

# ZL-7830 Series Humidity Controller

## Instruction Manual A1.0

### Feature

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

### Model Function

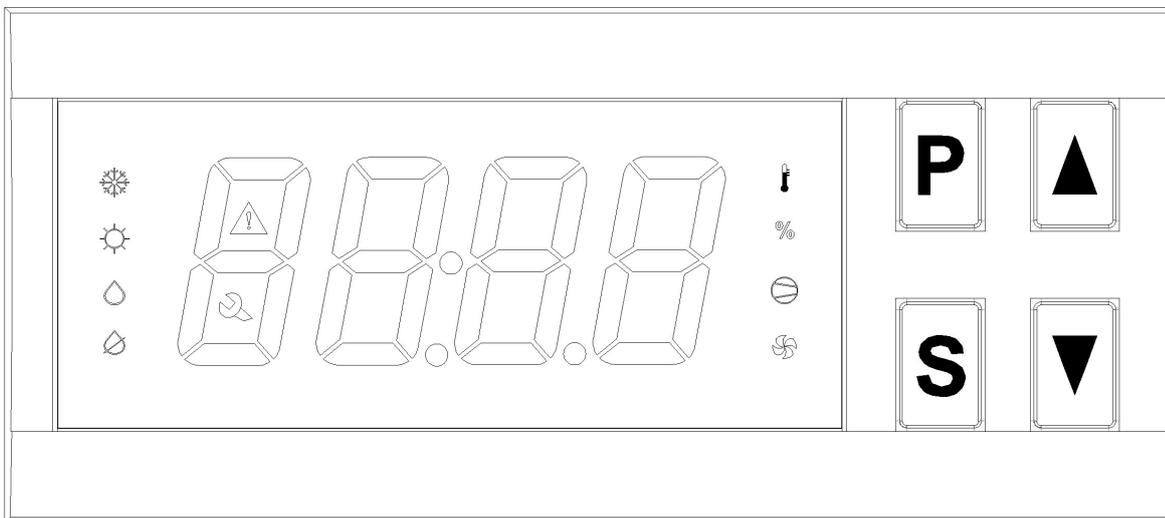
| Model    | Function                             |
|----------|--------------------------------------|
| ZL-7830A | Humidify / de-humidify               |
| ZL-7830B | Humidify / de-humidify; Alarm output |

### 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°C, 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)

### 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 below) |
|  | 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      |
| U99  | Password               | 0000 ~ 9999  | 0000: no password is necessary | 0000    |

**Control Function**

**Humidity Control (R1)**

**Dehumidify control (U10 = P)**

If room humidity  $\geq$  set-point, and R1 has stopped for U12, R1 will be energized.  
 If room humidity  $\leq$  set-point - U11, R1 will be de-energized.

**Humidify control (U10 = H)**

If room humidity  $\leq$  set-point, and R1 has stopped for U12, R1 will be energized.  
 If room humidity  $\geq$  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  $\geq$  U14 for U16 time, the controller displays "E2", keeps beeping, alarm output acts, R1 keeps.  
 When room humidity  $\leq$  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**

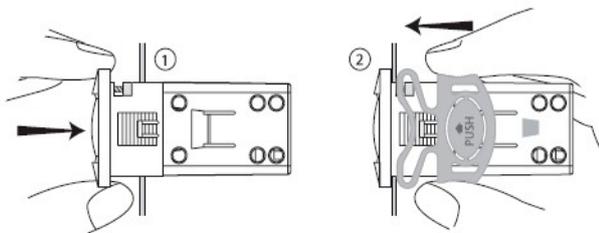
When the sensor has tolerance, it can be calibrated by U13.

**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.



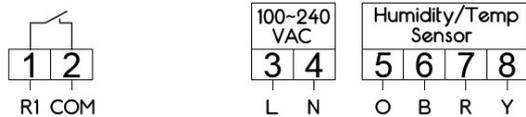
**Attention**

- 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.

**Terminal Drawing**

**ZL-7830A**

R1: Humi. Load 30A/250V~



**ZL-7830B**

R1: Humi. Load 30A/250V~

R2/R3: Alarm Load 3A/250V~

