

# Intelligent Incubator Controller

## USER MANUAL

## I、overview

Intelligent temperature-humidity incubator controller is a computer controlled system with full intelligence. It is designed for the incubation industry with employment of the latest type of microprocessor and electrical element. The processor used in this incubator controller is imported from Japan. The controller works with strong anti-jamming capability and high stability. The temperature sensor within it, which is imported from USA, measures in high precision and wide range. The high performance humidity sensor also works in high precision, and in addition, It could compensate the temperature to make the performance more reliable. The four screens are designed in a user friendly way. Two of them show the temperature and humidity in real time. The other two provide the function for user setting the turn number and hatch period length, and displaying the temperature and humidity set before. In the meantime, user can free to choose the customs, chicken, duck, goose, dove and pheasant incubation models.

## II、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: 0~99%RH
4. Precision of humidity control:  $\pm 3\%RH$
5. Output channels: 6 channels (main heater, backup heater, fan, turn left, turn right, and air refresher)
6. Output current: 30A for both main and backup heater, while 10A for others.
7. Number of turns: maximum is 999
8. Turn period: adjustable between 0 and 999 minutes. (Default is 90 minutes)
9. Duration of turning: adjustable between 0 and 999 seconds. (Default is 180 seconds)
10. Air refreshing period: adjustable between 0 and 999 minutes. (default is 120 minutes)
11. Duration of air refreshing: adjustable between 0 and 999 seconds. (default is 15 seconds)
12. Length of measurement line: about 1.5 meters

## III、Working conditions:

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

The incubation setting of this machine divided into automatic incubation and custom incubation .

#### IV、Automatic incubation settings .

After start up and waiting for the temperature display normal ,having the selection type (selection type of this machine divided into : chicken ,duck ,goose ,dove ,pheasant and other.

Operation as below : Pressing the MODE button and UP 3 seconds under working mode, enter egg incubation. If incubation other election ,press the MODE button again and up 3 seconds ,enter in turn :duck 、goose、 dove、 pheasant and other.

Pressing MODE button and rasing the hands , can view the times of egg turning and the days of incubation ;press MODE button again, return to temperature settings and humidity settings . (Remark :the times of egg turning after outage to zero ,and days of incubations after outage to memory).

#### Incubation time and parameter table under five incubation model

##### Incubation time and parameter table of egg:

Days of incubation	1-6days	7-12days	13-18 days	19days and after
Temperature parameter	38.0℃	37.8℃	37.6℃	37.2℃
Humidity parameter	60%RH	55%RH	60%RH	70%RH
Fan parameter	2 (15)	2 (20)	1.5 (25)	1.5 (30)
Egg turning parameter	1.5 (180)	1.5 (180)	1.5 (180)	No turning

##### Incubation time and parameter table of duck egg:

Days of incubation	1day	2-3days	4-20days	21-25	26days and after
Temperature parameter	38.3℃	38.0℃	37.8℃	37.5℃	37.2℃
Humidity parameter	60%RH	60%RH	55%RH	65%RH	70%RH
Fan parameter	2 (15)	2 (20)	1.5 (25)	1.5 (25)	1.5 (30)
Egg turning parameter	1.5 (180)	1.5 (180)	1.5 (180)	1.5 (180)	No turning

##### Incubation time and parameter table of goose egg

Days of incubation	1day	2days	3days	4-21days	22-28 days	29days and after
Temperature parameter	38.5℃	38.3℃	38.0℃	37.8℃	37.5℃	37.0℃
Humidity parameter	65%RH	65%RH	65%RH	55%RH	60%RH	75%RH
Fan parameter	2 (15)	2 (15)	2 (15)	1.5 (20)	1.5 (25)	1.0 (30)
Egg turning parameter	1.5 (180)	1.5 (180)	1.5 (180)	1.5 (180)	1.5 (180)	No turning

### Incubation time and parameter table of dove egg

Days of incubation	1-2days	3-5days	6-9days	10-11days	12-15days	16days and after
Temperature parameter	38.2℃	38.0℃	37.8℃	37.5℃	37.2℃	37.0℃
Humidity parameter	50%RH	50%RH	60%RH	60%RH	65%RH	70%RH
Fan parameter	2.0 (15)	2.0 (15)	2.0 (15)	2.0 (20)	1.0 (20)	1.0 (30)
Egg turning parameter	1.5 (180)	1.5 (180)	1.5 (180)	1.5 (180)	1.5 (180)	No turning

### Incubation time and parameter table of pheasant egg

Days of incubation	1-7days	8-14days	15-21days	22days and after
Temperature parameter	38.2℃	38.0℃	37.8℃	37.6℃
Humidity parameter	60%RH	55%RH	60%RH	75%RH
Fan parameter	2 (15)	2 (20)	1.5 (25)	1.0 (30)
Egg turning parameter	1.5 (180)	1.5 (180)	1.5 (180)	No turning

Under CUSTOM MODE ,parameter not change over time

Remark:

After one incubation period finished (chicken, duck, goose, pigeon and pheasant), the system not reset automatic, user can choose the model again, or in the mean time press the RDUCCCE and MODE button (3 seconds or more )will reset the days of incubation and enter second incubation .

## V、CUSTOM SETTINGS :

### 1.Temperature and humidity settings

Under the “CUSTOM” model (the light of “custom” on ),user can set the temperature and humidity .Like incubation need the temperature is 38℃,humidity is 60℃,then press “SET” button and rasing the hands, “setting temperature window SV” display PP, “setting temperature window SV” blinking display current temperature setting data ,through pressing “UP” and “DOWN” buttons to adjust ,and adjust to 38.0℃.Pressing the “SET” button and rasing the hands , “setting humidity window SV” display HH , “setting humidity window SV” blinking display current humidity setting data ,through pressing “UP” and “DOWN” buttons to adjust ,and adjust to 60℃.After finished setting ,press to “SET ” to exit or no pressing for more than 10 seconds ,systems can exit automatic ,and the modification

parameter before saved automatically .

**2.Interval adjust under the CUSTOM model (user not need set ,and has finished setting completely before leave factory )**

Under the normal working conditions ,holding the “SET” and “UP” button (3 seconds and more ) , “setting humidity window SV” display P1 , “setting humidity window SV” blinking to display P1 current data ,if need to change ,press “UP” or “DOWN” to adjust .if need to change next parameter ,pressing “SET” to adjust parameter .

No.	Parameter name	Parameter ID	Setting range	Default value
1	Temperature for alarm if over	P1	0-99.9℃	38.6
2	Temperature for starting fan if over	P2	0-99.9℃	37.9
3	Temperature for stopping main heater	P3	0-99.9℃	37.8
4	Temperature for starting main heater	P4	0-99.9℃	37.6
5	Temperature for starting backup heater	P5	0-99.9℃	37.5
6	Temperature for alarm if lower	P6	0-99.9℃	37.0
7	Humidity for alarm if over	H1	0-99%	80%
8	Humidity for stopping wet	H2	0-99%	65%
9	Humidity for starting wet	H3	0-99%	60%
10	Humidity for alarm if lower	H4	0-99%	40%

Remark :

1、 All the parameter of every interval above ,should in the custom model to adjust .

2、 Finishing one parameter ,If not do any other parameter setting ,press “SET” to exit or no any operation for more than 10 seconds ,the systems can exit automatic ,and the modification parameter before saved automatically .

3、Parameter setting of the egg turning, fan ,calibration in the custom model (user not need set ,and has finished setting completely before leave factory ) .

Under the normal working conditions ,holding the “SET” and “UP” button (3 seconds and more ) , “setting humidity window SV” display P1 , “setting humidity window SV” blinking to display P1 current data ,if need to change ,press “UP” or “DOWN” to adjust .if need to change next parameter ,pressing “SET” to adjust parameter .

Finishing one parameter ,If not do any other parameter setting ,press “SET” to exit or no any operation for more than 10 seconds ,the systems can exit automatic ,and the modification parameter before saved automatically

No.	Parameter name	Parameter ID	Setting range	Default value
1	Egg turning period	F1	0-999 minutes	90 Minutes
2	Egg turning duration	F2	0-999 seconds	180 seconds
3	Air refreshing period	F3	0-999 minutes	120 minutes
4	Air refreshing duration	F4	0-999 seconds	30 seconds
5	Display switching	F5	0-1	0
6	Temperature calibration	F6	Adjust according to the thermometer	
7	Humidity calibration	F7	Adjust according to the humidometer	
8	Egg turning times	F8	Could be shown through querying	
9	Incubation days	F9	Could be shown through querying	

Remark :for the parameter F1、F2、F3、F4, only can adjust in the custom model .

When incubation in the custom model,outage in the incubation progress ,having the memory of the days of the incubation .and when the outage more than 1 day ,user can change the display data F8 ,build up the days of outage and continue the variable temperature incubation .

## **VI、Egg turning manually**

In the normal working condition ,press “UP” button ,can start left egg turning→left egg turning finished →right egg turning →right egg turning in turn .

## **VII、remove the alarm manually**

When the alarm starts, user could mute it by pressing the “DOWN” button and switch back by pressing the button again. The alarm lighter will always on during alarm period.

## **VIII、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

## **IX、(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.

### X、Insrument wiring diagram:

Power		Left turn	Right turn	Over heat	Wet	Public
Zero line	Fire wire					

zero line	backup heater	main heater	zero line
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**Attention: Voltage of this device is 195V-245V; any damage caused by the excess of the voltage will be at Your Own Risk.**

**The fan has to work all the time during the hatching.**

**There are several vents at two sides of hatching machine. One or two vents should be opened before hatching. By the end of hatching, you should open 4-7 vents.**

**It has to inject the water in the laver and the water should over the wet pipe.**