

MKS SBASE

Overview

MKS-SBASE is a latest version of 3D Printer main board by Makserbase(MKS). It is based on ARM platform and using 32bit 100M Cortex-MS MCU-LPC1768.

Respect to MKS SBASE V1.0 :

MKS SBASEV1.2

- 1.Fix temperature problem.
- 2.Add thermocouple Pins(can't be used with 12864lcd together).
- 3.Create P1.22 P1.23 P2.12 P2.11 P4.28 for developing.
- 4.Extend endstop power 3.3V / 5V.
5. Pre-install two big heatsinks.

Features

1. Using 32bit 100M Cortex-M3 MCU-LPC 1768, and improve its performance highly.
- 2.Support highly modular open source firmware Smoothieware, easy for secondary development.
3. Support network function, then proceed remote control via IE Explorer.
4. Using DRV8825 stepper driver which supports 32-microstep and with excellent cooling.
5. Currents of the stepper motor can be set directly, which can avoid the damage .
6. Using high quality FR-4 4 layers PCB and special design for cooling.
7. Using professional power chip, support 12V-24V DC input

Website: www.makerbase.com.cn

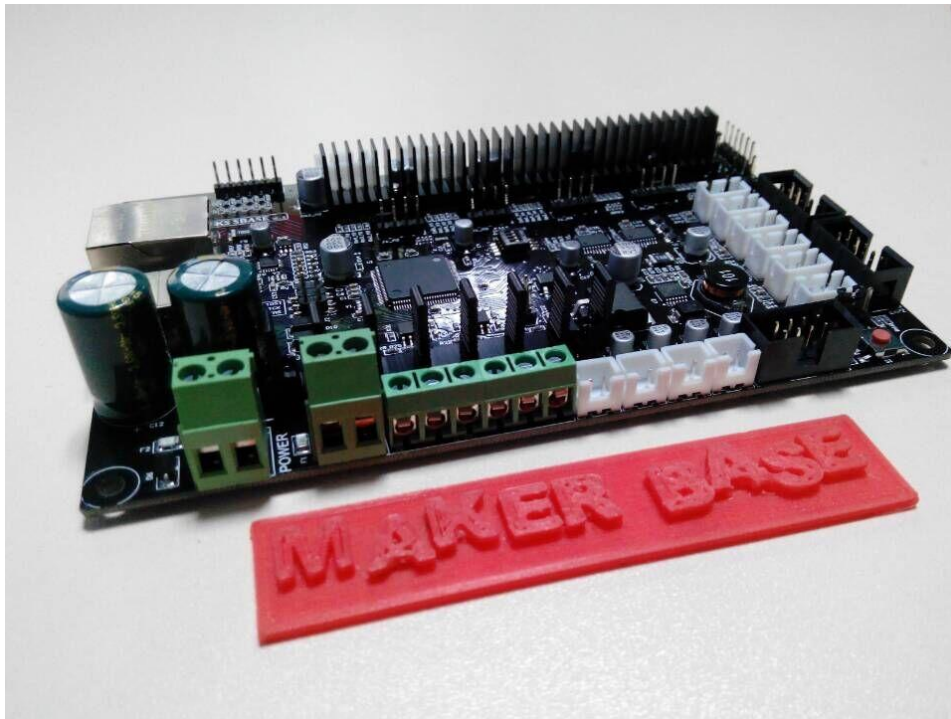
Database: <https://github.com/makerbase-mks>

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8. Good to work with 12864LCD and MKS TFT touch screen.

MKS SBASE Prototype Photo



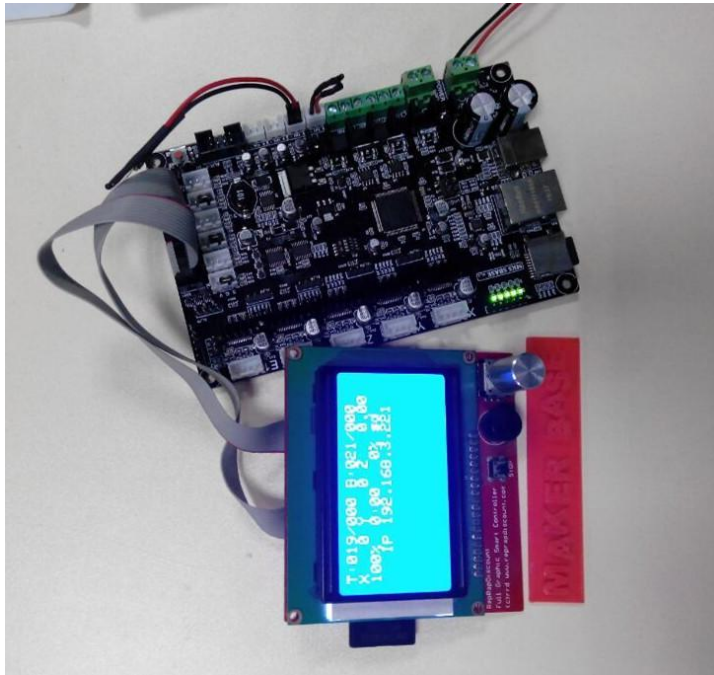
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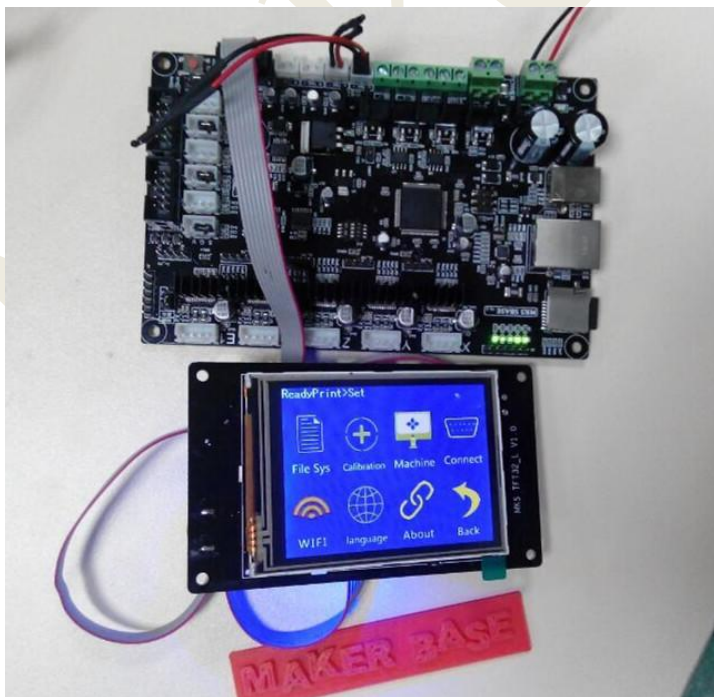
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SmartController



MKS SBASE and 12864LCD



MKS SBASE and MKS TFT

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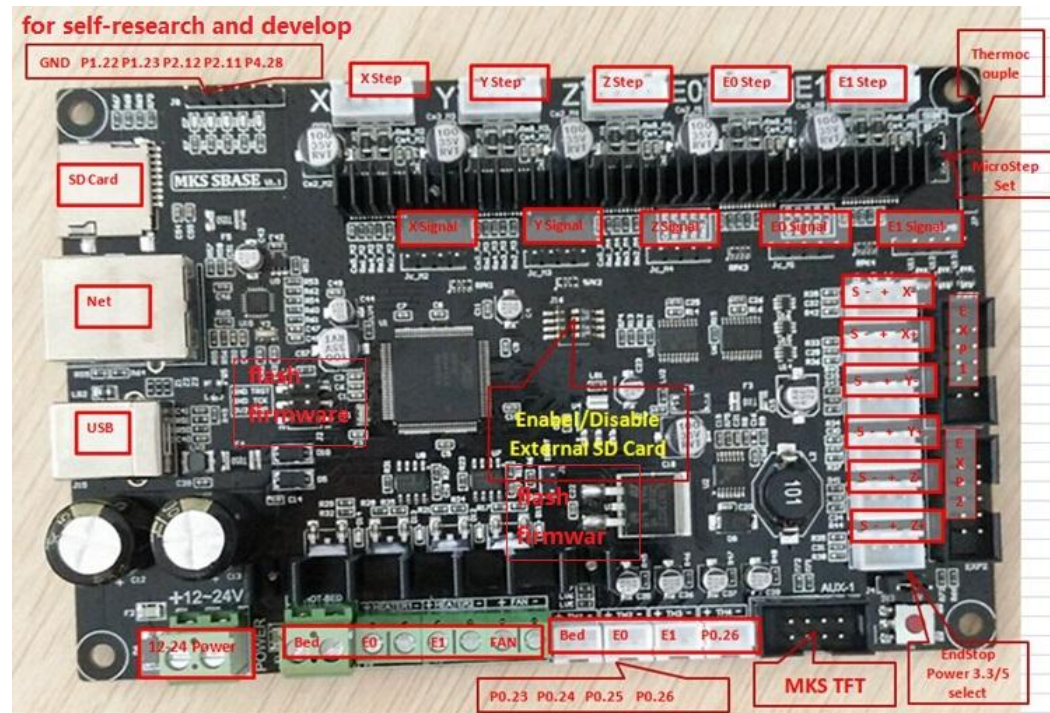
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Wiring

Wiring plan based on available information.

MKS SBASE Connectors



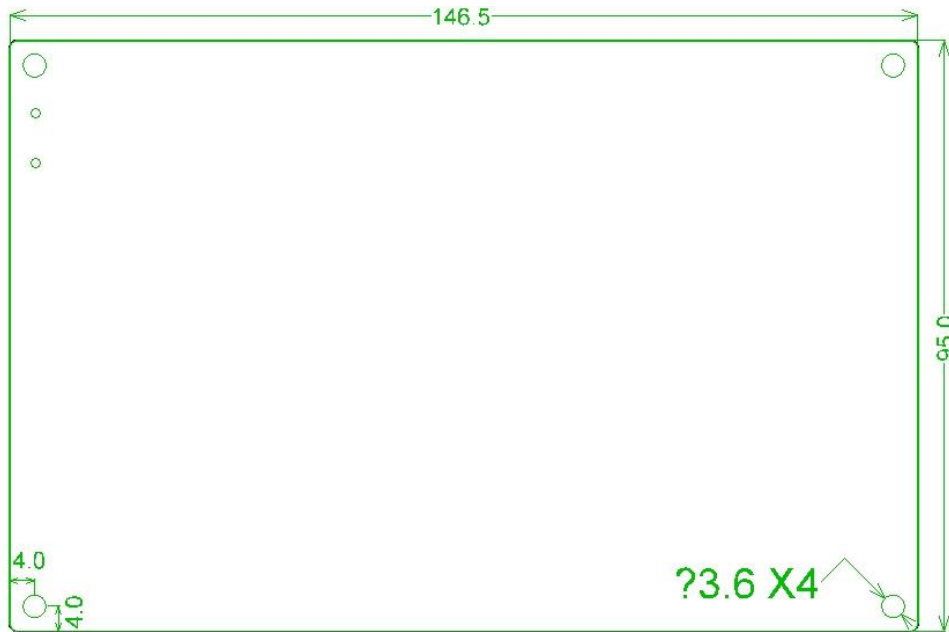
MKS SBASE Size

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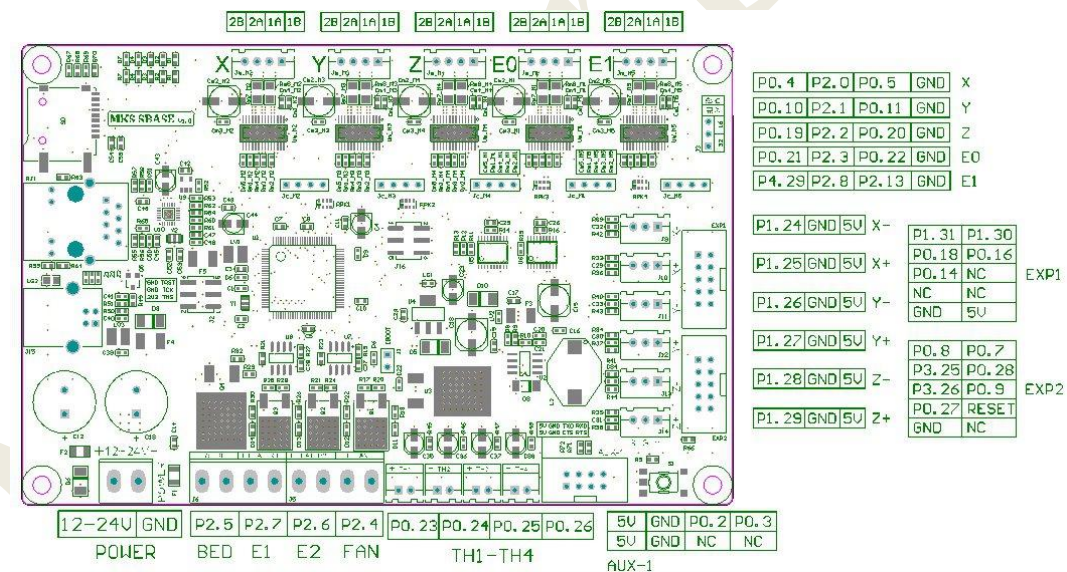
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MKS SBASE PIN



How to use

- Copy "firmware.bin" and "config" from config file to SD card. Need to change config name .For example:

Change  config-mks-xyz into  config.txt

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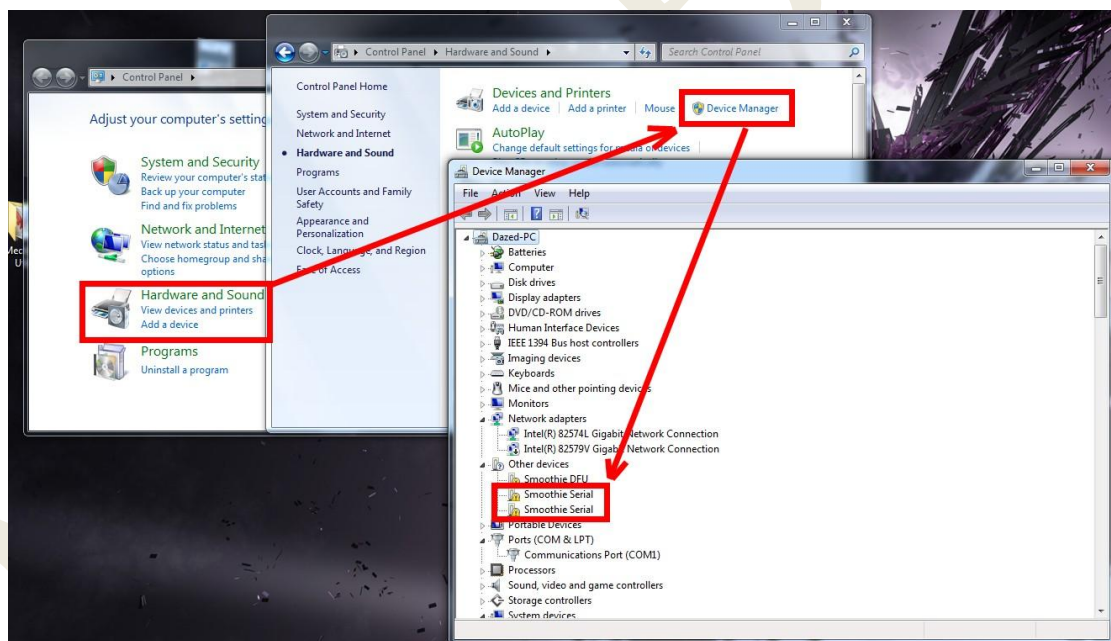
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- 2、 Adjust config.txt according to the configuration .
- 3、 Refer to MKS-SBASE PIN , make correction connection. Such as stepper motor ,endstops.
- 4、 Plug the SD card to the board, after power on, it will automatic update .
- 5、 If connect computer with USB, need to install the driver(Refer to below specification).

Install the driver

First, you should upload the smoothieware-windows-signeddriver.zip, and extract.

Then, plug the USB to computer . Next, enter device manger .



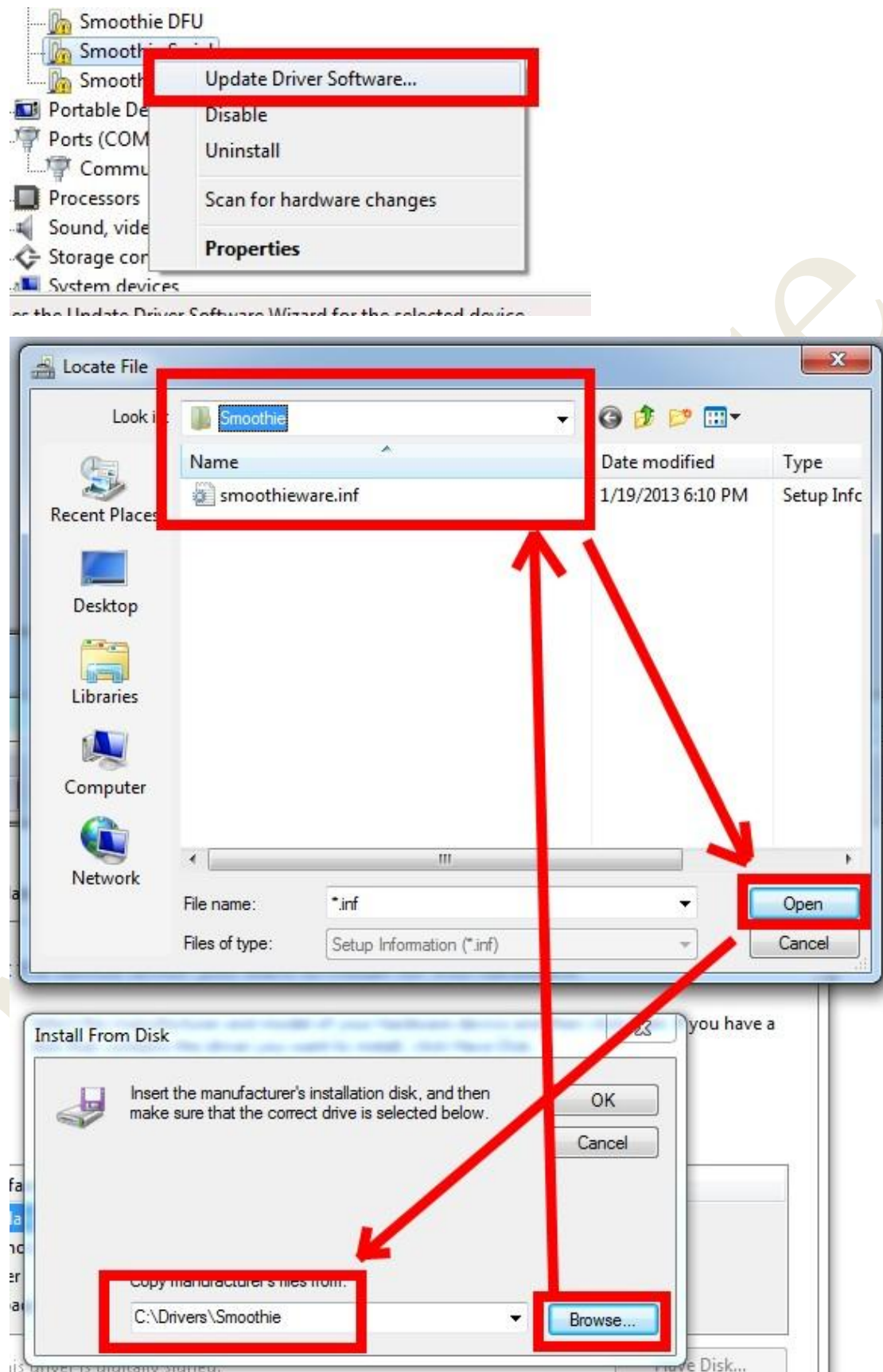
Update the Driver Software.

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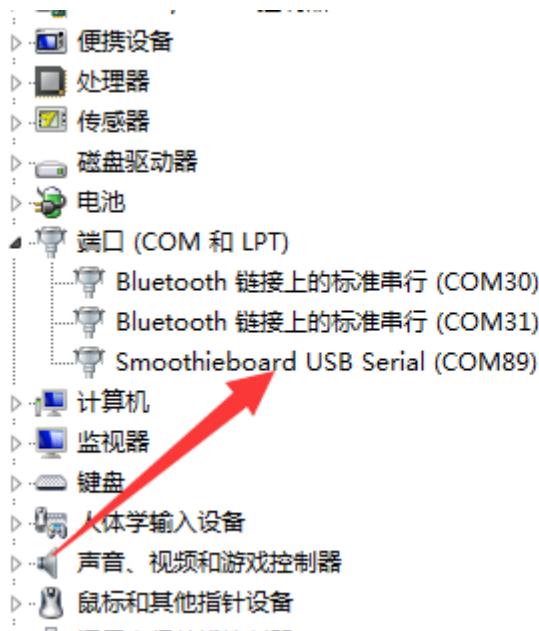
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Then will turn up COM after install successfully.



Download new firmware and update

Please upload firmware from our github: <https://github.com/makerbase-mks/> .

Copy configuration (including firmware.bin and config.txt) to SD card, insert to the board and power on, it will automatic update .

After successful updated, the file name will turn into **firmware.cur**

Others

1.Support Gcode. Please refer to <help>G-Codes. htm .

2.Main parameter setting

It is very easy to set the parameter . First, open config.txt on SD card, then modify the parameters and save. Re-power on.

Details on parameter, please refer to Configuration_Options.

(1)、Here below are the parameters should be set according to your machines.

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```
alpha_steps_per_mm 80
#steps per mm for X axis stepper
beta_steps_per_mm 80
#steps per mm for Y axis stepper
gamma_steps_per_mm 1600
# steps per mm for Z axis stepper
alpha_current 1.0
#Setting the Currents of X axis stepper, best not bigger than 2
beta_current 1.0
#Setting the Currents of Y axis stepper motor, best not bigger than 2
gamma_current 1.0
#Setting the Currents of Z axis stepper motor, best not bigger than 2
extruder.hotend.steps_per_mm 90
#steps per mm for E0 extruder motor
delta_current 1.5
# Setting the Currents of E0 extruder stepper motor, best not bigger than 2
```

(2)、Here below are the parameters you can choose to set.

```
acceleration 600
#Acceleration for the stepper motor, unit is mm/s2

z_acceleration 60 #Acceleration for the Z axis stepper, unit is mm/s2,
DELTA Printer do not need to set it
alpha_dir_pin 0.5
# Pin for the dir signal of X axis motor, do not change parameter and add !
symbol, motor will change the direction of turning.
beta_dir_pin 0.11!
```

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Pin for the dir signal of Y axis motor, do not change parameter and add !
symbol, motor will change the direction of turning.

gamma_dir_pin 0.20!

Pin for the dir signal of Z axis motor, do not change parameter and add !
symbol, motor will change the direction of turning.

extruder.hotend.dir_pin 0.22

Pin for the dir signal of E0 extruder motor, do not change parameter and add !
symbol, motor will change the direction of turning.

temperature_control.bed.enable true

#Using true for able the headed bed and false for enable.

switch.fan.enable true

#Using true for able the Fan and false for enable.