Makerbase

广州谦辉信息科技有限公司

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MKS ROBIN Motherboard Manual

MAKER BASE

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Firmware version update

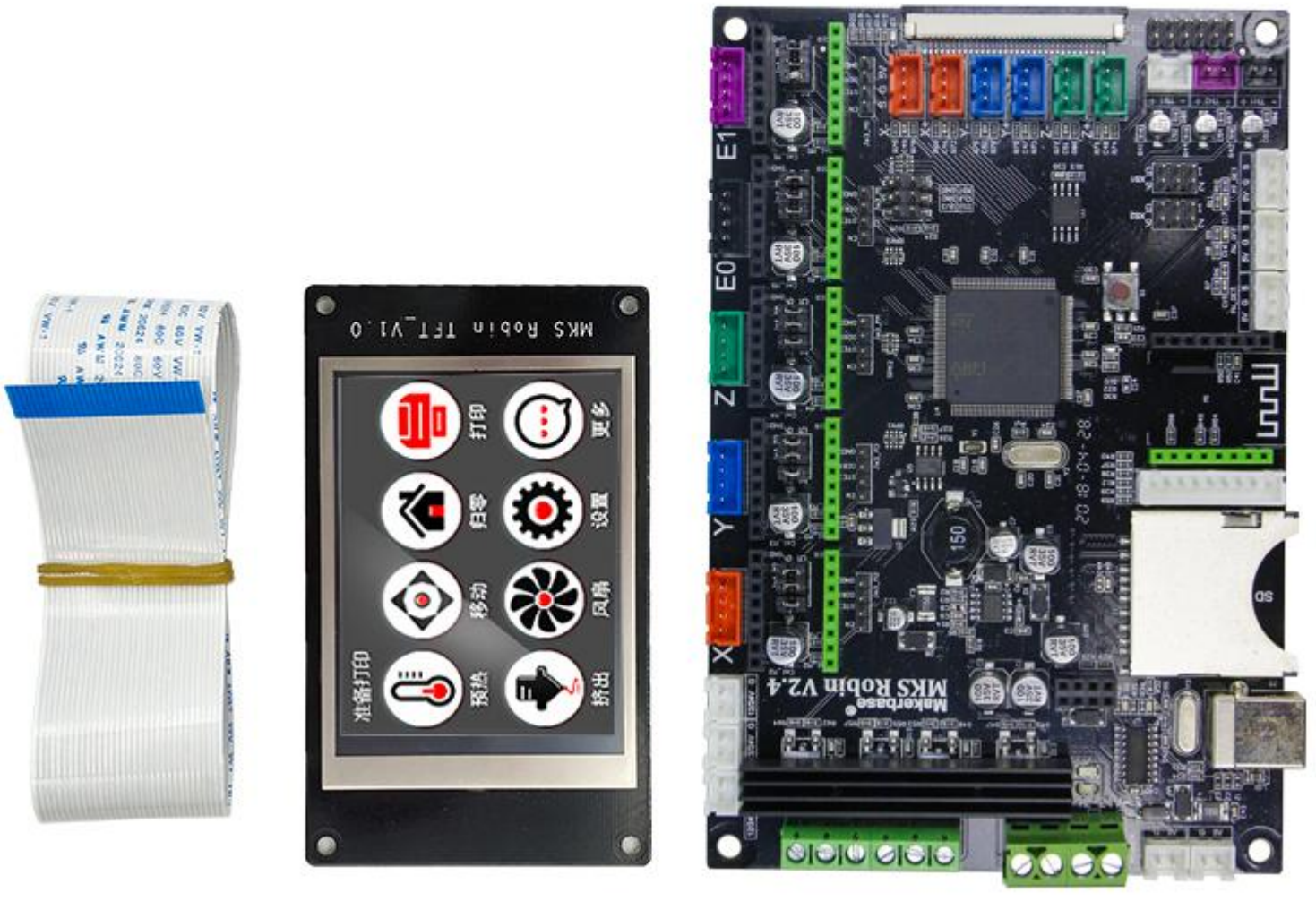
Firmware version	Modified Time	Modify Content	Note
V1.0.0	2016.10	1.Initial version	
V2.0.1	2016.12	1.Added Filament detecting function; 2. Added dual nozzle function; 3. Added configuration items for the homing sequence; 4. Added Filament Change function; 5. Added the manual leveling function; 6. Deleted the screen correction function; 7. Added more button in the print operation interface; 8. Added Auto off after print finish function; 9. Increase support for corexy; 10. Increase the high and low levels of the motor drive enable pin to be configurable; 11. Support thermocouple AD597.	
V2.0.2	2017.1	1. Correct the temperature of the extrusion head is unstable; 2. Correct the frequent temperature alarm during the printing process.	
V2.0.3	2017.3	1. Increase the breakpoint recovery function; 2. Increase the power-off recovery function; 3. Change the detection method of power off and material breakage, which is more stable; 4. Add WIFI function, which can be controlled by mobile phone APP;	

		5. Change the thermocouple to 31855.	
V2.0.4	2017.10	1. Fixed the problem of WIFI transmission instability; 2. Optimized the Filament Change function; 3. Fixed configuration options for the leveling switch; 4. Fixed the problem displayed when printing double-headed; 5. Added multi-language online switching function, can support 7 languages; 6. Added configurable to change E1 to double X, double Y, double Z option.	
V2.0.5	2017.12	1. Add the offset value of double-head printing; 2. Fix some white screen bugs.	
V2.0.6	2018.1	1. Correct some grammatical words displayed in multiple languages; 2. Increase the compatibility of the new LCD screen; 3. Increase the X-axis offset and Y-axis offset of the second nozzle E1.	
V2.0.7	2018.5	1, fix wifi can not configure the sta mode bug through the SD card; 2, because robin mini hardware changes, so V2.0.7 only supports hardware V2.0 version; 3, modify robin and robin mini compatible with the latest touch screen; 4. Modify the MAX31855 test to display an error bug;	

Directory

Ⅰ.Overview

MKS ROBIN is a product developed by MKS to meet market demand.With a 3.2-inch TFT touch screen, the operating interface is simple;The firmware configuration method is simpler, can be easily upgraded through the SD card and the user interface can be customized.It is suitable to manufacturers who mass production of 3D printers.



Ⅱ Features

1 .Support 7 Languages Online switching.

2 .Using the 32-bit high-speed ARM chip as the main control chip, and the self-developed firmware is adopted;

3 .With 3.2-inch TFT touch screen, the operation interface is simple and the sensitivity is high;

4 .Support wifi,it can be controled by app or web.Mobile app supports Android, iOS system,with two versions in Chinese and English.

5 .Upgrade configuration firmware by sd card, simple and convenient operation.

6 .Boot logo and all buttons and other interfaces can be designed by yourself;A maximum of 13 directive functions can be customized.

7 .Flexible motor drive seat mode, can support 4988, 8825 and various in-line drives, and support external drivers to meet your various drive requirements;

8 .The circuit board adopts high-quality 4-layer board and is specially designed for heat dissipation;

9 .Using high quality MOSFET tube, the heat dissipation effect is better;

10 .Using dedicated power chip , support 12V-24V power input;

11 .Can accept 24V input, the same system power can reduce the hot bed current to 1/4, effectively solve the hot bed MOS tube heating problem;

12 .Support multiple functions,such as Breakpoints recovery function,filament detecting function,save the gcode data with power off function,auto off after print finish function.

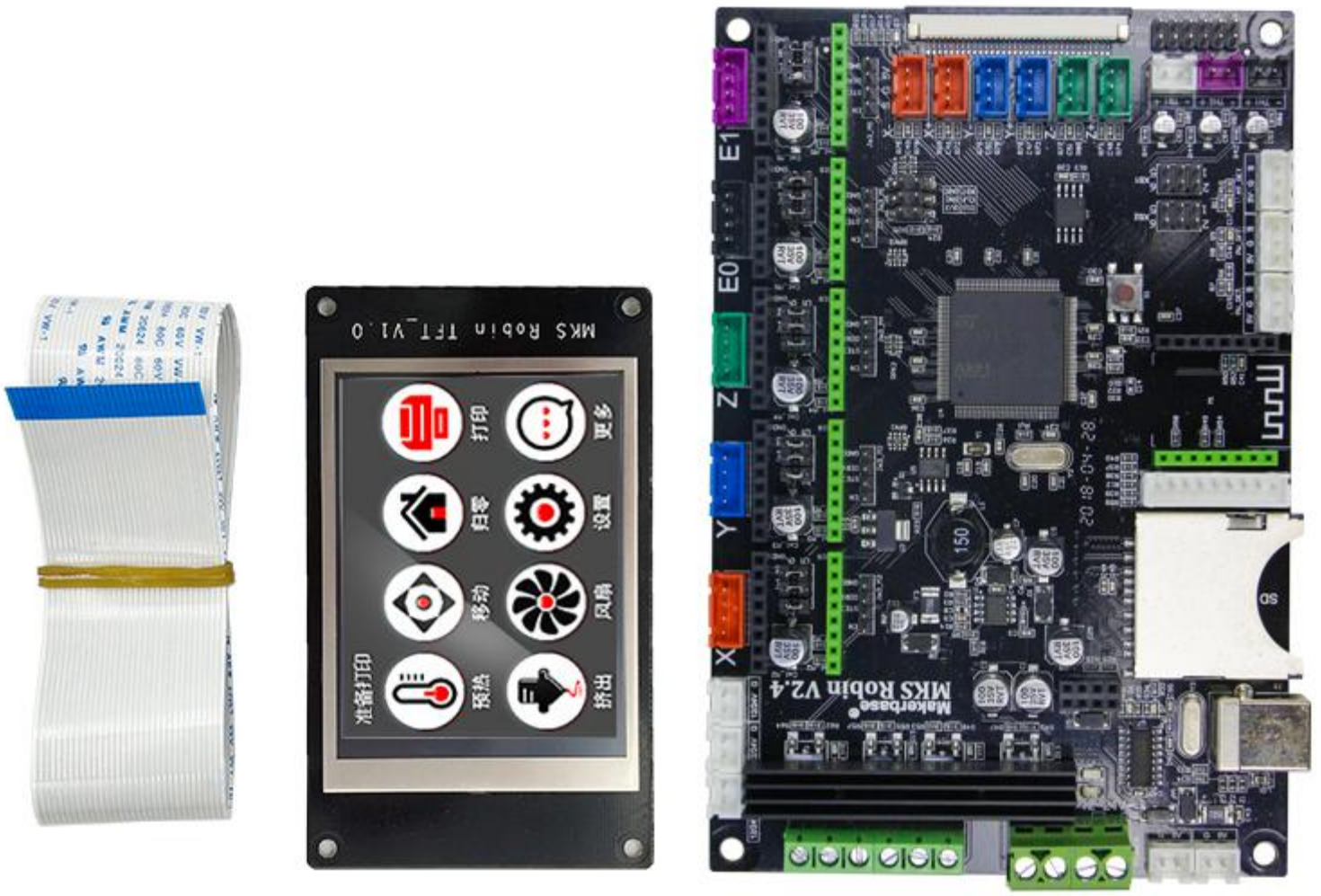
13 .Gcode Print to support Chinese filename.

Ⅲ Motherboard parameters

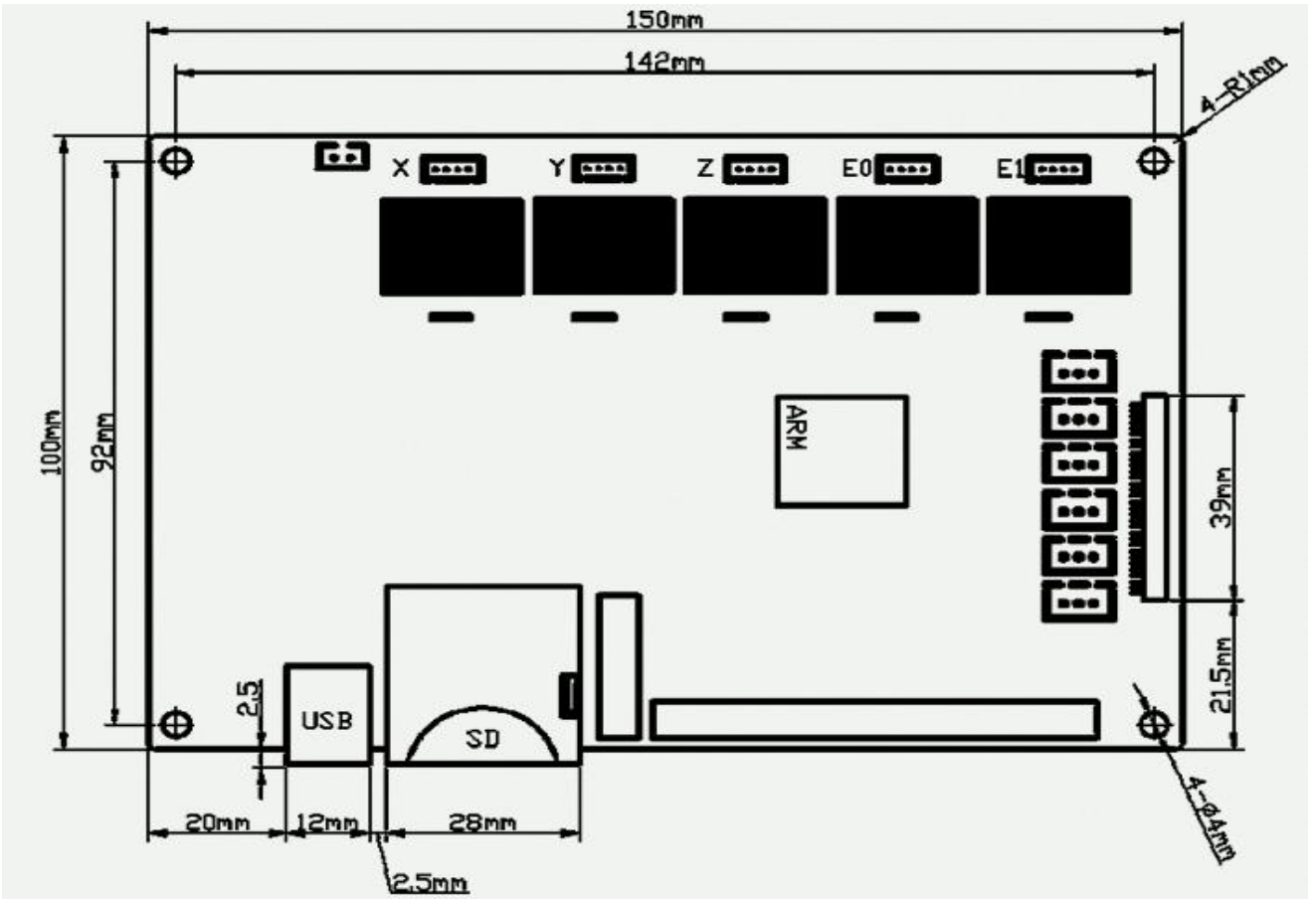
Board model:	**MKS Robin**	**Microprocessor:**	**STM32**
Dimensions:	150mm*100mm	**Mounting dimensions:**	142mm*92mm
Input:	12V~24V 5A~15A	**Motor drive :**	4988, 8825, 8729 and other in-line driver and external driver
Temperature sensor :	NTC 100K、31855	**Touch screen:**	3.2 inch
File print format:	G-code	**Mechanical structure:**	XYZ、delta、kossel、Ultimaker、corexy
Recommended software:	Cura、Simplify3d、Pronterface、Repetier-Host	**Firmware update:**	SD card

Ⅳ . Port Instructions

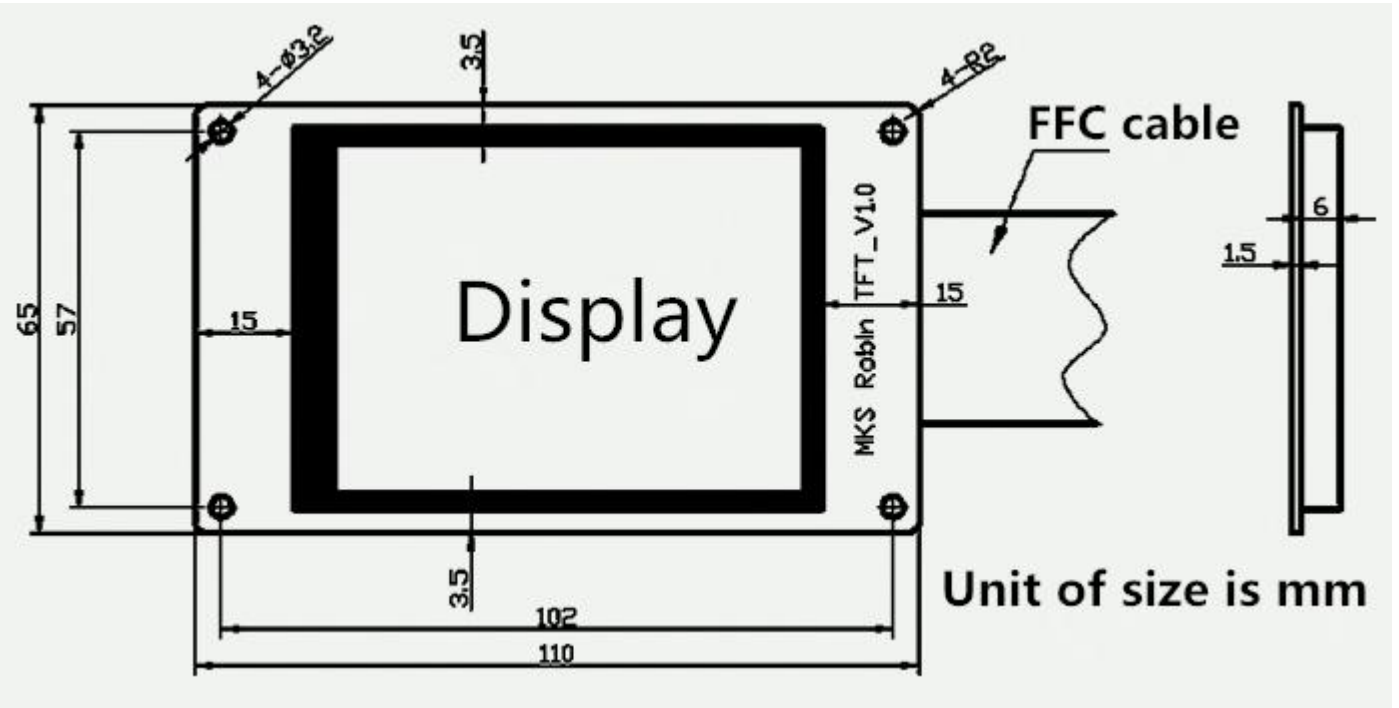
4.1 Robin front



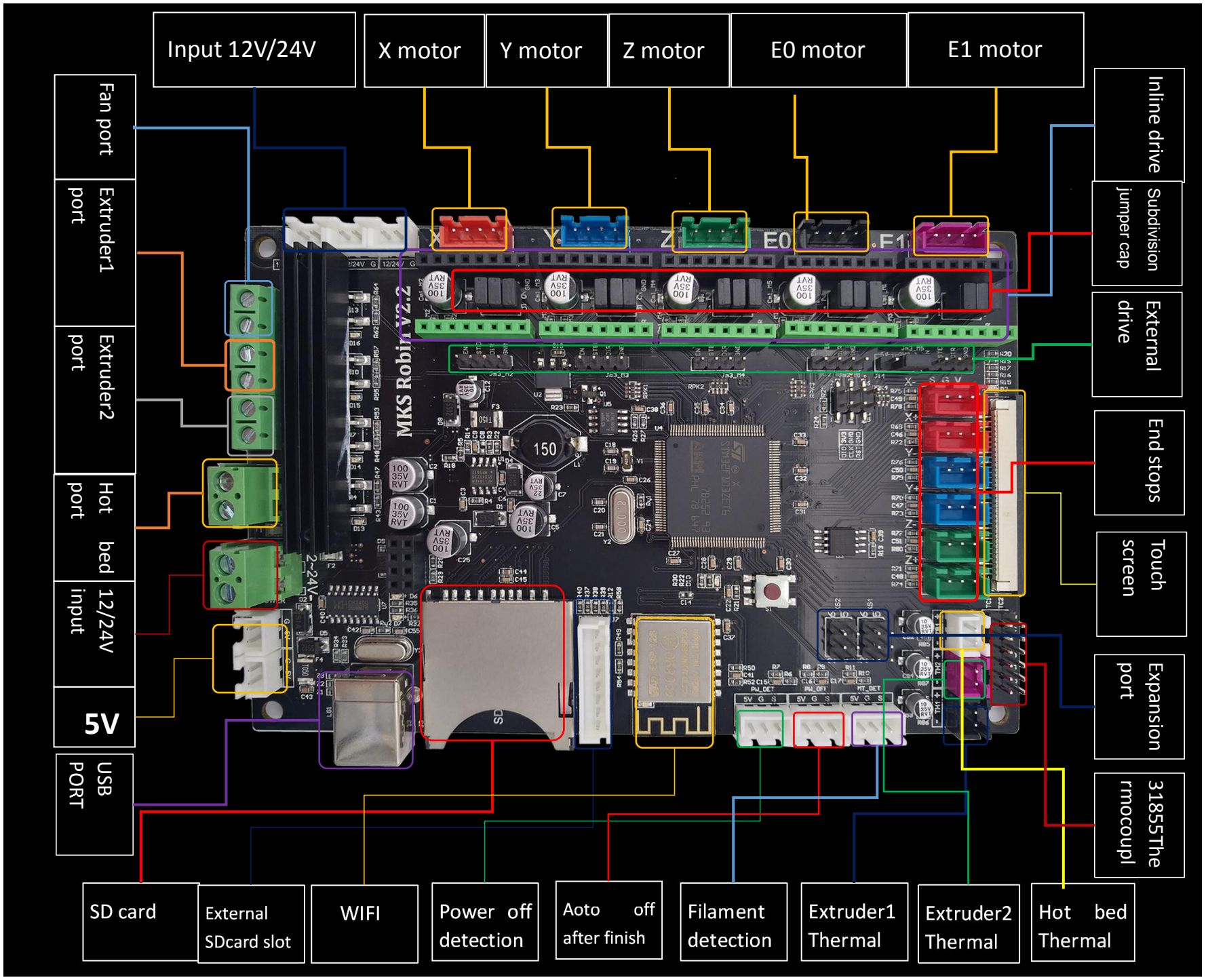
4.2 MKS Robin Installation Dimensional Drawing



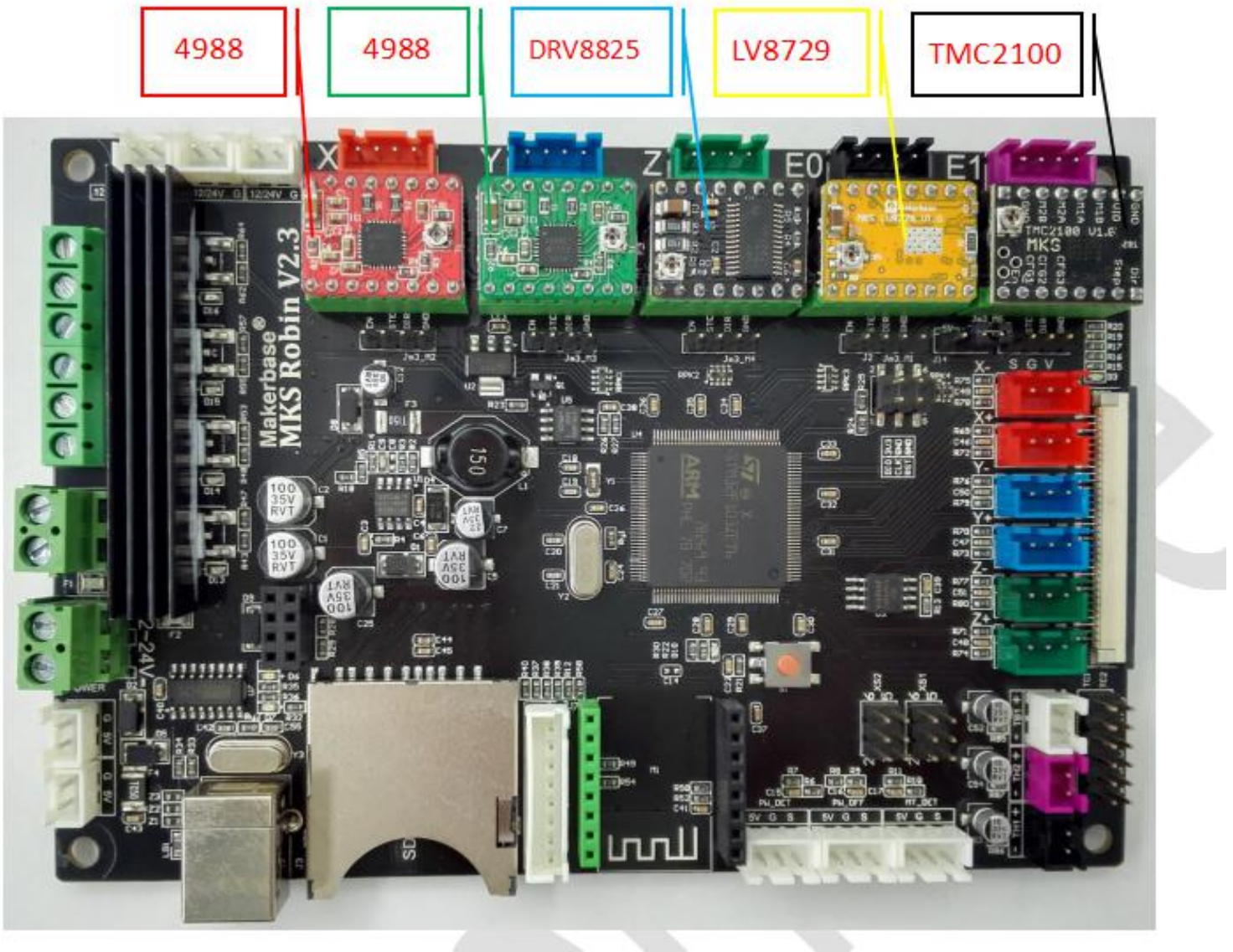
4.3 MKS Robin TFT Installation Dimensional Drawing



4.4 System connection diagram



4.5 drive and motherboard connection diagram (note the driving direction, do not insert the reverse)



Drive subdivision table: (Motherboard subdivision jumper caps are M1, M2, M3 from left to right, where jumper cap is inserted High, jumper cap is removed to Low)

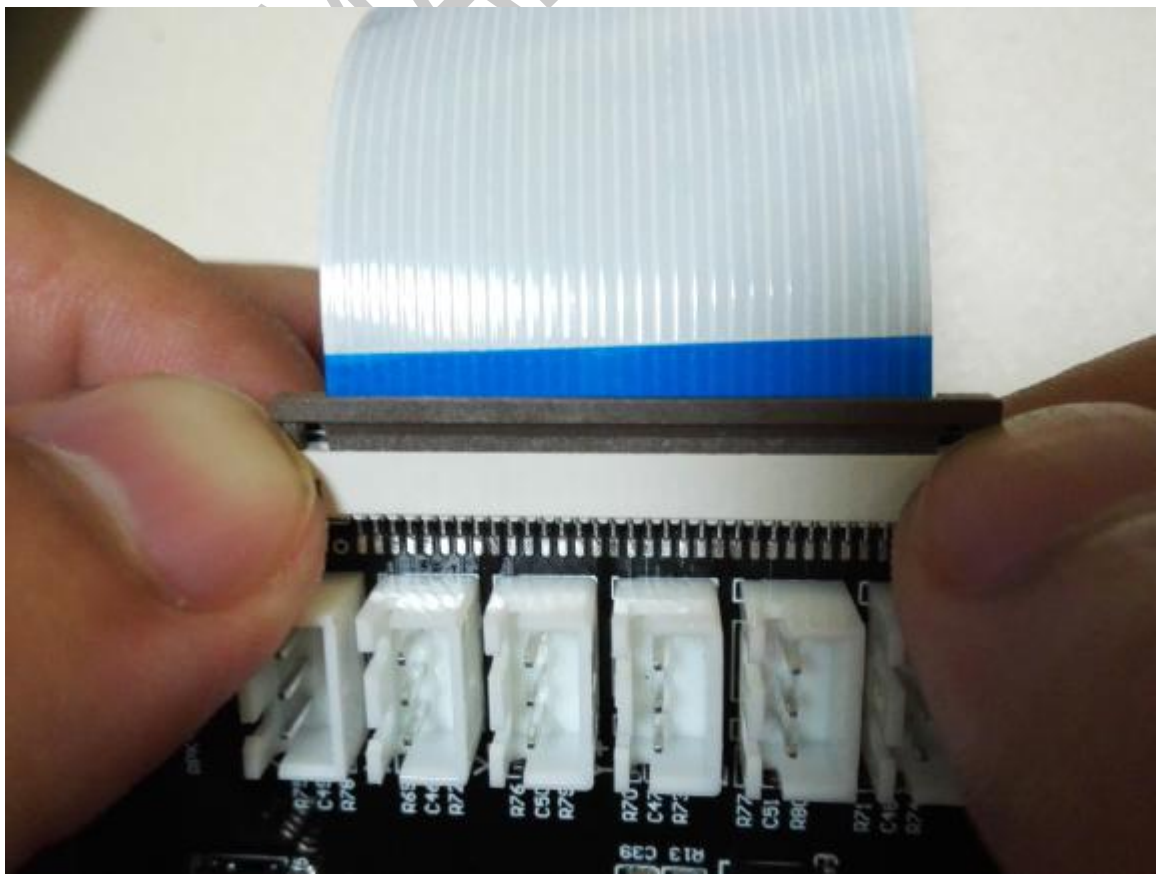
4988Drive subdivision				8825Drive subdivision				8729Drive subdivision			
M1	M2	M3	subdivision	M1	M2	M3	subdivision	M1	M2	M3	subdivision
Low	Low	Low	Full Step	Low	Low	Low	Full Step	Low	Low	Low	Full Step
High	Low	Low	1/2 Step	High	Low	Low	1/2 Step	High	Low	Low	1/2 Step
Low	High	Low	1/4 Step	Low	High	Low	1/4 Step	Low	High	Low	1/4 Step

High	High	Low	1/8 Step	High	High	Low	1/8 Step	High	High	Low	1/8 Step
High	High	High	1/16 Step	Low	Low	High	1/16 Step	Low	Low	High	1/16 Step
				High	Low	High	1/32 Step	High	Low	High	1/32 Step
				Low	High	High	1/32 Step	Low	High	High	1/64 Step
				High	High	High	1/32 Step	High	High	High	1/128 Step

The TMC2100 driver chip internally uses a differential algorithm to extend the 16 subdivisions to 256 subdivisions, and the step values are calculated in 16 subdivisions.

Pay attention to the driving direction, don't insert it! ! Will immediately burn the drive or the main control board.

When connecting the FFC soft cable, use the double thumb to open the buckle, put the FFC soft cable, and fasten the buckle.As shown below



Ⅴ.Firmware Upgrade Instructions

The factory firmware is up to date, so no updates are required.

5.1 The ways to get the MKS Robin Latest Firmware.

- Get firmware from customer service or technician
- Download the firmware from the makerbase discussion group.
- Download on Web:
  https://github.com/makerbase-mks?tab=repositories

5.2 The methods for updating the firmware

a.Copy the latest upgrade to the SD card root directory, including:

① Mks_font

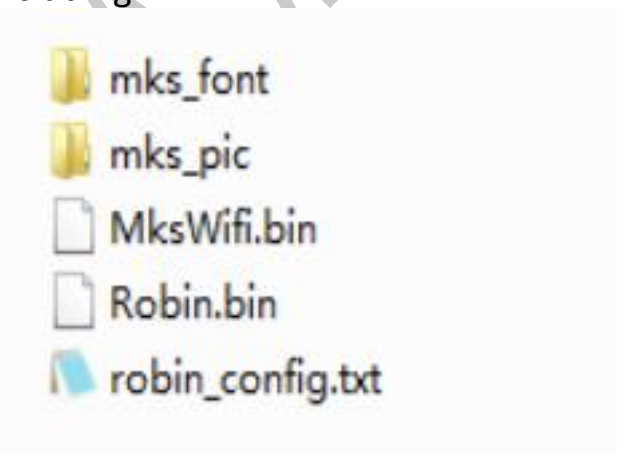
② Mks_pic

③ MksWiFI.ino.bin

④ Robin_mini.bin

⑤ Ronbin_mini_config.txt

As figure



Attention:Do not modify file names.

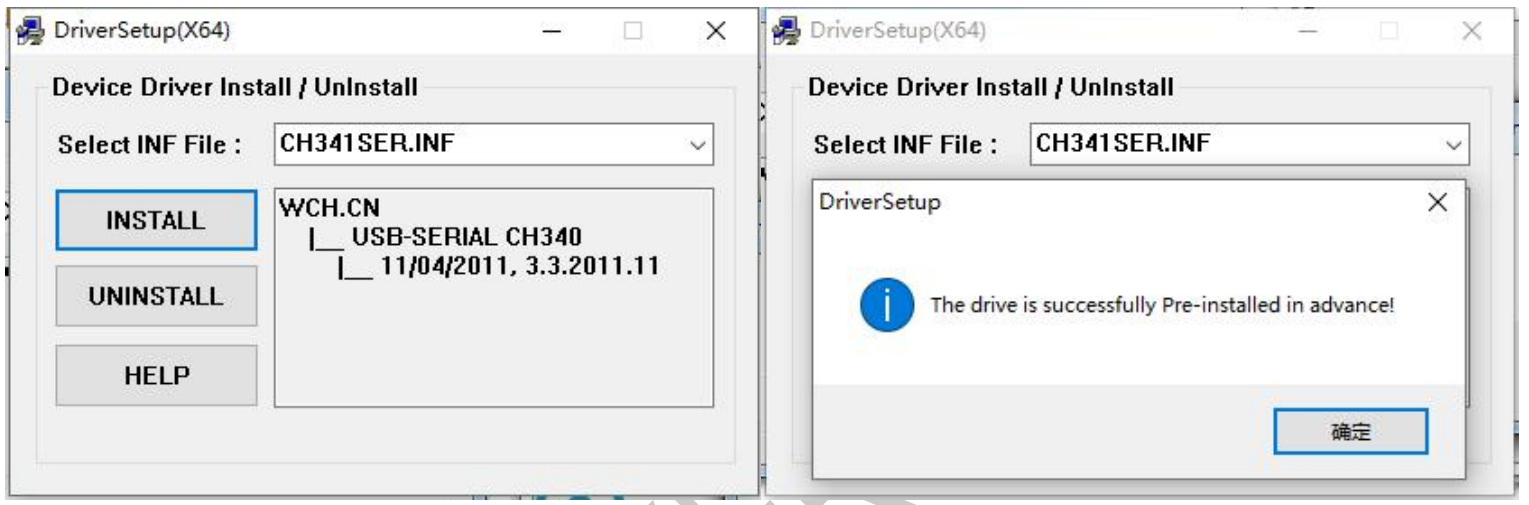
b. Plug the SD card into the motherboard and power on,hear drops ~ ~ A short sound, touch screen display update process, and so about 30S after the completion of the update.

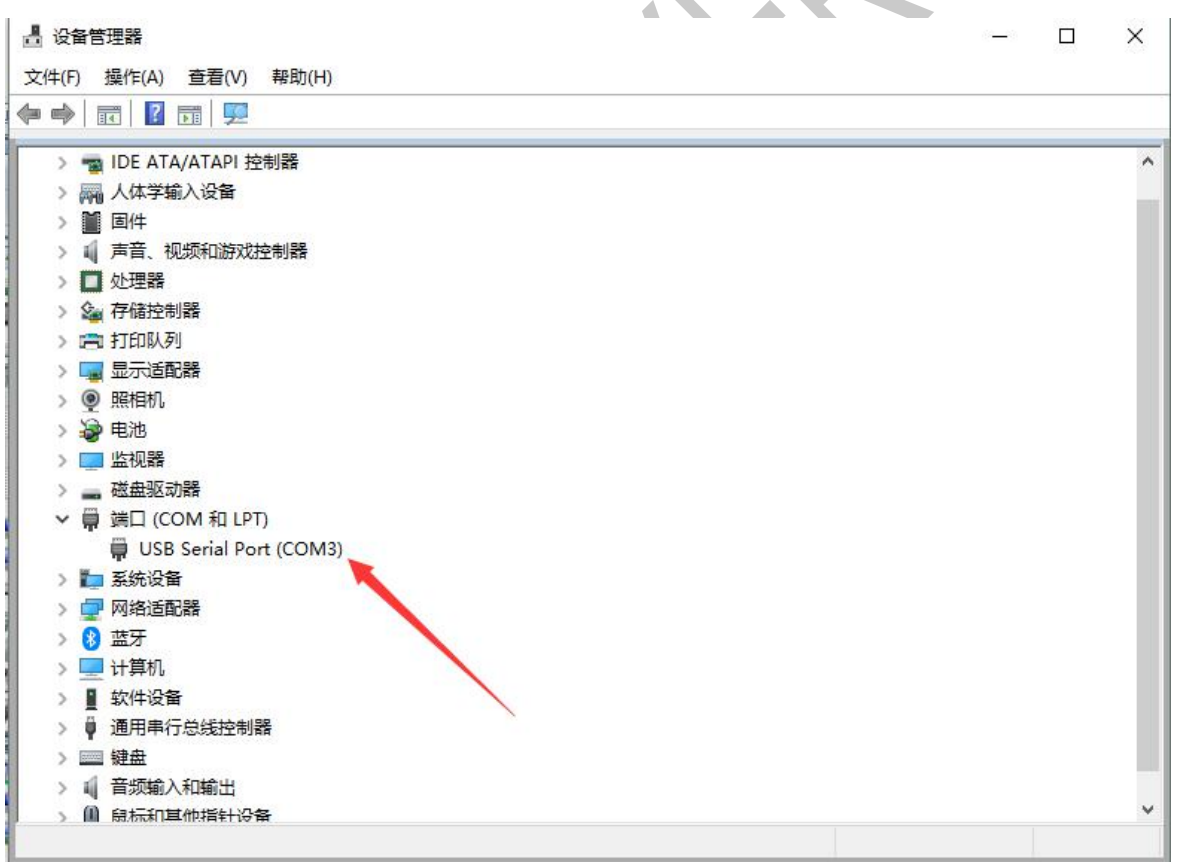
c. You can click” Settings--about” on the touch screen , to view current firmware information.

d. Advice: After the update is complete, delete the pictures and Fonts folder, avoid the next time to update the pictures and fonts.

Ⅵ. USB driver Installation

MKS Robin uses CH340 drive. You can get USB driver file with customer service or technician.Click to install the USB driver file, after the driver installation completes, will connect the Robin motherboard the USB to insert the USB port.Right-click My Computer, select Device Management, USB port information (figure):





Ⅶ. Machine parameters and function configuration

7.1 Based Settings（important,must be set）

```
#-------------------------------------------------------------
############ Based Settings( Required) ########################
#machine type
#0:xyz
#1:corexy(x_motor = x+y, y_motor = x-y),
#2:corexy(x_motor = x+y, y_motor = y-x),
#3:delta

>DRIVE_SYSTEM            0          #machine type

>cfg_multiple_language      1          #multi-language(enable:1, disable:0)

>cfg_language_type    3          #languages setting,this configuration is valid when "cfg_multiple_language" is disabled.
                    #(simplified Chinese:1; traditional Chinese:2; English:3; Russian:4; Spanish:5;French:6;Italian:7).

>NUM_EXTRUDER          1          #number of extruder (1:singal ; 2:dual)
>HAVE_HEATED_BED      1          #1:enable bed;  0:disable bed
>EXT0_TEMPSENSOR_TYPE       1          #1:100k thermistor ; 102: MAX31855 thermocouple
>EXT1_TEMPSENSOR_TYPE       1          #1:100k thermistor ; 102: MAX31855 thermocouple
>HEATED_BED_SENSOR_TYPE    1          #1:100k thermistor ;

>FEATURE_TWO_XSTEPPER    0          #change E1 singal into X , then dual X is available(enable:1; disable: 0)
>FEATURE_TWO_YSTEPPER    0          #change E1 singal into Y , then dual Y is available(enable:1; disable: 0)
>FEATURE_TWO_ZSTEPPER    0          #change E1 singal into Z , then dual Z is available(enable:1; disable: 0)
```

Attention：The Heat sensitive end interface on the motherboard should be connected to the heat sensitive, otherwise the "error" prompt will appear.

1 .Machine type: Which one is selected according to the mechanical structure model;

2 .Multi-language: If you need to switch languages online, you can enable multi-language display; when you don't need to switch languages online, you can't enable this. Because there is no text in the picture, you need to use the previous version of the image file mks_pic folder instead;

3 .If there is no hot bed, the hot bed needs to be shielded. Otherwise, the low temperature error will be caused because there is no thermal bed thermal contact, and “error” will appear;

4 .If the print is a single printhead, use a double X, double Y, or double Z configuration to set the free E1

extrusion head to the second X, Y or Z axis;

7.2 Machine settings

```
################## Machine settings ##############################
>EXT1_X_OFFSET      0          #E1 offset from the origin of X axis (mm)
>EXT1_Y_OFFSET      0          #E1 offset from the origin of Y axis (mm)

>INVERT_X_DIR       0          #X motor direction, 1 goes opposite direction;
>INVERT_Y_DIR       0          #Y motor direction, 1 goes opposite direction;
>INVERT_Z_DIR       0          #Z motor direction, 1 goes opposite direction;
>EXT0_INVERSE       1          #E0motor direction, 1 goes opposite direction;
>EXT1_INVERSE       0          #E1motor direction, 1 goes opposite direction;

>XAXIS_STEPS_PER_MM    100          #X steps per mm
>YAXIS_STEPS_PER_MM    100          #Y steps per mm
>ZAXIS_STEPS_PER_MM    400          #Z steps per mm
>EXT0_STEPS_PER_MM     100          #E0 steps per mm
>EXT1_STEPS_PER_MM     100          #E1 steps per mm

>X_MAX_LENGTH         200          #the MAX X-axis distance
>Y_MAX_LENGTH         200          #the MAX Y-axis distance
>Z_MAX_LENGTH         300          #the MAX Z-axis distance
>X_MIN_POS          0            #the MIN X-axis distance
>Y_MIN_POS          0            #the MIN Y-axis distance
>Z_MIN_POS          0            #the MIN Z-axis distance

>MIN_EXTRUDER_TEMP     175          #MIN TEMP on Extruder ,play a protective role
>MAX_EXTRUDER_TEMP     275          #MAX TEMP on Extruder ,play a protective role
>MAX_HEATED_BED_TEMP     150          #MAX TEMP on heated bed ，play a protective role

>HOMING_ORDER        1          #Set direction of endstops when homing;
>X_HOME_DIR        -1           #Homing direction(-1:MIN，1:MAX)
>Y_HOME_DIR        -1           #Homing direction(-1:MIN，1:MAX)
>Z_HOME_DIR        -1           #Homing direction(-1:MIN，1:MAX)
```

```
>Z_HOME_DIR       -1          #Homing direction(-1:MIN , 1:MAX)

>HOMING_FEEDRATE_X    40          #the feedrate on X homing
>HOMING_FEEDRATE_Y    40          #the feedrate on Y homing
>HOMING_FEEDRATE_Z    10          #the feedrate on Z homing

# 1 means endstop always-on,0 is always-off
>ENDSTOP_X_MIN_INVERTING  1
>ENDSTOP_Y_MIN_INVERTING  1
>ENDSTOP_Z_MIN_INVERTING  1
>ENDSTOP_X_MAX_INVERTING  0
>ENDSTOP_Y_MAX_INVERTING  0
>ENDSTOP_Z_MAX_INVERTING  0

# 1 for Min/Max endstop enable in hardware,while 0 disable
>MIN_HARDWARE_ENDSTOP_X  1
>MIN_HARDWARE_ENDSTOP_Y  1
>MIN_HARDWARE_ENDSTOP_Z  1
>MAX_HARDWARE_ENDSTOP_X    0
>MAX_HARDWARE_ENDSTOP_Y    0
>MAX_HARDWARE_ENDSTOP_Z    0

# 1 for Min/Max endstop enable in software,while 0 disable
>min_software_endstop_x   0
>min_software_endstop_y   0
>min_software_endstop_z   0
>max_software_endstop_x   1
>max_software_endstop_y   1
>max_software_endstop_z   1
```

A .Motor direction: After the point back 0, if the direction of the reverse direction, then modify 1 or 0;

B .Pulse value: The Pulse value required for each axis to move 1mm, the formula for calculating the pulse value of each axis motor is as follows

Formula of pulse number/mm of synchronous wheel motor:（360÷step angle）×Subdivision÷（Diameter ×3.14）

The formula of the pulse number/mm of The screw rod Motor:（360÷step angle）×Subdivision÷lead

C .Maximum stroke: Usually set according to the area of the platform.

Drive current: Max current1000mA

D . Limit type:The limit switch is divided into two types, normally open and closed, and 1 is normally open, 0 is normally closed;

E .Enable Limit of each axis: The limit switch triggered by return zero, the general XYZ is the minimum limit, the delta is the maximum limit;

F .Enable software Limit of each axis:Maximum stroke set in configuration file, cannot exceed maximum

stroke when moving.

In other general cases, the default is OK.

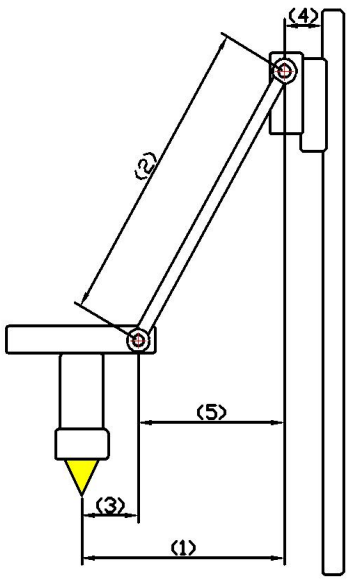
7.3 Parameter settings of the delta

```
################ Delta Settings ##############################

>DELTA_MAX_RADIUS          135     #the radius of Delta annulus
>PRINTER_RADIUS            197     #the distance from machine center to vertical top
>DELTA_DIAGONAL_ROD         346.75    #the length of Delta pole
>DELTA_FLOOR_SAFETY_MARGIN_MM        15      #the safe distance of leveling edge

>END_EFFECTOR_HORIZONTAL_OFFSET      28.0    #
>CARRIAGE_HORIZONTAL_OFFSET          14.5    #
>ROD_RADIUS                169     #
```

1 2 3 4 5



7.4 Power off recovery

Motherboard functionality itself has Power off recovery the function, if you want to have higher requirements, can add UPS power, for the following reasons:

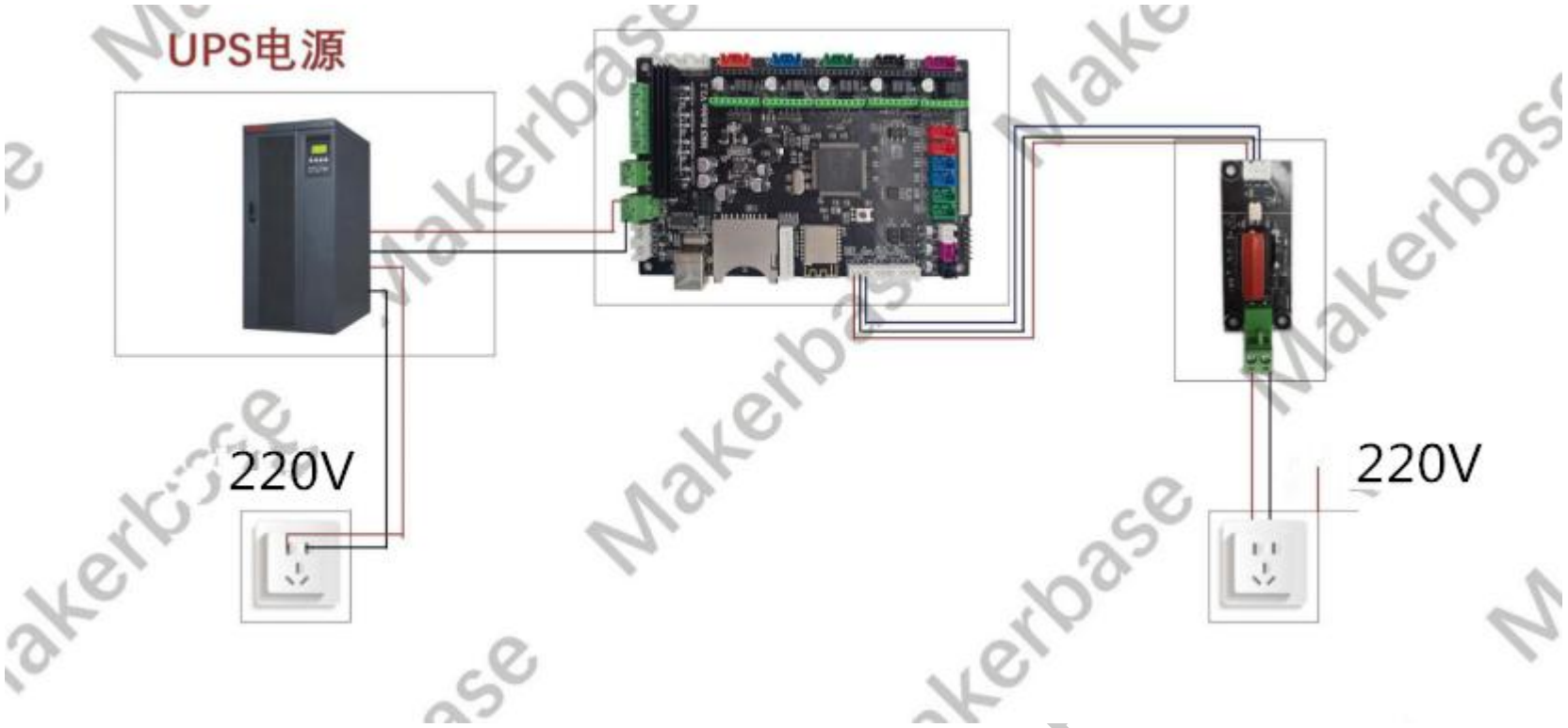
1. No UPS Power

A sudden power outage during the printing process, machine can continue to print from the power off. (due to power failure can not drive the motor, the print head will still remain on the model, may cause defects in the model, if the need for more complete power off processing, the need for power detection module and UPS).

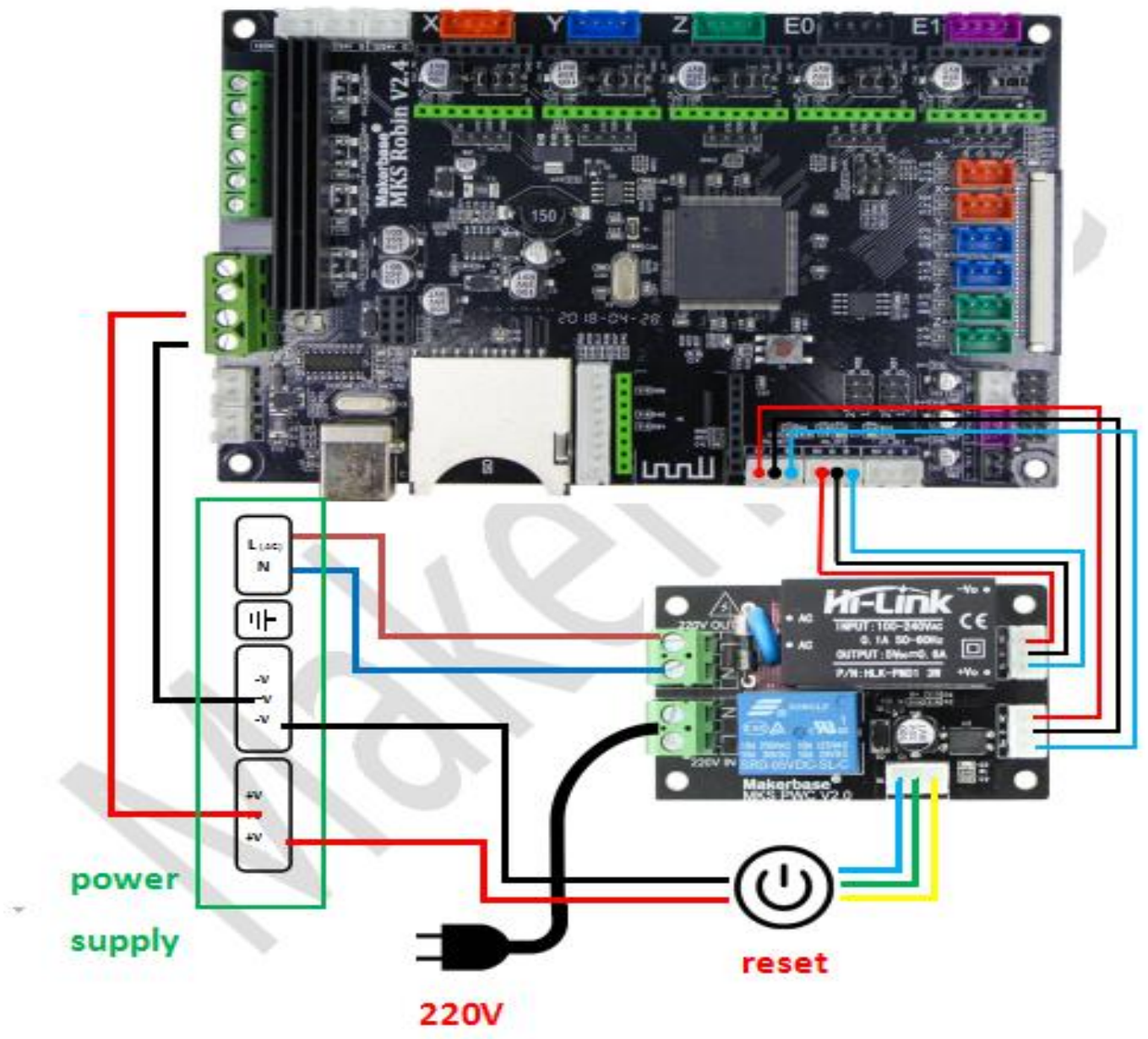
Have UPS power

Power detecting module signal line s connection PB0, negative positive connection -and + two pins blow the PBO.

When the system loses power, the Power detection module informs the touch screen to enter the suspend printing state, UPS power supply. Leave the print head out of the model.

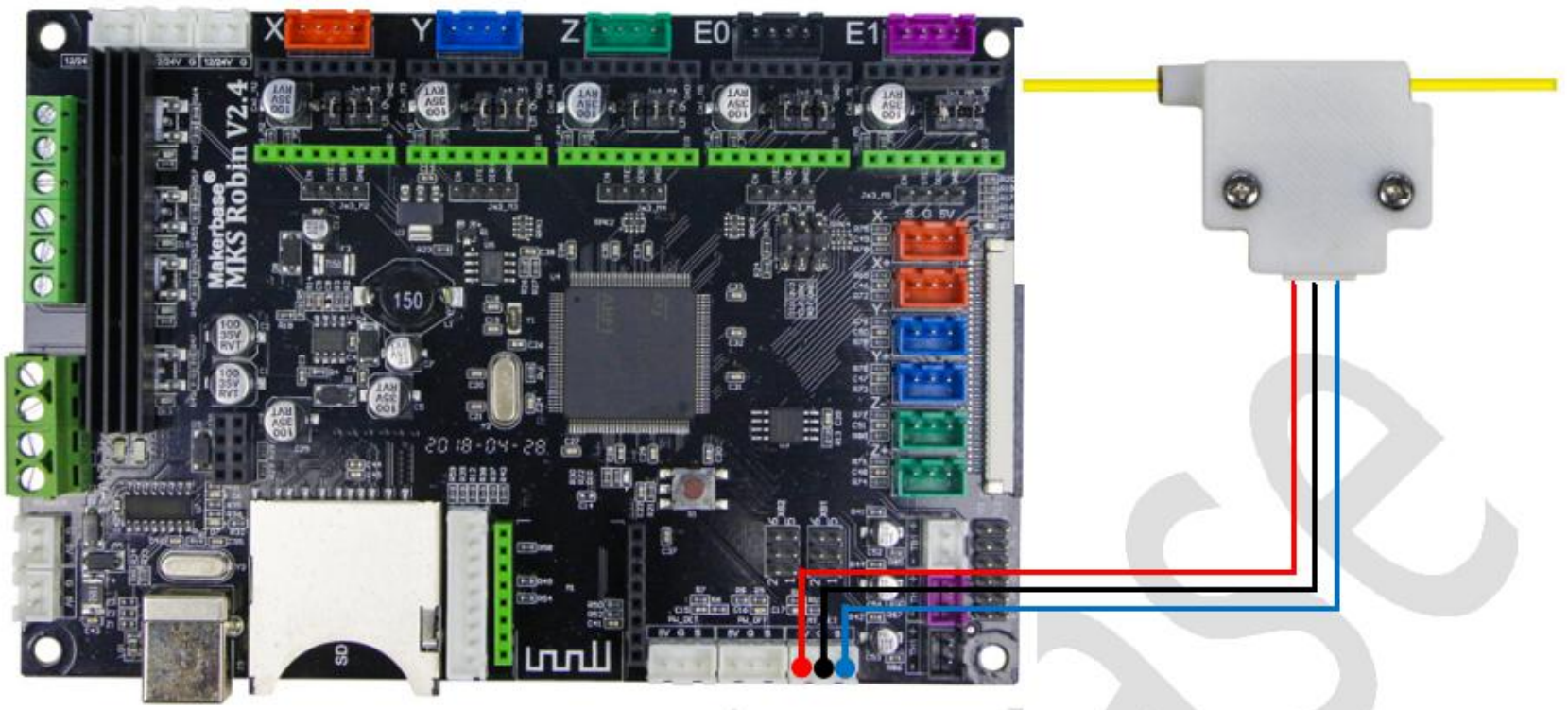


7.5 Auto off after print finish function



Attention:can not connect insteadly with NEUTRAL and LIVE

7.6 Filament detecting



7.7 Filament Change Function

Filament Change Function, so that you more convenient to replace the supplies, you can also pause in the printing point after the use of the feed function. The extrusion head rotation speed and minimum temperature can be configured in the configuration file, as shown in the following figure:

```
>cfg_filament_load_length       100          #the lenght to extrude filament (mm),Max:2000mm
>cfg_filament_load_speed        800          #the speed to extrude filament(mm/min)
>cfg_filament_load_limit_temperature  200        #It is the minimum temperature to extrude filament .

>cfg_filament_unload_length       100        #the length to retract filament(mm),Max:2000mm
>cfg_filament_unload_speed        800          #the speed to retract filament(mm/min)
>cfg_filament_unload_limit_temperature  200        #It is the minimum temperature to retract filament .
```

.

7.8 Automatic Leveling and Manual leveling

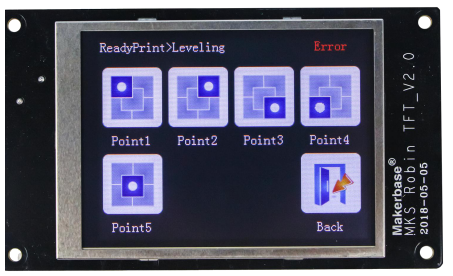
1.Manual leveling can be used on the general model structure (MB, I3, etc.), set in the configuration file needs to be in the hot bed leveling the three point leveling, four point leveling or five point leveling, the following figure:

```
################## Bed Leveling  ##############################

#Leveling mode settings
>cfg_leveling_mode        0                #1:auto-leveling; 0:manual leveling

########## Manual Leveling #############
#manual leveling
>cfg_point_number         5        #the point number of manual leveling(3,4,5 point available)

#the 5 point location of  manual leveling
>cfg_point1:50,50
>cfg_point2:180,50
>cfg_point3:180,180
>cfg_point4:50,180
>cfg_point5:150,150
```



Equipped with a leveling device can be selected in the configuration file automatic leveling (the position of the arrow is configured to 1), in the Touch screen settings interface can be adjusted leveling.Attention:For motherboards using the smoothie firmware, select the command to send as G32, as shown below:

```
############ Auto Leveling ##############

>cfg_auto_leveling_cmd:G28;G32 S2;           #the setting of auto-leveling command button

>FEATURE_Z_PROBE          0        #0:disable leveling , 1:enable leveling
>BED_LEVELING_METHOD          1        #0:3 points leveling,1:more points leveling,2: 4 points leveling
>Z_PROBE_ON_HIGH          1        #Probe signal(0: low level,always on; 1:high level,always off)
>Z_PROBE_HEIGHT           -0.8        #the height difference between Z-probe and  nozzle
>Z_PROBE_X1           -90        #coordinateX1 is preset point
>Z_PROBE_Y1           -90        #coordinateY1 is preset point
>Z_PROBE_X2           90         #coordinateX2 is preset point
>Z_PROBE_Y2           -90        #coordinateY2 is preset point
>Z_PROBE_X3           -90        #coordinateX3 is preset point
>Z_PROBE_Y3           90         #coordinateY3 is preset point

>cfg_leveling_z_speed         1500         #the speed of Z moving when manual leveling(mm/min)
>cfg_leveling_xy_speed          3000          #the speed of XY moving when manual leveling (mm/min)

>BED_LEVELING_GRID_SIZE       5        #leveling interval
>Z_PROBE_SPEED            30         #the speed of Z-probe
>Z_PROBE_XY_SPEED         100        #the speed of XY
```

Automatic leveling considerations：

1. At present, automatic leveling only supports Delta models with automatic leveling. Models such as I3 and

XYZ are not supported yet, so models such as I3 and XYZ must be masked off.

2. Leveling switch probe type: Select the corresponding normally open normally closed, otherwise the probe will stop at the first point when leveling occurs.

3. Leveling and leveling range: Regardless of whether you choose 3-point leveling or multi-point leveling, the range will depend on the “preset probe point coordinates”, so when the leveling range is beyond the platform, you can The coordinate is small;

4. Regarding the problem of leveling the print non-stick platform or pressing to the platform, you can adjust the height difference between the probe and the nozzle. If it is too high, it will increase this value, and if it is too low, it will decrease.

7.9 Breakpoints recovery

When you spend most of your time printing a model, the careless error operation causes the print to stop, but does not want to waste the printed model. Then you can use the breakpoint to continue to play the function, save your beloved model. The following illustration requires that you follow these steps

1 .First click “Preheat”, the extrusion head and hot bed target temperature set (no hot bed can ignore the hot bed target temperature).as Figure 1

2 .When the temperature reaches the target temperature, click “homing”, choose to homing, so that the axes are back to home point.(Attention:Model printing failure to select Breakpoints recovery the operation between the Midway, if there is a power outage must be homing operation, such as continuous electricity can not return to home point operation).as Figure 2

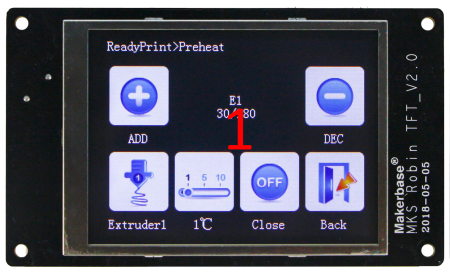
3 .After the axis back to home points, move the z axis will touch the mouth to stop printing of the layer, such as Figure 3, Figure 4, the time to test eyesight (can be selected in the configuration file to allow error, the following figure

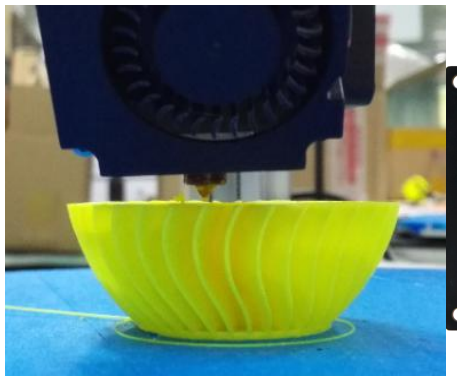
4 .Point setting, click on the breakpoint recovery and select the file to be printed on the breakpoint recovery, as shown in Figure 5, figure 6.

5 .After you select the file, wait for it to print.as Figure 7.

(After selecting the model, the larger the model, the more complex it is, the longer it waits here.)

The steps of breakpoints recovery:





Ⅷ. The network printing function

MKS Robin uses the network printing features, just add the Robin wifi module, wifi configuration in the configuration file, and then use the Mkscould mobile phone app to connect the WiFi module, it can be printed through the app control machine.

8.1 The introduction of printing mode

1. Cloud Print Mode: Recommended for use in a WiFi router environment with Internet access. Once you have a network connection to the WiFi module, the printer becomes the online printer on the cloud.Access to the app or control printer anywhere in the world. can also be in the local area network through the host computer (Printrun, etc.) to control the printer.

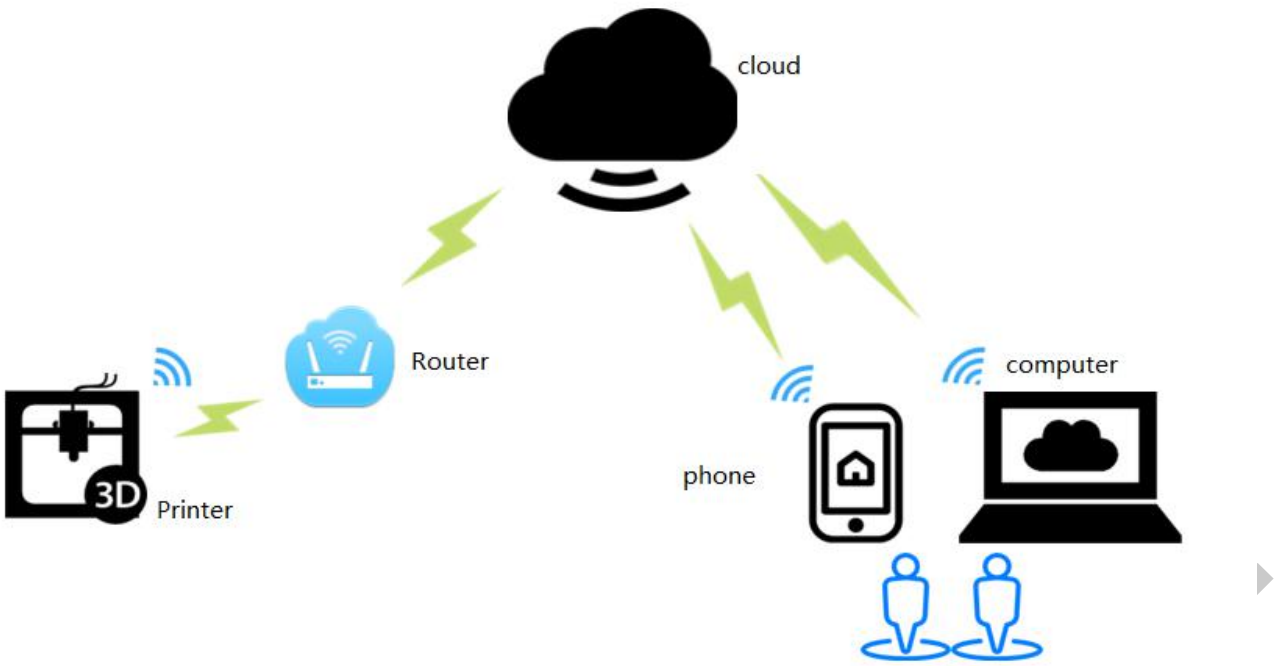
2. LAN Print Mode: Recommended in the case of a WiFi router, but the router is not available on the Internet or the network is slow (the cloud Print mode printer responds too slowly).

3 . AP printing mode:When the printer is in an environment where there is no WiFi router, the WiFi module is not configured, the WiFi module is configured, but the network environment is not good enough to connect to the router, the above three cases are entered by default.At this time the WiFi module will produce hot "mkswifi-xxxx" (open hotspot, no password), you can access the hotspot through the app, browser, host

computer (Printrun, etc.) to control the printer.

8.2 Cloud Print Mode

1.Network Diagram



Features: Can control printers anywhere in the world by app.

2 .WiFi setting

2.1 MKS Robin wifi Configuration

The WiFi configuration options in the configuration file are shown in the following table:

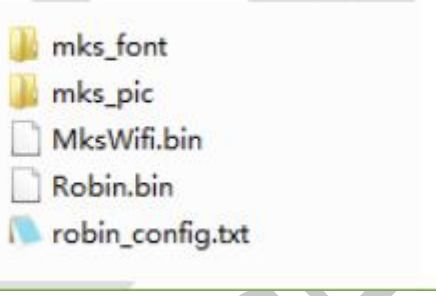
lite_cfg.txt	Description
#wifi mode(0:sta;1:ap) >CFG_WIFI_MODE 0	Set WiFi mode to STA mode
#wifi name >CFG_WIFI_AP_NAME MKSWIFI	Set the WiFi name to the name of the router you want to connect to
#wifi password >CFG_WIFI_KEY_CODE MAKERBASE	Set the WiFi password to the router password you want to connect to
#cloud service enable(0:disable 1:enable) >cfg_cloud_enable:1 #cloud server url >cfg_wifi_cloud_host:www.baizhongyun.cn #cloud server port	The default settings can be

>cfg_cloud_port:10086	

3 .Firmware update

3.1 Copy the latest upgrade program to the SD card root directory, the motor can be renewed, upgrade procedures include:

1、robin_config.txt
2、robin.bin
3、MksWiFi.bin
4、mks_pic
5、mks_font



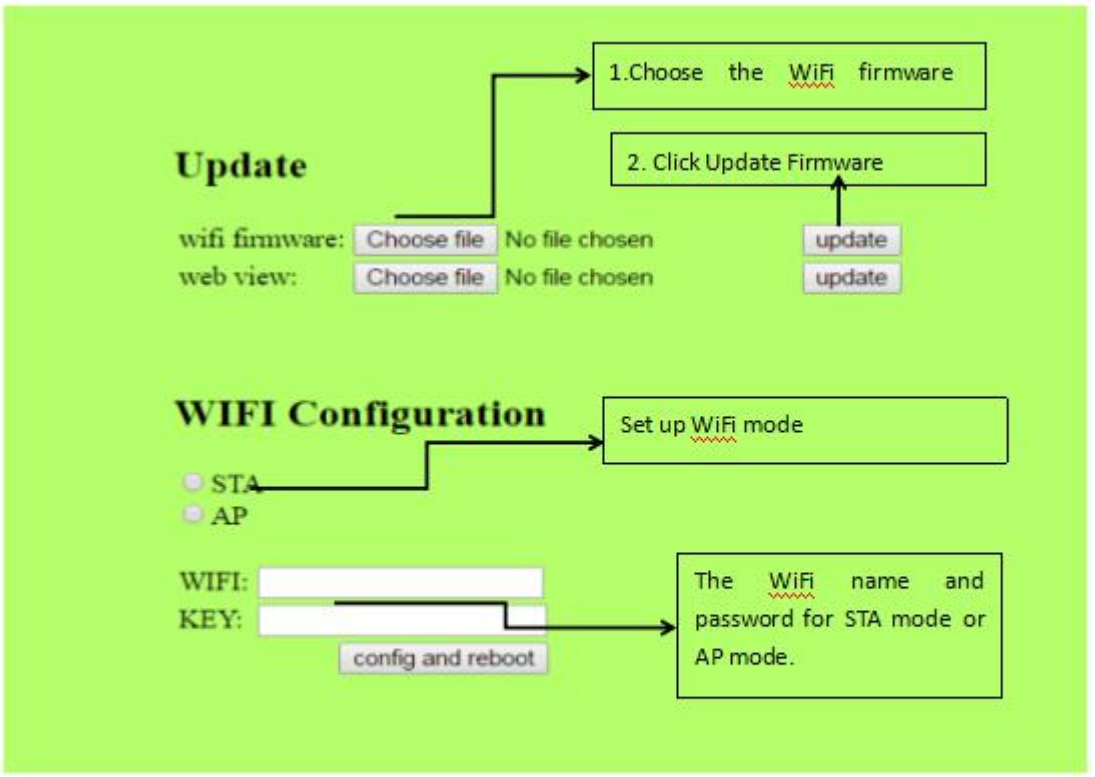
3.2 Update Considerations

A. The filename is not modifiable, or it will cause an update failure;

B. After the successful upgrade of the program, the filename will change;

C. The current motherboard firmware and WiFi firmware version number can be viewed in the about.

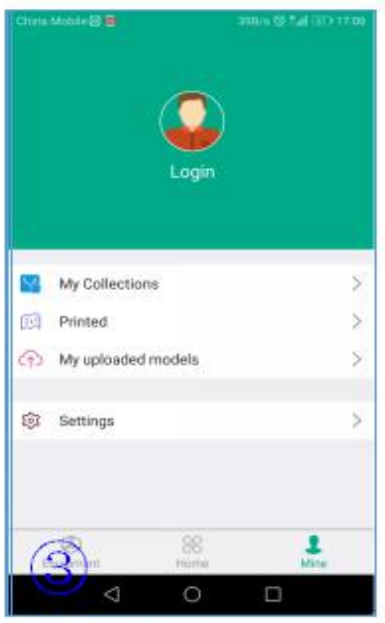
3.3 WIFI firmware update can also be updated through the web side, in the same LAN, in the Computer browser input IP address, access to the Web page update firmware interface, the following figure:



4 .APP print

Download MKSCloud App

Installation



login

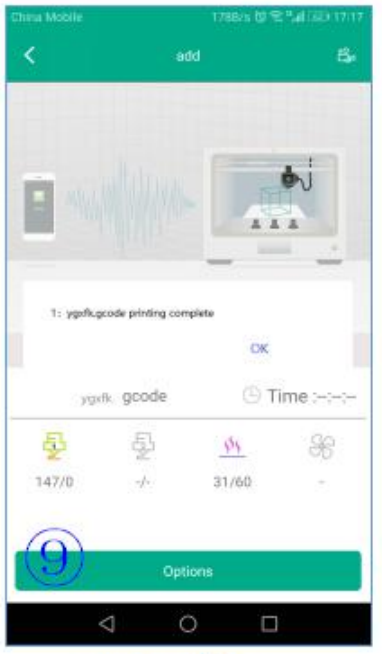
Model Preview Interface

Printer bindings

Add Printer page

Adjust the Print Parameters page

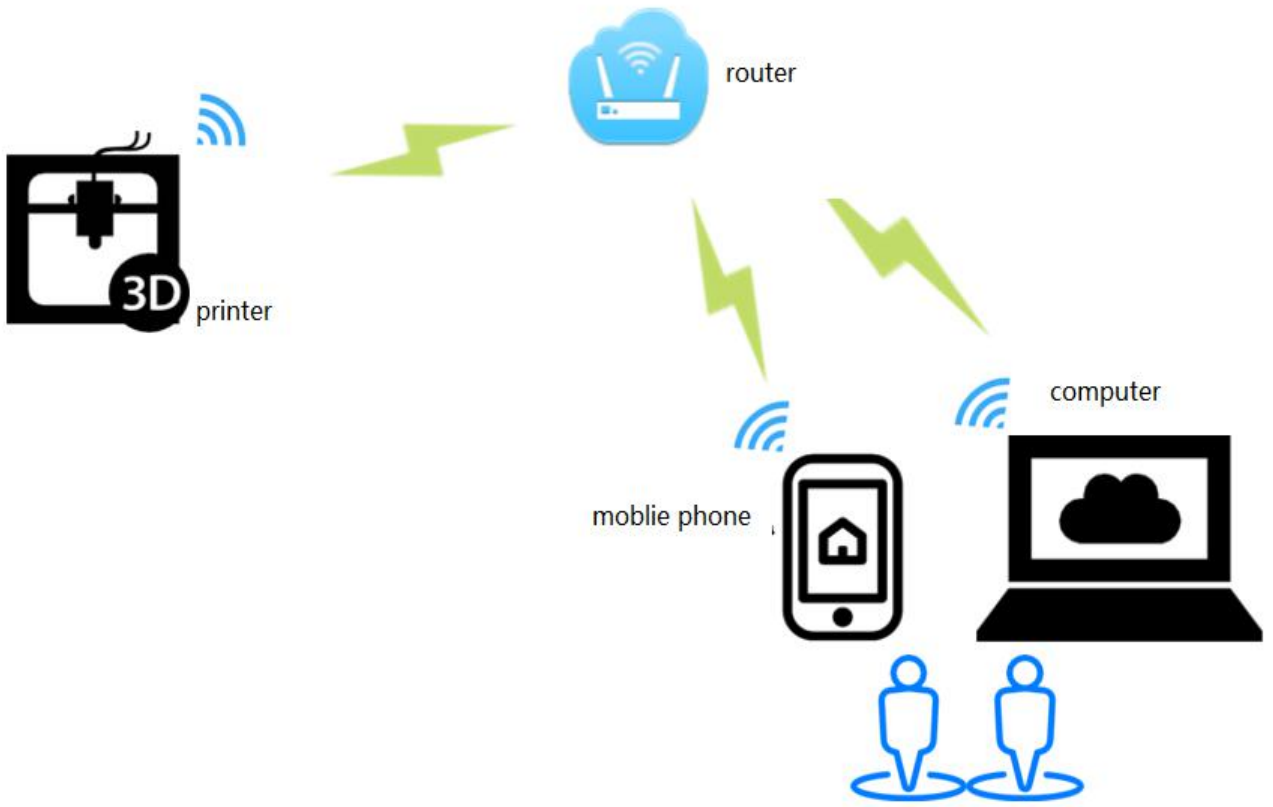
Printing pages



Print complete

8.3 LAN Print mode

1.Network Diagram



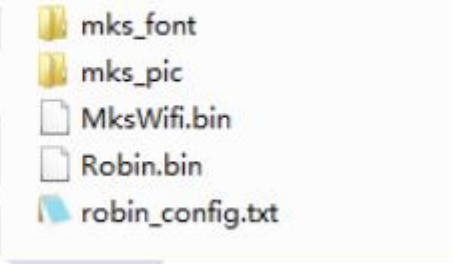
Features: Can control printer in LAN

lite_cfg.txt	Description
#wifi mode(0:sta;1:ap) >CFG_WIFI_MODE 0	Set WiFi mode to STA mode
#wifi name >CFG_WIFI_AP_NAME MKSWIFI	Set the WiFi name to the name of the router you want to connect to
#wifi password >CFG_WIFI_KEY_CODE MAKERBASE	Set the WiFi password to the router password you want to connect to
#cloud service enable(0:disable 1:enable) >cfg_cloud_enable:0 #cloud server url >cfg_wifi_cloud_host:www.baizhongyun.cn #cloud server port >cfg_cloud_port:10086	It is recommended to disable the cloud services,when LAN control. Other parameters can be used by default.

3. Software update

3.1 Copy the latest upgrade program to the SD card root directory, the motor can be renewed, upgrade procedures include:

1、robin_config.txt
2、robin.bin
3、MksWiFi.bin
4、mks_pic
5、mks_font



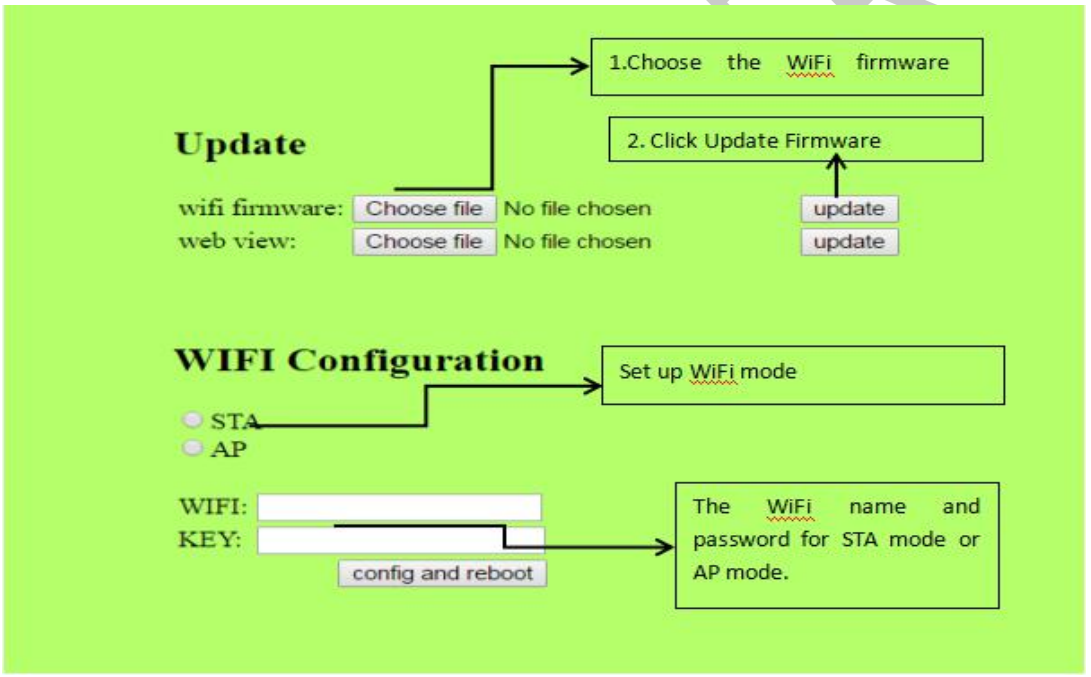
3.2 Attention matters

A. The filename is not modifiable, or it will cause an update failure;

B. After the successful upgrade of the program, the filename will change;

C. Can view the current motherboard firmware and WiFi firmware version number in the about inside;

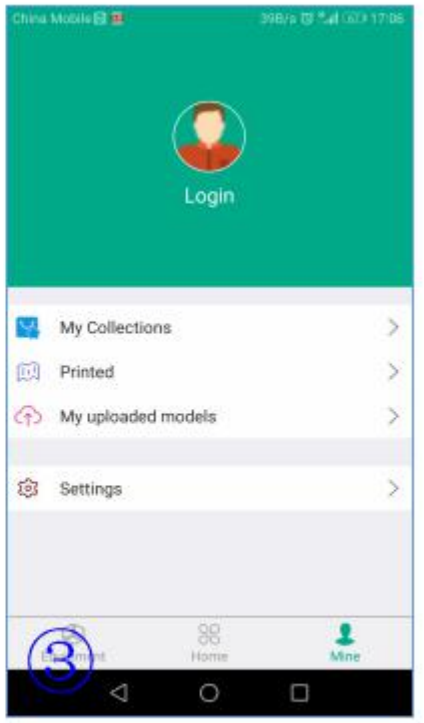
3.3 WiFi firmware update can also be updated through the web side, in the same LAN, in the Computer browser input IP address, access to the Web page update firmware interface, the following figure:



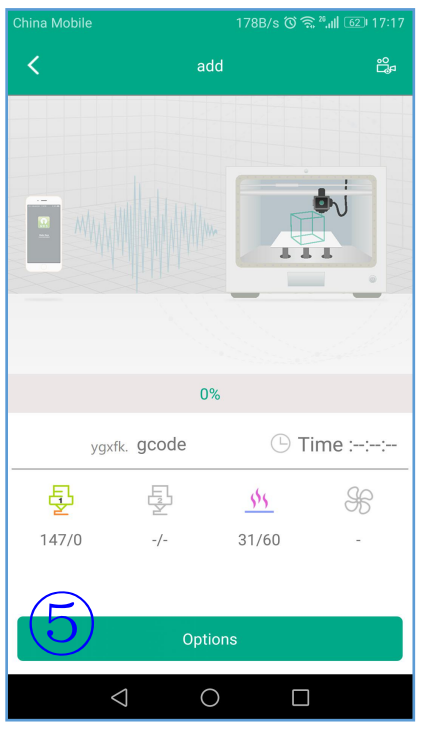
4. APP print

Download MKSCloud App

Installation

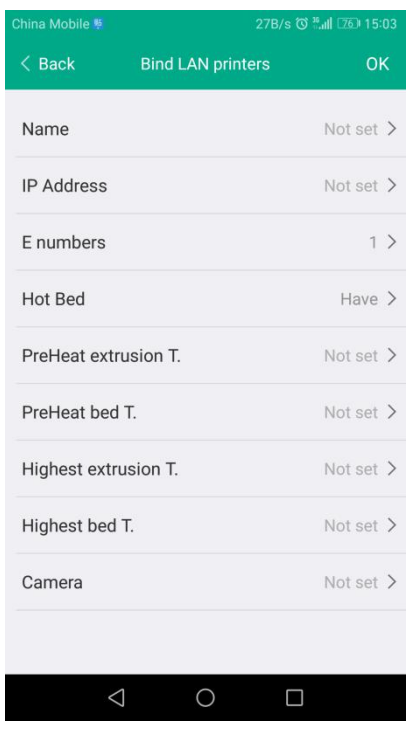


login



Printing interface

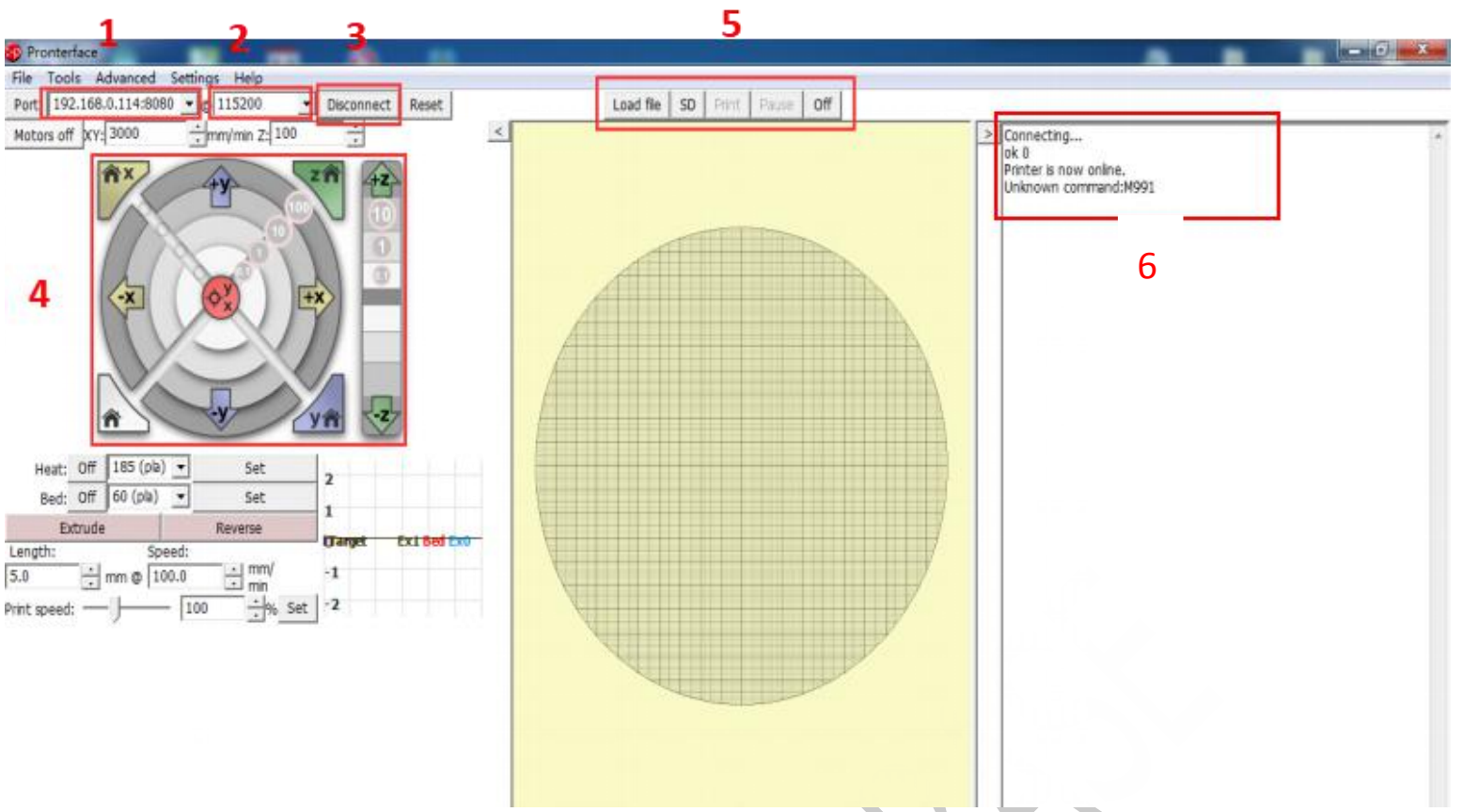
choose the file



add the printer

5. Upper Computer Printing

5.1 pringtrun printing



1. Here fill in "IP address +:8080", IP address can be in the set "WiFi" view, such as the above image of the IP address of 192.168.0.114, so fill in as: 192.168.0.114:8080;

2. Baud rate selection is 115200 (same as the baud rate of the motherboard, modified according to the actual situation)

3. The button of connect and disconnect.

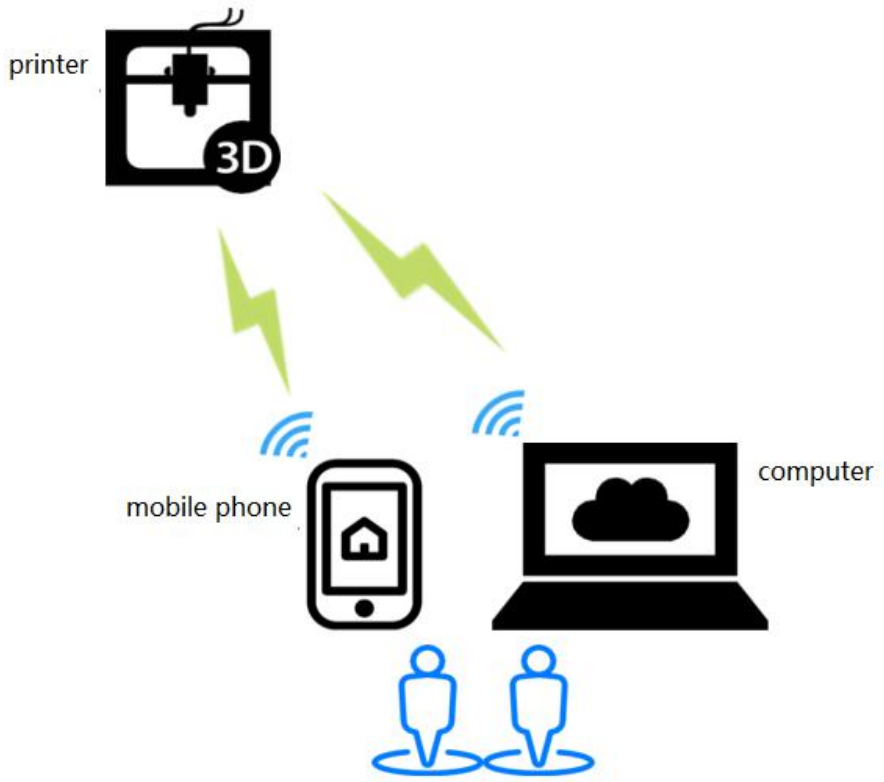
4. After the icon color becomes darker, the connection is successful;

5. choose SD file printing or select the computer file printing (select the computer file printing is a command transmission printing, so the printing effect is not good, and unstable, do not recommend this method)

6. View information about the printer feedback.

8.4 AP print mode

1. Network Diagram:



Features: WiFi module will produce hot "mkswifi-xxxx" (open hotspot, no password), you can access the Hotspot control printer.

2. WiFi configuration

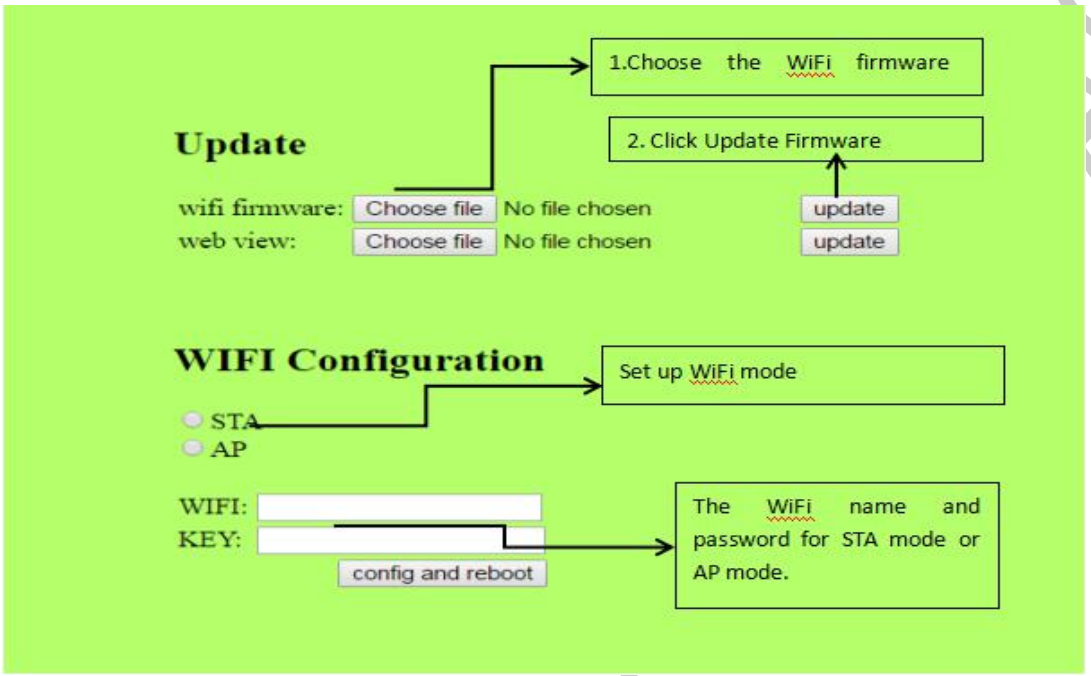
lite_cfg.txt	Description
#wifi mode(0:sta;1:ap) >CFG_WIFI_MODE 1	Set WiFi mode to STA mode
#wifi name >CFG_WIFI_AP_NAME MKSWIFI	Set the WiFi name to the name of the router you want to connect to
#wifi password >CFG_WIFI_KEY_CODE MAKERBASE	Set the WiFi password to the router password you want to connect to
#cloud service enable(0:disable 1:enable) >cfg_cloud_enable:0 #cloud server url >cfg_wifi_cloud_host:www.baizhongyun.cn #cloud server port >cfg_cloud_port:10086	It is recommended to disable the cloud services,when AP mode control. Other parameters can be used by default.

3. Software update

3.1 Copy the latest upgrade program to the SD card root directory, the motor can be renewed, upgrade procedures include:

1、robin_config.txt
2、robin.bin
3、MksWiFi.bin
4、mks_pic
5、mks_font

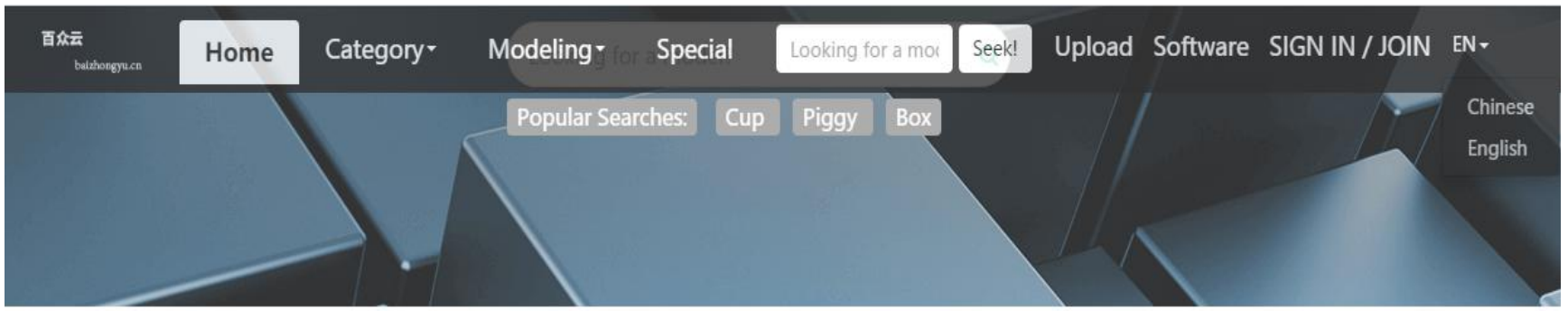
3.3 WiFi firmware update can also be updated through the web side, in the same LAN, in the Computer browser input IP address, access to the Web page update firmware interface, the following figure:



8.5 Model Library Web site

Web site :**https://baizhongyun.cn/home/index**

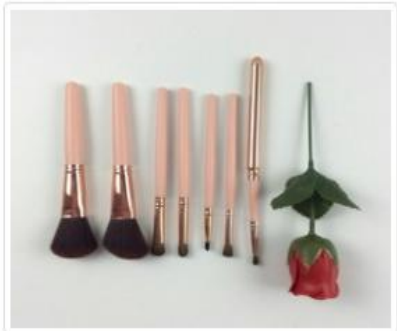
Welcome small partners to upload their favorite models and use.



Recommended Classification

Excellent classification of outstanding works

More +



Tools

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Characters

Plants&Animals

Links

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Demand: Help Print 3D Models
Search: Fast Positioning Model

Service Support

Exchange Group: **156492164(Full of people)**
489095605
Consumer Hotline: **020-23337068**

Share And Attention

WeChat Channel Service
WeChat Mini Programs

Ⅸ. TFT touch Screen User interface configuration

9.1 Conventions:

If the customer needs to customize the display picture of the touch screen, the first should follow the following conventions:

9.1.1 . Scope of customization:

A. Power-on interface logo;

B. Picture of the button (see below "1" and "2") (including icons and text);

C. Screen background color (see below figure "3", default black);

D. Title text color (see below figure "4", default white);

E. Display the background color of the state of the temperature (see figure "5", the default dark blue);

F. Display the color of the state such as temperature (see below figure "6", the default white);

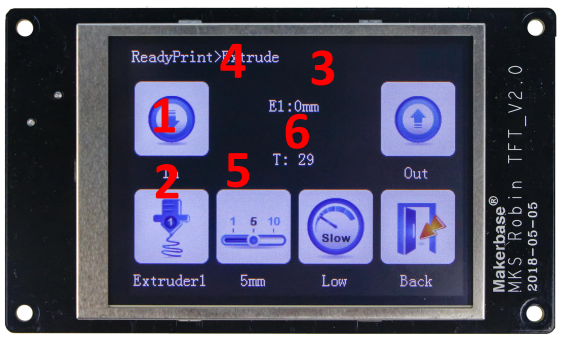
G. " Select the file interface, the font color of the file name (see figure "7", the default white);

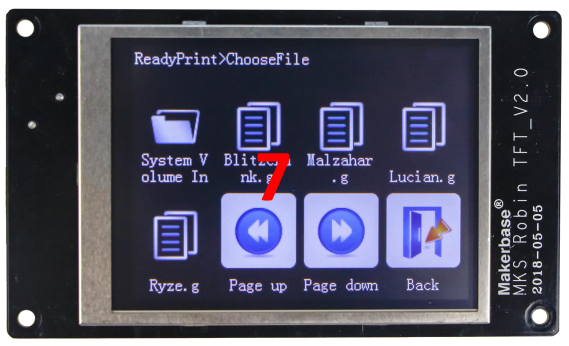
H. " Select the file interface, the font background color of the file name, and suggest the same color as the picture;

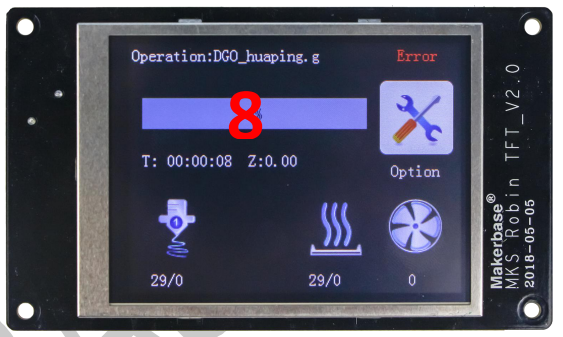
I. " Printing "interface, printing status information text background color; (See figure" 8 ", default white);

J. " Printing interface, print status information font color, suggest and picture color is the same;

K. Whether the button requires a 3D effect, the default is that the need, that is, the button picture outside the white box;







(1)Custom boot logo picture, 16DPP, wide =320 pixel, high =240 pixel;

(2) Custom button picture, 16DPP, wide =78 pixel, high =104 pixel;

(3)Custom small logo picture,16DPP,wide=320pixel,high=135pixel;

(4) The name of the customized picture must be named in accordance with the appendix;

(5) Custom color value is 16, in accordance with 3 primary colors blue, green, red order;

(6) Customize the "More" menu function button, can be customized up to 7 function buttons;

(7) Custom "Print more" function button, can be customized up to 6 function buttons;

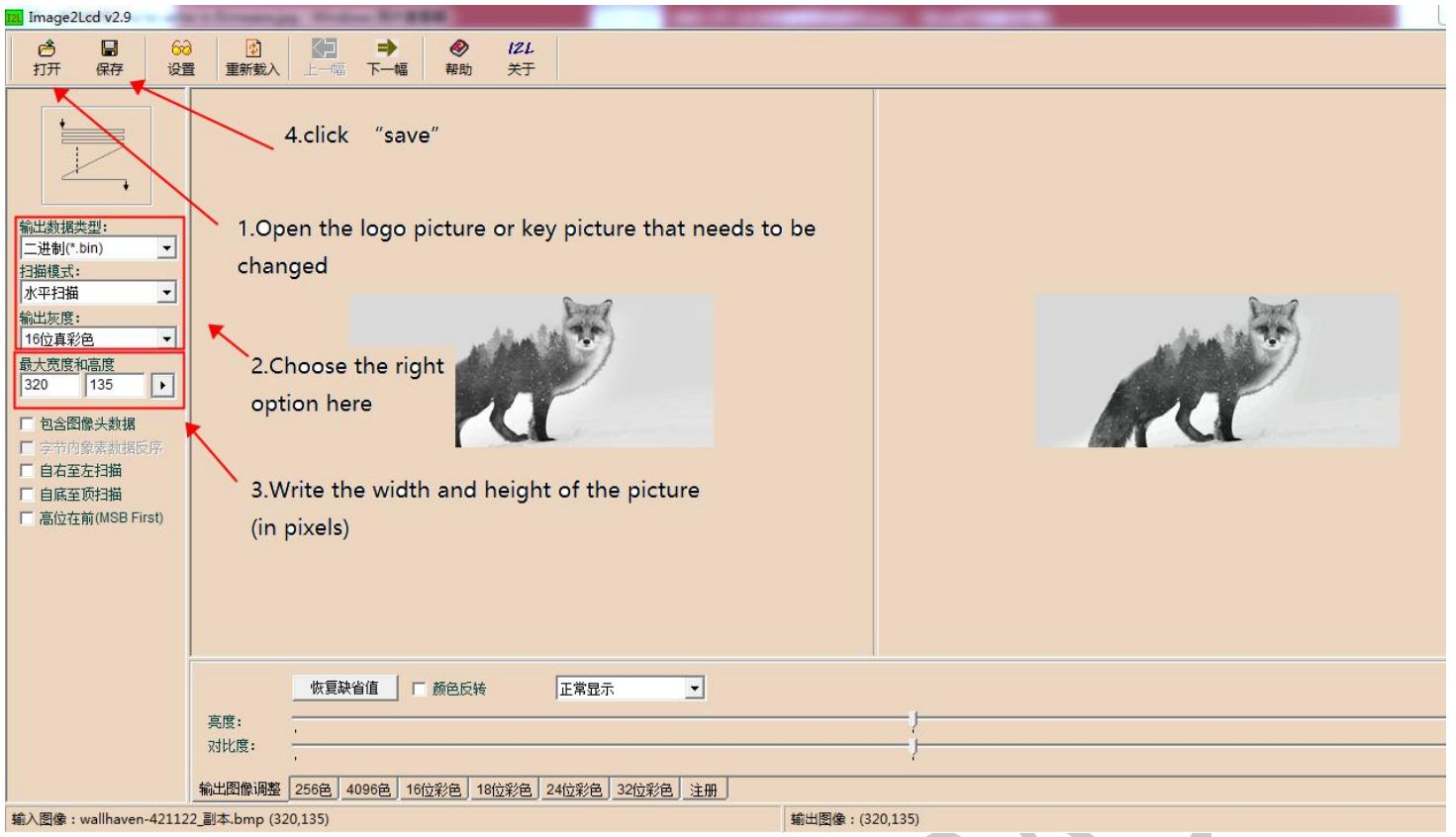
9.2 Steps

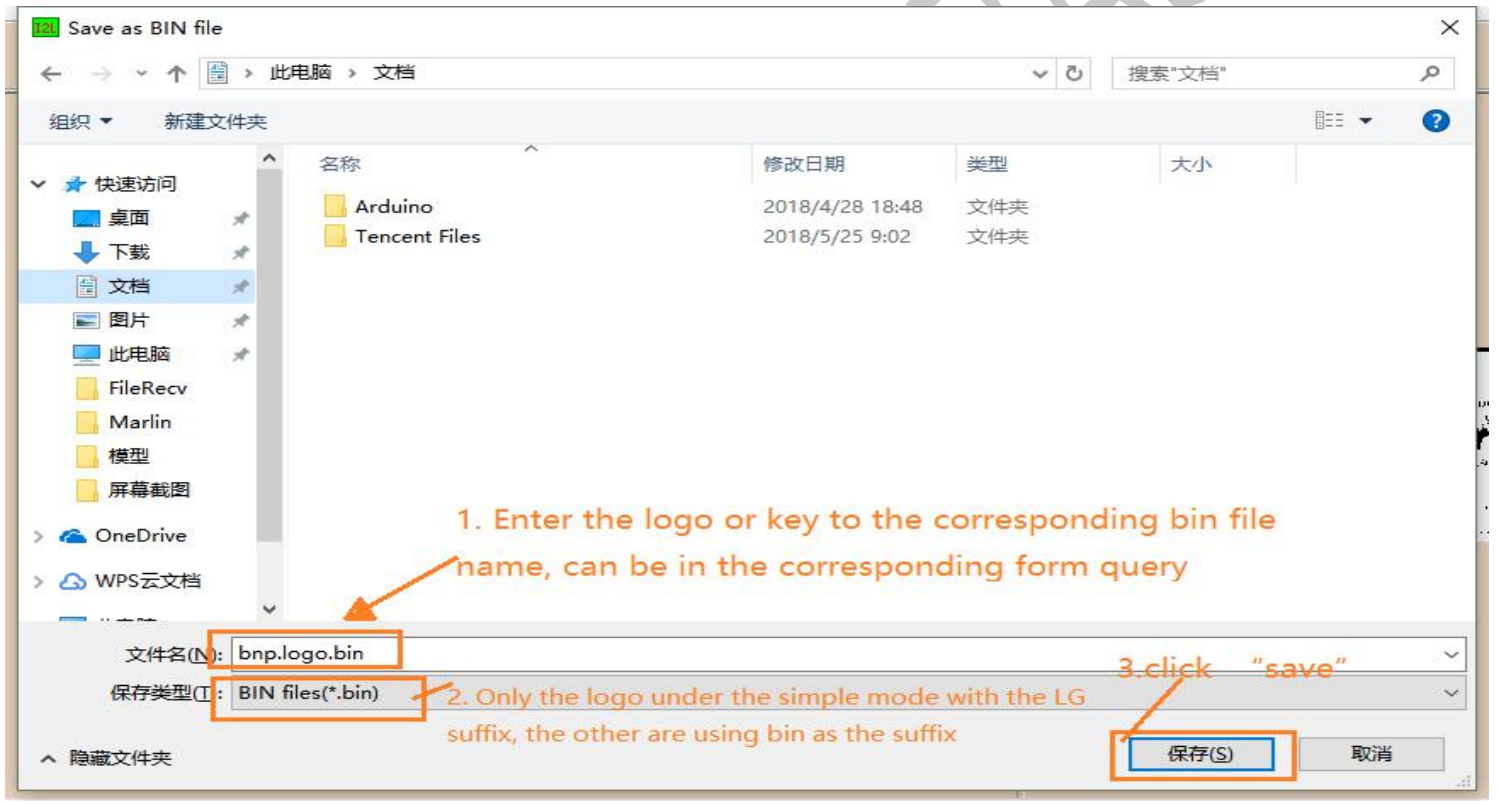
1.1 Preparation Tools

1.IMG2LCD software (cracked version of no watermark, ask customer service to obtain)

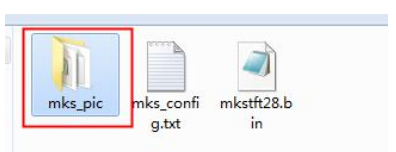
2.corresponding to the. bmp suffix name of the picture, pixels to correspond, do not know the pixel, please see above.

3.You can ask the customer to obtain the key source AI file to make two modifications.





Copy the saved files to the Mks_pic folder



logo and key picture naming

9.3 Name of logo and button picture

Picture naming rules (note that some pictures are duplicated, just provide one)

1. Power-on logo.

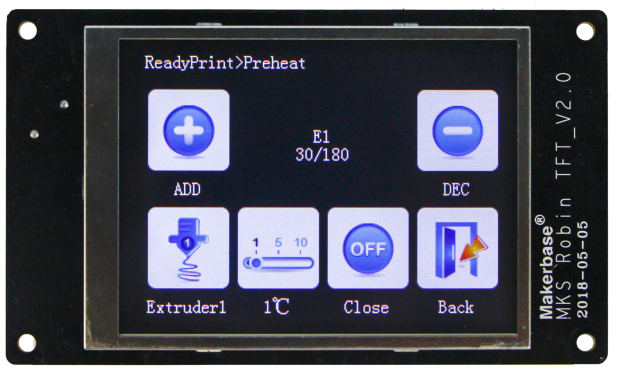
bmp_logo.bin

2. Ready to print Interface:

Preheat: bmp_preHeat.bin	Move: bmp_mov.bin	Home: bmp_zero.bin	Print：bmp_printing.bin
Extruct：bmp_extruct.bin	Leveling: bmp_leveling.bin	Setting：bmp_set.bin	More：bmp_more.bin

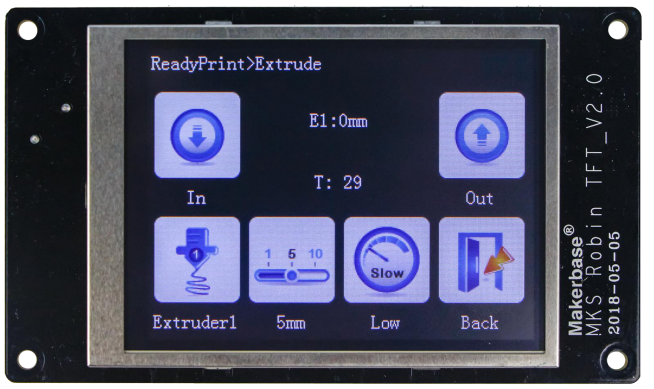
3. Preheat interface:

Add: bmp_Add.bin			Dec: bmp_Dec.bin
Preheat: Hot bed : bmp_bed.bin Extru1 : bmp.extru1.bin Exteu2: Bmp.extru2.bin	Step: Step1_degree: bmp_step1_degree.bin 5 Celsius: bmp_step5_degree.bin 10 Celsius: bmp_step10_degree.bin	close: bmp_speed0.bin	Return: bmp_return.bin



4. Extrusion interface

In: bmp_in.bin			Out: bmp_out.bin
Extru(E): E1: bmp_extru1.bin E2: bmp_extru2.bin	Step: 1mm: bmp_step1_mm.bin 5mm: bmp_step5_mm.bin 10mm: bmp_step10_mm.bin	Rate: Low: bmp_speed_slow.bin Normal: bmp_speed_normal.bin High: bmp_speed_high.bin	Return: bmp_return.bin



5. MOVE interface

X+: bmp_xAdd.bin	Y+: bmp_yAdd.bin	Z+: bmp_zAdd.bin	Step: 0.1mm: Bmp_step_move0.1.bin 1mm: bmp_step_move1.bin 10mm: bmp_step_move10.bin
X-: bmp_xDec.bin	Y-: bmp_yDec.bin	Z-: bmp_zDec.bin	return: bmp_return.bin

6. Home interface

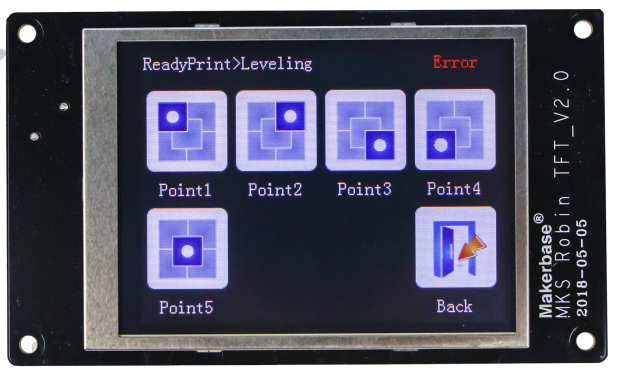
All (Home): bmp_zeroA.bin	X: bmp_zeroX.bin	Y: bmp_zeroY.bin	Z: bmp_zeroZ.bin
			return (Back): bmp_return.bin

7.Language interface

simplified_cn: bmp_simplified_cn.bin simplified_cn: bmp_simplified_cn_sel.bin	_traditional_cn.: bmp_traditional_cn.bin traditional_cn.: bmp_traditional_cn_sel.bin	english : bmp_english.bin english : bmp_english_sel.bin	russian: bmp_russian.bin russian : bmp_russian_sel.bin
spanish: bmp_spanish.bin spanish: bmp_spanish_sel.bin	french: bmp_french.bin french: bmp_french_sel.bin	_italy: bmp_italy.bin italy: bmp_italy_sel.bin	（Back）: bmp_return.bin

Leveling interface

Leveling1: bmp_leveling1.bin	Leveling2: bmp_leveling2.bin	Leveling3: bmp_leveling3.bin	Leveling: bmp_leveling4.bin
Leveling5: bmp_leveling5.bin			Return: bmp_return.bin



Setting interface

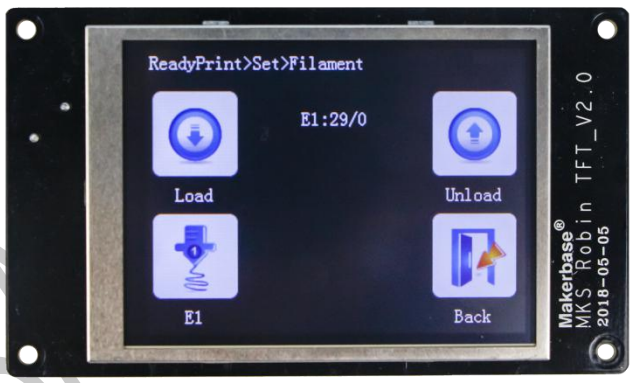
File system: bmp_fileSys.bin	wifi: bmp_wifi.bin	fan: bmp_fan.bin	about: bmp_about.bin
breakpoint: bmp_breakpoint.bin	change: bmp_function1.bin	Motor off: bmp_function2.bin	Return: bmp_return.bin

Fan interface

ADD: bmp_Add.bin			DEC: bmp_Dec.bin
Full speed: bmp_speed 255.bin	Halfspeed: bmp_speed 127.bin	Close: bmp_speed0 .bin	return: bmp_return. bin

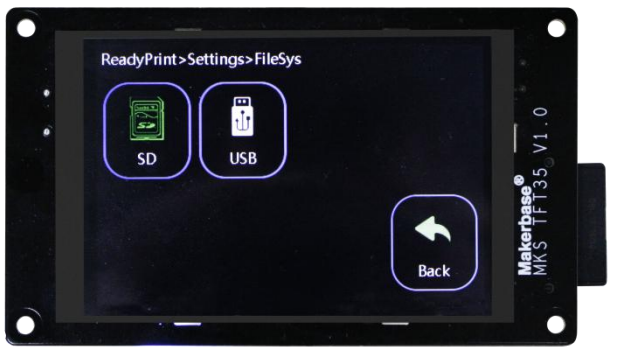
change filament interface

In: bmp_in.bin			Out: bmp_out .bin
Extru(E): E1: bmp_extru 1.binE2: bmp_extru 2.bin	preheat: bmp_pre Heat.bin	Stop: bmp_stop. bin	Return: bmp_return .bin



File system interface

SD: No set: bmp_ sd.bin set: bmp_sd _sel.bin	U disk: No set: bmp_ usb.bin set: bmp_usb _sel.bin		
			Return (Back): bmp_return.bin

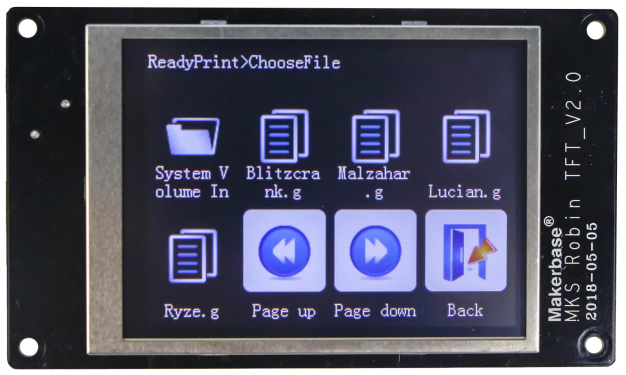


more interface

custom1: bmp_ custom1. bin	custom2: bmp_ custom2. bin	custom3: bmp_ custom3. bin	custom4: bmp_ custom4. bin
custom5: bmp_ custom5. bin	custom6: bmp_ custom6. bin	custom7: bmp_ custom7. bin	return: bmp_ return. bin

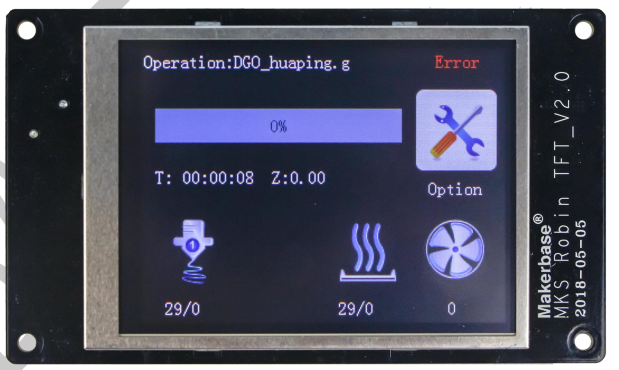
choose file

File: bmp_ file.bin directory: bmp_dir.bin			
	Pageup: bmp_ pageUp.bin	Pagedown: bmp_ page Down.bin	Return: bmp_ return.b in



Printing interface

			option: bmp_menu.bin
Extru1 (E1): bmp_extr u1_no_wo rds. bin	Extru2 (E2): bmp_extru2_ no_words.bin	Hot bed: bmp_bed_n o_words. bin	fan: bmp_fan_no_words.b in Fan_move: bmp_fan_move.bin



option interface

Pause: bmp_pause.b in			stop: bmp_stop.bin
temperate: bmp_temp.bi n	Speed: bmp_speed .bin	move: bmp_more .bin	return: bmp_return.bin

Pause interface

resume: bmp_ resume.bin			stop: bmp_stop.bin
Extruct: bmp_ extruct.bin	Move: bmp_ mov.bin	Temperate : bmp_temp. bin	More (move): bmp_ more.bin

Speed interface

Add: bmp_Add.bin			Dec: bmp_Dec.bin
Move: No set: bmp_mov.bin Set : bmp_mov_sel.bin	Extruct: No set: bmp_extruct.bin Set : bmp_extruct_sel.bin	Step: 1mm: bmp_step1_mm.bin 5mm: bmp_step5_mm.bin 10mm: bmp_step10_mm.bin	Return: bmp_return.bin

Common color corresponding to the hexadecimal value

蓝色		0x0000FF
绿色		0x00FF00
红色		0xFF0000
黄色		0xFFFF00
浅蓝		0xE1FFFF
浅绿		0x80FF80
浅红		0xFF8080
青色		0x00FFFF
浅青色		0x80FFFF
浅黄色		0xFFFF80
深绿色		0x008000
深红色		0x800000
深蓝色		0x000080
深黄色		0x808000
黑色		0x000000
白色		0xFFFFFF

Ⅷ. Technical support and protection

1. Power test will be done prior to shipment to ensure normal use of the product
2. Welcome friends to join the discussion group: 232237692.
3. Welcome to Blog Exchange ：http://flyway97.blog.163.com.
4. 3D printer motherboard contact

Miss Zhong：15521638375 Mr. Huang： 13148932315 Mr. Tan：13640262556.

Mr.Peng：13427595835

5. If you have any questions you can contact our customer service or find technical support staff in the group, we will be happy to serve you.

MKS official website

MKS Taobao website