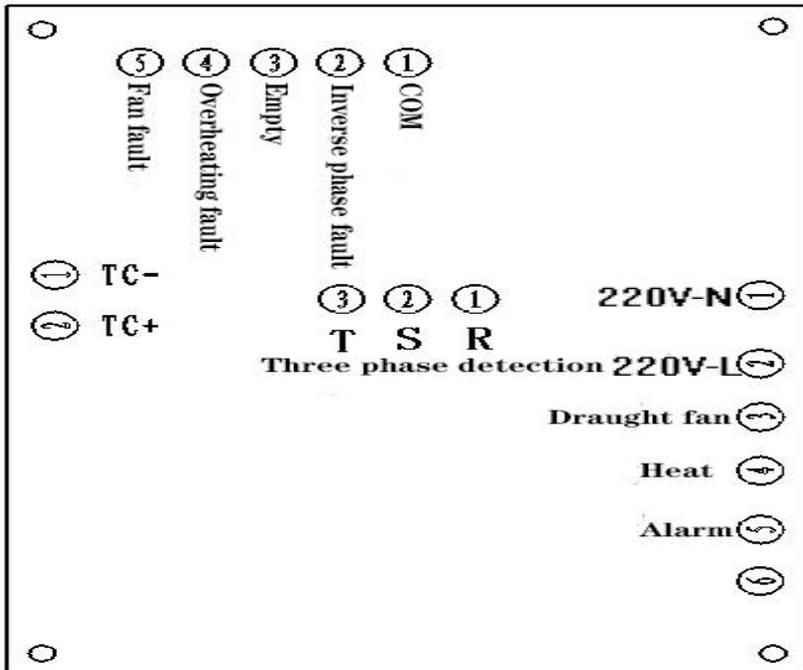
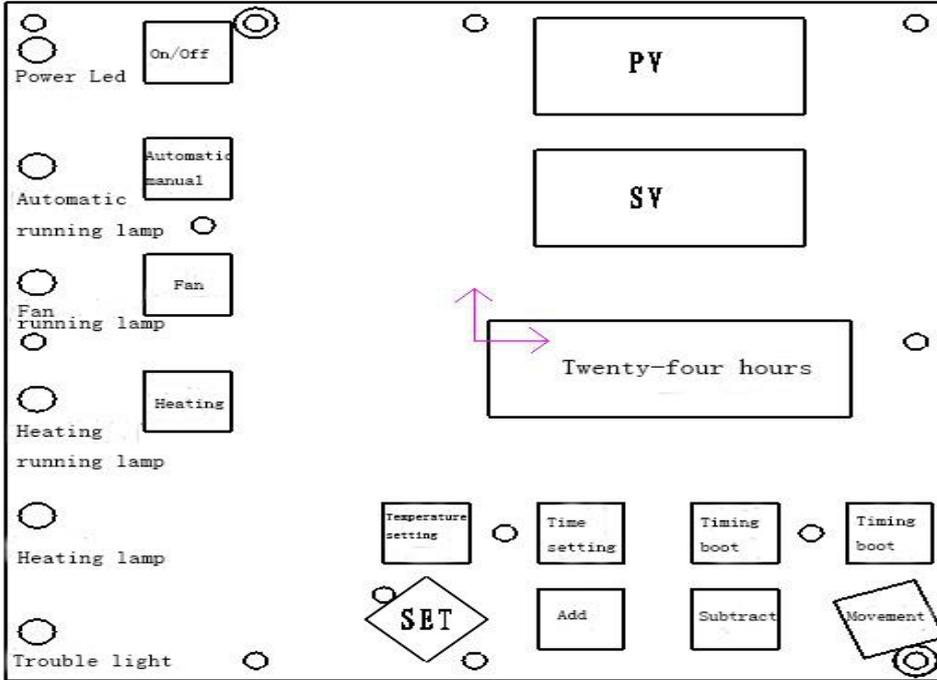


Instructions of hopper Dryer

Please read the instruction manual before using

Dryer manual

一、 Panel, wiring diagram:



二、 Function Description:

- ①. Temperature measurement and control range: 0-400 degrees

- ②. Heating, temperature control for pid
- ③. 24-hour real-time time display
- ④. Nine-segment timed on / off function
- ⑤. Start-up delay and shutdown delay
- ⑥. Auto power-on time setting: In the case of power-on, press the "set" button once, the setting light is on, and then press the "timer" button again, then "on1" will be displayed on the pv, and then press the "timer" button, then "on2" is displayed on the pv, and so on. It is displayed cyclically between "on1 ~ on9". At this time, the corresponding automatic startup time is displayed in flashing on "time". At this time, you can press "Plus" or "Minus" "" And "Shift" to modify the current setting value. After finishing the setting, press the "Set" key to exit and save the parameters.
- ⑦. Automatic shutdown time setting: In the case of power-on, press the "set" button once, the setting light is on, and then press the "delay" button again, then "of1" will be displayed on the pv, and then press the "delay" button, "Of2" will be displayed on the pv, and so on. It will be displayed circularly between "of1 ~ of9", and at this time, the corresponding automatic shutdown time will be displayed in flashing on "time". At this time, you can press "Plus" or "Minus key" and "Shift key" can modify the current setting value. After completing the setting, press the "Setting" key to exit and save the parameters.
- ⑧. Time range for automatic power on / off: 00 hours and 00 minutes; the system can be turned on and off at most 9 times within 24 hours a day, and the next heating-up time must be later than the last heating-off time; the next heating-off time The time must be within the same 24 hour period as the last time the heating was turned on.
- ⑨. When the power is not turned on, pressing the "Fan" and "Heating" keys has no effect. When the fan is not turned on, pressing the "Heating" key has no effect. After the power is turned on, turning off the "Fan" key is effective. After the fan is turned on, turning "Heating" Key valid
- ⑩. Over-temperature temperature: when the measured temperature on pv is higher than this temperature setting, the system stops heating and outputs an alarm at the same time
- ⑪. A wind chime sounds as a reminder when operating the keys

三、 On and off process

- ①. 3s countdown on pv when power on, software version number on sv, after 3s, "off" is displayed on pv (this is the shutdown state)
- ②. Start-up process: In the shutdown state, at this time, press the on / off button once, the corresponding parameters are immediately displayed on the pv, sv, the power indicator is on, and then press the "fan" button, the fan light is on, and the fan relay is on. At this time, press the "Heating" button, the heating lamp is on, the heating relay is output as pid, and the heating output lamp is on and off with the heating relay output (this is the startup process)
- ③. Shutdown process:
 1. When pressing the on / off key directly to turn off: first turn off the heating, and then turn off the fan after the delay time has passed, and then turn off the fan. During the delay process, the pv displays "off" and the current temperature in an alternating manner. Finally, it returns to the shutdown state. .
 2. When you turn off the heating and the fan by pressing the fan key: turn off the heating first, and then turn off the fan after the delay time after the fan is turned off, but the display will not be turned off.
- ④. Automatic start-up process: first start the fan, at the same time delay 10s (start-up heating delay time), and then start heating, the system controls the temperature in pid mode.
- ⑤. Automatic shutdown process: turn off the heating first, and then turn off the fan after the delay of the shutdown fan, and finally display "off" and the current temperature (within the automatic shutdown time period) on the PV in an alternating manner. And the power light and automatic operation Light is on all the time

四、 Temperature and time settings:

- ①.sv temperature setting: (setting range: 0 ~ temperature control upper limit)

In the power-on state, press the set key once, the setting light is on, and enter the setting state. At this time,

press the "temperature key" again, the pv display will display the word "sv", the sv display will flash, then press the "plus" "Or" minus key "and" shift key "can modify the temperature setting value. (After the temperature setting is completed, press the set key again to confirm and exit).

- ②. Clock time setting: (setting range: 24 hours real time)

In the power-on state, press the set key once, the setting light is on, and enter the setting state. At this time, press the "time key" again, and the "time" display flashes. At this time, press the "plus" or "minus" key. And "Shift key" to modify the current time value. (After the time is set, press the set key again to confirm and exit).

- ③. Automatic startup time setting: In the case of power-on, press the "set" button once, the setting light is on, and then press the "timer" button again, then "on1" will be displayed on the pv, and then press the "timer" button, "On2" is displayed on the pv, and so on. It is displayed cyclically between "on1 ~ on9", and at this time, the corresponding automatic startup time is displayed in a flashing manner on "time". At this time, you can press "Plus" or "Minus key" and "Shift key" can modify the current setting value. After completing the setting, press the "Setting" key to exit and save the parameters.

- ④. Automatic shutdown time setting: In the case of power-on, press the "set" button once, the setting light is on, and then press the "delay" button again, then "of1" will be displayed on the pv and then click "delay" Key, then "of2" will be displayed on the pv, and so on. It will be displayed circularly between "of1 ~ of9", and at this time, the corresponding automatic shutdown time will be displayed in flashing on "time". At this time, you can press the "plus key" "Or" minus key "and" shift key "can modify the current setting value. After completing the setting, press the "set" key to exit and save the parameters

Parameter setting:

1.Secondary parameter setting

- ①. Press the "set" key once, the setting light is on and enter the setting state. At this time, press and hold the "temperature" key for 3 seconds until the pv display shows "f-01" ---- this is the auto-tuning function "at ", the sv display flashes, you can modify the current setting by pressing " Plus "or" Minus "

on: To run the auto-tuning function

off: To turn off the auto-tuning function

- ②. At this time, short press the "Temperature" key for 0.5 seconds, then the pv display will show the word "f-02" —the proportional band coefficient "p" setting item, and the sv display will flash. At this time, you can press the "Plus" or "Minus" key. "And" Shift key "to modify the current setting. Setting range 0-9999
- ③. At this time, press the "Temperature" key for 0.5 seconds, then the pv display will show the word "f-03" —the integral coefficient "i" setting item, and the sv display will flash. At this time, you can press the "Plus" or "Minus" key. And "shift key" to modify the current setting. Setting range 0-9999
- ④. At this time, short press the "Temperature" key for 0.5 seconds, then the pv display will show the word "f-04" —the differential coefficient "d" setting item, and the sv display will flicker. At this time, you can press the "Plus" or "Minus" key. And "shift key" to modify the current setting. Setting range 0-9999
- ⑤. At this time, press the "Temperature" key for 0.5 seconds, then the pv display will show "f-05" —the heating cycle setting item, and the sv display will flash. At this time, you can press the "Plus" or "Minus" and "Move" keys. Bit key "to modify the current setting. Setting range 0-30s
- ⑥. At this time, short press the "Temperature" key for 0.5 seconds, then the pv display will show the word "f-06" —the temperature line error correction setting item. The sv display will flicker. At this time, you can press the "Plus" or "Minus" key. And "Shift key" to modify the current setting. Setting range -50 °C ~ + 50 °C
- ⑦. At this time, short press the "Temperature" key for 0.5 seconds, then the pv display will show the words "f-07" —the heating-up delay time setting item, and the sv display will flicker. And "Shift key" to modify the current setting. Setting range 0 ~ 999s
- ⑧. At this time, short press the "Temperature" key for 0.5 seconds, then the pv display will show the words

"f-08"-the shutdown fan delay time setting item. And "Shift key" to modify the current setting. Setting range 0 ~ 999s

- ⑨. At this time, short press the "Temperature" key for 0.5 seconds, then the pv display will show the word "f-09"—the temperature control upper limit setting item, and the sv display will flash. At this time, you can press the "Plus" or "Minus" and " Shift key "to modify the current setting. Setting range 0 °C ~ 400 °C
- ⑩. At this time, short press the "Temperature" key for 0.5 seconds, then the pv display will show the words "f-10"-over temperature temperature setting item, the sv display will flicker. At this time, you can press the "Plus" or "Minus" and " Shift key "to modify the current setting. Setting range 0 °C ~ 400 °C
- ⑪. At this time, short press the "Temperature" key for 0.5 seconds, then the pv display will show the word "f-11"—the parameter lock setting item, and the sv display will flash. At this time, you can press the "Plus" or "Minus" and "Move" "Bit key" to modify the current setting.

on: locked

off: not locked

At this time, if you press the "Temperature" key for 0.5 seconds, it will cycle. If you press the set key, the system will automatically confirm the parameters that were modified before, and at the same time exit the setting state, and press the confirmed value to run.

If you do not operate the button for 30s, the system automatically exits the setting state, and the previously modified parameters are not stored.

pv code	significance	range	Factory setting
F-01	VDF	ON、OFF	OFF
F-02	Proportional band p	1~9999	25
F-03	Integration time i	1~9999S	25
F-04	Differential time d	1~9999S	4
F-05	Heating cycle	1~30S	10S
F-06	Temperature line error compensation	-50°C~+50°C	0
F-07	Heating delay time	1~9999S	10S
F-08	Fan delay time	1~9999S	300S
F-09	Upper temperature limit	1~400°C	200°C
F-10	Temperature measurement	1~400°C	200°C
F-11	Parameter lock	ON、OFF	OFF

Seven, fault detection and processing:

1. During operation:

① Fan overload fault input: (passive contact normally open signal, normal when open, fault when closed)

When an overload fault is detected, the fault code "e-01" is displayed on the PV in a blinking manner, the fault indicator lights up, the system turns off heating, the heating relay turns off, the heating indicator turns off, the fan is turned off, the fan relay is turned off, and the fan The indicator light is off, and the system stops all outputs. At the same time, the alarm relay outputs (on-off) alarm signals.

When the fault is eliminated, the system returns to the shutdown state.

② Overheat fault input: (passive contact normally open signal, normal when open, fault when closed)

When an overheating fault is detected, the fault code "e-02" is displayed on the PV in a blinking manner, the

fault indicator lights up, the system immediately closes the heating, the heating relay turns off, and the heating indicator goes off, and the fan can work normally at the same time. Alarm relay output (on / off) alarm signal.

When the fault is eliminated, the system returns to the shutdown state.

③ **Over-temperature fault input: (internal temperature sensing line detection temperature)**

When the temperature detection temperature detects the over-temperature, the fault code "e-03" is displayed on the PV in a blinking manner, the fault indicator is on, the system is turned off, the heating relay is turned off, and the heating indicator is off. At this time, the fan can Normal operation. At the same time, the alarm relay outputs (on-off) alarm signal.

When the fault is eliminated, the system returns to the shutdown state.

④. **Reverse phase fault: (passive contact normally closed signal, that is normal when closed, fault when open)**

When the reverse phase is detected, the fault code "e-04" is displayed on the PV in a blinking manner, the fault indicator lights up, and the system stops all outputs. At the same time, the alarm relay outputs (on-off) alarm signals.

When the fault is eliminated, the system returns to the shutdown state.

Note: When the reverse phase fault detection function is not used, ① and ② on the fault detection end can be shorted.

⑤. The temperature sensing line is broken:

When the temperature sensing line disconnection fault is detected, the fault code "e-05" is displayed on the PV in a blinking manner, the fault indicator is on, the system only turns off the heating, the heating relay is turned off, and the heating indicator is off, but the water pump can Normal operation. At the same time, the alarm relay outputs (on-off) alarm signal.

When the fault is eliminated, the system returns to the shutdown state.

2. When powered on:

After the system is powered on, if a fault is detected, the system cannot be turned on (there can be no output), and the corresponding fault code is displayed. At the same time, the corresponding fault is handled. When the fault is eliminated, the system returns to the shutdown state.

3. Note: During the shutdown delay, the system cannot do any operation. The operation must be completed after the delay is completed: the system and external devices

Remarks:

error code	significance
E-01	Fan overload fault
E-02	External overheating fault
E-03	Temperature measurement over temperatur e fault
E-04	Reverse phase fault
E-05	Thermocouple break