

**MICROCOMPUTER  
FULL-AUTOMATIC HATCHER**

**OPERATION MANUAL**

## **I. Overview:**

The microcomputer full-automatic hatcher is a new generation of smart hatching control system, which is developed by the company in 2011, depending on the technological advantages in computer network and power control equipment, under the guidance of animal husbandry expert, combined with the reality of hatching industry in China and the experience of research personnel in development and production of hatching equipments.

The displayer of microcomputer smart hatcher adopts the double-row digital screen; the special multi-function window can provide the guides for user's operations. The product is equipped with multiple user-friendly functions, and more precise control function, thus to achieve a better automatic hatching process. The microcomputer smart hatcher functions as smart control of temperature, humidity, and ventilation, regular eggturning, various alarm indication, detection, fault prompts, and Onekey hatching settings, thus to realize a real full-automatic hatching process .

## **II Main Technical Parameters:**

1. Temperature measuring range: 0 ~ 99.9 °C
2. Temperature measuring accuracy:  $\pm 0.1$  °C
3. Humidity measuring range: 0-99% RH
4. Humidity control accuracy:  $\pm 4\%$  RH
5. Control channels of output signal: total 6 channels (over-temperature, controlled temperature, under temperature, left eggturning, right eggturning, controlled humidity)

6. Max control output load current: controlled temperature, under temperature  $\leq 8\text{A}/\text{AC}220\text{V}$ , controlled humidity  $\leq 3\text{A}/\text{AC}220\text{V}$ , left eggturning, right eggturning, over-temperature  $\leq 1\text{A} / \text{AC}220\text{V}$
7. Eggturning times: it can be recorded up to 999 times.
8. Eggturning cycle: adjustable from 0 to 99.9 hours (the default value is 1.5 hours)
9. Eggturning time: adjustable from 0 to 999 seconds (the default value is 180 seconds)
10. Ventilating cycle: 0-99.9 hours (adjustable, the default value is 2 hours)
11. Ventilating time: 0-999 seconds (adjustable, the default value is 30 seconds)

### **III. Operation Conditions:**

1. Operating voltage: AC 185V ~ 235V, 50HZ
2. Relative humidity: less than 85% RH
3. Ambient temperature:  $-10\text{ }^{\circ}\text{C} \sim 40\text{ }^{\circ}\text{C}$

The operating mode can be set to the bulk hatching (inconstant temperature) or the batching hatching (constant temperature).

### **IV. Inconstant Temperature Hatching Settings (Bulk Hatching)**

Power on the hatcher, select hatching egg type after both temperature and humidity are in normal displaying (the machine is provided with 5 types of hatching eggs: **chicken, duck, goose, pigeon, and others**).

The operation is as follows: hold down the "Mode" key and **DO NOT RELEASE** (within about 3 seconds) into the eggs hatching mode. It is available to select other 4 types such as **duck, goose, pigeon, and others** if need to hatch other types of eggs.

Press the “Mode” key and then RELEASE it to check the hatching time (shown in the lower display window SV such as \*\* hours \*\* days); then click the “Down” key to clear the hatching time. **Please set the hatching time to 0 before hatching.**

In consideration of the climate differences, it is available to modify detailed parameters of the type of eggs after selecting hatching (Note: The set parameter is only valid in the four modes of chicken, duck, goose, and pigeon, and the hatcher can be reset to the default parameters in the next operation.)

Reference Table of Hatching Time and Parameters in the 5 Modes  
Reference Table of Hatching Time and Parameters in Chicken’s Egg Mode

<i>Hatching time</i>	<i>1 ~ 7 days</i>	<i>8 ~ 14 days</i>	<i>15 ~ 17 days</i>	<i>After 18 days</i>
<i>Temperature parameters</i>	37.9℃	37.8℃	37.5℃	37.2℃
<i>Humidity parameters</i>	50%RH	55%RH	65%RH	70%RH
<i>Ventilation parameters</i>	2 (15)	2 (20)	1.5 (45)	1.5 (60)
<i>Eggturning parameters</i>	1.5 (120)	1.5 (120)	1.5 (120)	No Action

Reference Table of Hatching Time and Parameters in Duck’s Egg Mode

<i>Hatching time</i>	<i>1 days</i>	<i>2 days</i>	<i>3 days</i>	<i>4 ~ 20 days</i>	<i>21 ~ 25 days</i>	<i>After 26 days</i>
<i>Temperature parameters</i>	38.2℃	38.0℃	38.0℃	37.8℃	37.5℃	37.2℃
<i>Humidity parameters</i>	50%RH	50%RH	50%RH	55%RH	65%RH	75%RH
<i>Ventilation parameters</i>	2 (15)	2 (15)	2 (15)	2 (30)	1 (35)	1 (50)
<i>Eggturning parameters</i>	1.5(120)	1.5(120)	1.5(120)	1.5(120)	1.5(120)	No Action

Reference Table of Hatching Time and Parameters in Goose’s Egg Mode

<i>Hatching time</i>	<i>1 ~ 9 days</i>	<i>10 ~ 18 days</i>	<i>19 ~ 28 days</i>	<i>After 28 days</i>
<i>Temperature parameters</i>	37.8℃	37.5℃	37.2℃	37.0℃
<i>Humidity</i>	50%RH	55%RH	60%RH	75%RH

<i>parameters</i>				
<i>Ventilation parameters</i>	2 (15)	2 (30)	1 (30)	1 (50)
<i>Eggturning parameters</i>	1.5 (120)	1.5 (120)	1.5 (120)	No Action

Reference Table of Hatching Time and Parameters in Pigeon's Egg Mode

<i>Hatching time</i>	1 ~ 2 days	3 ~ 5 days	5 ~ 9 days	10 ~ 11 days	12 ~ 15 days	After 16 days
<i>Temperature parameters</i>	38.2 °C	38.0 °C	37.8 °C	37.5 °C	37.2 °C	37.0 °C
<i>Humidity parameters</i>	50% RH	50%RH	60%RH	60%RH	65%RH	70%RH
<i>Ventilation parameters</i>	2 (15)	2 (15)	2 (30)	2 (30)	1 (30)	0.5 (30)
<i>Eggturning parameters</i>	1.5 (120)	1.5 (120)	1.5 (120)	1.5 (120)	1.5 (120)	No Action

1. The parameters of other modes can not be changed with the hatching time.

## V. Constant Temperature Settings (Batching Hatching):

### 1. Temperature and humidity settings

If the required temperature is 37.9 °C -38 °C, and the humidity is 55%RH-60%RH, press the “Set” key, and the hatcher displays the temperature value “PPP”; release the key when the humidity indicator is off, the three-digit number shown by temperature nixie tube is the default temperature value, it is available to press the “Up” key or the “Down” key to adjust temperature as needed. The max temperature is 38 °C. And then press the “Set” key again into humidity settings, the two-digit number shown by humidity nixie tube is the default humidity value, it is available to press the “Up” key or the “Down” key to adjust

humidity as needed. The maximum humidity is 60%RH. Then press the “Set” key again, and don’t release (within about one second) until the hatcher displays “FFF” and flashes three times on screen, and the hatcher can return to the normal operation state automatically.

**2. Example for Arbitrary Settings of Temperature and Humidity (available to change the automatic interval, no necessary to operate in general conditions)**

Press the “Set” key and don’t release when the hatcher displays “PPP” , and then click the “Up” key and release it when the hatcher displays P1 on screen, the left three-digit number is the over-temperature alarm value, the hatcher will alarm if the temperature reaches the alarm value. It is available to press the “Up” key or the “Down” key to adjust temperature as needed.

More details about arbitrary temperature and humidity settings can be referred in the following table, the operation is as same as above.

Parameter name	Parameter code	Parameter Description	Default settings
Over-temperature alarm	P1	The alarm can be enabled if the temperature reaches the value;	38.7℃
Over-temperature value	P2	The fan can start working if the temperature reaches the value;	38.2℃
Max controlled temperature	P3	The hatcher can terminate heating if the temperature reaches the value;	38.0℃
Max controlled temperature	P4	The hatcher can start heating if the temperature reaches the value;	37.9℃
Low temperature	P5	The hatcher can start standby heating if the temperature	37.7℃

		reaches the value;	
Under temperature alarm value	P6	The alarm can be enabled if the temperature reaches the value;	37.2°C
Over humidity alarm value	P7	The alarm can be enabled if the humidity reaches the value;	70%RH
Humidifying termination value	P8	The hatcher can terminate humidifying if the humidity is equal or greater than the value;	60%RH
Humidifying enablement value	P9	The hatcher can start humidifying if the humidity is less than the value;	55%RH
Under humidity alarm value	Pa	The alarm can be enabled if the humidity reaches the value;	50%RH

After setting temperature and humidity, press and hold down the “Set” key (within one second), till the hatcher displays “FFF” and flashes three times, to indicate that saving operation is completed, and the hatcher returns to normal operation state automatically.

### 3. Eggturning setting

Press and hold down the “Set” key, the hatcher displays “PPP” on screen , then press the “Down” key, and release it till the hatcher displays F1 on screen. The three-digit number on the left shows the cumulative eggturning times, which can be zeroed after power-off, and be calculated from zero in the next operation.

**The other parameters of eggturning settings can be referred in the following table; the operation is as same as above.**

Parameter name	Parameter code	Parameter Description	Default settings
Eggturning times	F1	Eggturning record times	Zeroed after power-off

Eggturning cycle	F2	Eggturning interval	1.5 hours
Eggturning duration	F3	Eggturning duration	180 seconds
Ventilation cycle	F4	Ventilation interval	2.0 hours
Ventilation duration	F5	Ventilation duration	30 seconds

After setting eggturning, press and hold down the “Set” key (within one second), till the hatcher displays “FFF” and flashes three times, to indicate that saving operation is completed, and the hatcher can return to the normal operation state automatically.

Please set the eggturning time F3 to zero, If need to stop eggturning in hatching process.

#### **VI. Manual Eggturning:**

Press the “Up” key directly to turn eggs manually, the direction of eggturning can be automatically set by computer.

#### **VII: Temperature and Humidity Calibration:**

Hold down the “Down” key and start up the machine, the hatcher shows EEE on screen to indicate entering into the calibration mode, release the key and the hatcher displays the temperature value; press the “Up” key or the “Down” key to adjust the temperature and make the screen number consistent with the standard temperature. Then press the “Set” key and release it, the hatcher displays the humidity value on screen, and press the “Up” key or the “Down” key to adjust the humidity and to make the



screen number consistent with the standard humidity. After calibration, press and hold down the “Set” key (within one second), till the hatcher displays “FFF” and flashes three times on screen, to indicate that saving operation is completed, and the hatcher can return to the normal operation state automatically.

### **VIII. Self-Test Function: Prohibited to operate the hatcher on load;**

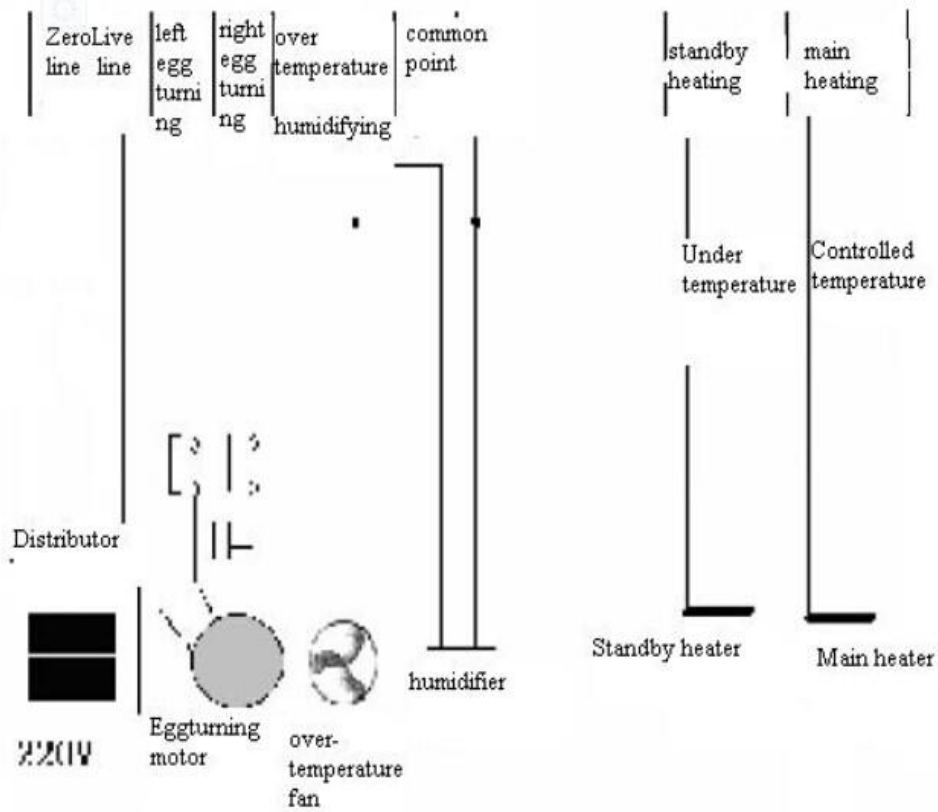
Hold down the “Up” key to start up, the six output relays can be successively switched on or switched off. Press the “Down” key to return to the normal state.

### **IX. Quick Reset to Default Setting State**

Press and hold down the “Set” key until the hatcher displays FFF on screen, thus to reset to default: the temperature is 38 °C, the humidity is 60% RH, the eggturning is 1.5 hours, the eggturning duration is 180 seconds, the ventilation cycle is 2 hours, the ventilation duration is 30 seconds, then the hatcher can return to a normal working automatically.

**X Wiring Diagram:**

## Automatic controller wiring diagram



Dear Users:

Hello!

Welcome to use the microcomputer full-automatic hatcher produced by our company!

Please note the following issues in use:

1. If you select the inconstant temperature hatching mode (bulk hatching), please check the relevant hatching data carefully before modifying. The default parameters in the computer controller are based on the relevant data from animal husbandry experts (room temperature: 25 °C, humidity: 50% RH)
2. Please refer to the content set forth in Section IV on Page 2, if only need to change the temperature and humidity parameters. Please don't set other parameters to prevent misoperations, or it may affect your use and cause an unnecessary losses.
3. Please do not contact the sensor to water directly, because the temperature and humidity sensors are made of the high precision and micro-molecular materials. The dust on sensor's surface must be regularly cleared; otherwise it may affect the measurement accuracy.
5. The manufacturer shall only undertake corresponding

obligations for the product itself sold to users, and shall not be responsible for other later damages of users caused by faults of the product.