Microsmt pnpboard v1.7

(2022/10/25)

1: Please check whether the radiator of the drive module contacts the pin.

2: First, use the USB cable to connect the motherboard to the computer. Then connect the 24VDC with rated current above 15A. The 24VDC input has reverse connection protection. If you connect the positive and negative poles reversely, adjust them correctly. carefully study the configuration text in the SD card, and then try to debug the machine.

3: The TMC2209's driver current can be adjusted only when 24V power supply is used.

4: The TMC2209's factory setting is a 32 step subdivision. If you want to modify it, please refer to the manual of the TMC2209 drive module.

5: Rotate the potentiometer on the TMC2209's drive module with a screwdriver to change the reference voltage and adjust the output current, I=Vref. **At this time, the driver is not allowed to connect to the motor.**

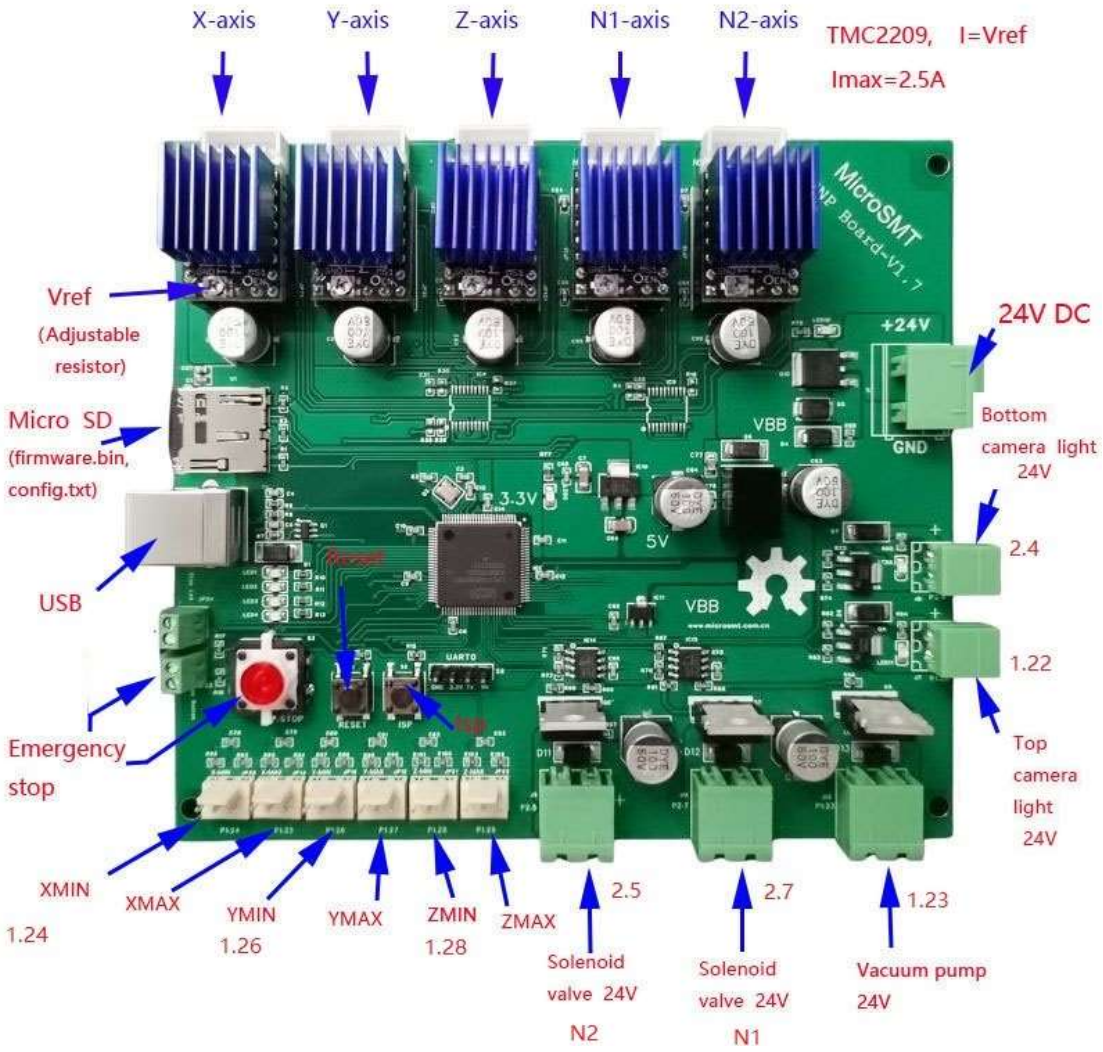
6: If you use a microsmt pnpV3 machine, please adjust the current of the TMC2209's drive module as follows: X axis 1.6A, Y axis 1.7A, Z axis 1.0A, N1 axis 0.4A, N2 axis 0.4A.

7: LED 2 and LED 3 flash alternately, indicating that the mainboard is working normally.

8: When pressing the emergency stop switch, all of stepper motors will stop.

9 : Press RESET or power on again, the config file will be loaded into the

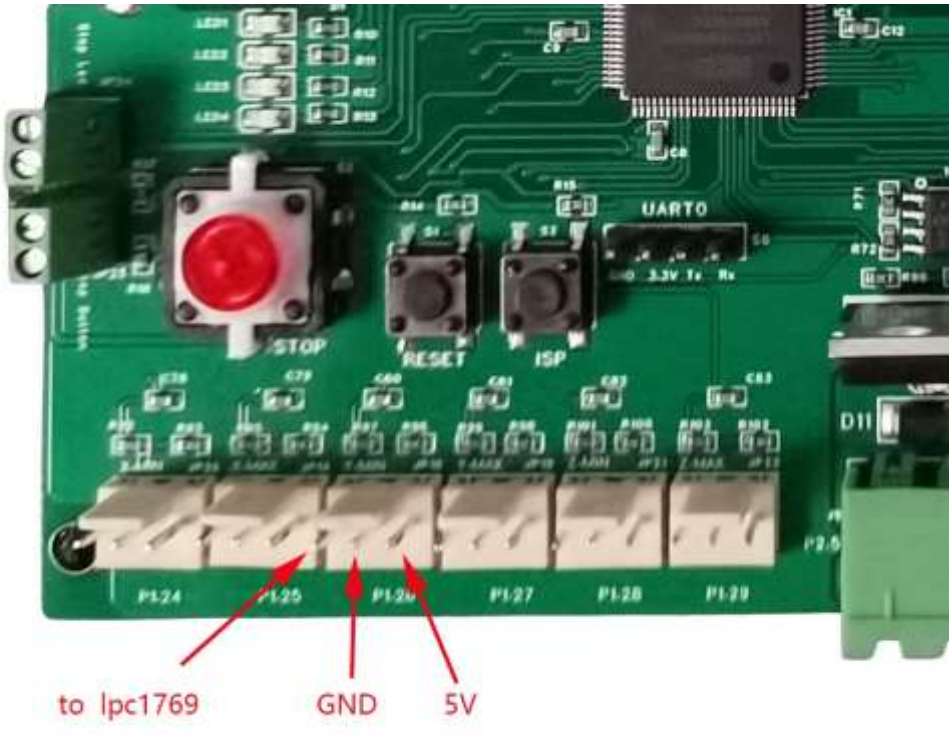
motherboard. The motherboard can work normally only when there is a config file in the SD card.

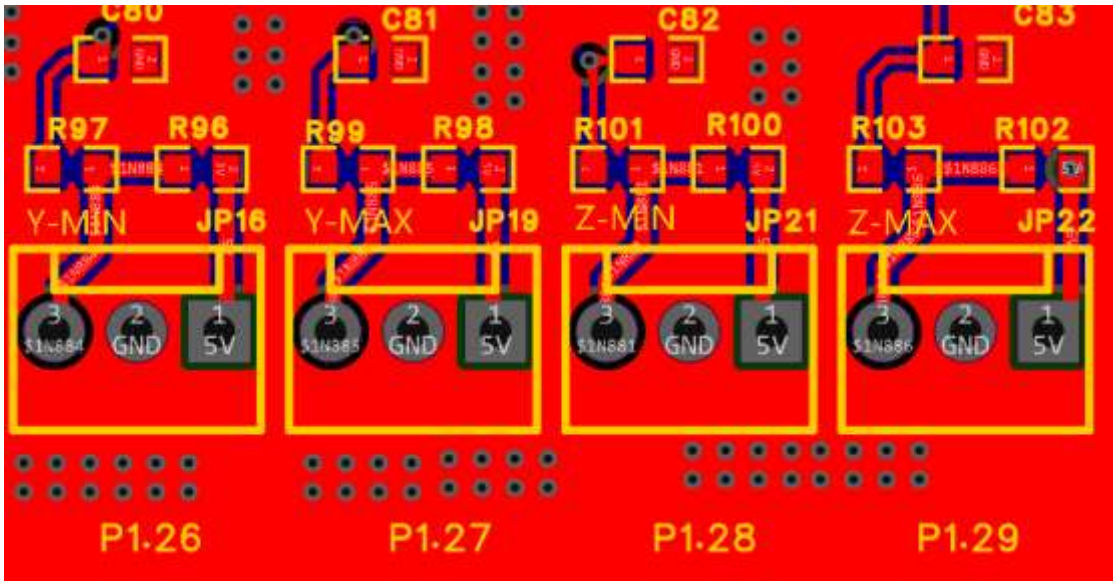


10 ： Openpnp only needs to configure endstop min, not need endstop max. All endstop signals are active at high level.

Therefore, the X Y axis uses Omron's SS-5GL switch to trigger the high level. that is, pin 2 and pin 3 of the Xmin and Ymin are normally closed to keep low level, when reaching the endstop position, SS-5GL becomes open circuit, pin 3 becomes high level, and endstop action is triggered.

The Z-axis uses Omron's EE-SX672 photoelectric switch to trigger the high level, You need to query the schematic diagrams of pnpboard v1.7 and EE-SX672 to understand the connection of the four pins of EE-SX672. First connect the positive and negative poles of EE-SX672 to pin 1 and pin 2 of Zmin . Connect OUT to pin 3 of Zmin . **Then short-circuit the positive pole of EE-SX672 and the L pin**. This connection mode will enable the OUT pin to output low level when there is light and output high level when there is no light, thus triggering Zmin endstop.





11 : If you use a microsmt PNPV3 machine, you can directly copy the machine file to the directory of openpnp2, overwrite the original file, so you don't have to learn how to configure openpnp from the beginning.

12 : For users of microsmt pnpV3 machine, you can copy the machine.xml file to the. openpn2 directory on disk C to overwrite the original file, so that you can run the pnpV3 machine directly. This machine.xml file is generated from the 2021-06-30_ 19_ 21_ 07 version of openpnp software. If you want to use the latest version of openpnp software, you may need to reset some parameters. However, I suggest that you try to configure the machine from scratch according to the official instructions of openpnp, so as to have a better understanding of openpnp.

13: Please do not connect the two cameras to the same USB-HUB, because the data stream is too large and the bandwidth is not enough. You should connect a camera to your computer separately. The other camera is connected to the USB-HUB together with the motherboard and feeder control board, and then to

the computer.

14 : Please download the instruction document from this website.

https://github.com/microsmt/Microsmt-PNP-hardware

15 : Please email me if you have any questions bingluo@microsmt.com.cn.

16 : This motherboard is warranted for 1 year.