load AC250V/10A, DC30V/5A
Power down memory	In the event of a power outage, the product's set parameters are automatically memorized.



#### **HYGROTHERMOSTAT**





(Figure 1)



(Figure 2)

#### 1.2 Keys, as shown in Figure D

- . "POWER" key: Press this key to switch the machine cycle.
- "SET" key: under the boot state, press the key, the product is in the humidity or temperature parameter setting State, when the humidity (or temperature) display digital tube flashes. No key pressed, 10 seconds later sinceMove out of setting state, display the current humidity measurement value.
- "Plus" key: in the setting state, press the key, according to each press, set value plus one, wetThe maximum set value of degree is 80%, and the maximum set value of temperature is 60
- No key pressed, 10 seconds later sinceMove to exit the setting state.
- "Minus" key: in the setting state, press the key, according to each press, set value minus one, wetThe minimum set value of degree is 10%, and the minimum set value of temperature is 5
- No key pressed, 10 seconds later sinceMove to exit the setting state.

#### 2. Control the output

2.1Humidity control outputwhen the humidity measurement value is greater than the humidity set value, the output relay is closed and the dehumidification work beginswhen, the running indicator - fan rotation; when The humidity measurement value is less than (set value -5), stopdehumidify, and the running indicator is off. Humidity return difference is 5%rh to prevent load from opening frequently at zero cut-off point. Affect the service Life. During the initial power-on, the output delay is 3 seconds, that is, after 3 seconds, the output is wet after the Degree condition, the control dehumidification relay starts to operate and the display starts to run.

2.2 Temperature control outputwhen the temperature measurement value is less than the humidity set value, the output relay closes and starts heating (dehumidification).work, at this time, the running indicator — heating wire display; when the temperature measurement is greater than (set value+2), stop heating, and the running Indicator is off. The temperature return difference is 2 to prevent the load at zero boundarypoints open frequently, Affecting the service life. During the initial power-on, the output delay is 3 seconds, that is, 3 secondsseconds later, When the humidity condition is satisfied, the control heating relay starts to operate and the display starts to run.

2.3 Power failure memoryto ensure that user parameter settings remain unchanged after power failure, memory protection power is addedyes.2.4 communication partthis product adopts 485 communication mode, temperature, humidity and running status parameters are uploaded to the remote calculation on board.

#### 3. Overall dimensions and wiring drawings, as shown in Figure 1.

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- 3.1 The installation mode of this product is embedded, and the opening size is 82.5\*82.5(unit: mm).
- 3.2 Schematic diagram of wiring terminals on the back of controller, as shown in Figure 2
- (1) AC220V/50Hz: Connect terminals L and N;
- (2) Load terminal: normally open point heater, normally closed point fan;
- (3)485 communication terminal: Connect A and B.

