DHC-100+ Humidity Controller Operation Instruction

General Description

DHC-100+ adopts the integrated circuit type humidity sensor, with all the advantages of high sensitivity, fast response and excellent coherence, mainly used to measure, display and control the humidity. It specifies all the functions such as: switch the modes between humidification and dehumidification; control humidity by setting value and the difference value; output delay protection; calibrate the humidity value; alarm when sensor error or when humidity exceeds limit; proportional running time and stop time are adjustable when sensor error, keypad lock function.

Specification and Size

◆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 wire length: 2m(include the probe).

Technical Parameters

◆Power supply: 220VAC(1$^{+10}_{-15}$%), 50/60Hz;　　◆Power consumption: ≤3W;

◆Measuring range: 0%RH~99%RH;　　◆Control range: 10%RH~99%RH;

◆Resolution: 1%RH;

◆ Accuracy: ±(5%RH+0.5digit) at 25℃;

　　　　±(6%RH+0.5digit) at 0%RH~59%RH and ±(8%RH+0.5digit) at others, when 10℃~40℃;

◆Sensor stability: ±0.5%RH/year;

◆Output contact capacity: 10A/220VAC, Max. single-phase load is 0.5HP/220VAC;

◆Front panel protection level: IP54;　　◆Ambient temperature: 0℃~60℃;

◆Storage temperature: -30℃~75℃;　　◆Relative humidity:20~85%RH(No condensate).

Panel instruction
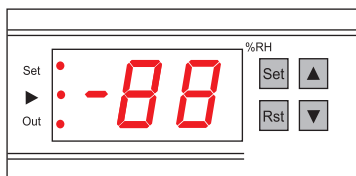
Display instruction: Two-digit red LED indicates humidity and other information;

Key instruction: Set :Set Key; Rst :Reset Key;

▲ :Up key; ▼ :Down key.

Indicator light status instruction

Indicator light	Symbol	Status	Function
Parameter setting indicator	Set	Always on	Under parameter modifying mode
Output status indicator	Out	Flashes	Control output delay
Output status indicator	Out	Always on	Control output start up
Working mode indicator	▶	Always on	Under dehumidification mode
Working mode indicator	▶	Always off	Under humidification mode

Key operation instruction

1.The way to check parameter:

Under normal working status, press and release "▲" key immediately, it displays humidity setting value and back to normal display status in 2s; press and release "▼" key immediately, it displays differential value and back to normal display status in 2s。

2.The way to modify parameter:

Under normal working status, press "Set" key for 3s to enter user menu, under such status, the parameter values between "F1"~"F2" can be checked and modified; press both "Set" key and "▲" key for 3s to enter administrator menu, under such status, the parameter values between "F1"~"F8" can be checked and modified.

Under menu code display status, press "▲" key or "▼" key to choose the menu item, press "Set" key to display parameter set value of the current menu item; Under parameter set value display status, press "▲" key or "▼" key to change the parameter setting value, and press "Rst" key to display the code of the next menu item.

Under parameter modifying status, press "Rst" key for 3s to save the modified parameter and then back to the normal display status. Screen display the "Er" if error appears during the save procedure, and it back to normal display status in 2s. If no key operation within 30 seconds, system won't save modified parameter, screen back to normal display status. For the parameters with delay or timing functions, it can be taken effective instantly by cutting off the power and re-electrify.

3.Keypads lock function:

Under normal working status, press both "▲" key and "▼" key for 3s to switch the keypad lock status, when the keypad lock function is activated, screen display "on", when the keypad lock function is inactivated, screen display "oF", it backs to normal display status in 2s. Keypad lock status is saved into the controller, Screen display "Er" if error appears, and back to normal display status in 2s.

When the keypad lock function is activated, the parameter modifying is not available and the screen displays "on" then back to normal display status in 2s, while other key operation is available at such status.

4.Manual humidification/dehumidification:

Under normal working status, when the measuring humidity value is between the set humidity value and the difference or when the sensor error, press both "Set" key and "Rst" key simultaneously for 3s can manually switch the output is ON or OFF.

5.Restore system data:

When electrified, system will check itself, screen will display "Er" if error exit, please press any key at this time, and it restore default value and enter into normal working mode. it is advised to reset the parameter value under this condition.

Output control

1.Humidity control:

When the working mode is set as dehumidification, the output starts up when the measured humidity value is ≥ the humidity set value plus the humidity difference value, and the output switch off when the measured humidity value is ≤ the humidity set value; When the working mode is set as humidification, the output starts up when the measured humidity value is ≤ the humidity set value minus the humidity difference value; and the output switch off when the measured humidity value is ≥ the humidity set value.

When humidity sensor error, the output will start up or stop according to the set proportional running/stop time. The controller is allowed to restart again only when the output delay protection time is run out except sensor error.

2.Alarm:

Buzzer alarms with the screen flashes and displays the current measured humidity value when measured humidity value is ≥ the humidity set value plus the alarm deviation value, or when the measured humidity value is ≤ the humidity set value minus the alarm deviation value. Alarm stops when the humidity backs to the normal humidity range. Screen displays "HH" when humidity is out of display range, and screen displays "EE" with buzzer alarms when sensor error. Press any key can cancel the alarm sound without changing the alarming display status.

Menu instruction

Code	Function	Set range	Unit	Default
F1	Humidity set value	10~99	%RH	50
F2	Humidity difference value	1~50	%RH	5
F3	Output delay protection time	0~99	min	0
F4	Alarm deviation value, set "0" to canceled	0~50	%RH	0
F5	Proportional running time when sensor error	0~99	min	10
F6	Proportional stop time when sensor error	0~99	min	50
F7	Humidity calibration value for end user	-20~20	%RH	0
F8	Controller work mode,0:humidification; 1:dehumidification	0~1	---	0

NOTE：The menu code for user is "F1" and "F2"; The menu code for administrator is "F1"~"F8";

Wiring diagram

10A/220VAC

| 1 | 2 | 3 |
| 4 | 5 | 6 | 7 | 8 |

Load   NC

+ — V
Humi. sensor

Power supply
220 VAC
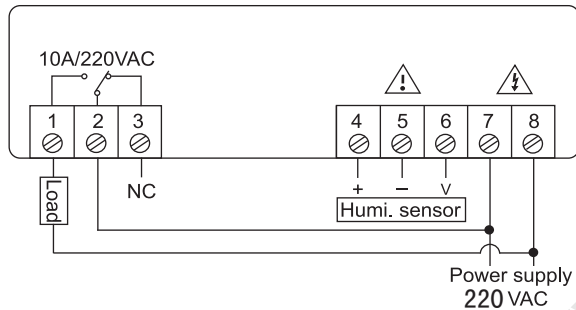
The red wire is "+",which is to connect terminal 4;The black wire is "-",which is to connect terminal 5; The yellow wire is "V", which is to connect terminal 6.

Error description

Code	Possible reason	Action
Er	Data saving error	----
EE	Humidity sensor error	Running according to the proportional time
HH	Humidity is out of the display range	----

Safety rules

★Danger:

1.Please distinguish the connections of the power wire, sensor lead wire, and relay. And make sure the relay is not overload.

2.All the wire connections should be operated under power off status.

★Warning:

1.Prohibit to use the unit in water or under over-moisture, overheat, strong electromagnetic interference, and strong corrosion circumstances.

2.Keep the sensor away off dust and prevent droplet of water and other electric conduction liquid.

★Note:

1.Keep the power supply steady and accord with the voltage marking on the trade.

2.Keep the sensor leads and the power supply wires a proper distance in order to avoid the possible interference.

Appendix 2, Character set

0 1 2 3 4 5 6 7 8 9

A b C d E F G H i J

K L M n o P q r S t

U V W X y Z ° -