GEEETECH Spark E3 V1.0

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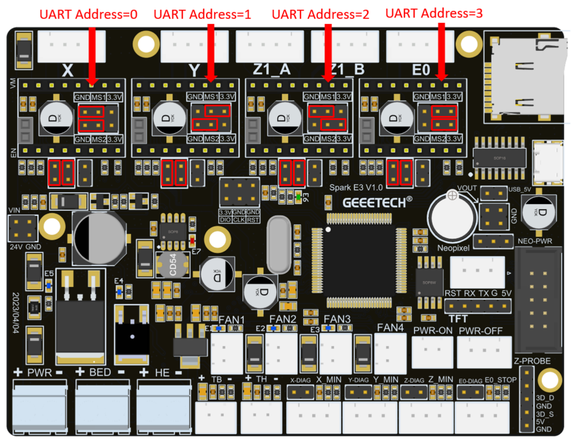
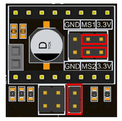
TMC2208/TMC2209 UART mode Jumper Setting



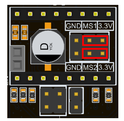
When the TMC2208/TMC2209 module uses the UART mode, install jumper cables as shown in the figure.

A4988 Jumper Settings



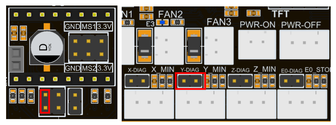
To use module A4988, X, Y and Z all need to connect jumper caps as shown in the figure.

TMC2208/TMC2209 STEP/DIR mode Jumper Setting



When the TMC2208/TMC2209 module uses the STEP/DIR mode, install jumper cables according to the figure.

TMC2209 Sensorless Jumper Settings



Before using the TMC2209 Sensorless function, install jumpers as shown in the figure.

Driver Microstepping Resolution Settings

A4988 requires MS1, MS2 and MS3 to adjust the Microstepping Resolution， Spark E3 V1.2 MS3 The default 10k pull-up resistor.

TMC2208 and TMC2209 only need MS1 and MS2 to adjust the Microstepping Resolution.

MS1/MS2: Configuration of Microstep Resolution for Step Input		
MS2	MS1	Microstep Setting
GND	GND	8 microsteps
GND	VCC_IO	32 microsteps (different to TMC2208!)
VCC_IO	GND	64 microsteps (different to TMC2208!)
VCC_IO	VCC_IO	16 microsteps

TMC2209 Microstepping Resolution Truth Table

Table 1: Microstepping Resolution Truth Table

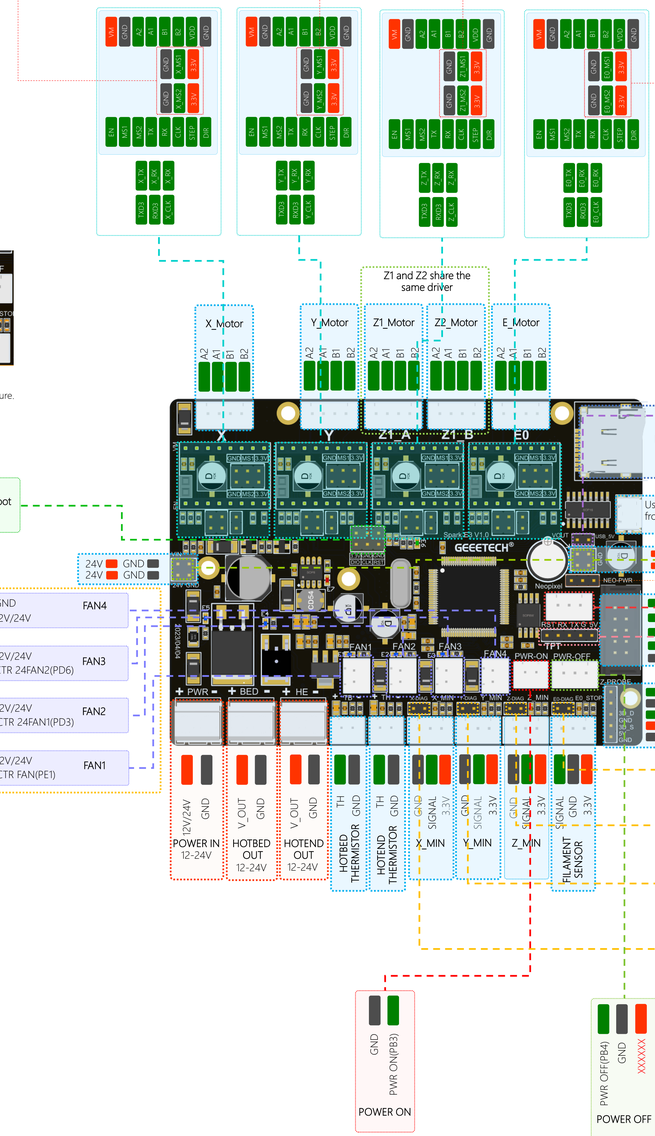
MS1	MS2	MS3	Microstep Resolution	Excitation Mode
L	L	L	Full Step	2 Phase
H	L	L	Half Step	1-2 Phase
L	H	L	Quarter Step	W1-2 Phase
H	H	L	Eighth Step	2W1-2 Phase
H	H	H	Sixteenth Step	4W1-2 Phase

A4988 Microstepping Resolution Truth Table

Options for TMC220x devices, only:

MS1/MS2: Configuration of Microstep Resolution for Step Input (TMC220x)		
MS2	MS1	Microstep Setting
GND	GND	8 microsteps
GND	VCC_IO	2 microsteps (half step)
VCC_IO	GND	4 microsteps (quarter step)
VCC_IO	VCC_IO	16 microsteps

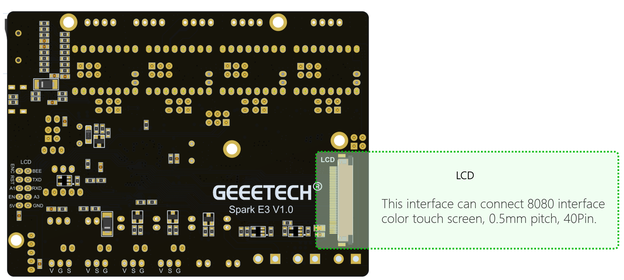
TMC2208 Microstepping Resolution Truth Table



Neopixel Power supply selection

Use special 24V to 5V power supply, need to use related accessories.

Use the 5V· power supply on the motherboard, and the maximum current consumption cannot exceed 1.5A.



LCD

This interface can connect 8080 interface color touch screen, 0.5mm pitch, 40Pin.