

彩屏智能孵化控制器

Intelligent Incubator Controller

用户手册

USER MANUAL

一、概述 overview:

智能温湿度孵化控制器是我公司针对孵化行业而设计开发出的全智能微电脑控制系统,采用最新的微电子技术和新型元器件。采用先进的微电脑芯片,抗干扰能力强,工作稳定性高;温度传感器采用进口超高精度传感器,温度采集精度高,测温范围宽;选用高性能湿度传感器,精度高,具有温度补偿性能,有效保证了产品性能的稳定可靠。人性化的LED彩色屏显示方式设计,不仅可实时显示孵化箱中温度、湿度、翻蛋倒计时与孵化天数,也可显示设置温度与设置湿度以及自定义、鸡、鸭、鹅、鸽子、山鸡六种孵化模式用户可自由选择。并且可以通过手机远程实时显示和操控温湿度等参数。

Intelligent temperature and humidity incubator controller is designed for incubation industry to develop the intelligent microcomputer control system, using the latest microelectronic technology and new components. Adopt imported microcomputer chip, strong anti-interference ability, high working stability; Temperature sensor using imported high precision sensors, temperature acquisition of high precision, wide temperature range; Choose high-performance humidity sensors, high precision, temperature compensation performance, effective guarantee product performance is stable and reliable. Humanized design, color screen display mode respectively show that the incubator temperature, humidity, setting temperature, humidity, setting eggs hatch time, number of days. At the same time, chicken, duck, goose, pigeon, chicken, custom six incubation model users are free to choose. And the mobile phone can be remotely real-time display and control parameters such as temperature and humidity.

二、主要技术指标 Main Technical Factors:

1. 温度显示范围: 0~99.9℃

Range of temperature display: 0~99℃

2. 温度测量精度: ±0.1℃

Precision of temperature measurement: ±0.1℃

3. 湿度显示范围: 0—99%RH

Range of humidity display: 0~99% RH

4. 控湿精度: ±3%RH

Precision of humidity control: ±3%RH

5. 输出路数: 4路(加热、加湿、翻蛋、照蛋)

Output channels: 4 channels (Heat, humidify, turn eggs, candling)

三、工作条件 Main Technical Factors:

1. 工作电压: 交流 110V~240V, 50Hz

Working voltage: AC 110V ~240V; Frequency 50Hz

2. 相对湿度: 小于 85%

Relative humidity: less than 85%

3. 环境温度: -20℃~70℃

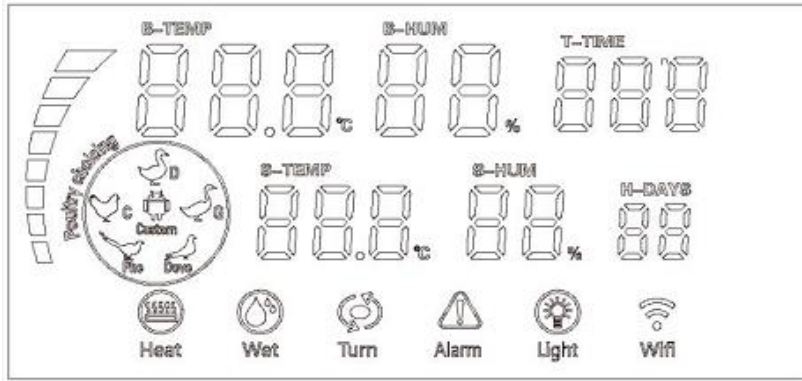
Environment temperature: -20℃~70℃

四、显示屏、按键及参数设置说明

Display screen, keys and parameter Settings

1、显示屏 Display screen






2、按键操作说明

Display introduction

主显示屏右侧五个按键从上到下分别为：设置、增加、减少、模式、照蛋。

The 5 keys on the right of the main screen are: Set, +, -, Mode, .

(1) 设置 Set

- a、在正常工作状态下，点按“设置”键（短按），仪表进入基准温度和湿度参数设置；
In normal status ,short press “Set” key ,controller enter enters the reference temperature and humidity parameter Settings.
- b、长按“设置”键 3 秒以上（长按）仪表进入翻蛋时间和校准参数设置等；
Long press the “Set” key for more than 3 seconds (long press), instrument into the ventilation, calibration, parameter settings, etc.
- c、在设置状态下，点按设置键（短按）进入下一个参数设置。
In settings, press the “Set” key (short press) to enter the next parameter setting.

(2) 增加 +

- a、在正常工作状态下，点按“增加”键（短按）为手动翻蛋功能；
In normal status, press and hold “+” key (short press) for manual turn egg function;
- b、在设置状态下，点按“增加”键（短按）调整参数值；长按“增加”键连续调整参数值。
In normal status, press the “+” button (short press) to adjust the parameter value, and press the “+” button to adjust the parameter value continuously.

(3) 减少 -


- a、在正常工作状态下，点按“减少”键（短按）为手动报警消音功能；
In normal status ,short press “-” key can handle alarm funtion.
- b、在设置状态下，点按“减少”键（短按）调整参数值；长按“减少”键连续调整参数值。
In normal status, press the “-” key (short press) to adjust the parameter value, and press the “-” key to adjust the parameter value continuously.

(4) 模式 Mode

在正常工作状态下，长按“模式”键 1 秒以上，可依次调整模式自设、鸡、鸭、鹅、鸽子、山鸡。
In the normal working state, long press “Mode” key for 1 second or more, can be adjusted in sequence mode: custom, chicken, duck and goose, dove, pheasant.

(5) 照蛋

- a、在正常工作状态下，点按“照蛋”键（短按）为开启/关闭照蛋功能；

In the normal working state, press the “” key (short press) to turn on/off the egg light function;

(6) 组合键 Combination key

- a、在正常工作状态下，同时按住“设置”和“增加”键 3 秒以上（长按），仪表进入区间温度和湿度参数设置；
In the normal working state, pressing “Set” and “+” key more than 3 seconds and controller will enter temperature and humidity setting.

b、在正常工作状态下，同时按住“增加”键和“减少”键5秒以上（长按），所有参数恢复出厂设置。

In the normal working state, pressing the “+” and “-” button for 5 seconds to reset all the parameters to the default.

c、在正常工作状态下，同时按住“模式”和“减少”键3秒以上（长按），翻蛋次数清零和孵化天数复位为1。

In the normal working state, press and hold the “MODE” key and the reduction key for more than 3 seconds (long press), count the number of eggs cleared, and the number of days to hatch is reset to 1.

注：在设置状态下，设置参数闪烁显示，当超过10秒不对按键操作，系统自动退出设置状态。之前修改的参数自动保存。

Note: in the set state, set the parameters flashing display, when more than 10 seconds do not press the button, the system will automatically exit the set state. Previously modified parameters are automatically saved.

3、在正常工作状态下，点按设置键（短按），仪表进入基准温度和湿度参数设置。（系统出厂后，用户只需设置基准参数，区间各参数随基准参数的设置自动调整。）

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.)

序号 No.	参数名称 Parameter name	参数代号 Parameter ID	设置范围 Setting range	出厂默认值 Default value
1	基准温度设置参数 Reference temperature setting	PP (P2)	0-99.9℃	37.8
2	基准湿度设置参数 Reference humidity setting	HH (H2)	0-99%	60%

注：以上基准参数，只有在自定义模式下可以调整。

Note: the above reference parameters can be adjusted only in custom mode.

4、在正常工作状态下，同时按住“设置”和“增加”键3秒以上（长按），仪表进入区间温度和湿度参数设置。（系统出厂前，区间各参数已设置完毕，非专业人员请勿调整。）

In normal operation, press the “Set” and “+” key for more than 3 seconds (long press), the instrument enters the interval temperature and humidity parameter settings. (Before the system is out of the factory, the parameters of the interval have been set up, and the non professionals should not adjust.)

序号 No.	参数名称 Parameter name	参数代号 Parameter ID	设置范围 Setting range	出厂默认值 Default value
1	高温报警设置参数 Temperature for alarm if over	P1	0-99.9℃	38.6
2	停止加热设置参数 Temperature for stopping heater	P2	0-99.9℃	37.8
3	启动加热设置参数 Temperature for starting heater	P3	0-99.9℃	37.5
4	低温报警设置参数 Temperature for alarm if lower	P3	0-99.9℃	37.0
5	高湿报警设置参数 Humidity for alarm if over	H1	0-99%	75%
6	停止加湿设置参数 Humidity for stopping wet	H2	0-99%	60%
7	启动加湿设置参数 Humidity for starting wet	H3	0-99%	55%
8	低湿报警设置参数 Humidity for alarm if lower	H4	0-99%	40%

注：以上各区间参数，只有在自设模式下可以调整。

Note: the above range parameters can only be adjusted in the user-defined mode.

5、在正常工作状态下，长按“设置”键3秒以上（长按），仪表进入翻蛋时间和校准参数设置等。

In normal operation, press the “SET” button for more than 3 seconds (long press), The instrument enters egg turning time and calibration parameter settings.

序号 No.	参数名称 Parameter name	参数代号 Parameter ID	设置范围 Setting range	出厂默认值 Default value
1	翻蛋周期 Egg turning period	F1	0-999 分钟 0-999 minutes	120 (分钟) 120minutes
2	翻蛋时间 Egg turning duration	F2	0-999 秒 0-999 seconds	15 (秒) 15 seconds
3	温度校准设置参数 Temperature calibration	F3	可根据温度计调整 Adjust according to the thermometer	
4	温度校准设置参数 Temperature calibration	F4	可根据湿度计调整 Adjust according to the humidometer	
5	孵化天数 Incubation days	F5	1-99 (天) 1-99 (days)	1 (天) 默认第1天 1 (day) default first days
6	翻蛋次数 Egg turning times	F6	翻蛋次数可通过查询显示 Can be displayed by query	
7	加热模糊控制脉宽 The heating fuzzy control pulse width	F7	0-10	5

五、控制功能部分 Control function part

1、控温功能 (TH1 为孵化箱内温度)

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

(1) **高温报警**: 当温度 $TH1 > P1$ 时, 启动报警功能, 报警指示灯亮、蜂鸣器鸣叫; 当温度 $TH1 < P1$ 时报警功能关闭。

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) **低温报警**: 当温度 $TH1 < P4$ 时, 启动报警功能, 蜂鸣器鸣叫; 当温度 $TH1 > P4$ 时报警功能关闭。

Lower temperature alarm: if $TH1 < P4$, system starts alarm and starts buzzer; if $TH1 > P4$, system turn off the alarm function.

(3) **加热功能**: 当温度 $TH1 < P3$ 时, 启动加热; 当温度 $TH1 > P2$ 时, 关闭加热。其它温度区间加热根据设置脉宽 F6 模糊控制。

Main heater: if $TH1 < P3$, system starts the heater; if $TH1 > P2$, system stops the heater.

2、控湿功能 (RH1 为孵化箱内湿度)

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

(1) **高湿报警**: 当湿度 $RH1 > H1$ 时, 启动报警功能, 蜂鸣器鸣叫; 当湿度 $RH1 < H1$ 时报警功能关闭。

Over humidity alarm: if $RH1 > H1$, system starts alarm and starts buzzer; if $RH1 < H1$, system turn off the alarm function.

(2) **加湿功能**: 当湿度 $RH1 \leq H3$ 时, 启动加湿器; 当湿度 $RH1 \geq H2$, 关闭加湿器。

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

(3) **低湿报警**: 当湿度 $RH1 < H4$ 时, 启动报警功能, 蜂鸣器鸣叫; 当湿度 $RH1 > H4$ 时报警功能关闭。

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

3、翻蛋功能 Egg turning related functions

(1) 手动翻蛋: 在正常工作状态下, 点按翻蛋键, 启动手动翻蛋功能; 运行翻蛋时间 F2 后自动停止; 或再次点按翻蛋键立即停止运行。

Manual egg turnover: in the normal working state, click the "egg turnover" button to start the manual egg turnover function; It stops automatically after running the egg turnover time F2. Or click "turn the egg" button again to stop the operation immediately.

(2) 自动翻蛋: 按照设置的翻蛋周期 F1 和翻蛋时间 F2 自动翻蛋。

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

(3) 当翻蛋周期 F1 或翻蛋时间 F2 设置为 0 时, 自动翻蛋功能取消。

When the egg turnover cycle F1 or the egg turnover time F2 is set to 0, the automatic egg turnover function is cancelled.

(4) 翻蛋次数可通过按键查询显示, 参数代号 F6, 可通过“增加”、“减少”键调整; 翻蛋次数掉电后数据清零。

The number of turns can be displayed by pressing the key. The parameter code F6 can be adjusted by "+" and "-" keys. The number of turns is counted and the data is cleared after power loss.

(5) 翻蛋次数最大显示为 999 次, 超过 999 次后数据清零, 重新开始累加。

The maximum number of turns is shown 999 times. After more than 999 times, the data is cleared and re accumulated.

(6) 每次调整模式时, 翻蛋次数清零。

Every time the adjustment mode, turn the number of eggs cleared.

4、孵化天数: Incubation days number

(1) 孵化天数出厂默认为 1, 从仪表通电开始, 每 24 小时孵化天数自动加一。

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

(2) 孵化天数可通过按键查询显示, 参数代号 F5, 可通过“增加”、“减少”键调整; 孵化天数掉电后数据保持。

Incubation days can be got through querying (the parameter ID is F5). User can change it through "+" and "-" button. The number will be saved even the system is down.

(3) 孵化天数最大显示为 99 天, 超过 99 天后数据清零。

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

(4) 每次调整模式时, 孵化天数复位为 1。

The number of days per hatch was reset to 1 at each adjustment mode.

5、手动报警解除: Remove the alarm manually

当控制器报警时, 点按“减少”键可消除蜂鸣器声音, 但报警指示灯仍然指示; 再次点按“减少”键, 恢复报警声音。

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

6、校准功能: Calibration function

温度和湿度传感器长期使用可能出现偏差, 可通过准确的温度计和湿度计校准。当参数 F3 显示时, 点按“增加”、“减少”键把当前温度调整与温度计相同; 当参数 F4 显示时, 点按“增加”键或“减少”键把当前湿度调整与湿度计相同。

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 humidometer. When F3 displayed, press "+" or "-" key to calibrate the temperature; while when F4 displayed, press "+" or "-" key to

calibrate the humidity.

7、复位功能: Reset function

在正常工作状态下,同时按住“增加”和“减少”键5秒以上(长按),蜂鸣器鸣叫两声,所有参数恢复出厂默认值。

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

8、传感器错误指示: sensor error indicator

(1) 当温度传感器出现故障或不接时,温度显示窗口显示EEE,同时主、副电加热和超温排风扇停止工作;

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;

(2) 当湿度传感器出现故障或不接时,湿度显示窗口显示EE,同时加湿设备和除湿设备停止工作。

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.

(3) 当任何一个传感器有故障时,蜂鸣器鸣叫提示。

There will be beep warnings no matter which sensor does not work properly.

9、六种模式下孵化时间及控制参数表:

Incubation time and parameter table under six incubation model

(1) 模式设置:在正常工作状态下,长按“模式”键3秒以上,可依次调整模式鸡、鸭、鹅、鸽子、山鸡、自定义。每次调整模式时,翻蛋次数清零,孵化天数复位为1。

Mode setting: under normal working condition, long press “Mode” button for 3 seconds or more, in order to adjust mode custom chicken duck goose, pheasant, dove. In each adjustment mode, the number of turns turned out to be zero, and the number of incubation days was reset to 1.

(2) 在自定义模式下温度、湿度可以自行设置,系统按照设置参数运行;其它五种模式鸡、鸭、鹅、鸽子、山鸡,根据孵化天数,系统按照固定参数运行。

Temperature, humidity can be set up, according to the system operating parameters; the other five modes of chicken, duck and goose, pheasant, dove, according to the hatching days, according to the fixed parameters of operation system.

(3) 在鸡、鸭、鹅、鸽子、山鸡某一种固定模式下,一个孵化周期完成后,系统不自动复位;需按住“模式”和“减少”键3秒以上(长按),蜂鸣器鸣叫一声,重新开始新的孵化周期。

In chicken, duck, goose, pheasant, dove a fixed mode, an incubation period, the system does not automatically reset; hold “MODE” and “DOWN” button for 3 seconds or more, buzzer sound, start a new incubation period.

(4) 五种模式运行参数,如下表所示:

The five model operating parameters are shown in the following table:

鸡蛋孵化天数及参数表

Incubation time and parameter table of egg

孵化天数 Days of incubation	1-6 天 1-6days	7-12 天 7-12days	13-18 天 13-18 days	19 天及之后 19days and after
温度参数 Temperature parameter	38.0℃	37.8℃	37.6℃	37.2℃
湿度参数 Humidity parameter	60%RH	55%RH	60%RH	70%RH

翻蛋参数 Egg turning parameter	2.0 (15)	2.0 (1.5)	2.0 (1.5)	不翻蛋 No turning
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鸭蛋孵化天数及参数表

Incubation time and parameter table of duck egg:

孵化天数 Days of incubation	1 天 1day	2-3 天 2-3days	4-20 天 4-20days	21-25 天 21-25 days	26 天及之后 26days and after
温度参数 Temperature parameter	38.3℃	38.0℃	37.8℃	37.5℃	37.2℃
湿度参数 Humidity parameter	60%RH	60%RH	55%RH	65%RH	70%RH
翻蛋参数 Egg turning parameter	2.0 (15)	2.0 (15)	2.0 (15)	2.0 (15)	不翻蛋 No turning

鹅蛋孵化天数及参数表

Incubation time and parameter table of goose egg

孵化天数 Days of incubation	1 天 1day	2 天 2days	3 天 3days	4-21 天 4-21days	22-28 天 22-28 days	29 天及之后 29days and after
温度参数 Temperature parameter	38.5℃	38.3℃	38.0℃	37.8℃	37.5℃	37.0℃
湿度参数 Humidity parameter	65%RH	65%RH	65%RH	55%RH	60%RH	75%RH
翻蛋参数 Egg turning parameter	2.0 (15)	2.0 (15)	2.0 (15)	2.0 (15)	2.0 (15)	不翻蛋 No turning

鸽蛋孵化天数及参数表

Incubation time and parameter table of dove egg

孵化天数 Days of incubation	1-2 天 1-2days	3-5 天 3-5days	6-9 天 6-9days	10-11 天 10-11days	12-15 天 12-15days	16 天及之后 16days and after
温度参数 Temperature parameter	38.2℃	38.0℃	37.8℃	37.5℃	37.2℃	37.0℃
湿度参数 Humidity parameter	50%RH	50%RH	60%RH	60%RH	65%RH	70%RH
翻蛋参数 Egg turning parameter	2.0 (15)	2.0 (15)	2.0 (15)	2.0 (15)	2.0 (15)	不翻蛋 No turning

山鸡蛋孵化天数及参数表

Incubation time and parameter table of pheasant egg

孵化天数 Days of incubation	1-7 天 1-7days	8-14 天 8-14days	15-21 天 15-21days	22 天及之后 22days and after
温度参数 Temperature parameter	38.2℃	38.0℃	37.8℃	37.6℃
湿度参数 Humidity parameter	60%RH	55%RH	60%RH	75%RH
翻蛋参数 Egg turning parameter	2.0 (15)	2.0 (15)	2.0 (15)	不翻蛋 No turning