Intelligent Hatch Controller

Operation Instruction

I、Overview ：

Intelligent hatch controller is a fully intelligent PC control system which is designed and developed for the hatch industry. It adopts the latest micro-electronic technology and new electric parts and high-performance temperature and humidity sensor, and effectively guarantees stability and reliability of the product performance.

II、Main technical indexes：

1. Temperature display range: 0～99℃

2. Temperature measurement precision: ±0.1℃

3. Humidity display range: 0—99%RH

4. Humidity control precision: ±3%RH

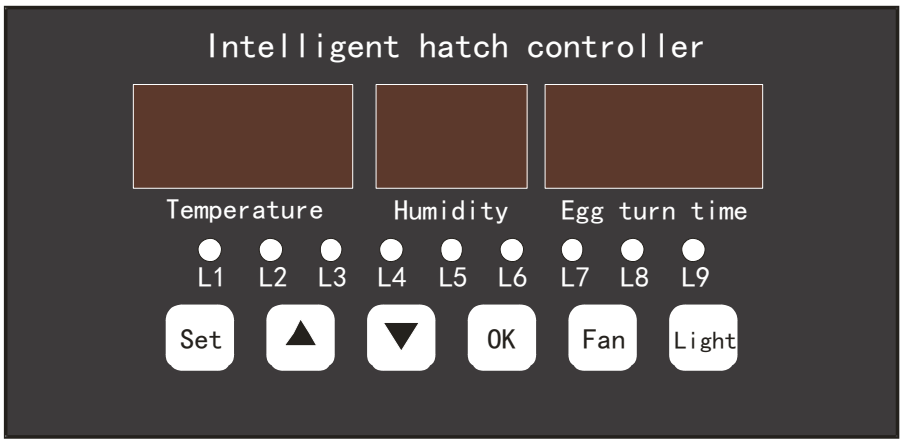
5. output channels: 9-channel (over temperature, temperature control, low temperature, turn eggs left, turn eggs right, humidity control, alarm, fan and light).

6. output current: 10A for temperature control and low temperature and 1A for others

7. Length of measurement line: About 2 meters

8. Working voltage: AC 180V～240V, 50HZ

III、Button and parameter setting



L1: High temperature
L2: temperature control
L3: under temperature
L4: turn left
L5: turn right
L6: humidity control
L7: alarm
L8: fan
L9: light

<i> Button Description

- During normal operation, the instrument enters into the temperature and humidity parameter setting by pressing Set button (click). The instrument enters into the Egg turn and ventilation calibration parameter setup by pressing Set button (hold the button for more than 5 seconds).

  Start the fan by pressing Fan button (click).Stop the fan by pressing Fan button.

  Start the lighting lamp by pressing Light button (click). Close the lighting lamp by pressing Light button.

  The instrument enters into the manual egg turn state by pressing (hold for over one second).

  The instrument enters into the alarm silence state by pressing button (hold for more than one second)

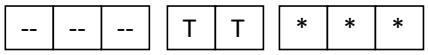
- In parameter setup, save the current changed data and enter into the next parameter setup by pressing Ok button (click).

  Add/delete data by pressing and quickly add/delete the data by holding for over two seconds.

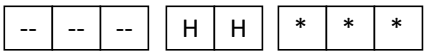
  Exit from the parameter setup state by Set button.

<ii> Temperature and humidity parameter setup

In normal operation, enter into the parameter setup state by pressing Set button and releasing it.

✧ Set basis temperature: the digital tube displays as the right figure 

"TT" indicates the basis temperature, "***" indicates the basis temperature (range: 0～99.9℃) . Change the basis temperature by pressing button. Save the data and automatically enter into the next parameter setup by pressing Ok button.

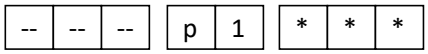
✧ Set basis humidity: The digital tube displays as the right figure 

"HH" indicates the basis humidity, "***" indicates the basis humidity value (range: 0～99%RH) . Change the basis humidity value by pressing button. Save the data and automatically enter into the next parameter setup by pressing Ok button.

✧ Set automatic filling: The digital tube displays as the right figure 

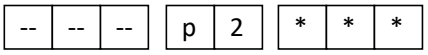
"FF" indicates whether to automatically compute the parameters. When "***" displays 1, it indicates to automatically compute parameters. When "***" displays 0, it indicates not to automatically compute parameters. Change this value by pressing button. Save the data and automatically enter into the next parameter setup by pressing Ok button. (Note: after the following parameters are changed, to change it again, you must set the parameter "FF" as 0 before entry into the following parameters!)

The following parameters are set under the special state. Generally they are not set.

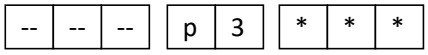
✧ Set over temperature alarm: The digital tube displays as the right figure 

"P1" indicates over temperature alarm value. When the temperature reaches this value, the device will give out the alarm and the alarming indicator of the instrument panel is on. Change this value by pressing button. Save the data and automatically enter into the next parameter setup by pressing Ok button.

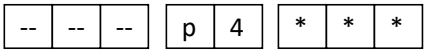
✧ Set over temperature: The digital tube displays as the right figure. “P2” indicates the over temperature value. When the temperature reaches this over-temperature point, the over-temperature indicator of the instrument panel will be on. The exhaust fan starts. When the temperature is lower than this over temperature, no signals are outputted. Change this value by pressing button. Save the data and automatically enter into the next parameter setup by pressing Ok button.



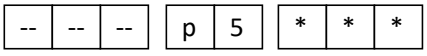
✧ Set temperature control upper limit: The digital tube displays as the right figure. “P3” indicates the temperature control upper limit. When the temperature reaches this temperature control point, no signals are outputted. The heating device stops. The temperature control indicator on the panel is off. Change this value by pressing button. Save the data and automatically enter into the next parameter setup by pressing Ok button.



✧ Set temperature control lower limit: The digital tube displays as the right figure. “P4” indicates the temperature control lower limit. When the temperature reaches this temperature control point, no signals are outputted. The heating device starts. The temperature control indicator on the panel is off. Change this value by pressing button. Save the data and automatically enter into the next parameter setup by pressing Ok button.

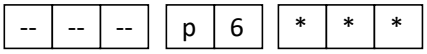


✧ Set low temperature: The digital tube displays as the right figure. “P5” indicates the low temperature value. When the temperature reaches this under-temperature point, some signals are outputted. The spare heating device can start. The under temperature indicator on the panel is on. When the temperature is higher this under-temperature point, no signals are outputted. The spare heating equipment stops. The under-temperature indicator on the

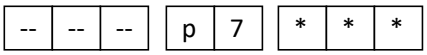


panel is off. Change this value by pressing button. Save the data and automatically enter into the next parameter setup by pressing Ok button.

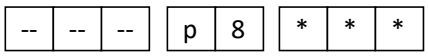
✧ Set low temperature: The digital tube displays as the right figure. “P6” indicates the under temperature alarm value. When the temperature is lower than this value, the device will give out an alarm. Change this value by pressing button. Save the data and automatically enter into the next parameter setup by pressing Ok button. (Note: the alarm indicator on the instrument panel is on in case of alarm. The alarm point of the rear terminal of the instrument corresponds to the common output signals!)



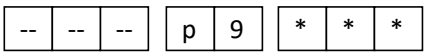
✧ Set over humidity alarm: The digital tube displays as the right figure. “P7” indicates the over humidity alarm value. When the humidity reaches this value, the device will give out an alarm. Change this value by pressing button. Save the data and automatically enter into the next parameter setup by pressing Ok button. (Note: the alarm indicator on the instrument panel is on in case of alarm. The alarm point of the rear terminal of the instrument corresponds to the common output signals!)



✧ Set humidity control upper limit: The digital tube displays as the right figure. “P8” indicates the humidity control upper limit. When the humidity reaches this humidity control point, no signals are outputted. The humidity generator stops. The humidity control indicator on the panel is off. Change this value by pressing button. Save the data and automatically enter into the next parameter setup by pressing Ok button.

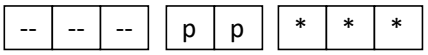


✧ Set humidity control lower limit: The digital tube displays as the right figure. “P9” indicates the humidity



control lower limit. When the humidity reaches this humidity control point, some signals are outputted. The humidity generator starts. The humidity control indicator on the panel is on. Change this value by pressing button. Save the data and automatically enter into the next parameter setup by pressing Ok button.

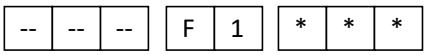
✧ Set low humidity alarm: The digital tube displays as the right figure. “PP” indicates the low humidity alarm. When the humidity reaches this value, the device gives out the alarm. Change this value by pressing button. Save the data and automatically enter into the next parameter setup by pressing Ok button.



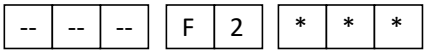
<iii> Egg turn and calibration parameter setup

In normal operation, hold Set button (for over 5 second) till entry into the parameter setup state.

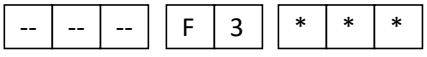
✧ Set egg turn interval: The digital tube displays as the right figure. “F1” indicates the egg turn interval(unit: min) in which the egg is not turned. Change this value by pressing button. Save the data and automatically enter into the next parameter setup by pressing Ok button.



✧ Set egg turn time: The digital tube displays as the right figure. “F2” indicates the egg turn time (unit: second) in which the egg is turned left or right. Change this value by pressing button. Save the data and automatically enter into the next parameter setup by pressing Ok button.

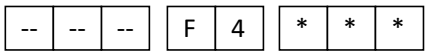


✧ Set ventilation interval: The digital tube displays as the right figure. “F3” indicates the ventilation interval

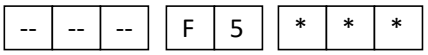


(unit: min) in which the temperature reaches the over temperature point, no signals are outputted, and the ventilation fan stops. Change this value by pressing button. Save the data and automatically enter into the next parameter setup by pressing Ok button.

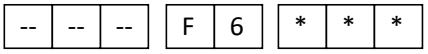
✧ Set ventilation time: The digital tube displays as the right figure. “F4” indicates the ventilation time (unit: second) in which the temperature reaches the over temperature point, some signals are outputted, and the ventilation fan starts to ventilate. Change this value by pressing button. Save the data and automatically enter into the next parameter setup by pressing Ok button.



✧ Set temperature calibration: The digital tube displays as the right figure. “F5” indicates the temperature calibration value. Change this value by pressing button. Save the data and automatically enter into the next parameter setup by pressing Ok button.



✧ Set humidity calibration: The digital tube displays as the right figure. “F6” indicates the humidity calibration value. Change this value by pressing button. Save the data and automatically enter into the next parameter setup by pressing Ok button.



<iv> Description of egg turn and silence

✧ **Egg turn mode:**

Automatic egg turn:

Automatically turn eggs according to set turn interval and time. Turn eggs left and right alternately. The egg turn time is displayed on the digital tube. The egg turn time is cleared to be zero after cut off.

Manually turn eggs:

When the instrument works normally, hold button till the digit at the right bit of the digital tube is on. Meanwhile, the left egg turn indicator is on and left egg turn is outputted. Stop turn eggs by holding button. Manually turn eggs circularly in the following sequence: enter into the manual egg turn, turn eggs left →stop turning eggs left→ turn eggs right→ stop turning eggs right →exit from manual→ egg turn, and enter into automatic egg turn.

Note: When the digit at the right bit of the digital tube is on, it indicates manual egg turn. When the digit is off, it indicates automatic egg turn.

✧ Silence function: When the instrument gives an alarm, muffle the beeper and stop the alarm by pressing button. At this time, the alarming indication is still on. Release the instrument control over the silence and alarm by pressing button. At this time, the instrument gives the alarm sound and alarm output, the indicator is still on.

<v> Quickly return to original factory setup state

The instrument displays zero by holding both and button (over 3 seconds) and release the hand after the beeper gives out the sound. At this time, the setting will recover to the original factory state. the temperature is 38℃. The egg turn cycle is 90 mins. The egg turn duration is 180 seconds. The ventilation cycle is 120 min. The ventilation time is zero second (stop ventilation). Finally the instrument will automatically return to the normal operation state.

IV、Instrument wiring:

Wiring description:

1. The terminal **(13) and (14) are the power input end of the instrument. The input voltage is AC220V±10%.**

2. The terminal (15) is the common end. The terminal (16) is the over temperature output end. The terminal (17) is the left turn output end. The terminal (18) is the right turn output end. The terminal (19) is the humidity control output end. The terminal (20) is the alarm output end. The output power is AC220V 1A/ channel.

3. The terminal (21) and (22) are the under temperature output end. The output power is AC220V 8A. The output mode is active.

4. The terminal (23) and (24) are the temperature control output end. The output power is AC220V 8A. The output mode is active.

5. The terminal (1), (2) and (3) are the humidity sensor input end, wherein the terminal (1) is connected to the red line of the humidity sensor (+5V). the terminal (2) is connected to the yellow line (H) of the humidity sensor. The terminal (3) is connected to the black line of the humidity sensor (GND).

6. The terminal (4) and (5) are the temperature sensor input end, wherein the terminal (4) is connected to the shielding copper line of the temperature sensor (GND). The terminal (5) is connected to the wiring terminal of the red line (T) of the temperature sensor.

7. The terminal (9) and (10) are the lighting digital signals. The output capacity is AC220V 1A. The output mode is passive output. The output is controlled by the panel lighting button.

8. The terminal (11) and (12)are the digital fan signals. The output capacity is AC220V 1A. The output mode is the passive output. The output is controlled by the fan button on the panel.