ZL-7816A Humidity and Temperature Controller

Version 1.1

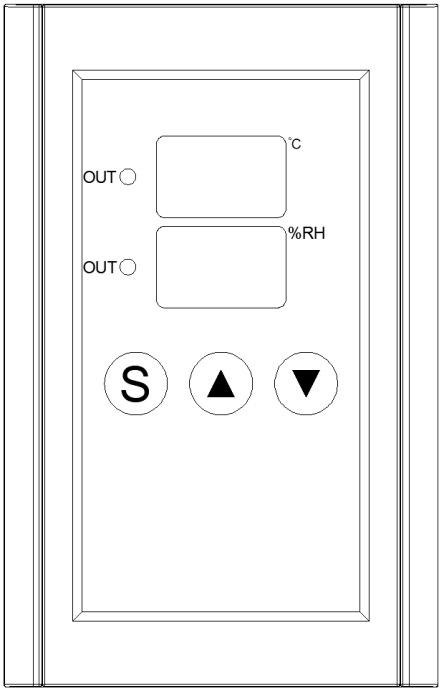
2024-1-9

Introduction

Easy to set.

Professional sensor.

Sensor cable can be extended to 50 meters.



Specification

Sensor precision:	Humidity ±3%, Temperature ±1%
Set and display range:	Temperature 0.0 ~ 80.0°C, humidity 0 ~ 99.9%RH
Working environment:	-10 ~ 45°C, 5 ~ 95%RH without dew
Power consumption:	2 watts
Power supply:	12Vac, or 12Vdc
Outputs:	7A / 250Vac each
Sensor option:	ZL-SHr04 or ZL-SHr05

Setting

Keep〖S〗depressed for 2 seconds, enter into setting status:

The up window displays parameter code.

The bottom window displays the value of the code.

Press〖S〗to select the code. See the parameter table below for codes.

Press〖▲〗or〖▼〗 to set the value (keeping depressed could 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.

Parameter table:

Code	Function	Range	Remark	Factory set
tC	Cooling or heating	Co/HE	Co: cooling, HE: heating	HE
tSP	Setpoint	0.0 ~ 99.9°C	°C	37.5
td	Hysteresis	0.0 ~ 30.0°C		0.1
tCA	Calibration	-5.0 ~ 5.0°C	0.0: no calibration	0.0
tHA	Too high alarm	0.0 ~ 30.0°C	0.0: disable alarm	0.5
tLA	Too low alarm	0.0 ~ 30.0°C	0.0: disable alarm	1.5
HC	Humidify or dehumidify	H/P	H: humidify, P: dehumidify	H
HSP	Setpoint	0.0 ~ 99.9%RH		52.0
Hd	Hysteresis	0.0 ~ 30.0%RH		0.2
HCA	Calibration	-5.0 ~ 5.0%RH	0.0: no calibration	0.0
HHA	Too wet alarm	0.0 ~ 30.0%RH	0.0: disable alarm	10.0
HLA	Too dry alarm	0.0 ~ 30.0%RH	0.0: disable alarm	5.0
SHr	Sensor option	4/5	4: ZL-SHR04, 5: ZL-SHR05	5

Control

Temperature control

Heating control

When parameter tC = HE, heating control.

When temperature ≤ tSP – td, temperature output energized.

When temperature ≥ tSP, temperature output deenergized.

Cooling control

When parameter tC = CO, cooling control.

When temperature ≥ tSP + td, temperature output energized.

When temperature ≤ tSP, temperature output deenergized.

Humidity control

Humidify

When parameter HC = H, humidifying control.

When humidity ≤ HSP – Hd, humidity output energized.

When humidity ≥ HSP, humidity output deenergized.

Dehumidify

When parameter HC = p, dehumidifying control.

When humidity ≥ HSP + Hd, humidity output energized.

When humidity ≤ HSP, humidity output deenergized.

Alarming

Over temperature alarm

When temperature ≥ tSP + tHA, high temperature alarms, up window displays “tHi”.

When temperature ≤ tSP - tLA, low temperature alarms, up window displays “tLo”.

Over wet alarm

When humidity ≥ HSP + HHA, high humidity alarms, bottom window displays “HHi”.

When humidity ≤ HSP - HLA, low humidity alarms, bottom window displays “HLo”.

Calibration

The sensed temperature and humidity can be calibrated by set parameter TCA for temperature error, HCA for humidity error.

Display

When sensor has problem, or not connected, display “--.-”.

When temperature output energized, its output lamp is on. When it is deenergized, the lamp is off.

When humidity output energized, its output lamp is on. When it is deenergized, the lamp is off.

Restore Setting

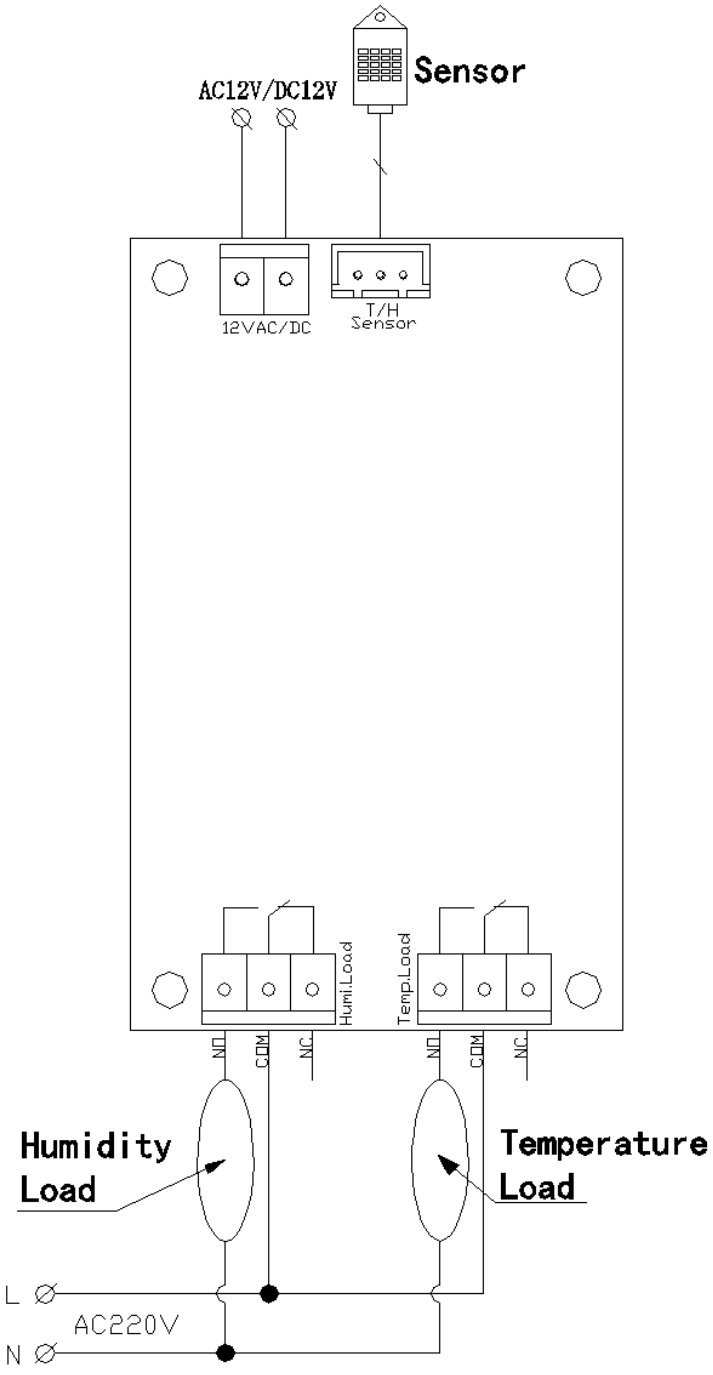
Keep 〖▲〗 and 〖▼〗 depressed simultaneously for 2 seconds, display “UnL”. Then press 〖▼〗 3 times, there will be a long beep, the settings will be restored to factory default settings.

Attention

Install by certified technician. The outputs are not allowed to drive heavier loads than their specification.

The PCB avoids to be in exposed to super wet condition.

Wiring


AC12V/DC12V
Sensor
12VAC/DC
T/H
Sensor
Humi.Load
Temp.Load
NO
COM
NC
NO
COM
NC
Humidity
Load
Temperature
Load
L
AC220V
N

Installation