

ZL-7918A Humidity and Temperature Controller

Version A2.0b

Feature

ZL-7918A is an intelligent temperature and humidity controller, safe and stable, convenient to operate, applicable for control of incubator, climate chamber, warehouse, and so on.

Specification

- ◇ Power supply: 100~240Vac, 50/60Hz
- ◇ One temperature sensor (L = 2 meter), one humidity sensor (L = 2 meter)
- ◇ Setting range: Humidity 10 ~ 80% RH. Temperature 1 ~ 65°C
- ◇ Display range: Humidity 0 ~ 99% RH. **Temperature -9.9 ~ 99 °C**
- ◇ Measuring accuracy: Humidity $\pm 3\%$ @25°C. Temperature $\pm 1\%$ @25°C
- ◇ Output control: 7 outputs (main-heater, aux-heater, lamp, humidity, egg-right-turning, egg-left-turning, fan)
- ◇ Output load: heater ≤ 1500 W. Lamp ≤ 100 W. Humidity, egg-turning and fan ≤ 1 A/250Vac
- ◇ Hatched day counter: the maximum value is 99 days
- ◇ Egg turn control: Turn period: 1 ~ 999 minutes. Turn driving time: 0 ~ 999 seconds. Turn times counter: 0 ~ 999 times
- ◇ Air exhaustion control: Period: 1 ~ 999 minutes. Exhausting time: 0 ~ 999 seconds
- ◇ Lamp control: Period: 1 ~ 999 minutes. Illuminating time: 0 ~ 999 seconds
- ◇ Operation environment: -10 ~ 45°C, less than 90% RH without dew
- ◇ Device dimension: 160 * 80 * 95 mm
- ◇ Installation drilling size: 151.5 * 76.5 mm

Version Information

When power supplied, the display shows "7918A" to indicate the model, "A2.0" to indicate the version.
The difference between version V1.0 and A2.0 will be marked by **bold tilt** font.

Setting and Query

Set temperature and humidity set-point

When *temperature or humidity set-point* has been set, the *temperature and humidity control parameters* will be generated automatically and accordingly.

Keeping 【Set】 depressed for 2 seconds to enter into *temperature and humidity set-point* setting status.

Press **【Enter】** to switch between temperature and humidity setting:

SV window displays "***" + "tt": setting temperature.

SV window displays "***" + "HH": setting humidity.

Press **【▲】** or **【▼】** to set the set-point "***" (Keeping the key depressed can fast set).

Keeping **【Enter】** depressed for 2 seconds will exit setting status, the settings will be saved, and *temperature and humidity control parameters* will be generated automatically and accordingly.

The setting status will exit without saving if there is no key operation for **15 seconds**.

Factory default setting for *temperature set-point* is 38°C.

Factory default setting for *humidity set-point* is 60% RH.

Set temperature and humidity control parameters

Note: Setting these parameters will change the automatically generated values!

Press **【Set】** and **【▲】** simultaneously to enter into *temperature and humidity control parameter* setting status.

Press **【Enter】** to select parameter:

SV window displays the selection from "***" + "P0" to "***" + "PP".

See the *temperature and humidity control parameter* code table below.

Press **【▲】** or **【▼】** to set the value of the parameter (Keeping the key depressed can fast set).

Keeping **【Enter】** depressed for 2 seconds will exit setting status, the settings will be saved.

The setting status will exit without saving if there is no key operation for **15 seconds**.

Temperature and humidity control parameter code table:

Code	Function	Range	Note	Factory Default
P0	High temperature warning point	0 ~ 75°C		38.7
P1	Ventilation temperature up limit	0 ~ 75°C	Ventilation cooling start point	38.2
P2	Ventilation temperature low limit	0 ~ 75°C	Ventilation cooling stop point	38.0
P3	Main temperature up limit	0 ~ 75°C	Main heater stop point	38.0
P4	Main temperature low limit	0 ~ 75°C	Main heater start point	37.9
P5	Aux temperature up limit	0 ~ 75°C	Aux heater stop point	37.7
P6	Aux temperature low limit	0 ~ 75°C	Aux heater start point	37.5
P7	Low temperature warning point	0 ~ 75°C		37.2
P8	High humidity warning point	0 ~ 99%		70
P9	Humidity up limit	0 ~ 99%	Humidify load stop point	60
Pb	Humidity low limit	0 ~ 99%	Humidify load start point	55
PP	Low humidity warning point	0 ~ 99%		50

Set function control parameter

Press **【Set】** and **【▼】** simultaneously to enter into *function control parameter* setting status.

Press **【Enter】** to select parameter.

SV window displays the selection from "***" + "F1" to "***" + "FF".

See the *function control parameter* code table below.

Press **【▲】** or **【▼】** to set the value of the parameter (Keeping the key depressed can fast set).

Keeping **【Enter】** depressed for 2 seconds will exit setting status, the settings will be saved.

The setting status will exit without saving, if there is no key operation for **15 seconds**.

Function control parameter code table:

Code	Function	Range	Note	Factory Default
F1	Egg turn period	1 ~ 999 min		90
F2	Egg turn time	0 ~ 999 sec	0: no egg turning function	180
F3	Egg turn times	0 ~ 999 times	0: turn for ever	0
F4	Air exhausting period	1 ~ 999 min		120
F5	Air exhausting time	0 ~ 999 sec	0: no air exhausting	30
F6	Temperature calibration	-9.9 ~ 9.9°C		0.0
F7	Humidity calibration	-20 ~ 20%		0
F8	Illumination period	1 ~ 999 min		90
F9	Illumination time	0 ~ 999 min	0: no illuminating function	0
FF	Incubated days	0 ~ 99 day	Only clear operation	0

Check Incubated Days and Egg Turned Counter

Press **【Enter】** and **【▲】** simultaneously, SV window displays \llbracket incubated days, FF \rrbracket "days" + "t1" for **2 seconds**.

Press **【Enter】** and **【▼】** simultaneously, SV window displays egg-turned-counter "times" + "t2" for **2 seconds**.

Control and Operation

On/off operation

Keep **【Lamp - I/O】** depressed for **2 seconds**, controller turns on or off.

Illumination operation

Manual on/off: Press **【Lamp - I/O】**, lamp turns on or off.

Timer on/off: For every \llbracket Illumination period, F8 \rrbracket , lamp will be on for \llbracket Illumination time, F9 \rrbracket .

Temperature control

Main heater: When *room temperature* \leq \llbracket Main temperature low limit, P4 \rrbracket , the main heater will be on.

When *room temperature* \geq \llbracket Main temperature up limit, P3 \rrbracket , the main heater will be off.

Aux. heater: When *room temperature* \leq \llbracket Aux temperature low limit, P6 \rrbracket , the aux heater will be on.

When *room temperature* \geq \llbracket Aux temperature up limit, P5 \rrbracket , the aux heater will be off.

Fan: When *room temperature* \geq \llbracket Ventilation temperature up limit, P1 \rrbracket , the fan will be on.

When *room temperature* \leq \llbracket Ventilation temperature low limit, P2 \rrbracket , the fan will be off.

Humidity control

When room humidity \leq [Humidity low limit, Pb] , humidity output will be on.

When room humidity \geq [Humidity up limit, P9] , humidity output will be off.

Egg Turn control

For every [Egg turn period, F1] , egg turn output will be on for [Egg turn time, F2] .

Egg turn left output and right output will be on alternatively.

1 left turn + 1 right turn = 1 egg-turn. Every egg-turn, egg-turned-counter increases 1.

When egg-turned-counter reaches [Egg turn times, F3] , there will be no egg turn:

Led "UP" and "DOWN" will be blinking.

Check the egg-turned-counter: see paragraph "**Check Incubated Days and Egg Turned Counter**".

Keeping [▲] depressed for 2 seconds can force left turning.

Keeping [▼] depressed for 2 seconds can force right turning.

Attention: When power supplied, or when controller offline, the egg-turned-counter will be reset to zero.

Timer exhaustion control

For every [Air exhausting period, F4] , the fan will be on for [Air exhausting time, F5] .

Alarm control

When *room temperature* \geq [High temperature warning point, P0] , buzzer alarms, room temperature display blinks.

When *room temperature* \leq [Low temperature warning point, P7] , buzzer alarms, room temperature display blinks.

When *room humidity* \geq [High humidity warning point, P8] , buzzer alarms, room humidity display blinks.

When *room humidity* \leq [Low humidity warning point, PP] , buzzer alarms, room humidity display blinks.

The buzzer alarming can be stopped and restored by pressing [Enter] key.

Temperature and humidity calibration

The sensors have tolerance. They can reach to absolute 0.1°C and 1% RH by calibration.

Room temperature can be calibrated by setting [Temperature calibration, F6] .

Room humidity can be calibrated by setting [Humidity calibration, F7] .

Incubated days

[Incubated days, FF] records the incubated days.

[Incubated days, FF] is saved even after power supply loses, and it is not cleared after system On/Off.

To make use of the data, it is necessary to clear the record before starting a new batch incubation.

When it reaches to 99, it will not increase any more, and will stay at 99.

Restore to factory setting

Keep [▲] and [▼] depressed simultaneously for **2 seconds**, SV window displays "000" + "00", buzzer beeps, then release the keys' pressing, the controller will restore to factory default settings.

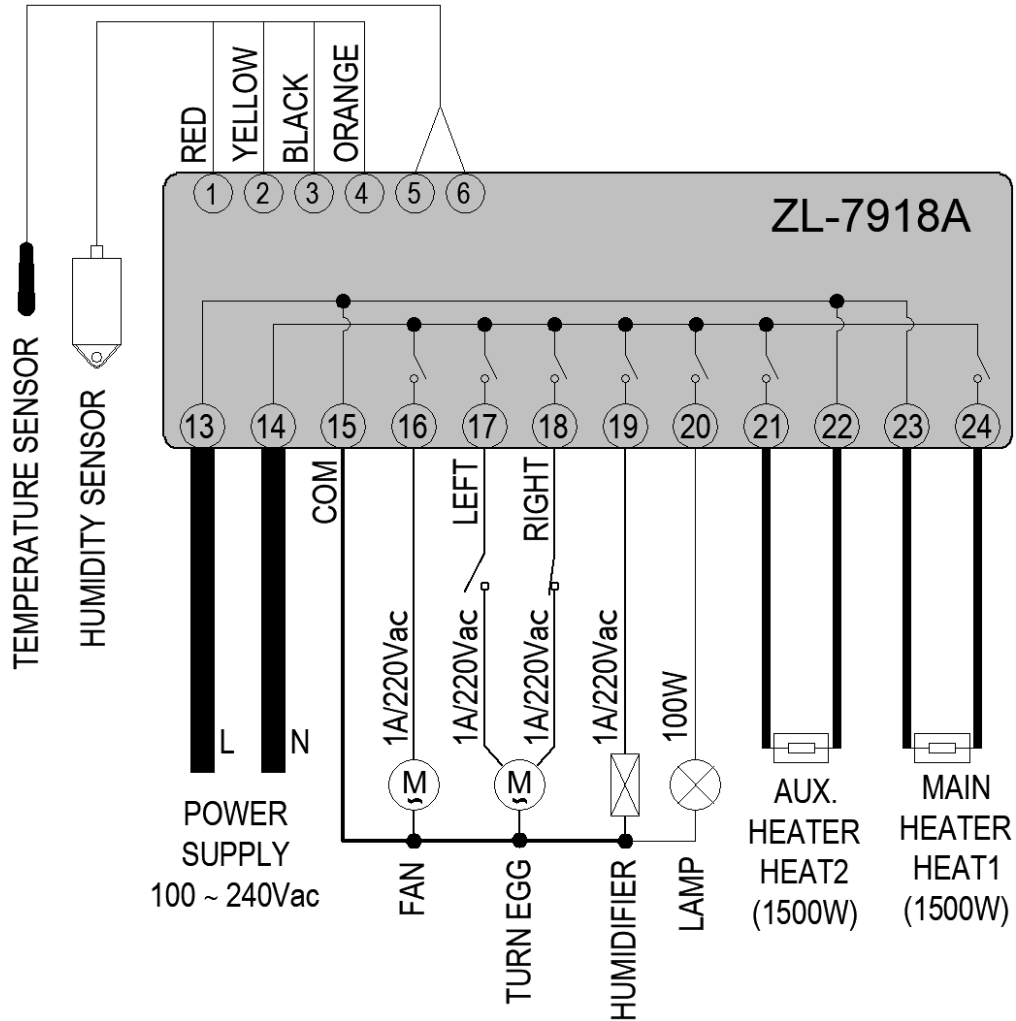
LED indication

LED	On	Blinking	Off
FAN	Fan on during [Air exhausting time, F5]	Fan on, because <i>room temperature</i> reaches [Ventilation temperature up limit, P1]	Fan off
HEAT1	Main heater on		Main heater off
HEAT2	Aux heater on		Aux heater off
UP	Egg left turning now	<i>Egg-turned-counter has reached [Egg turn times, F3]</i>	No left turning
DOWN	Egg right turning now	<i>Egg-turned-counter has reached [Egg turn times, F3]</i>	No right turning
WET	Humidifying output on		Humidifying output off
ALARM		<i>Room temperature or humidity is over warning points, or sensor fails</i>	

Warning code

Code	Indication
E1	Temperature sensor failure
E2	Humidity sensor failure
E3	Room temperature is higher than [High temperature warning point, P0]
E4	Room temperature is lower than [Low temperature warning point, P7]
E5	Room humidity is higher than [High humidity warning point, P8]
E6	Room humidity is lower than [Low humidity warning point, PP]

Wiring Diagram



Attention

The device is shipped with factory default setting. It suits for normal hatching requirements. It is even able to use directly without any setting for other parameters. About factory default setting, see the tables above.

If need to set new temperature and humidity, please operate according to paragraph “**Set temperature and humidity set-point**”. The *Temperature and humidity control parameters* will be generated automatically and accordingly. If you try to set the *Temperature and humidity control parameters*, please set them based on understanding to avoid hatching failure.

Humidity sensor will not work correctly when covered with water or dew. Please keep it clean and dry.

Manufacturer is responsible for the device itself, is not responsible to losses resulted by the failure of this device.