

Adjusting the PID

All firmware PID values have been updated when leaving the factory. If you change the hardware, such as the power of the hot bed, the heating power of the nozzle, etc., or if the ambient temperature changes, or the hardware displays a heating error, you need to adjust the heating PID value again.

Command head heating target: **M303 E0 S260**

(**S260** is the head heating target temperature of 260°C. It can be set according to the printing materials. Reference value: PLA- 195 °C ABS-250 °C)

Command hot bed : **M303 B S50**

(**S50** is the target temperature of the hot bed, which can be set freely according to the needs of the printed materials. Reference value: PLA- 50 °C ABS-80 °C)

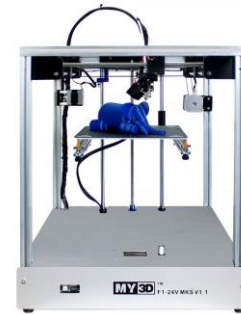
Normal heating print waiting time (tested at 25 ° C during printing)

PLA heating head 195 ° C hot bed 50 ° C usually starts printing for **3-5 minutes**

ABS heating head 260 ° C hot bed 80 ° C usually start printing **5-7 minutes**

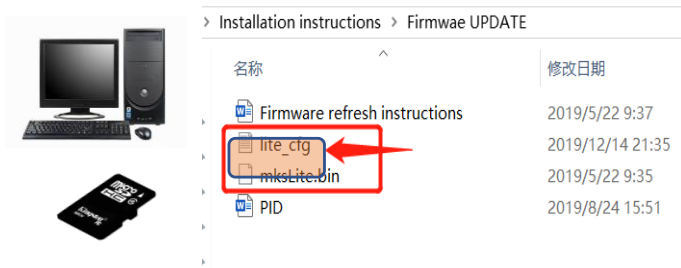
F1-A F1-B (24v 350w 110/220v) Power of hot bed: 250W Heating head power: 50w

- First connect the pc and printer with usb cable
- PC computer to open the host computer software (repetierHost or Pronterface, etc.) to connect to the printer .



Pronterfac (<http://www.pronterface.com/index.html#download>)
or Repetier-Host (<https://www.repetier.com/>)

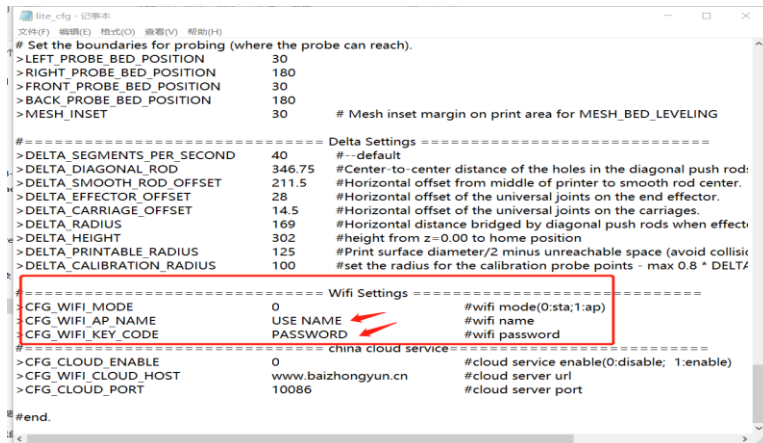
• Modify



1

Open the lite_cfg file with Notepad

Download the latest firmware
<https://github.com/my3dlttd/F1-MKS-V1.1-Firmware>



2

Modify the corresponding value
 Such as motor direction PID, etc.



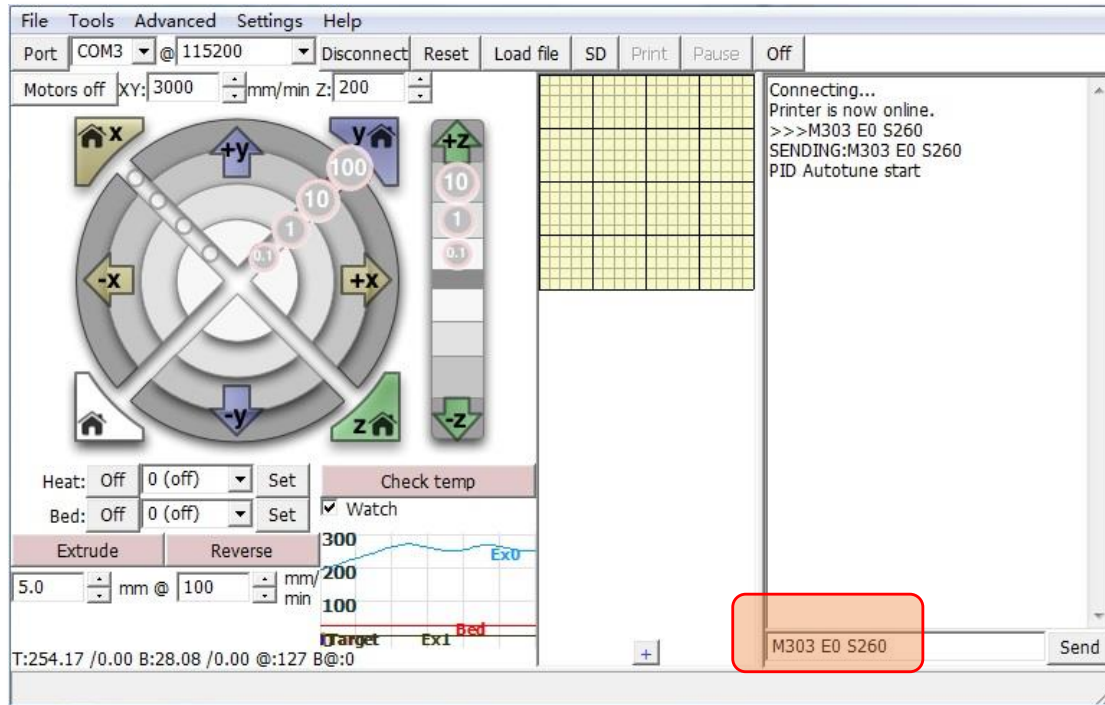
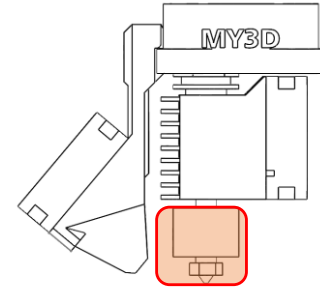
3

Copy the modified **lite_cfg** file and **mkslite.bin** to the TF card,
 insert the 3D printer,
 and then turn on the power switch again.
 Will update automatically.

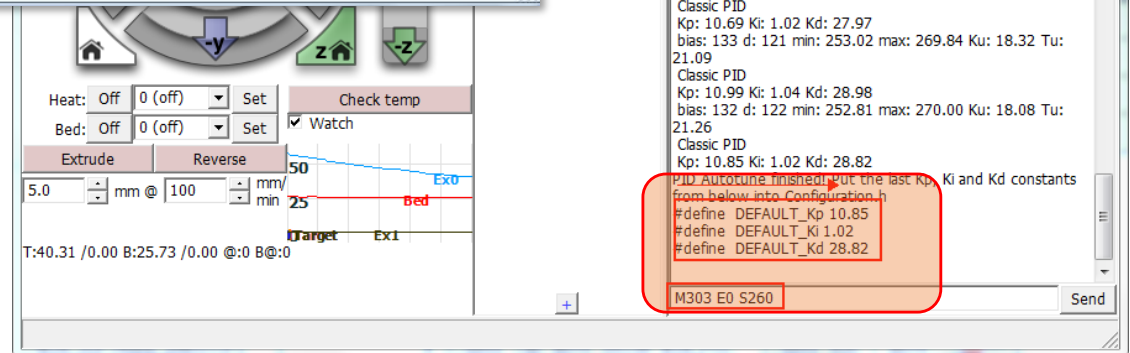
After the update, the files in the TF card are automatically invalidated (can be deleted) and can only be updated once.
 If you need to update again. Need to re-copy the file into the TF card.

Heating head

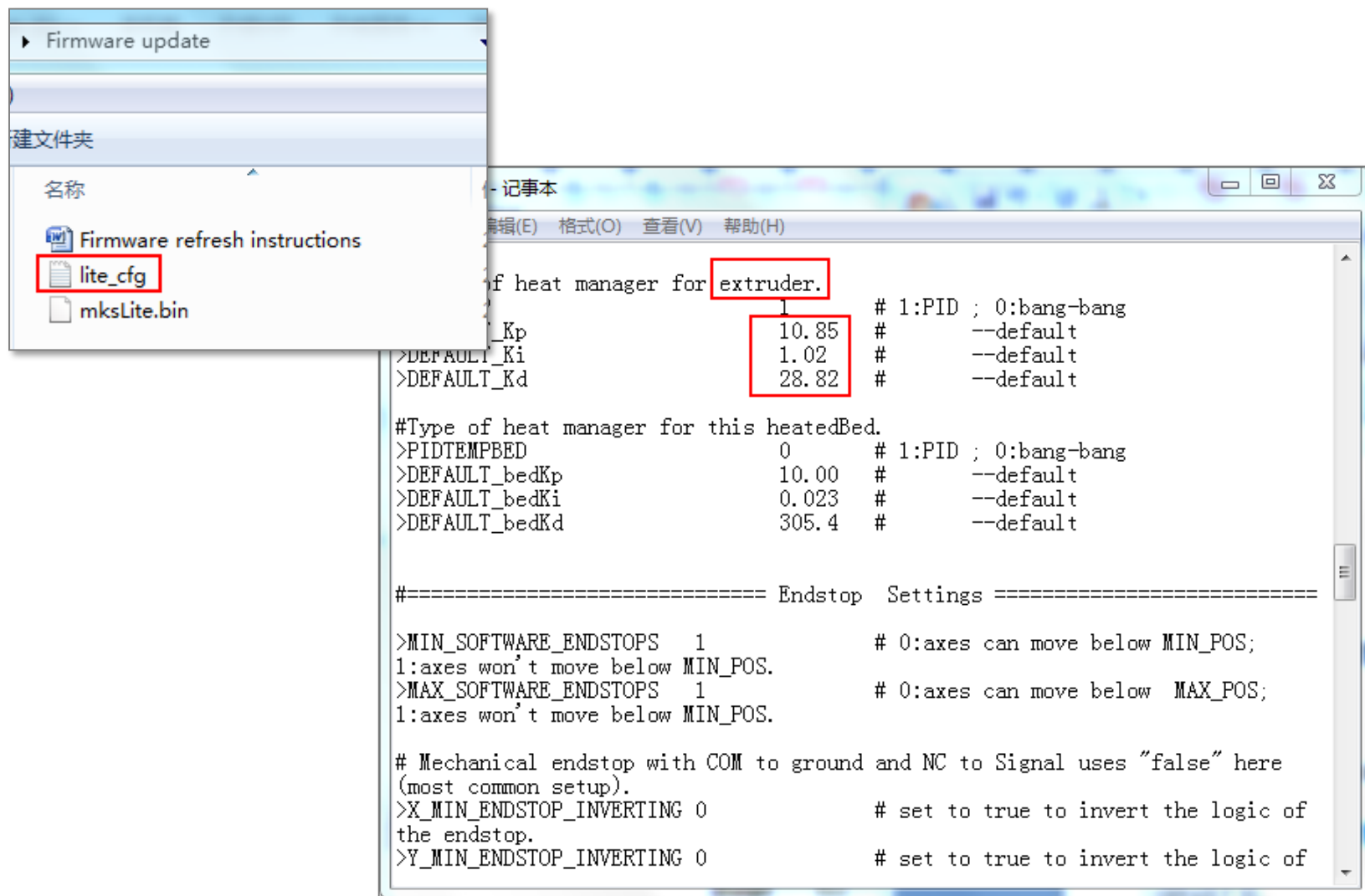
Send the "**M303 E0 S260**" to the printer in the host computer software.



The waiting time usually takes a few minutes:



Write the **Extruder PID** parameter to the following part of the "lite_cfg.txt" file.



Hot bed PID adjustment method:

1. Send the command : **M303 B S50**

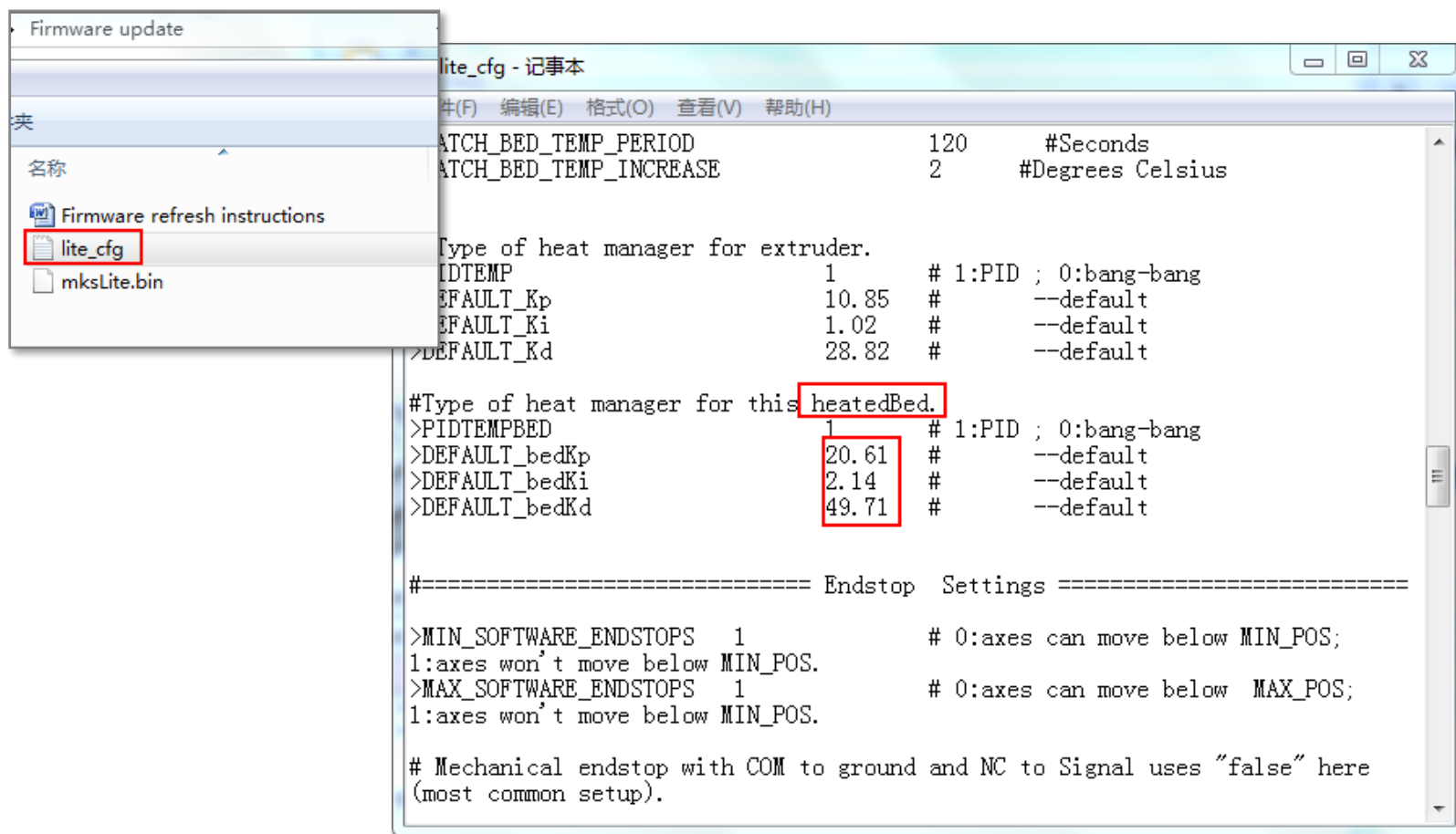
(**S50** is the hot bed temperature, Example: PLA hot bed 50 °C ABS hot bed 80°C)

The screenshot shows the Pronterface software interface. The main window displays the command **M303 B S50** in the command input field, which is highlighted with a red box. The status bar shows the printer is online and the command is being sent. The main window also displays a grid of temperature readings and a graph of the bed temperature over time.

The right-hand window shows the output of the command, including the PID Autotune results. The results are as follows:

```
Connecting...
Printer is now online.
>>>M303 B S50
SENDING:M303 B S50
PID Autotune start
bias: 20 d: 20 min: 49.39 max: 50.73 Ku: 37.97 Tu: 18.81
Classic PID
Kp: 22.78 Ki: 2.42 Kd: 53.57
bias: 20 d: 20 min: 49.36 max: 50.87 Ku: 33.82 Tu: 19.30
Classic PID
Kp: 20.29 Ki: 2.10 Kd: 48.95
bias: 20 d: 20 min: 49.36 max: 50.84 Ku: 34.34 Tu: 19.30
Classic PID
Kp: 20.61 Ki: 2.14 Kd: 49.71
PID Autotune finished! Put the last Kp, Ki and Kd constants from below into Configuration.h
#define DEFAULT_Kp 20.61
#define DEFAULT_Ki 2.14
#define DEFAULT_Kd 49.71
```

The bottom window shows the command **M303 B S50** being sent again, with the status bar indicating the command is being sent.



Congratulations
Set up successfully



Any questions please contact us
my3dltd@163.com <https://github.com/my3dltd/F1-MKS-V1.1-PID-SET>
<https://diymaria.aliexpress.com/store/2092087>