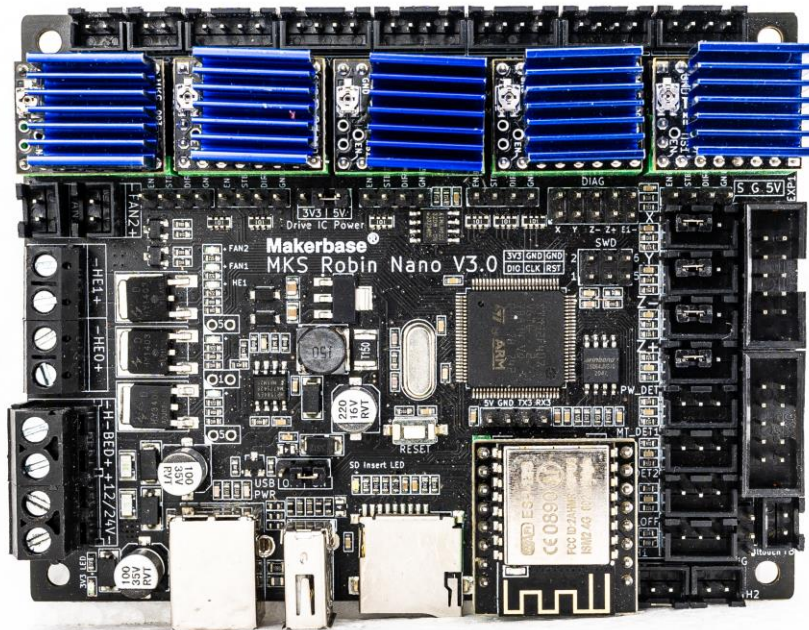


# MKS Robin nano V3.0 使用 RRF 固件教程

## 1、 硬件






在 MKS Robin Nano V3 上插上 MKS Robin WIFI 模块即可，同时需要一个 FAT32 格式的 TF 卡。Robin Nano V3 刷了 RRF 之后，就不可以使用 TS35 显示屏来显示了，只能使用跟 Duet2Wifi 一样的串口屏，有 4.3/5.0/7.0 等几种规格。

## 2、 主板固件更新







### 主板 boot loader 和主板固件更新

Robin Nano V3 原先的 BootLoader 不支持 RRF，所以需要先更新 bootloader，从 github（<https://github.com/makerbase-mks/RepRapFirmware-for-MKS-Boards/tree/main/bootloader>）下载以下文件复制到 TF 卡，然后上电，并等待更新完成。这个步骤是一次性的，更新后的 bootloader 同时支持 marlin 和 RRF 的更新了。

 firmware.bin	2021/5/28 19:25	BIN 文件	520 KB
 nano_v3_bootloader.bin	2021/5/10 12:10	BIN 文件	41 KB
 Robin_nano_v3.bin	2021/5/10 10:41	BIN 文件	39 KB









## 更新主板 RRF 固件

下  
载  
Github([https://github.com/makerbase-mks/RepRapFirmware-for-MKS-Boards/tree/main/release%20firmware/rrf\\_v3.2](https://github.com/makerbase-mks/RepRapFirmware-for-MKS-Boards/tree/main/release%20firmware/rrf_v3.2))下的文件和文件夹，拷贝到 TF 卡上，插入主板并上电，等待主板上的 FAN1 的 led 灯亮起来，固件就更新完毕了。

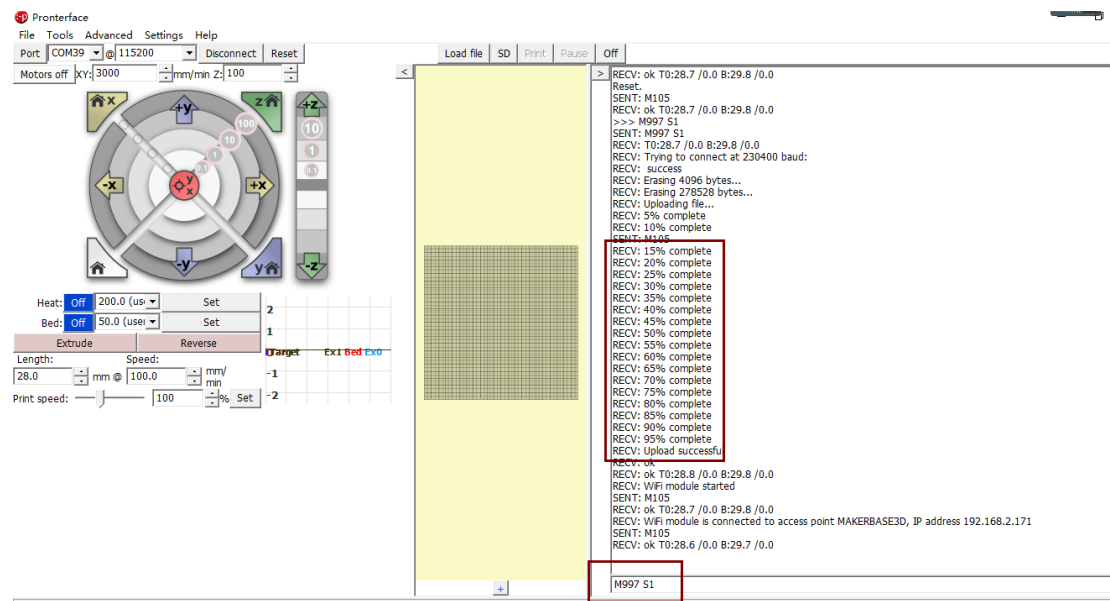
	firmware.bin	2021/5/6 17:20	BIN 文件	542 KB
	gcodes	2021/5/8 12:00	文件夹	
	sys	2021/5/8 11:47	文件夹	
	firmware	2021/5/8 11:46	文件夹	
	macros	2021/5/8 11:46	文件夹	
	www	2021/5/8 11:46	文件夹	

## 3. wifi 固件更新和 wifi 配置

确保 wifi 固件 DuetWiFiServer.bin 在 TF 卡的 firmware 文件夹下

名称	修改日期	类型	大小
 firmware	2021/5/8 11:46	文件夹	
 gcodes	2021/5/8 12:00	文件夹	
 macros	2021/5/8 11:46	文件夹	
 sys	2021/5/8 11:47	文件夹	
 www	2021/5/8 11:46	文件夹	
 firmware.bin	2021/5/6 17:20	BIN 文件	542 KB
 nano_v3_bootloader.bin	2021/5/10 12:10	BIN 文件	41 KB
 Robin_nano_v3.bin	2021/5/10 10:41	BIN 文件	39 KB

用上位机 Pronterface 或者其他电脑 Host 软件与主板连接，然后发送指令 M997 S1 进行 wifi 固件更新，固件更新过程 Pronterface 上会显示更新进度

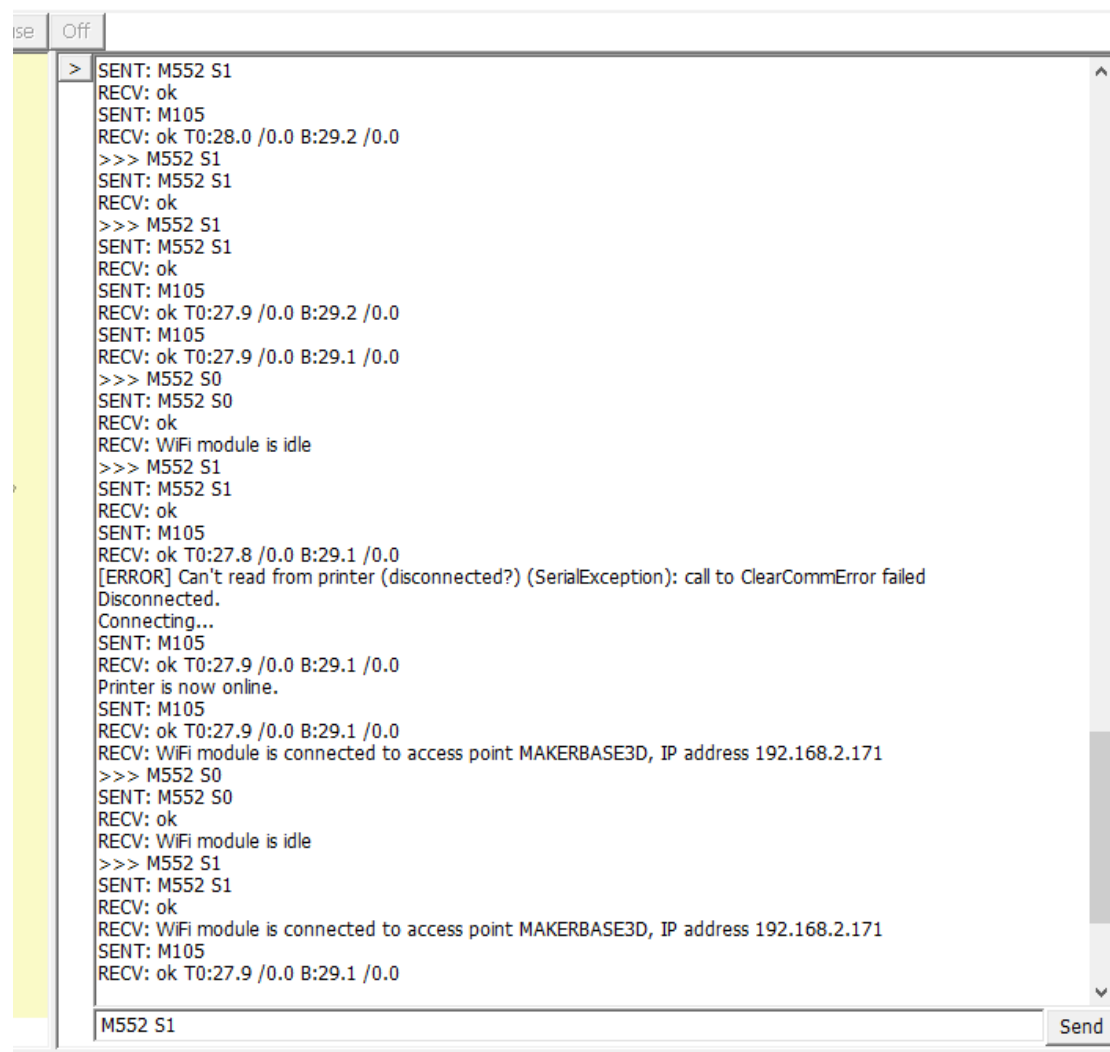


Wifi 名称和 wifi 密码设置，在上位机上发送指令 M587 S"wifi 名称" P"wifi 密码"

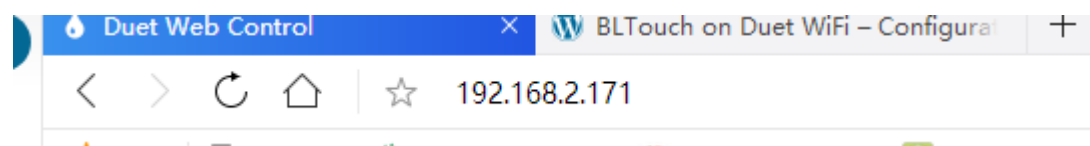
```
> RECV: 80% complete
RECV: 85% complete
RECV: 90% complete
RECV: 95% complete
RECV: Upload successful
RECV: ok
RECV: ok T0:28.8 /0.0 B:29.8 /0.0
RECV: WiFi module started
SENT: M105
RECV: ok T0:28.7 /0.0 B:29.8 /0.0
RECV: WiFi module is connected to access point MAKERBASE3D, IP address 192.168.2.171
SENT: M105
RECV: ok T0:28.6 /0.0 B:29.7 /0.0
SENT: M105
RECV: ok T0:28.5 /0.0 B:29.7 /0.0
SENT: M105
RECV: ok T0:28.4 /0.0 B:29.7 /0.0
SENT: M105
RECV: ok T0:28.5 /0.0 B:29.6 /0.0
SENT: M105
RECV: ok T0:28.4 /0.0 B:29.6 /0.0
SENT: M105
RECV: ok T0:28.3 /0.0 B:29.6 /0.0
SENT: M105
RECV: ok T0:28.3 /0.0 B:29.6 /0.0
SENT: M105
RECV: ok T0:28.3 /0.0 B:29.5 /0.0
SENT: M105
RECV: ok T0:28.3 /0.0 B:29.5 /0.0
SENT: M105
RECV: ok T0:28.2 /0.0 B:29.4 /0.0
SENT: M105
RECV: ok T0:28.2 /0.0 B:29.4 /0.0
SENT: M105
RECV: ok T0:28.2 /0.0 B:29.4 /0.0
SENT: M105
RECV: ok T0:28.0 /0.0 B:29.4 /0.0
SENT: M105
RECV: ok T0:28.0 /0.0 B:29.3 /0.0
SENT: M105
RECV: ok T0:27.9 /0.0 B:29.3 /0.0

M587 S"makerbase" P"12345678" Send
```

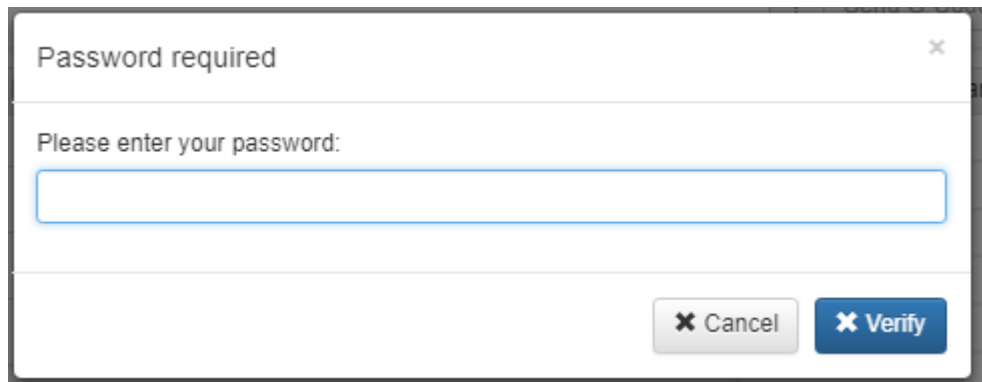
Wfi IP 查询，上位机发送指令 M552 S1



网页控制连接，在浏览器上输入 IP,点击进入



输入登录密码，该密码在配置文件中设置

A dialog box titled "Password required" with a close button (X) in the top right corner. Below the title, it says "Please enter your password:" followed by a text input field. At the bottom right, there are two buttons: "X Cancel" and "X Verify".

```
; Configuration file for MKS SGen L v2.0 (firmware version 3)
; executed by the firmware on start-up
;
; generated by RepRapFirmware Configuration Tool v3.2.1-LPC on Wed Feb 03 2021

; General preferences
G90                                ; send absolute coordinates...
M83                                ; ...but relative extruder move
M550 P"My Printer"                 ; set printer name
M551 P"makerbase"                   ; Set password

M555 P2                             ; P1;like RepRapFirmware  P2;like Marlin
M575 P1 B115200 S1                 ; Paneldue

; Network
M552 S1                             ; enable network
M586 P0 S1                         ; enable HTTP
M586 P1 S0                         ; disable FTP
M586 P2 S0                         ; disable Telnet

; Drives
M569 P0 S0                         ; physical drive 0 goes forward
M569 P1 S0                         ; physical drive 1 goes forward
M569 P2 S1                         ; physical drive 2 goes forward
M569 P3 S0                         ; physical drive 3 goes forward
```

### 3、机器参数配置文件修改

3.1 电机转动方向设置，S0 或 S1,转动方向不对后进行相反配置即可

```
M569 P0 S0                        ; (X 轴) physical drive 0 goes forwards using default driver timings
M569 P1 S0                        ; (Y 轴) physical drive 1 goes forwards using default driver timings
M569 P2 S1                        ; (Z 轴) physical drive 2 goes forwards using default driver timings
M569 P3 S0                        ; (E0 轴) physical drive 2 goes forwards using default driver timings
```

3.2 脉冲设置

```
M92 X80.00 Y80.00 Z400.00 E420.00 ; set steps per mm
```

### 3.3 最大速度、加速度设置

```
M566 X900.00 Y900.00 Z60.00 E120.00 ; set maximum instantaneous speed changes  
(mm/min)  
M203 X6000.00 Y6000.00 Z180.00 E1200.00 ; set maximum speeds (mm/min)  
M201 X500.00 Y500.00 Z20.00 E250.00 ; set accelerations (mm/s^2)
```

### 3.4 打印平台范围设置

```
; Axis Limits  
M208 X0 Y0 Z0 S1 ; set axis minima  
M208 X230 Y210 Z200 S0 ; set axis maxima
```

### 3.5 限位类型设置

```
; Endstops  
M574 X1 S1 P"^xstop" ; configure active-high endstop for low  
end on X via pin !^xstop  
M574 Y1 S1 P"^ystop" ; configure active-high endstop for low  
end on Y via pin !^ystop  
M574 Z1 S1 P"^zstop" ; configure active-high endstop for low  
end on Z via pin !^zstop
```

## 4、断料检测配置

在 enstops 配置中增加以下代码：

```
M591 D0 P1 C"e1stop" L7 R75:125 E22 S1 ; configure runout_sensor P1 低电平触  
发，P2 高电平触发
```

```

5 M586 P2 S0 ; disable Telnet
6
7 ; Drives
8 M569 P0 S1 ; physical drive 0 goes forwards using default driver timings
9 M569 P1 S1 ; physical drive 1 goes forwards using default driver timings
10 M569 P2 S0 ; physical drive 2 goes forwards using default driver timings
11 M569 P3 S0 ; physical drive 3 goes forwards using default driver timings
12 M584 X0 Y1 Z2 E3 ; set drive mapping
13 M350 X16 Y16 Z16 E16 I1 ; configure microstepping with interpolation
14 M92 X80.00 Y80.00 Z400.00 E93.00 ; set steps per mm
15 M566 X9000.00 Y9000.00 Z300 E6000 ; set maximum instantaneous speed changes (mm/min)
16 M203 X9000.00 Y9000.00 Z300.00 E6000.00 ; set maximum speeds (mm/min)
17 M201 X500.00 Y500.00 Z100.00 E500.00 ; set accelerations (mm/s^2)
18 M906 X800 Y800 Z800 E800 I30 ; set motor currents (mA) and motor idle factor in per cent
19 M84 S30 ; Set idle timeout
20
21 ; Axis Limits
22 M208 X0 Y0 Z0 S1 ; set axis minima
23 M208 X180 Y180 Z200 S0 ; set axis maxima
24
25 ; Endstops
26 M574 X1 S1 P"!^xstop" ; configure active-high endstop for low end on X via pin !^xstop
27 M574 Y1 S1 P"!^ystop" ; configure active-high endstop for low end on Y via pin !^ystop
28 M574 Z1 S1 P"!^zstop" ; configure active-high endstop for low end on Z via pin !^zstop
29 M591 D0 P1 C"elstop" L7 R75:125 E22 S1 ; configure runout_sensor
30
31 ; Z-Probe
32 M950 S0 C"servo0" ; Setup servo 0 as servo
33 M558 P9 C"^zstopmax" H5 F120 T6000 ; set Z probe type to bltouch and the dive height + speeds
34 G31 P500 X26 Y0 Z0 ;
35 M557 X30:150 Y10:150 S20 ; define mesh grid
36 M375;
37
38 ; Heaters
39 M308 S0 P"bedtemp" Y"thermistor" T100000 B4138 ; configure sensor 0 as thermistor on pin bedtemp
40 M950 H0 C"bed" T0 ; create bed heater output on bed and map it to sensor 0
41 M302 H0 C"bed" T0

```

## 5、使能 PanelDue 屏幕

在配文件中增加指令：

M575 P1 B115200 S2

; enable support for PanelDue



```

; Heaters
M308 S0 P"bedtemp" Y"thermistor" T100000 B4138 ; configure sensor 0 as the
M950 H0 C"bed" T0 ; create bed heater output
M307 H0 B0 S1.00 ; disable bang-bang mode fo
M140 H0 ; map heated bed to heater
M143 H0 S120 ; set temperature limit for
M143 H0 S120 ; set temperature limit for
M308 S1 P"e0temp" Y"thermistor" T100000 B4138 ; configure sensor 1 as the
M950 H1 C"e0heat" T1 ; create nozzle heater outp
M307 H1 B0 S1.00 ; disable bang-bang mode fo
M143 H1 S280 ; set temperature limit for

; Fans
M950 F0 C"fan0" Q500 ; create fan 0 on pin fan0
M106 P0 S0 H-1 ; set fan 0 value. Thermost

; Tools
M563 P0 D0 H1 F0 ; define tool 0
G10 P0 X0 Y0 Z0 ; set tool 0 axis offsets
G10 P0 R0 S0 ; set initial tool 0 active

; Custom settings are not defined
; Miscellaneous
M575 P1 B115200 S2 ; enable support for PanelDue
M501 ; load saved parameters fro
; select first tool

; Automatic power saving
M911 S21 R22 P"M913 X0 Y0 G91 M83 G1 Z3 E-5 F1000" ; Set voltage threshold

```

## 6、3Dtouch 配置

6.1 在配置文件中增加以下指令;

;Z-Probe

M950 S0 C"servo0"

; Setup servo 0 as servo

M558 P9 C"^zstopmax" H5 F120 T6000

; set Z probe type to bltouch and the dive

height + speeds

G31 P500 X26 Y0 Z2.1

; set X offse\Y offset1\Trigger Z height

M557 X30:150 Y10:150 S20

; define mesh grid

M375

; Load height map

```

M201 X500.00 Y500.00 Z100.00 E500.00 ; set accelerations (mm/s^
M906 X800 Y800 Z800 E800 I30 ; set motor currents (mA) a
M84 S30 ; Set idle timeout

; Axis Limits
M208 X0 Y0 Z0 S1 ; set axis minima
M208 X180 Y180 Z200 S0 ; set axis maxima

; Endstops
M574 X1 S1 P"!^xstop" ; configure active-high en
M574 Y1 S1 P"!^ystop" ; configure active-high end
M574 Z1 S1 P"!^zstop" ; configure active-high end
M591 D0 P1 C"e1stop" L7 R75:125 E22 S1 ; configure runout_sensor

; Z-Probe
M950 S0 C"servo0" ; Setup servo 0 as servo
M558 P9 C"^zstopmax" H5 F120 T6000 ; set Z probe type to kltou
G31 P500 X26 Y0 Z2.1 ; set X offset\Y offset\Tri
M557 X30:150 Y10:150 S20 ; define mesh grid
M375 ; Load height map

; Heaters
M308 S0 P"bedtemp" Y"thermistor" T100000 B4138 ; configure sensor 0 as the
M950 H0 C"bed" T0 ; create bed heater output
M307 H0 B0 S1.00 ; disable bang-bang mode fc
M140 H0 ; map heated bed to heater
M143 H0 S120 ; set temperature limit for
M143 H0 S120 ; set temperature limit for
M308 S1 P"e0temp" Y"thermistor" T100000 B4138 ; configure sensor 1 as the
M950 H1 C"e0heat" T1 ; create nozzle heater outp
M307 H1 B0 S1.00 ; disable bang-bang mode fc

```

6.2 在 sys 文件夹中增加 deployprobe.g 文件，文件里面的指令为：M280 P0 S10

6.3 在 sys 文件夹中增加 retractprobe.g 文件，文件里面的指令为：M280 P0 S90

6.4 在 sys 文件夹中增加 heightmap.csv 文件，该文件用于保存测量的高度数据

6.5 在 sys 文件夹中增加 bed.g 文件，文件里面的指令为

M561

G29

6.6 在 macros 文件夹中增加按键 AUTO\_BED\_LEVELING, 该按键用于在屏上进行操作自动调平，里面的指令为

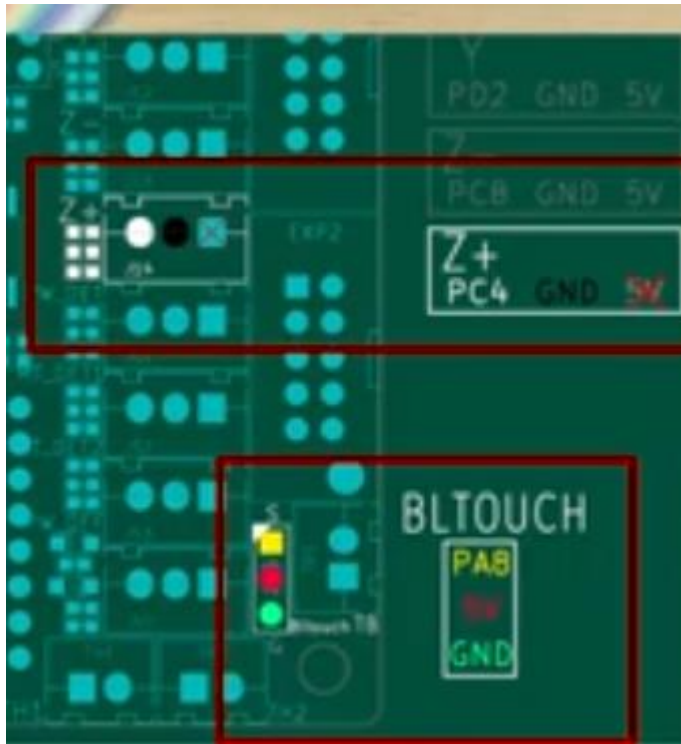
M280 P0 S160

G28

G32

6.7 在 macros 文件夹中增加按键 Alarm Release，里面的指令为 M280 P0 S160，该按键用于解除 3Dtouch 报警

6.8，3Dtouch 接线



6.9 Zoffset 调整，详情参考以下链接中的教程

<https://bettrue3d.dk/bltouch-on-duet-wifi-configuration-and-usage/#macrogroup>

