

SHENZHEN BIGTREE TECHNOLOGY CO.,LTD .  
BIG TREE TECH

---

# **BIGTREE TECH**

## **Relay V1.2**

# Operating Instruction

## I . Product Introduction

BIGTREETECH Relay V1.2 is an upgrade of the original (BIGTREETECH V1.0). After upgrading, a small MCU was added on the module to make the module more controllable and stable. Besides, we have also increased short circuit detection circuit. After connecting the 5V and GND on the motherboard to the module, if there is a 5V short circuit, the module will immediately power off to prevent damage on the motherboard and the risk of fire caused by short circuit.

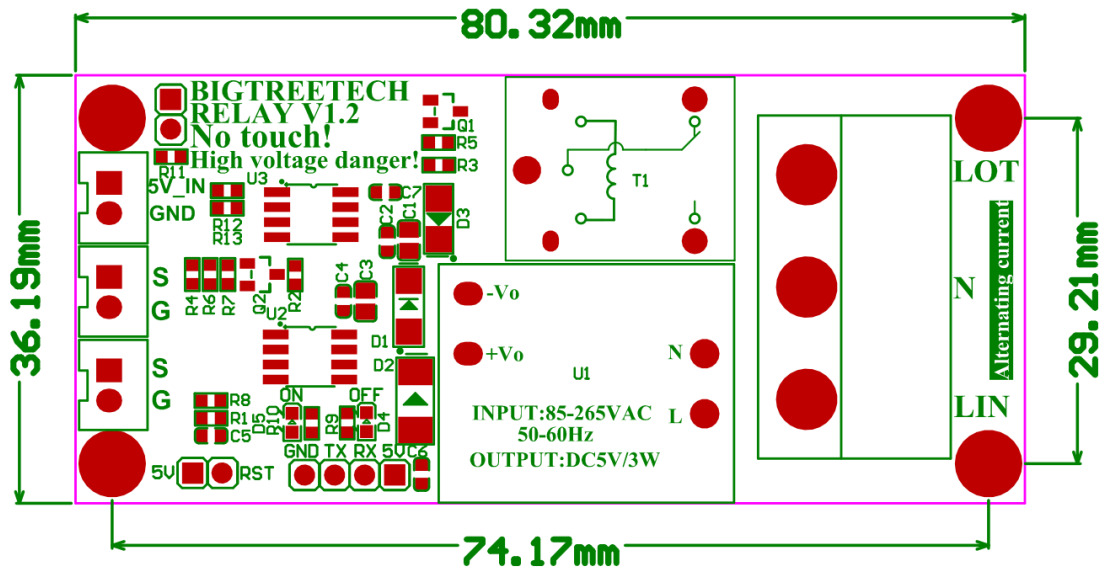
The module will automatically cut off the power after printing, which is very energy saving and environmental-friendly. It also reduces the risk that the printer will remain powered up after printing.

## II . Product Parameters

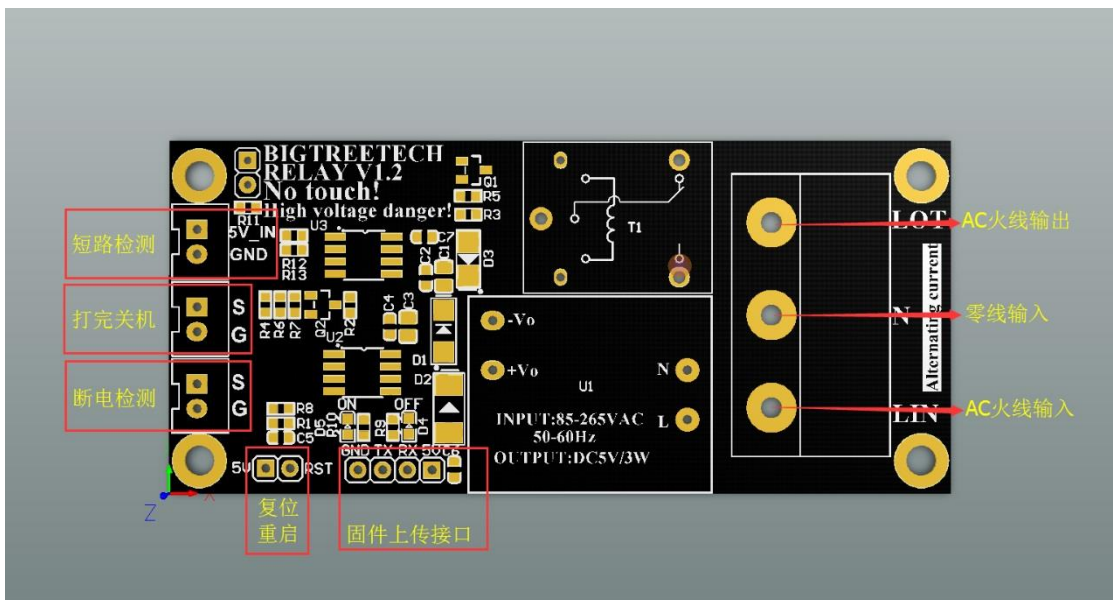
- 1、Ac input voltage: 85V/AC - 265V/AC
- 2、Logic input voltage: 3.3V - 5V
- 3、Support Resume Printing While Power Off

- 4、Support outage detection
- 5、Support short circuit detection
- 6、Programmable

### III. Dimensional Drawing

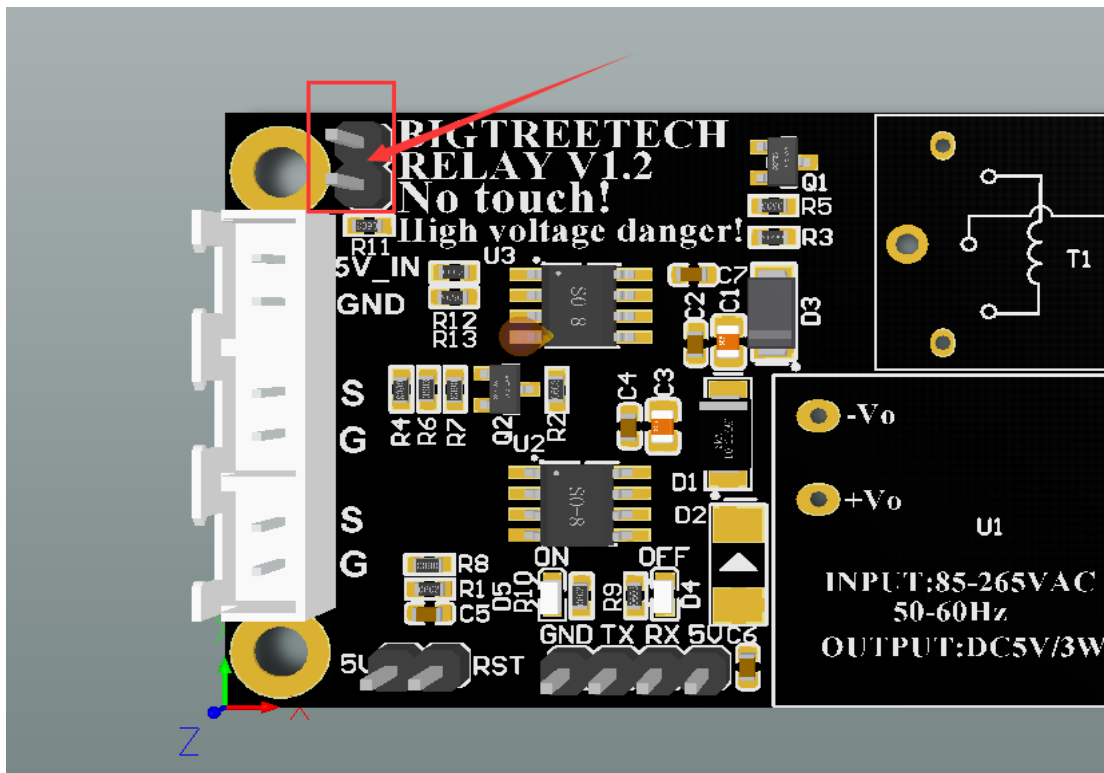


### IV. Wiring Diagram



Short-circuit detection function instructions:

When using the short-circuit detection function, it is necessary to connect the two pins with the short-circuit cap (as shown in the figure below). If you don't want to use the short-circuit detection function, please remove the short-circuit cap.



## V. Function Description

P3.2 is the pin to judge the shutdown signal

P5.5 is the relay control pin

P3.3 is short circuit detection pin

P5.4 is the reset and restart pin

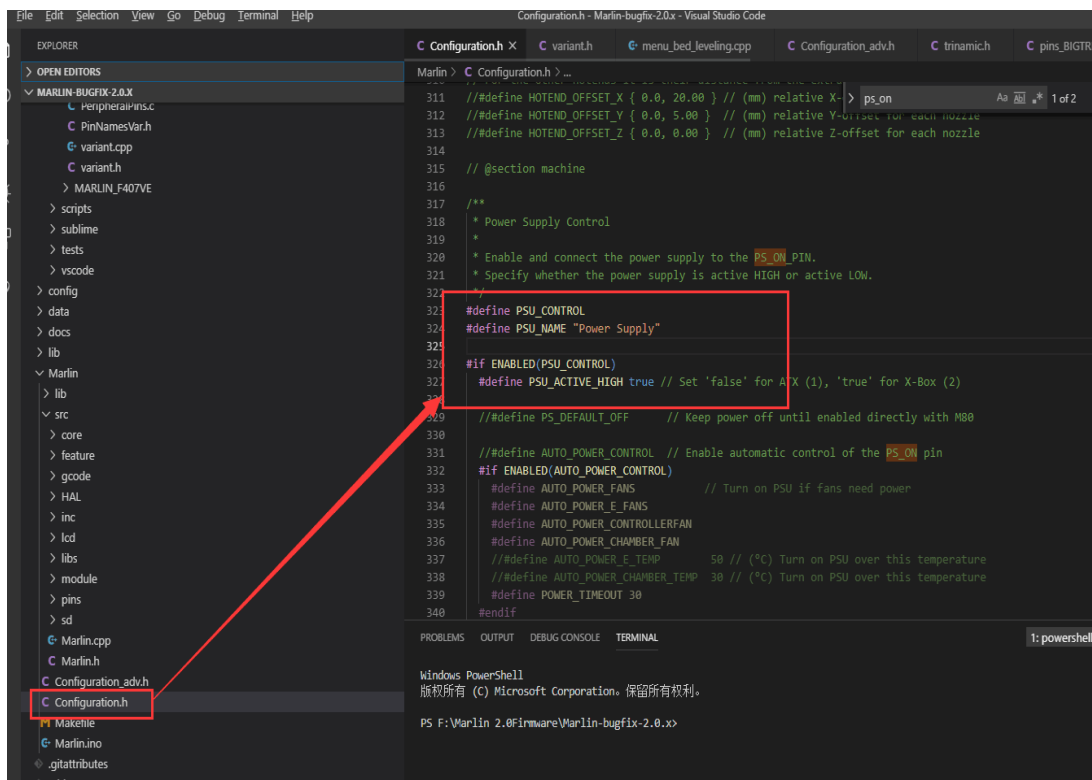
P3.0 and P3.1 are firmware upload pins

## VI. Firmware Modification Method

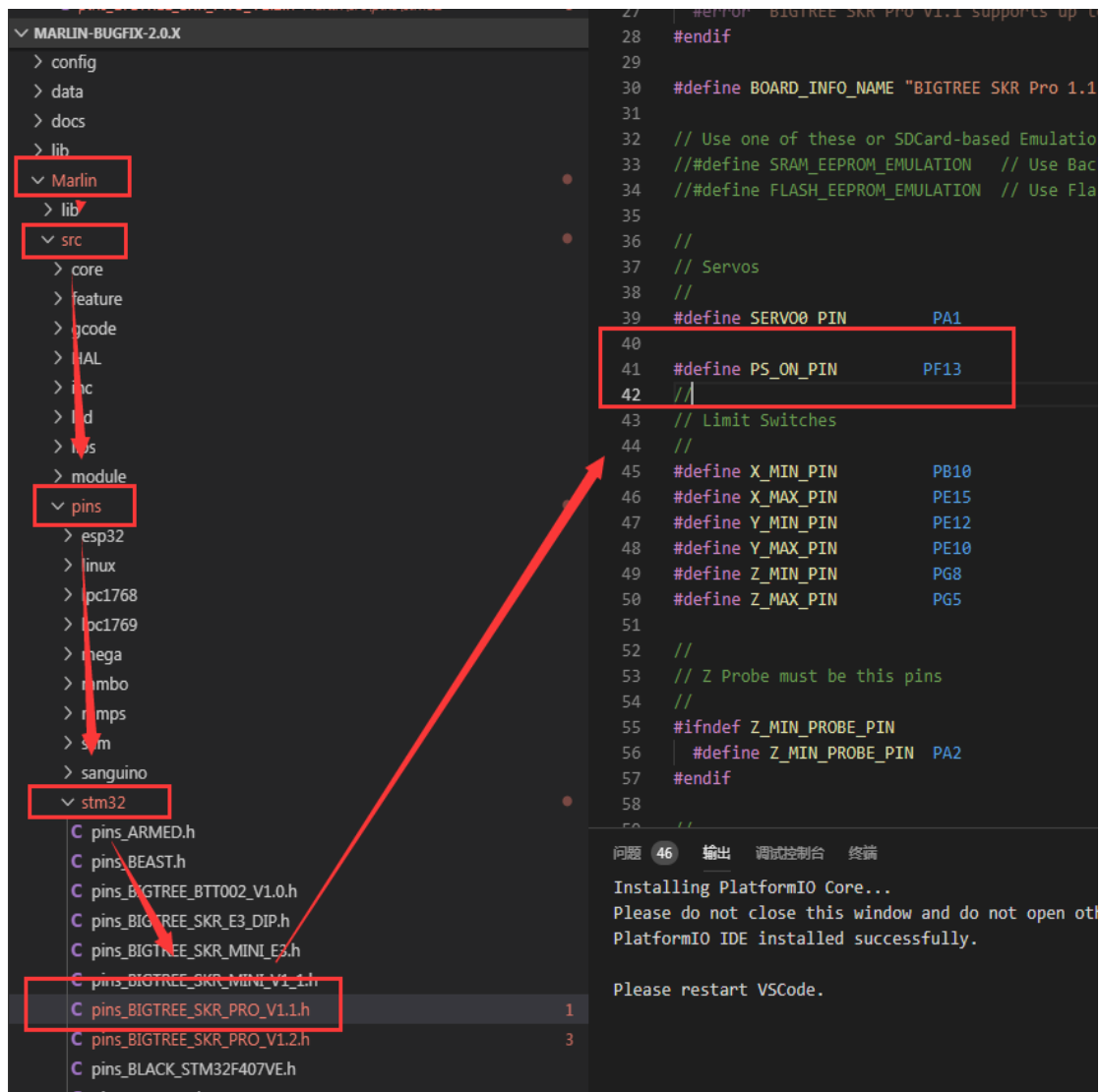
### 1. Open the Configuration. H file in the firmware and find

```
1、 #define PSU_CONTROL
2、 #define PSU_NAME "Power Supply"
3、
4、 #if ENABLED(PSU_CONTROL)
5、     #define PSU_ACTIVE_HIGH true // Set 'false' for ATX (1), 'true' for X-Box (2)
6、
```

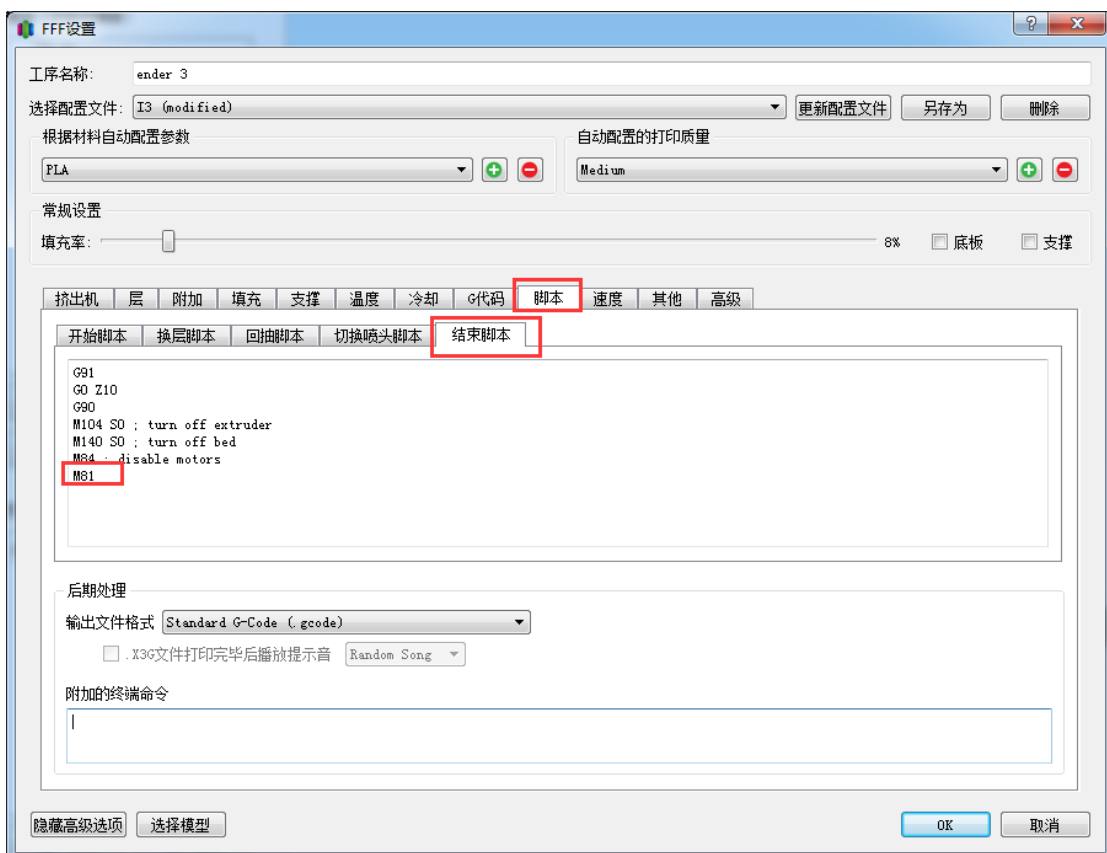
As shown above, remove the previous mask "//", as shown below:



2. Take SKR-PRO-V1.1 as an example, open the pins\_BIGTREE\_SKR\_PRO\_V1.1.H file in the order shown in the figure, then find "#define PS\_ON\_PIN PF13" in the file and remove the previous mask "//". PF13 is the shutdown signal pin, which can be changed according to your own needs, as shown in the figure:



- For the modification method of the slicing software, take "Simplify3D" as an example, open the Simplify3D slicing software, and then open the print setting interface, add "M81" at the end of the ending script as shown below;



## VII. Notes

1. The wiring process must be carried out under the premise of power failure;
2. When wiring, please pay attention to the sign on the module and the wiring diagram of the instruction. Only when the wire is exactly right can it be energized;
3. The bottom of Relay V1.0 module shall be far away from water, metal and other conductors to prevent short circuit and electric shock which may cause accidents;
4. Do not touch the wire and Relay V1.0 module to prevent electric shock;
5. Be sure to do insulation treatment when using to prevent electric shock;
6. When wiring, you must ensure the adequacy of wire contact, avoid bad contact;
7. Ac input voltage support: 125V/AC-250V/AC 50-60Hz ;
8. Our company will not be responsible for any accident caused by failure to follow the instructions or drawings.