

even exceeding the test.

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## AC Heating Bed 110/220V INPUT

Spider v2.2  
Voron 2.4 R2

Print Cooling Fan  
6020 FAN 24V

Hotend Fan  
4010 FAN 24V

AfterburnerToolhead PCB x  
[https://github.com/FYSETC/FYSETC-Afterburner Toolhead\\_PCB x](https://github.com/FYSETC/FYSETC-Afterburner_Toolhead_PCB_x)

AfterburnerToolhead PCB x SOCKET  
Check the wiring at lower left

USE FYSETC TMC 2209 V3.1

DIAG

ENABLE

(not used) M51

(not used) M52

TX

(not used) RX

(not used) CLK

STEP

DIR

PDN

1x Jumper cap

V-MOTOR(24V)

GND

A2

A1

B1

B2

VIO(3.3V)

GND

**PDN:** It is connected to TX for communication between TMC and MCU, using single wire. The jumper cap shown in the figure must be setted before the drive module install.

**DIAG:** It is used to go home without sensing, while ensuring that the jumper corresponding to the limit is in the closed state.

**USE FYSETC TMC5160/5161/2130**

Pinout diagram for the TMC2209 stepper motor driver module. The diagram shows a 28-pin header with labels for various functions. On the left, pins 1-8 are labeled: ENABLE, MOSI, SCK, CS, MISO, GND (not used), STEP, and DIR. On the right, pins 9-28 are labeled: DIAG, V-MOTOR(24V), GND, A2, A1, B1, B2, VIO(3.3V), GND, MISO, SCK, MOSI, and four pins for 4x jumper caps. Below the diagram, text indicates that SPI4 is used for the TMC driver, and pins 1, 2, and 3 are shared for CS and PDN.

**DIAG:** It is used to go home without sensing while ensuring that the jumper corresponding to the limit is in the closed state.

**USE 4988 or 4988like driver**

## Connect the Raspberry Pi to Spider

The spider provides a serial port for connecting to the Raspberry Pi or WiFi module, and this interface has a strong enough (8A MAX) 5V power supply. In order to use the only hardware serial port of the Raspberry Pi, you need to disable the console function and map the hardware serial port to GPIO14 and GPIO15.

**You can refer here:**

```
sudo raspi-config
=> Interfacing Option
=> Serial
=> NO
=> YES
sudo nano /boot/config.txt
=> add this line :
dtoverlay=pi3-disable-bt
=> then
sudo reboot
sudo nano /boot/cmdline.txt
=> remove the word phrase
"console=serial0,115200" or
"console=ttyAMA0,115200"
sudo reboot
```

**48V Driver Support (M1 & M2) :**

1.If you use 24V, you need to connect the 24V-PIN and 48V-PIN, and use the jumper plug that we provide.

2.If you use 48V, you need to connect an external power supply to the 48-PIN and GND-PIN using the connecting wires provided by us.

**SD Pins Out:** You can use the SD Card in a farther position by the SD module, but it is not recommended to exceed 30cm.

The type-C USB socket is used by default, and type-A is also reserved. If you need it, you can Add it by yourself.

**USB Pins Out:** used to connect the Raspberry Pi inside the printer via USB.

The markings of EXP1 and EXP2 may be different from those of some displays. If it cannot be displayed normally, please try to reverse EXP1 and EXP2 if the program is correct.

X/Y  
Endstop

Z Endstop

Controller Fan x2  
6020 FAN 24V

## AfterburnerToolhead PCB x SOCKET

Spider E-MOT  
socket

|             |             |
|-------------|-------------|
| Probe<br>探针 | HE0<br>加热棒  |
| 24V共用       | CT<br>箱体温度  |
| PCR<br>打印冷却 | HEF<br>热端散热 |
| AGND<br>模拟地 | S2B         |
| TH0<br>测温   | S2A         |
| GND<br>共用地  | S1A         |
| XES<br>预留   | S1B         |
| 5V          | SERVO       |

**Notice :**  
Please select the voltage of  
your area before powering  
up.

LED  +V  ADJ.