ZL-7801A Intelligent Controller

Instruction Manual A1.0

Feature

ZL-7801A is intelligent temperature and humidity controller, adopt compact design and IP65 level front panel, Convenient operation and easy installation.

Technical Specification

Power Supply: AC185~245V 50HZ Input Signal: A temperature and humidity Length: 1.5m Setting Range: $5 \sim 95 \, \text{RH} / -20 \sim 60 \, ^{\circ}\text{C}$ Load Current: 5 ways $5 \, \text{A} / 250 \, \text{Vac}(\text{Resistive load})$

Working Temperature: $-20 \sim 60^{\circ}$ C 10 ~ 90 RH (Without dewing) Protection Degree: IP65 (front panel)

Whole machines dimension: 78* 34.5* 71mm Case: PC + ABS Fire Proof

Drilling template: 71* 29mm

Display Indication

G Display Sign Instruction

♦ Display temperature and humidity value in 2s alternating, during normal operation.

♦Display temp. humidity and alarm codes in 1s alternating, in warning.

♦ Eco mode: When 30 seconds without buttons, digital tube display brightness to reduce power consumption.

Icon	Function	On	Off	Blinking	
0	Temp. Load	On	Off	Load protecting delay	
\$12; \$0\$	Cooling	Cooling	Not cooling	Set cooling temp.	
₩	Heating	Heating	Not heating	Set heating temp.	
S	Humidity load	On	Off	Load protecting delay	
\Diamond	Humidify	On	Off	Set humidify humidity	
0	Dehumidify	On	Off	Set dehumidify humidity	
Q.	Repairing		No fault	Faulty	
<u></u>	Warning		No Warning	Warning	
F	Temp. display	Display	Not display	Set temperature, warning	
0/0	Humidity display	Display	Not display	Set humidity, warning	
E1	Fault			Sensor fault	
E2	Fault			Dewing alarm	
UnL	In	Restore Defaults			

Key Operation

Temperature and humidity setting

Keeping $\llbracket S \rrbracket$ pressed for 3s to enter temperature and humidity setting mode, digital shows set temperature. Press $\llbracket P \rrbracket$ choose humidity and temperature value circular, press $\llbracket \blacktriangle \rrbracket$ or $\llbracket \blacktriangledown \rrbracket$ change the value(Keeping $\llbracket \blacktriangle \rrbracket$ or $\llbracket \blacktriangledown \rrbracket$ pressed, it will be adjusted quickly)

After setting, press $\mathbb{Z} \mathbb{Z}$ to exit and saving parameters. Do not press any key for 30 seconds; the device will leave the set mode without saving the set data.

Set system parameters

Keeping $[\![P]\!]$ pressed for 3s to enter parameters setting mode, digital shows parameter code, at the same time press $[\![A]\!]$ or $[\![A]\!]$ to choose parameter code.

Press $[\![S]\!]$ to shows its value. Press $[\![\Delta]\!]$ or $[\![\nabla]\!]$ to set its value.

Keep depressing **[P]** for 3 seconds, the set parameters will be saved, the mode exits.

If do not press any key for 30 seconds, the mode will exit without saving all the set data.

ZL-7801A Parameter code and setting instruction:

No	Parameter	Function	Setting	Note	Factory
	code	Function	Range		Setting
01	U10	Cooling/Heating	C/H	C:Cooling; H:Heating	C
02	U11	Temperature difference	0.1 ~ 20 ℃		5
03	U12	Temperature load time delay protection	0 ~ 30min		3
04	U13	Temperature correct	-9.9~+9.9%		0
05	U20	Humidification/ Dehumidity	H/P	H:Humidification; P: Dehumidity	P
06	U21		0.1 ~ 20 %		5
07	U22	Humidity load time delay protection	0 ~ 30min		3
08	U23	Humidity correct	-9.9~+9.9%		0
09	U30	Dewing warning	C/V	C: Dewing; V: No dewing	V
10	U31	Dewing delay warning	0~30		6
11	U40	Timing 1 unit	0 ~ 2	0:sec; 1:min; 2:hour	1
12	U41	Timing 1 Load	1 ~ 9999		120
13	U42	Timing 2 unit	0 ~ 2	0:sec; 1:min; 2:hour	1
14	U43	Timing 2 Load	1 ~ 9999		120
15	U50	Temp. And humidity display delay	1~30	Normal display when no warning	2
16	U99	Passwords	0000 ~ 9999	0000: off	0000

Control function instruction

Temperature control

Cooling control:

- - ♦ When the temperature ≤ 【 setting temp. 】, temp. Load (R3) off;

Heating control:

- ♦ When the temperature ≤ 【setting temp. 】 【temperature difference 】, and temperature load stop time meet 【temp. Load delay protection 】, temp. Load (R3) on;
 - ♦ when the temperature ≥ 【 setting temp. 】, temp. Load (R3) off;

Temperature correct

 \diamondsuit When temperature value is different from sensor install place, **[** Temperature correct **]** can correct it, Adjustment range is $\pm 9.9\%$.

Humidity control

Dehumidifition control:

- \diamond when humidity \geq { setting humidity } + { humidity difference } , and humidity load (R2) stop time meet { humidity delay load protection } , humidity load on;
 - \Diamond when humidity \leq **\(\)** setting humidity **\)**, humidity load (R2) off;

Humidification control:

- \diamondsuit When humidity \le \P setting humidity \P \P humidity difference \P , and humidity load (R2) stop time meet \P humidity delay load protection \P , humidity load (R2) on;
 - ♦ when humidity≥ 【setting humidity 】, humidity load (R2) off;

Dewing warning

When humidity get to dewpoint, after dewing warning delay controller enter dewing warning state. If dewing warning way is C, digital shows E2" alarm, humidity load output stop, warning output (R1) on. If dewing warning way is V, digital shows 99.9% alarm, still output.

G Humidity correct

♦ When humidity value is different from sensor install place, 【Humidity correct 】 can correct it, adjustment range is ±9.9%.

Timed control

Timing circle control:

- ♦ When enter timing load 1 timing, timing load (R5) on, timing load (R4) off.
- ♦ When enter timing load 2 timing, timing load (R4) on, timing load (R5) off.

Sensor

- ♦ Controller power is on, all load output (R2 R3) run after load delay protection;
- ♦ Running process, the temperature and humidity load (R2 R3) after downtime must be after load protection delay to start again.
 - ♦Do not change Sensor or connecting ways, when the power is on.



Fault alarm

When the sensor broken controller shows"E1", humidity and temperature load off, warning output on.

Factory setting:

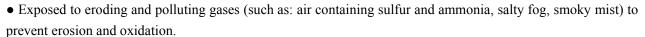
Keep [P] and [▲] keys pressed for 5 seconds, the device displays "UnL", press [▼] twice controller will reset auto.

Controller Installation

Warning:

Avoid installing the device in the following environment:

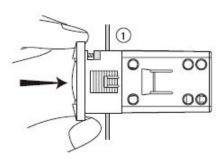
- Relative humidity is greater than 90%, or possibly dewing.
- Strong vibration.
- Possibility be dropped, or within fog.

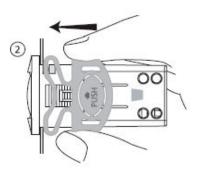


• Ambient containing explosive or inflammable materials/gases.

Installation Procedure

Insert the controller into hole (step one) Slide the bracket to fix the device (step two)





Electrical Connection



Warning

- Electrical wiring must be manipulated by certified electrician.
- Wrong power supply may damage the device and system seriously.
- Try with effort to layout the sensors and switches line apart from inductive load lines and power supply lines. The sensors and switches lines are not allowed go with the power supply lines and inductive load lines in a same pipeline, and are not allowed to pass near the contactor, breaker and the similar.
- Reduce the length of sensors' wiring as possible, avoid forming a spiral shape near the power devices.
- Avoid direct contact with the internal electronic components.
- After finish and check the electrical wiring layout, before connect them to the device, please follow this instruction: Pay attention the "electrical wiring diagram" below, wrong connection possibly damages the device and the system, and may be dangerous to the user. All security and protecting device for the equipments are necessary. They are very important to protect the equipments, and the user's safety.

Electrical wiring diagram

