ZL-7830 Series Humidity Controller

Instruction Manual A2.0

Feature

ZL-7830 series are humidity controller with 30A output relay. Compact with IP65 level front panel, convenient operation and easy installation.

Model Function

Model	Function
ZL-7830A	Humidify / de-humidify
ZL-7830B	Humidify / de-humidify. Alarm output

Specification

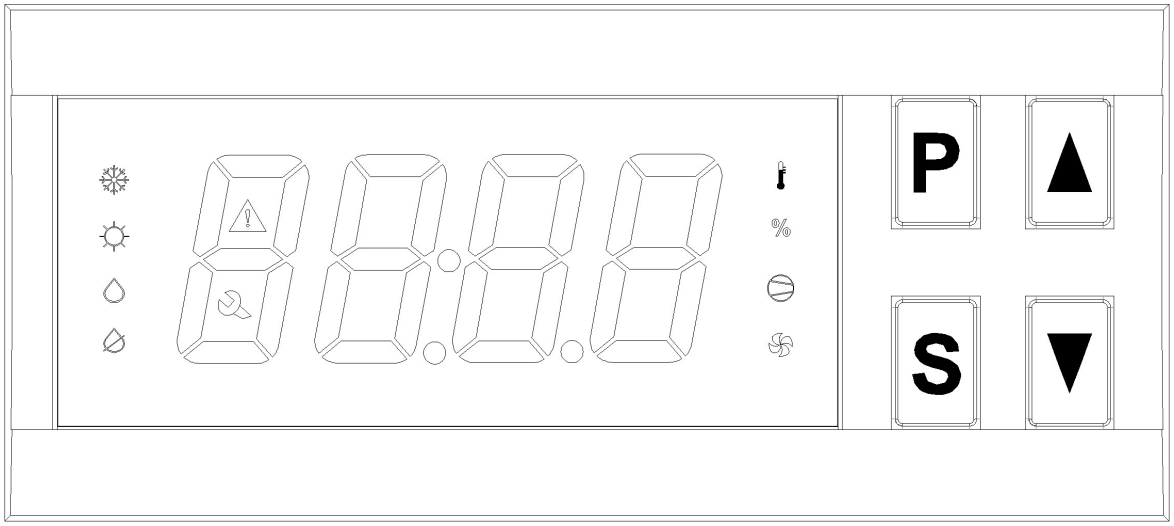
- Power supply: 100 ~ 240Vac, 50/60Hz
- Input signal: one humidity sensor (L = 1500mm)
- Output load: R1, 30A/250Vac. R2/R3, 3A/250Vac. The parameters are based on resistive load.
- Set range: humidity 0 ~ 100% RH. Resolution 0.1%
- Absolute measurement accuracy: humidity 5%
- Working environment: -20 ~ 45℃, 10 ~ 90% RH without dewing
- Device dimension: 78 * 34.5 * 71 (mm, W * H * D)
- Drilling template: 71 * 29 (mm, W * H)
- Case materials: PC + ABS (fireproof)
- Protection level: IP65 (front panel)
- Option: display humidity only, or display temperature and humidity alternatively

Product Version Check

After power supplied, the display shows the model and version:

Key and Display

When there is no key operation for 30 seconds, the display will dim for power saving



Icon	Function	On	Blinking
	Humidity load(R1)	Energized	Within delay protection time (see U12 bellow)
	Humidify mode	Humidify mode	Setting set-point
	De-humidify mode	De-humidify mode	Setting set-point
	Alarm	----	Alarming
	Display temperature	Displaying temperature	
	Display humidity	Displaying humidity	
E1	Fault code	----	Sensor failure
E2	Fault code	----	Over humidity up limit
E3	Fault code	----	Over humidity low limit
UnL	Hint	Will restore to factory default	----

Key Operation

Set Set-point

Keep〖S〗depressed for 3 seconds, the display shows the current set-point.
Press〖▲〗or〖▼〗to set the value. Keeping depressed can fast set.
Press〖S〗to exit, and the set will be saved.
If there is no key operation for 30 seconds, exit, and the set will not be saved.

Set Parameters

Keep〖P〗depressed for 3 seconds:
If the code is not “0000”, the display shows “---0”.
Press〖▼〗to select the digit of the password. Press〖▲〗to set the value (0 ~ 9) of the digit.
Press〖S〗to confirm. If the password is correct, enter into the set status. Else exit.
If the code is “0000”, then the password is not necessary. Enter into the set status directly.

At parameter set status:
Press〖▲〗or〖▼〗to select the code.
Press〖S〗to set the value of the code.
Press〖▲〗or〖▼〗to set the value.
Press〖S〗to return.
Keep〖P〗for 3 seconds to exit, and save the settings.
If there is no key operation for 30 seconds, exit, and no set will be saved.

Parameter Table

Code	Function	Range	Remark	Default
U10	Humidify / de-humidify	H/P	H: humidify; P: de-humidify	P
U11	Hysteresis	0.1 ~ 20%		5
U12	R1 delay protection	0 ~ 30 min		0
U13	Humidity calibration	-9.9 ~ +9.9%		0
U14	Humidity up limit	0 ~ 100%		100
U15	Humidity low limit	0 ~ 100%		0
U16	Over limit alarm delay	0 ~ 600 sec		30
U17	Display option	0 ~ 1	0 = Display humidity value 1 = Display humidity and temperature in turn. Switch time is 5 seconds	0
U99	Password	0000 ~ 9999	0000: no password is necessary	0000

Control Function

Humidity Control (R1)

Dehumidify control (U10 = P)

If room humidity ≥ set-point, and R1 has stopped for U12, R1 will be energized.
If room humidity ≤ set-point – U11, R1 will be de-energized.

Humidify control (U10 = H)

If room humidity ≤ set-point, and R1 has stopped for U12, R1 will be energized.
If room humidity ≥ set-point + U11, R1 will be de-energized.

Power up delay protection

After power supplied, R1 could be energized only after U12 has passed.

Warning

When sensor fails, the controller displays blinking “E1”, keeps beeping, R1 is de-energized.
When room humidity ≥ U14 for U16 time, the controller displays “E2”, keeps beeping, alarm output acts, R1 keeps.
When room humidity ≤ U15 for U16 time, the controller displays “E3”, keeps beeping, alarm output acts, R1 keeps.
Alarm output:

Terminal	Remark
R3	Open when alarm. Close when ok. Open when no power supply.
R2	Close when alarm. Open when ok. Close when no power supply.
COM	Common terminal

Sensor Calibration

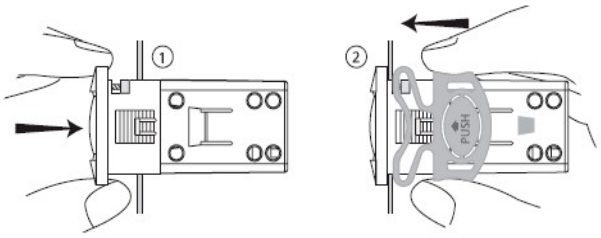
When the sensor has tolerance, it can be calibrated by U13.

Restore to Factory Default Settings

Keep 〖P〗 and 〖▲〗 depressed for 3 seconds, the controller displays “UnL”. Pressing 〖▼〗 twice will restore all settings to factory default settings.

Installation

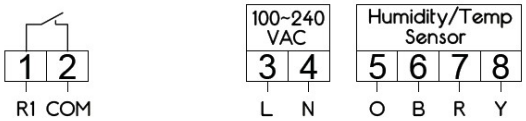
Insert the controller into drilling hole.
Slide the bracket to fix the device.



Terminal Drawing

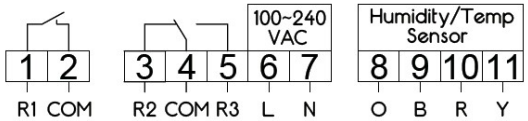
ZL-7830A

R1: Humi. Load 30A/250V~



ZL-7830B

R1: Humi. Load 30A/250V~
R2/R3: Alarm Load 3A/250V~



Attention

- Do not connect and de-connect lines when power supplied, including sensor.
- Please read this instruction carefully. Electrical wiring must be manipulated by certified electrician. Wrong wiring may damage the device and system seriously.
- Avoid working in humid environment, or with corrosive gases, or strong electric-magnetic field. The device is possible abnormal in such condition.
- This product has been strictly tested before shipping. The company warranty is one year, the responsibility is limited to the sale of the product itself. Damage caused by improper usage is not covered by the warranty.