

# ZL-7816A Humidity and Temperature Controller

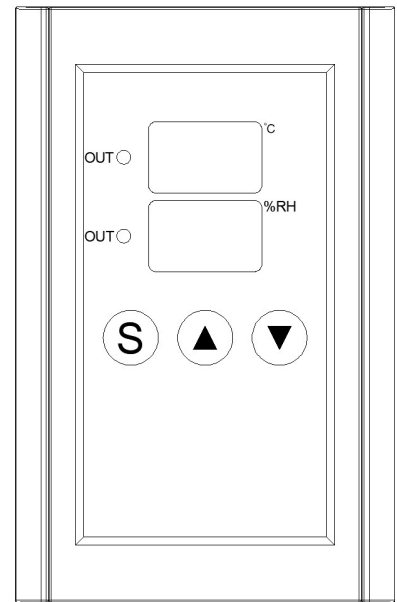
Version A1.01a

## Specification

Power supply:	12Vac, or 12Vdc
Input:	One humidity and temperature sensor, wire length 1.5 meters, system will be stable when the wire length is up to 50 meters
Sensor precision:	Humidity $\pm 3\%$ RH@25°C; Temperature $\pm 1\%$ @25°C
Setting range:	Humidity 0.0 ~ 99.9% RH; Temperature 0.0 ~ 80.0°C
Output:	Every output $\leq 7A$ (250Vac, pure resistance)
Working environment:	-10 ~ 45°C; $\leq 90\%$ RH without dew
Power consumption:	2W

## Display

When the sensor is not connected well, or fails, display shows "--.-".  
 When the temperature output is energized, the up LED "out" is on;  
 When the humidity output is energized, the bottom LED "out" is on.



## Setting Operation

Keep [S] depressed for 2 seconds to enter into set status:

The up window displays the parameter code.

The bottom window displays the value of the code.

Press [S] to select the code: S01->S02->SC1->S03->S04->SC2.

Press [▲] or [▼] to set the value (keep depressed make fast set).

Keep [S] depressed for 2 seconds to exit, and the settings are saved.

Note: The status will exit if no key operation for 30 seconds, and the settings will be saved.

Code	Function	Set Range	Remark	Factory Set
S01	Temperature output energized	0.0 ~ 99.9°C	Set point for on	22.0
S02	Temperature output de-energized	0.0 ~ 99.9°C	Set point for off	20.0
SC1	Temperature calibration	-5.0 ~ 5.0°C		0.0
S03	Humidity output energized	0.0 ~ 99.9% RH	Set point for on	10.0
S04	Humidity output de-energized	0.0 ~ 99.9% RH	Set point for off	20.0
SC2	Humidity calibration	-5.0 ~ 5.0% RH		0.0

## Control Function

### Temperature control

If SO1 = SO2, there will be no temperature control function.

If SO1 < SO2, work in heating mode:

When Troom  $\leq$  SO1, temperature output energized;

When Troom  $\geq$  SO2, temperature output de-energized.

If SO1 > SO2, work in cooling mode:

When Troom  $\geq$  SO1, temperature output energized;

When Troom  $\leq$  SO2, temperature output de-energized.

## Humidity control

If  $S03 = S04$ , there will be no humidity control function.

If  $S03 < S04$ , work in humidifying mode:

When  $\text{room\_humidity} \leq S03$ , humidity output energized;

When  $\text{room\_humidity} \geq S04$ , humidity output de-energized.

If  $S03 > S04$ , work in de-humidifying mode:

When  $\text{room\_humidity} \geq S03$ , humidity output energized;

When  $\text{room\_humidity} \leq S04$ , humidity output de-energized.

## Sensor calibration

The tolerance of measured room temperature can be calibrated by SC1.

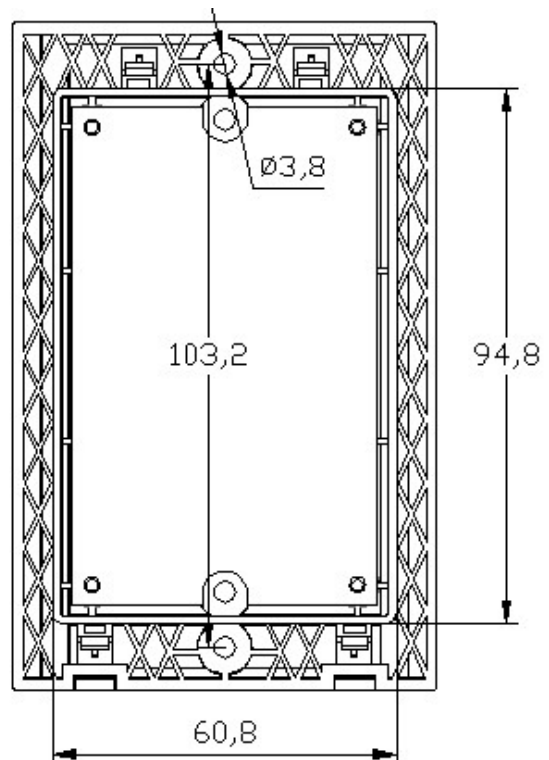
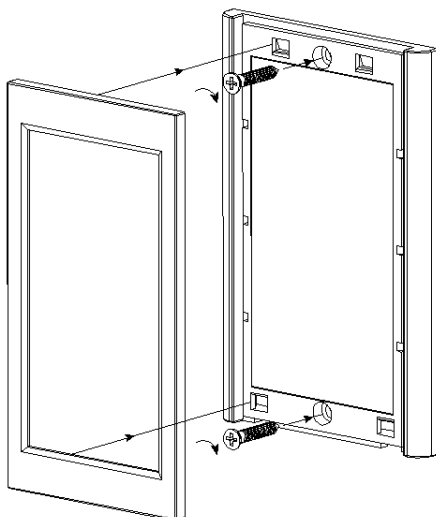
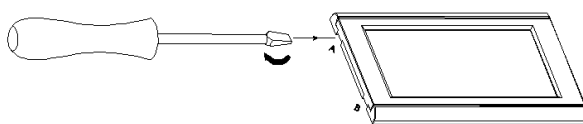
The tolerance of measured room humidity can be calibrated by SC2.

Note: do not plug in/off the sensor, do not connect other wires, when power supplied.

## Warning

1. Do not connect wiring when power is supplied.
2. Electrical wiring must be manipulated by certified electrician.
3. Read this manual carefully. Connect according to electrical wiring diagram. Wrong connection will damage the device.
4. Do not layout the sensor bundle together with power supply bundle.
5. Avoid working in erosive, wet and strong electrical-magnetic field environment, which could affect the device works correctly.
6. This device has been checked fully before shipment. The warranty time is one year, damaged by wrong usage, such as wrong connection, is not warranted.

## Installation



### Electrical Wiring Diagram

