

AC Heating Bed: If you use AC hot bed, you can get faster heating speed and lower PSU cost. But you need to add an SSR to control it, you can connect as shown in the dotted basket.



HOT SURFACE
DO NOT TOUCH

AC Heating Bed 110/220V INPUT

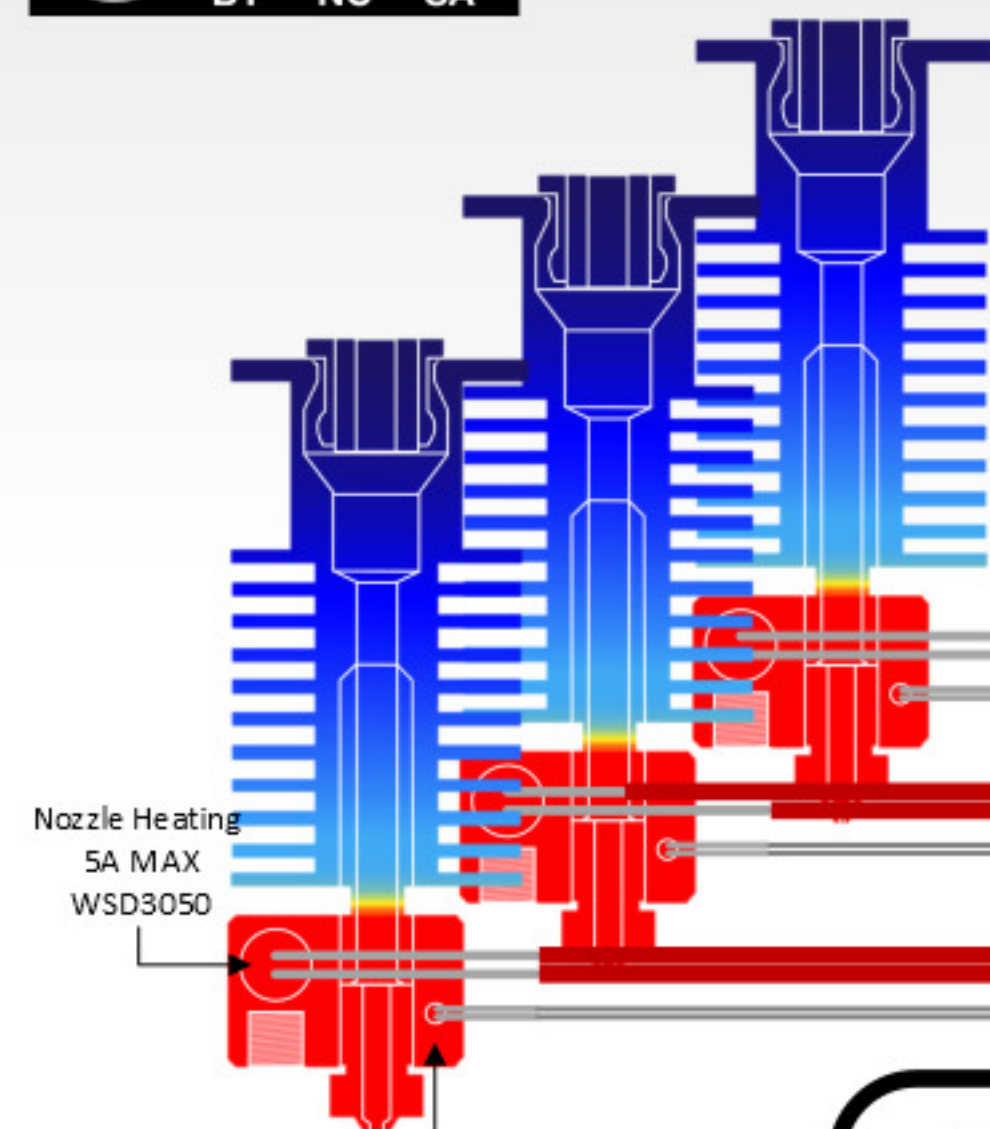
HOT SURFACE
DO NOT TOUCH

DC Heating Bed 24V INPUT 15A MAX

Spider V1.1 Wiring diagram

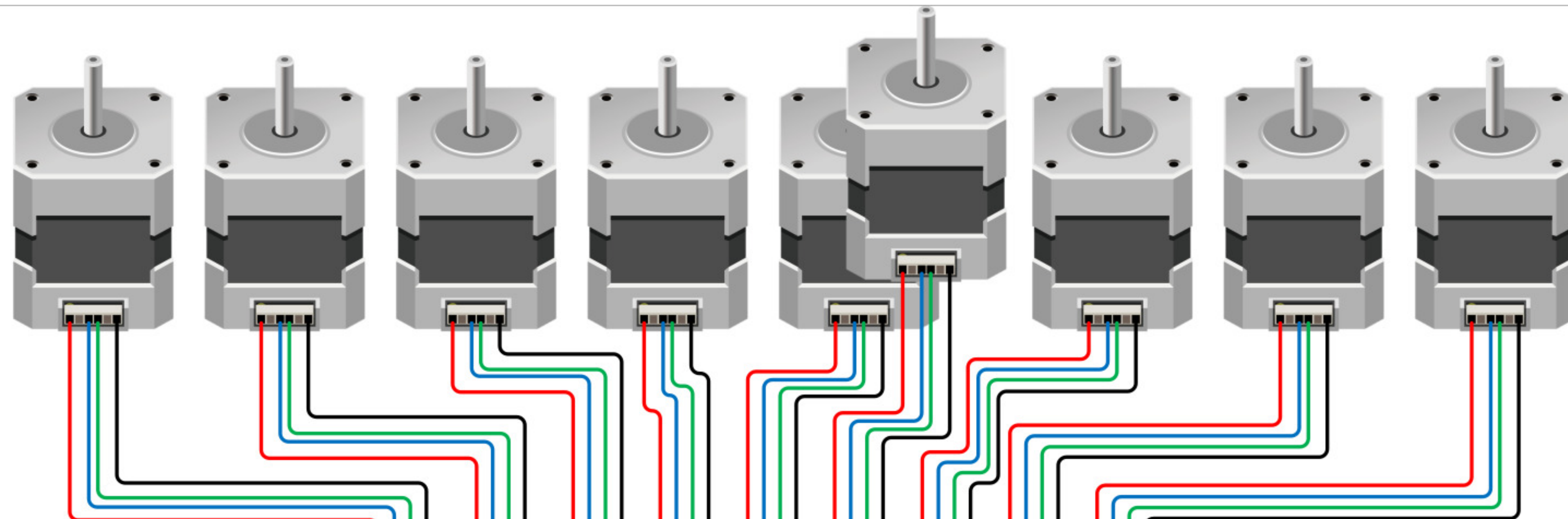
—By Eli Wong

More Information: wiki.fysetc.com/spider



Nozzle Heating
SA MAX
WSD9050

Temperature Sensor
NTC/PT100/Thermocouple (Need AD597 add on)
3.3V 4.7K(0.1%) Pull Up



!!! NOTE !!!
5V power supply has a maximum of 8A (more than 6A, the 5V circuit needs to be dissipated). If you use Raspberry Pi 3A is required and 1A is reserved for the system, so RGB cannot exceed 4A, that is, no more than 66 LEDs. At the same time, the maximum carrying current of the connector is 3A, so we recommend that the number of LEDs used does not exceed 50, and the connection must be stable.

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.

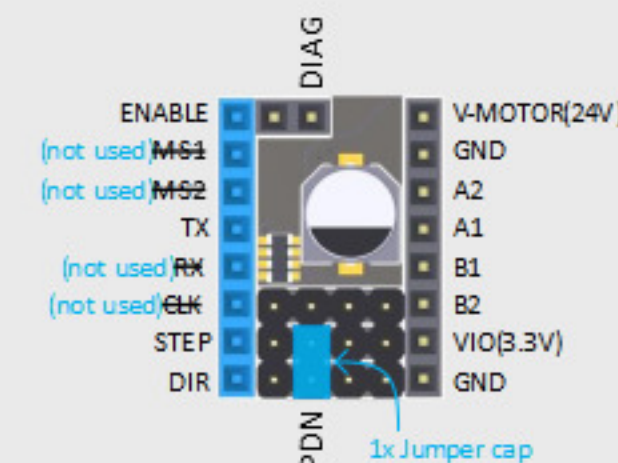
The type-C USB socket is used by default, and type-B is also reserved. If you need it, you can replace it by yourself.

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

CANBUS Pins Out: CANBUS shares pins with LCD-D6 (PD0/RX), LCD-D7 (PD1/TX) (in EXP2).

LCD SUPPORT:
• FYSETC mini12864 — VTESTED
• EXP1(Spider) -> EXP2(LCD) | EXP2(Spider) -> EXP1(LCD)
• FYSETC RRLCD2004 — VTESTED
• FYSETC GLCD12864 — VTESTED
• FYSETC Touch LCD — VTESTED
• FYSETC TFT81050 — VTESTED

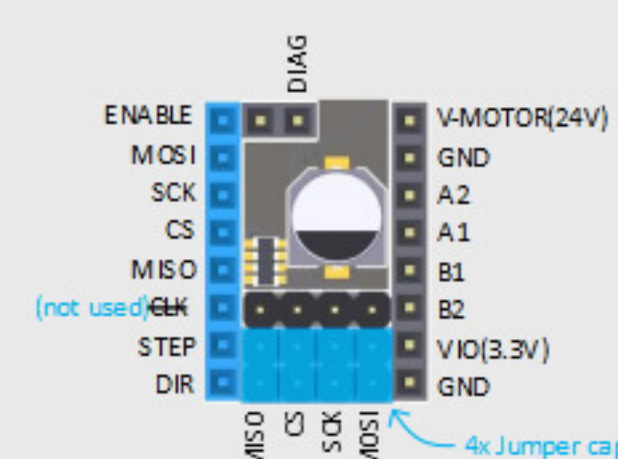
USE FYSETC TMC 2209 V3.1



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

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

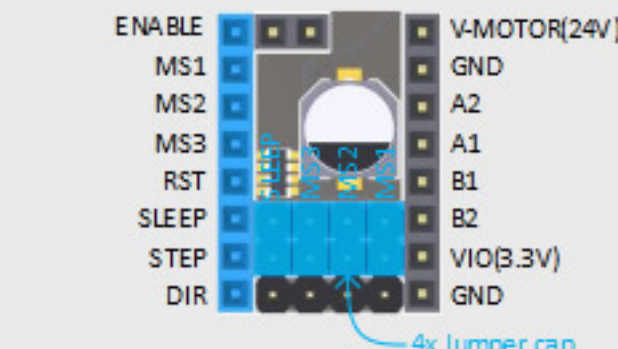
USE FYSETC 2130/5160/5161



(SPI4 used for TMC driver SPI, CS and PDN share pins)

DIAG: It is used to go home without sensing, while ensuring that the jumper cap responding 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.

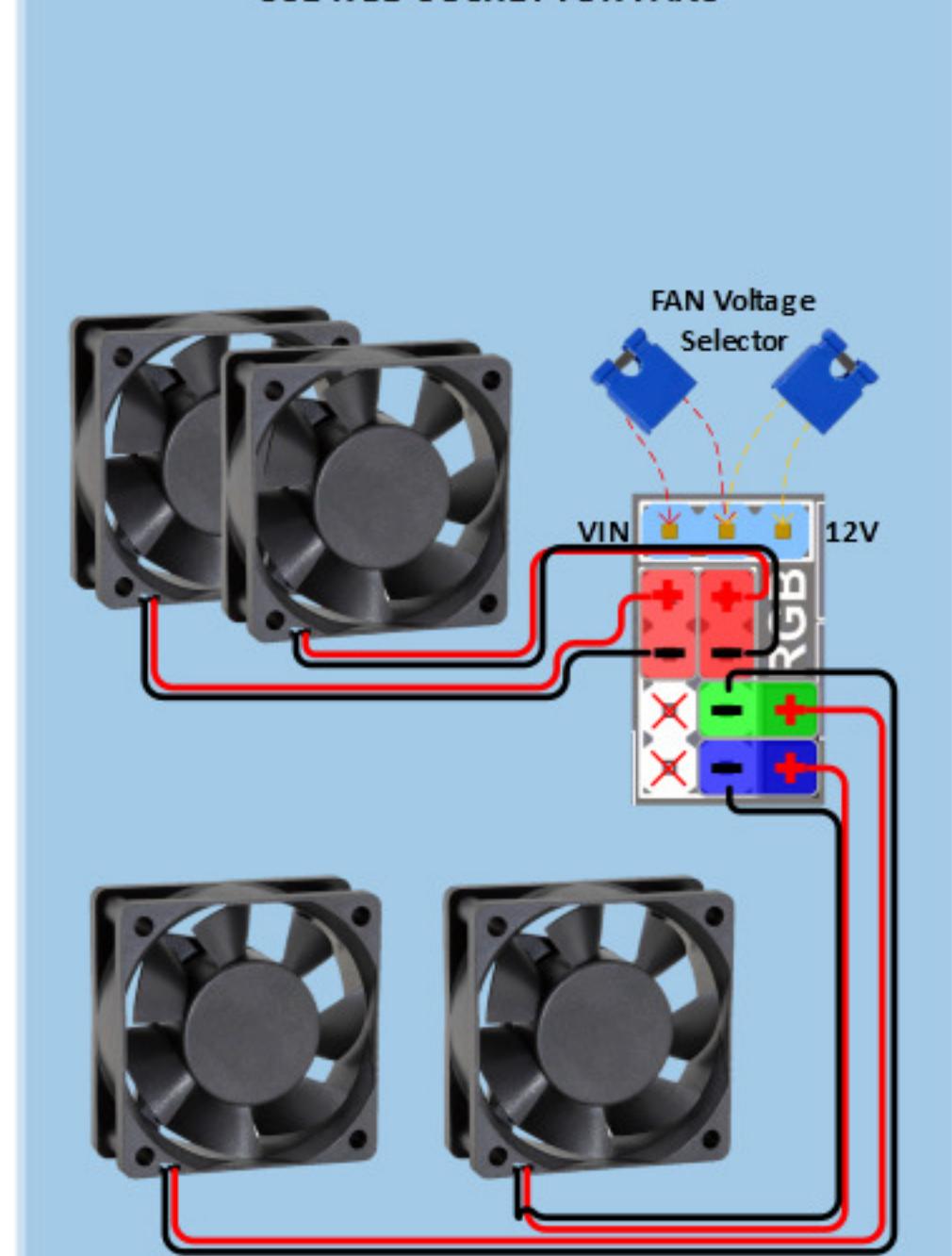
You can refer here:

```
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 phase  
"console=serial0,115200" or  
"console=ttyAMA0,115200"  
sudo reboot
```

AWG Wire Gauges Current Ratings

AWG	Normal	MAX
26	0.506	0.577
25	0.641	0.731
24	0.808	0.921
23	1.022	1.165
22	1.28	1.460
21	1.6	1.9
20	2.0	2.3
19	2.6	2.9
18	3.2	3.7
17	4.1	4.7
16	5.2	5.9
15	6.5	7.4
14	8.2	9.4
13	10.4	11.8
12	13.1	14.9
11	16.5	18.8
10	20.8	23.7

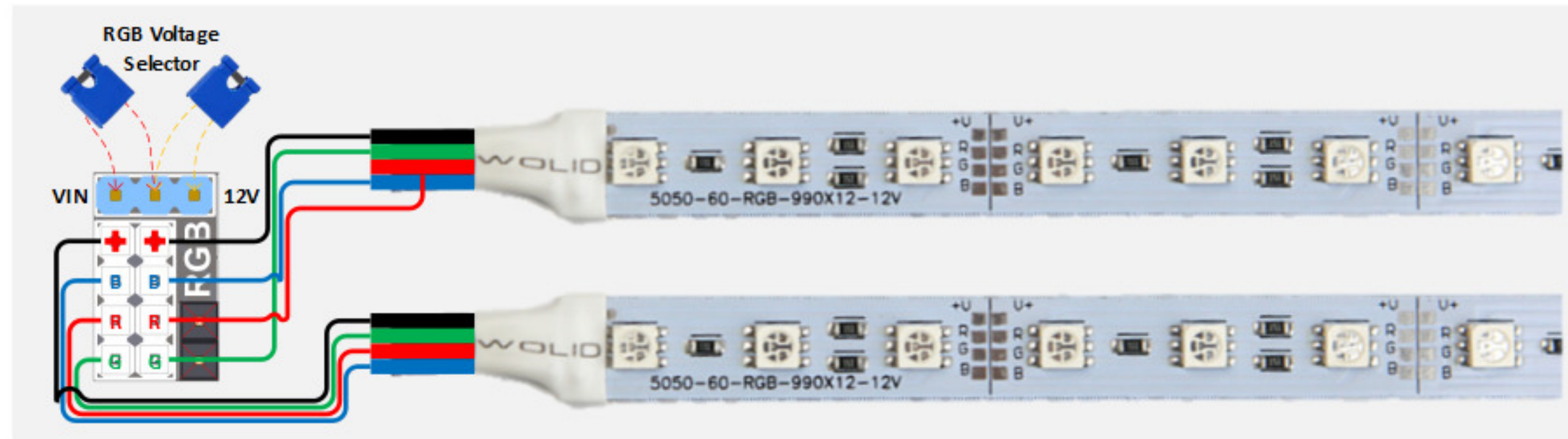
USE RGB SOCKET FOR FANS



With "PWM pin" (PA2) the Btouch is controlled to move up and down. With the "SIG pin" the Btouch will tell the controller trigger or not, generally use the "Z-min" pin (PA0). The power supply of Btouch is easily connected from the Z+ socket, and the jumper cap needs to be connected to the 5V side. You can also choose to supply power from X+ or Y+, but you need to change the SMD jumper at the bottom (cut off 3.3V, and solder the middle pad with 5V with a soldering iron).

PA2 for control
PA0 for sensor

"Z+" can only be used as an input, because there is a conversion circuit that converts a high voltage signal (24V /5V) into a low voltage signal (3.3V), so it is recommended to connect a proximity sensor here, such as PL-08N.



Connect to the NC (normally closed), the signal is low when it is not triggered.

Connect to the NC (normally closed), the signal is high when it is triggered.

Connect to the NC (normally closed), the signal is high when it is not triggered.

Connect to the NC (normally closed), the signal is low when it is triggered.

