

Intelligent incubation controller  
with 6 screens and lighting

Operation Manual

## I. Main Technical Factors:

1. Range of temperature display: 0~99°C.
2. Precision of temperature measurement:  $\pm 0.1^\circ\text{C}$ .
3. Range of humidity display: 5~99%RH.
4. Precision of humidity control:  $\pm 3\%$ RH.
5. Outputs: 5 Road (the main heating, humidification, turn eggs, fans, and candling eggs) .
6. Output current: electric heating 2A, humidification 200mA, turn over egg 3A, exhaust air (12V) output is 300mA.

## II. Working conditions:

1. Working voltage: AC 180V ~240V; Frequency 50Hz
2. Relative humidity: less than 85%
3. Environment temperature:  $-20^\circ\text{C}\sim 70^\circ\text{C}$

## III. Display screen, buttons and parameter Settings

### 1. Display introduction

(1) The lower right corner of the display is the indicator light, the top is: turn over egg indicator lamp, the bottom is: heating indicator light


(2) The display on the display tube in turn is: temperature, humidity, Egg Turning Times.

(3) The display of digital tube under the display is as follows: setting temperature, setting humidity and Hatching Days.

### 2. The introduction of button

The six buttons from left to right are: , Set, +, -,  , 

#### (1) Boot key

Power on default shutdown state, long press the 3S  , the system full screen light, fan into the normal operation state; long press 3S shutdown, all outputs closed.

#### (2) Set

a. In normal status , short press “Set” button , controller enter correct temperature setting.

b. In settings, press the “Set” button (short press) to enter the next parameter setting.

#### (3) +

a. Under normal working condition, press and hold “+” button (long press) for manual turn egg function;

b. In the set status, press the “+” button (short press) to adjust the parameter value, and press the “+” button to adjust the parameter value continuously.

#### (4) -

a. In normal status , short press “-” button can handle alarm function.

b. In normal status, short press “-” adjust parameter data and long press can continuous adjust parameter data.

#### (5) Candling eggs

In normal condition, press the  button, turn on / off the egg light.

#### (6) Lighting

In normal condition, click on the  to turn on / off the lights.

#### (7) Combination key

a. In normal status, pressing “Set” and “+” button more than 3s and controller will enter temperature and humidity setting.

b. Under normal working condition, hold down the “Set ” key and the “- ” key at the same time. The instrument enters the egg turning.

c. Under the working status, pressing the “+ ” and “-” button for 5 seconds to

reset all the parameters to the default.

Note: in the set state, set the parameters flashing display, when more than 20 seconds do not press the button, the system will automatically exit the set state. Previously modified

parameters are automatically saved.

3. In normal operation, click “Set” key (short press), the meter enters the base temperature and humidity parameter setting. (After the system is out of the factory, the user simply sets the reference parameter and the interval parameters are adjusted automatically with the reference parameters.)

No.	Parameter name	Parameter ID	Setting range	Default value
1	Reference temperature setting	tt (P2)	0-99.9°C	37.8
2	Reference humidity setting	HH (H2)	0-99%	60%

4. Under normal working conditions, press and hold the “Set” and “+” key for more than 3 seconds (long press). Before the system is out of the factory, the parameters of the interval have been set up, and the non professionals should not adjust.

No.	Parameter name	Parameter ID	Setting range	Default value
1	Temperature for alarm if over	P1	0-99.9°C	38.7
2	Temperature for stopping main heater	P2	0-99.9°C	37.8
3	Temperature for alarm if lower	P3	0-99.9°C	37.0
4	Humidity for alarm if over	H1	0-99%	75%
5	Humidity for stopping wet	H2	0-99%	60%
6	Humidity for starting wet	H3	0-99%	55%
7	Humidity for alarm if lower	H4	0-99%	40%

5. Under normal working conditions, hold the “Set” and “-” keys at the same time, and the instrument enters the egg turning, ventilation and so on.

No.	Parameter name	Parameter ID	Setting range	Default value
1	Egg turning period	F1	0-999 minutes	90minutes
2	Egg turning duration	F2	0-999 seconds	13 seconds
3	Temperature calibration	F3	Adjust according to the thermometer	
4	Humidity calibration	F4	Adjust according to the humidifier	
5	Egg turning times	F5	0-999 (Times)	0 (Time)
6	Incubation days	F6	0-99 (days)	0 (day) default first days

#### IV. Control function part

1. Temperature controlling related functions (TH1 is the temperature within incubator box)

(1) Over temperature alarm: if  $TH1 > P1$ , system starts alarm, turns on the indicator lighter and starts buzzer; if  $TH1 < P1$ , system turn off the alarm function.

(2) Main heater: if  $TH1 \leq P2$ , system starts the main heater (PID algorithm); if  $TH1 > P2$ , system stops the main heater.

(3) Lower temperature alarm: if  $TH1 < P3$ , system starts alarm and starts buzzer; if  $TH1 > P6$ , system turn off the alarm function.

2. Humidity controlling related functions (RH1 is the humidity within incubator box)

(1) Over humidity alarm: if  $RH1 > H1$ , system starts alarm and starts buzzer; if  $RH1$

<H1, system turn off the alarm function.

(2) Humidify function: if  $RH1 \leq H3$ , system starts humidifier; if  $RH1 \geq H2$ , system stops humidifier.

(3) Lower humidity alarm: if  $RH1 < H4$ , system starts alarm and starts buzzer; if  $RH1 > H4$ , system turn off the alarm function.

Note: when the temperature control is in high temperature alarm, turn off the humidifying function; when the high temperature alarm function is closed, the humidifying function is resumed.

### 3. Turn the egg

(1) **Manual turn egg:** under normal working condition, press and hold the “+” key, don't put,

delay 2S start turn eggs, lift the button to stop turning eggs. (Manual turn egg into automatic egg turning state)

(2) **Automatic turning eggs:** according to the set turn egg cycle F1 and turn over the egg time F2 automatically turn eggs.

(3) The number of turns can be displayed by pressing the key. The parameter code F5 can be adjusted by “+” and “-” keys. The number of turns is counted and the data is cleared (4) The maximum number of turns is shown 999 times. After more than 999 times, the data is cleared and re accumulated.

(5) When the turn over egg cycle F1 is set to 0, the automatic egg turning function is cancelled.

### 4. Incubation days

(1) Incubation days, factory default is 0, starting from the instrument power, every 24 hours, the number of days of hatching automatically add one.

(2) Incubation days can be got through querying (the parameter ID is F6). User can change it through “+” and “-” button. The number will be saved even the system is down.

(3) The maximum number for incubation days is 99. The number will be starting from 0 again once over 99.

### 5. Remove the alarm manually

When the alarm starts, user could mute it by pressing the “-” button and switch back by pressing the button again.

### 6. calibration function

The temperature and humidity sensors could be appear some deviation after long time using. At this time user could calibrate them by the accurate thermometer and humidifier. When F3 displayed, press “+ ” or “-” button to calibrate the temperature; while when F4 displayed, press “+” or “-” button to calibrate the humidity.

### 7. reset function

Under the working mode, press “UP” and “DOWN” button for 5 seconds and then all the parameters are reset to the default values after a beep.

### 8. sensor error indicator

If there are problems in temperature sensor or the sensor is not available, the temperature display window shows EEE, and at the same time the main heater, backup heater and over temperature fan stop working; if there are problems in humidity sensor or the sensor is not available, the humidity display window shows EE, and at the same time the humidifier stops working. There will be beep warnings no mater which sensor does not work properly.