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# Makerbase

广州谦辉信息科技有限公司

Guangzhou Qianhui Information Technology Co.,Ltd.

## MKS TFT24 Touch Screen Manual

MAKER BASE

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### Firmware version update

Firmware version	Modified Time	Modify Content	Note
V1. 0. 0	2016. 5	1. Initial version	
V1. 1. 3	2016. 5	1, fix the firmware update or change the baud rate, the touch screen can not communicate with the motherboard error; 2. Fixed a bug in reset or control error when setting more menus.	
V1. 1. 4	2016. 6	1. Increase the maximum temperature of the nozzle and hot bed in the mks_config.txt configuration file. 2. Increase the default level of the breakout interface and configure it in mks_config.txt. 3. Modify the "About" interface to display as TYPE: MKS TFT 4, fix the U disk crash BUG. 5. The leveling button is not displayed by default.	
V1. 1. 5	2016. 8	1, increase the function of "auto off after finish printing" function in mks_config.txt. 2. In the print interface, more "buttons" are added to select the function of "shutdown".	
V1. 2. 0	2016. 11	1. The display interface is faster and more sensitive. 2, You can switch from simplified Chinese, traditional Chinese and English to three languages. 3. The WiFi interface is corrected. Every time the power is on, the initial value in the 2 minutes is bug. 4.Corrected the bug that displayed the prompting information and sometimes the font size was abnormal when there was no SD card or U disk after power failure. 5. Increase the function of manual leveling. 6. Increase the feeding function; 7. In the printing operation interface, add more "customizable buttons"; 8. Delete the "correction" button of the "setup" interface.	
V2. 0. 0	2017. 2	1. update the layout of the interface to add 3 different home page interfaces (corresponding to 3 different firmware). 2. interface of set to increase the function of "breakpoint recovery". 3. delete the connection button and set the baud rate to mks_config.txt. 4. update the layout of the "leveling" interface 5. revise after printing, suspend and reload. The extrusion position of E is abnormal bug. 6. the height of the Z axis can be seen in the mobile or print.	
V2. 0. 1	2017. 5	1, the repair of the port of the auto off after finishing function; 2, modify the manual leveling or automatic leveling. 3, compatible with MKS WIFI TFT and MKS HLK-WIFI, compatible with the new version of mobile APP MKScloud. 4, increased cloud services, mobile phone transmission files and other Internet functions; 5, increase the style of Windows.	

V3.0.0	2017.9	<ol style="list-style-type: none"> <li>1, increase the number of languages, can switch online 7 languages;</li> <li>2. Repair the problem of WIFI transmission.</li> <li>3. The function of feeding is optimized.</li> </ol>	
V3.0.1	2017.12	<ol style="list-style-type: none"> <li>1, the V3.0.1 firmware version WIN8 style in the switch language font display effect is not good, so win8 style can only use picture display.</li> <li>2, the difference between the Chinese version and the English version of firmware is that the annotation in the configuration file is in Chinese or English.</li> <li>3, V3.0.1 firmware version added configuration item: manual leveling XY axis movement, extrusion head Z axis from the height of origin (mm)</li> <li>4. V3.0.1 firmware version update the blue version of the motor button button.</li> <li>5, repair the V3.0.1 firmware version WIN8 version of the English version of the manual leveling icon instead.</li> </ol>	
V3.0.2	2018.5	<ol style="list-style-type: none"> <li>1. Add the "turn off motor" on the return to zero interface in the classic version.</li> <li>2. Modify the preheating interface and change the default 180 to 0 to show the actual target temperature.</li> <li>3, increase report error function, filter line number error.</li> <li>4, fan press + - to start</li> <li>5, click the "more" command processing function will appear reboot phenomenon.</li> <li>6. When more than 5 instructions are reset using M110, the motherboard will stop action.</li> <li>7. Adding configuration items can shield the power off and filament detection function.</li> <li>8, modify the bug that the serial interrupt sends will be interrupted</li> <li>9, modify the U disk or SD card printing failed to read.</li> <li>10. Add the configuration item to support the two - in - out model</li> <li>11. Add a button on the WIFI interface to control whether the WIFI module function.</li> <li>12, repair the simplified version and retro version of the firmware manual manual adjustment, do not return to zero, then start leveling.</li> <li>13, WiFi firmware repair password settings are less than 8 bits when using abnormal problems.</li> </ol>	

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# I .Overview

MKS-TFT 24 is an independent color touch product developed for maker base , which is suitable for open source 3D printers. It can be used in a series of motherboards such as MKS Base, MKS Gen, MKS Sbase and so on.



## II Features

1. Support 7 Languages Online switching.
2. the 2.4 inch color touch screen occupies less space and supports all Chinese Gcode printing.
3. Reserve Wifi port, increase Wifi module can support Wifi function;
4. Provide three themes, two styles, so that users can choose more.
5. Boot logo and all buttons can be self designed.
6. A maximum of 13 directive functions can be customized.
7. Upgrade configuration firmware by sd card, simple and convenient operation.
8. Support for Marlin firmware, Repetier firmware, Smoothieware firmware.
9. The main control program does not need to be modified, that is, plug and play
10. Support multiple functions, such as Breakpoints recovery function, filament detecting function, save the gcode data with power off function.
11. can cooperate with the module to Implement the auto off after finishing function.



### III . The TFT24 parameters

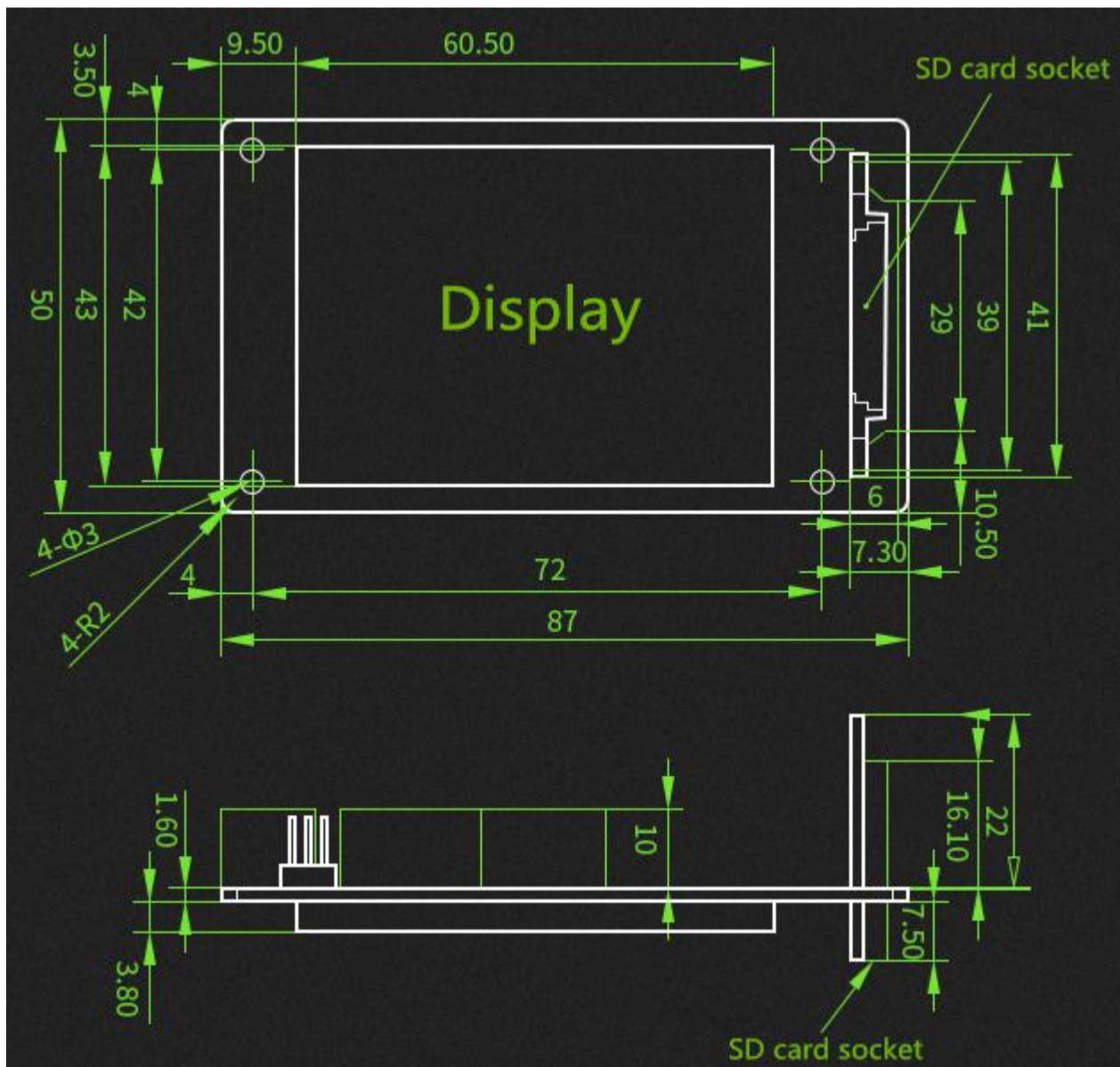
<b>Motherboard model:</b>	<b>MKS TFT24</b>	<b>microprocessor:</b>	<b>STM32</b>
<b>Dimensions:</b>	87mm × 50mm	<b>Mounting dimensions:</b>	72mm × 42mm
<b>Touch screen type:</b>	Resistance screen	<b>touch screen size:</b>	2.4 inch
<b>Extension function:</b>	<b>Auto off after print finish、WIFI module、power off detecting</b>	<b>function:</b>	<b>Power off recovery, breakpoint recovery, filament detecting, Custom interface, cloud print.</b>
<b>Print file format:</b>	G-code	<b>Mechanical structure:</b>	I3、XYZ、delta、kossel、corexy
<b>Recommendation software:</b>	Cura、Simplify3d、Repetier-Host	<b>Firmware Update:</b>	SD card

## IV . Port Instructions

### 4.1 MKS TFT24 Front

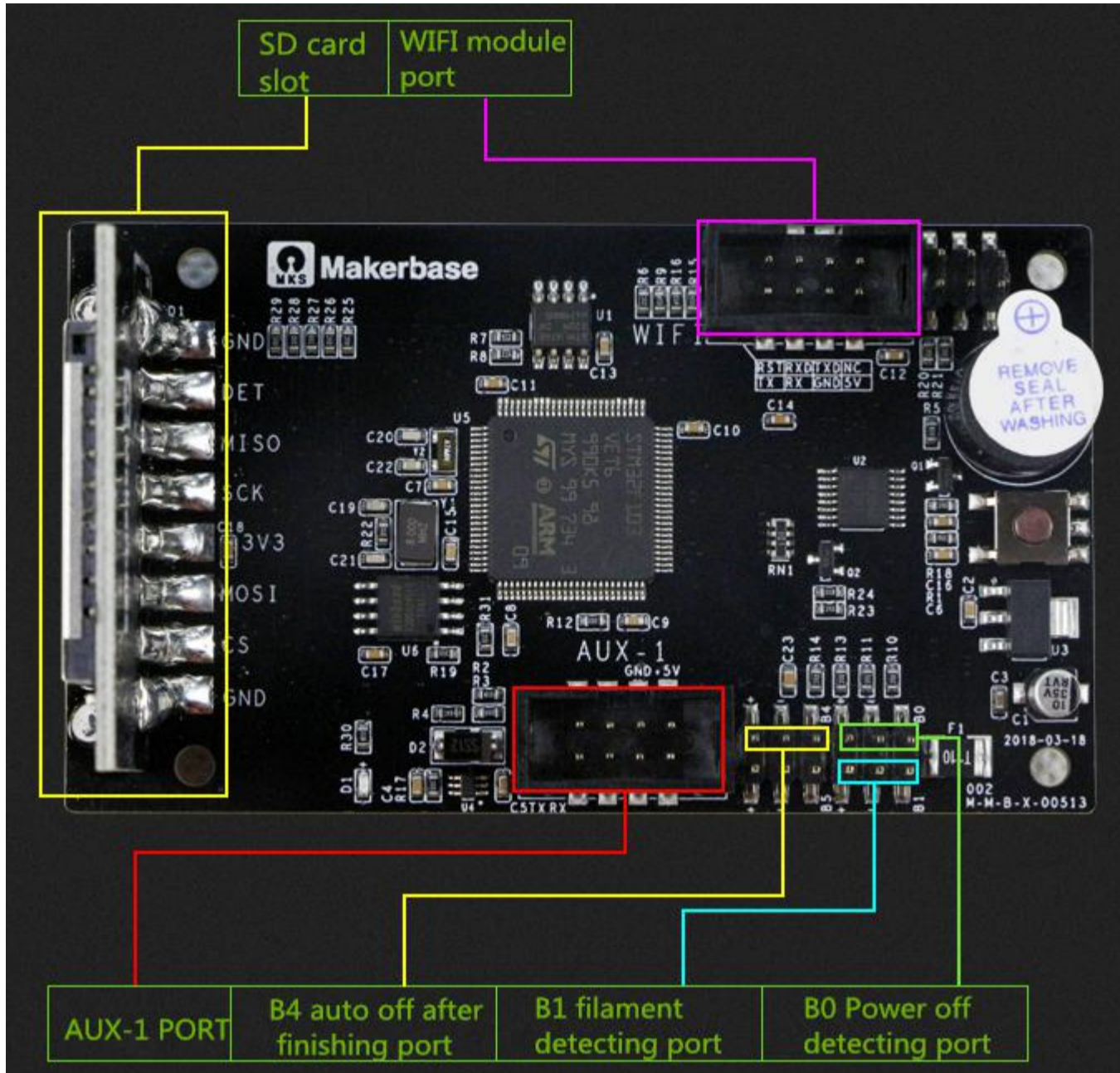


### 4.2 MKS TFT24 Installation Dimensional Drawing

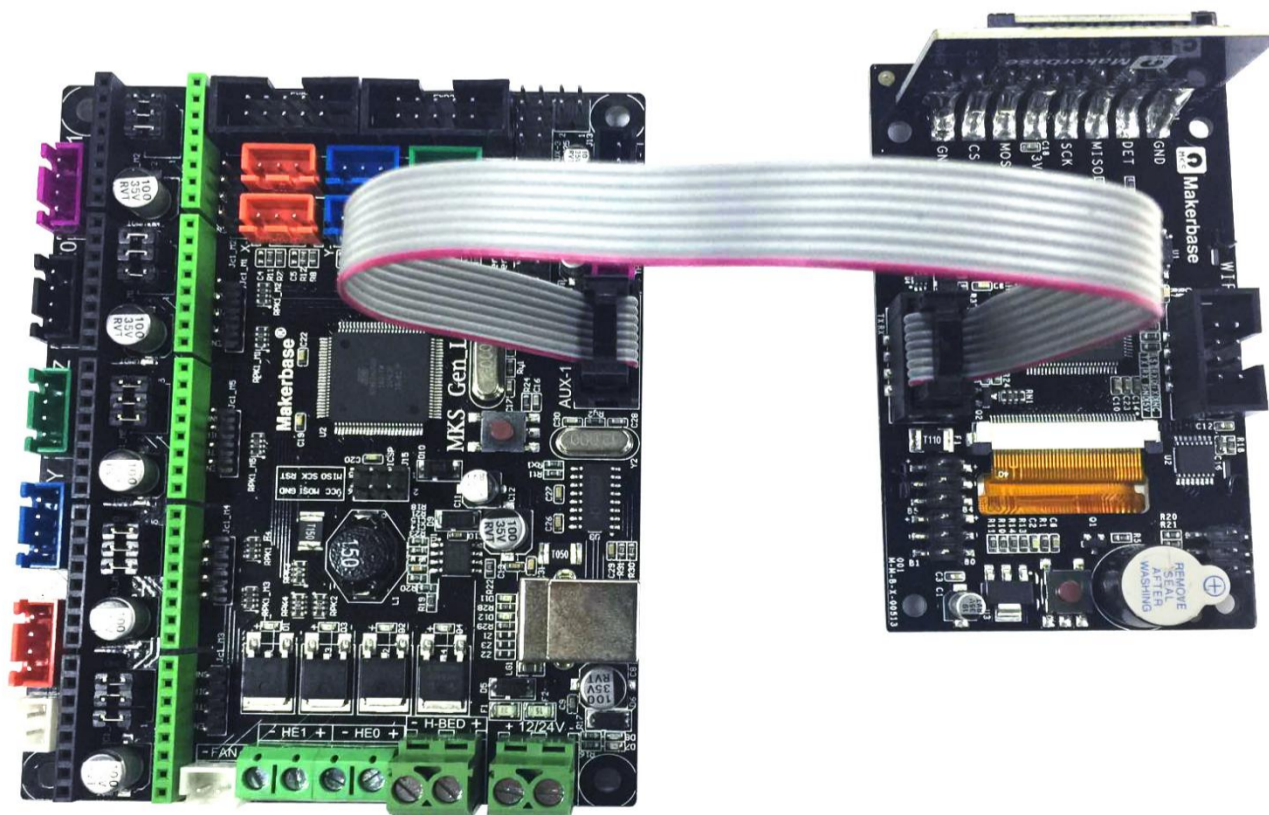




### 4.3 System connection diagram



### 4.4 Connection with motherboard



## V .Firmware Upgrade Instructions

The factory firmware is up to date, so no need to update.

### 5.1 The ways to get the MKS TFT24 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

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

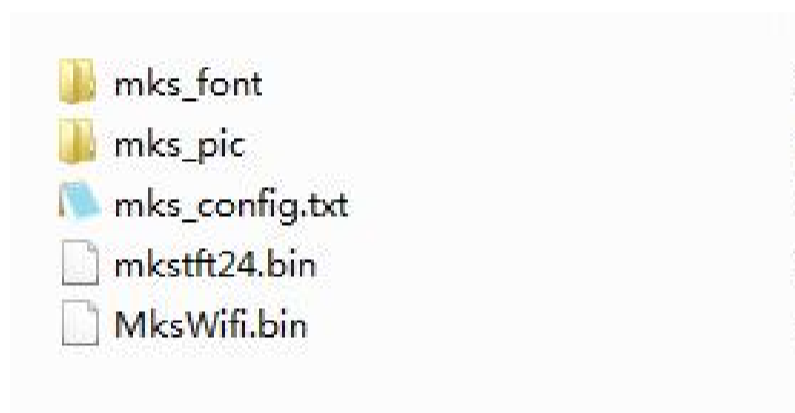
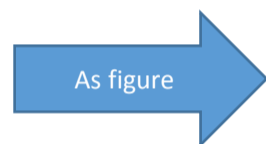
Mks\_font

Mks\_pic

Mks\_config.txt

Mks\_tft24.bin

Mks\_WiFi.bin



Attention:Do not modify file names.

No need to copy mkswifi.bin without WiFi module.

5.2.2 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.

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

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



# VI .Function parameter Configuration

## 6.1 Base settings (Important, must be set)

```
##### Printer type setting #####  
  
#mainboard firmware setting(marlin:1; repetier:2; smoothie:3)  
>cfg_firmware_type:1  
  
#machine setting (Normal:1; Delta:2)  
>cfg_machine_type:1  
  
#baud rate (9600:1; 57600:2; 115200:3; 250000:4)  
>cfg_baud_rate:4  
  
#multi-language(enable:1, disable:0)  
>cfg_multiple_language:1  
  
#languages setting(simplified (simplified Chinese:1; traditional Chinese:2; English:3; Russian:4; Spanish:5;French:6;Italian:7).  
#This configuration is valid when "cfg_multiple_language" is disabled.  
>cfg_language_type:3  
  
#extruder number(one:1; dual:2)  
>cfg_sprayer_counter:1  
  
#enable heated bed(yes:1; no: 0)  
>cfg_custom_bed_flag:1  
  
#the max target temp of extruder and heated bed  
>cfg_max_sprayer_temperature:270  
>cfg_max_hotbed_temperature:150  
  
#pause position (-1 is invalid; Z-axis is relative position)  
>cfg_XPOS:-1  
>cfg_YPOS:-1  
>cfg_ZADD:10
```

After getting the configuration file from the technician, you need to configure the printer type settings.

**Attention:** 1.The baud rate in the configuration file must be the same as the motherboard baud rate, so that you can communicate.

2.Because the touch screen is the use of serial communication, to avoid conflicts with the USB .When connecting to the touchscreen, it is best not to connect the USB port on the motherboard.Similarly, when burning the firmware to the motherboard, it is best to unplug the touchscreen connector.

1. Do not enable multi-language language: Use with the previous text, the text is in the picture, the displayed language can only be displayed by brushing the picture.

2. Enable multi-language: You can slice the language freely in the language options in the settings, currently supports up to 5 languages.

# Language (1: Simplified Chinese; 2: Traditional Chinese; 3: English; 4: Russian; 5: Spanish 6: French, 7: Italian)

#This configuration is valid only when cfg\_multiple\_language is set to 1.

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

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

### 6.3 Automatic Leveling and Manual leveling

1 . 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:**

```
#leveling mode(manual:0; auto:1; conceal leveling button:2)
>cfg_leveling_mode:0

#the command of auto leveling (G29 is available for Marlin.While G32 is for Repetier and Smoothieware)
>cfg_auto_leveling_cmd:G28;G29;
```

2 . 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:

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

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

#the travel speed of leveling(mm/min)
>cfg_leveling_z_speed:1500
>cfg_leveling_xy_speed:3000
```

### 6.4 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:

```
##### Filament Change Function #####
#the speed to extrude filament(mm/min)
>cfg_filament_load_speed:1200
#the lenght to extrude filament (mm)
>cfg_filament_load_length:200

#the speed to retract filament(mm/min)
>cfg_filament_unload_speed:1200
#the lenght to retract filament(mm)
>cfg_filament_unload_length:200

#It is the minimum temperature for filament change.
It will auto heat up if the current temp doesn't reach the target.
>cfg_filament_load_limit_temperature:200
```

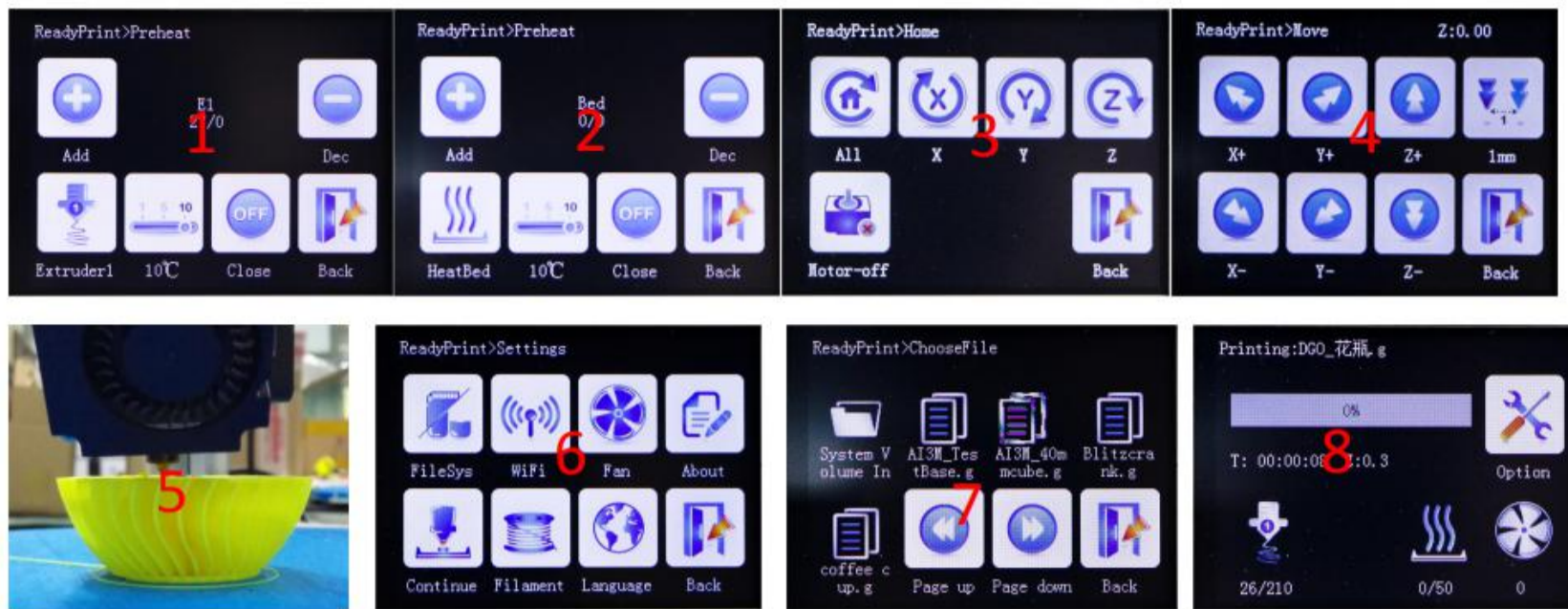
## 6.5 Breakpoints recovery

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:



## 6.6 Save the gcode data with power off

In the printing process into a paused state, when without anyone watching you can directly shut down, the next time you can start from the pause to continue printing.

(Attention: Remember to delete the updated file in the SD card, to avoid the reboot and update the firmware, affect this feature).

## 6.7 Power off recovery

### 1. No UPS Power

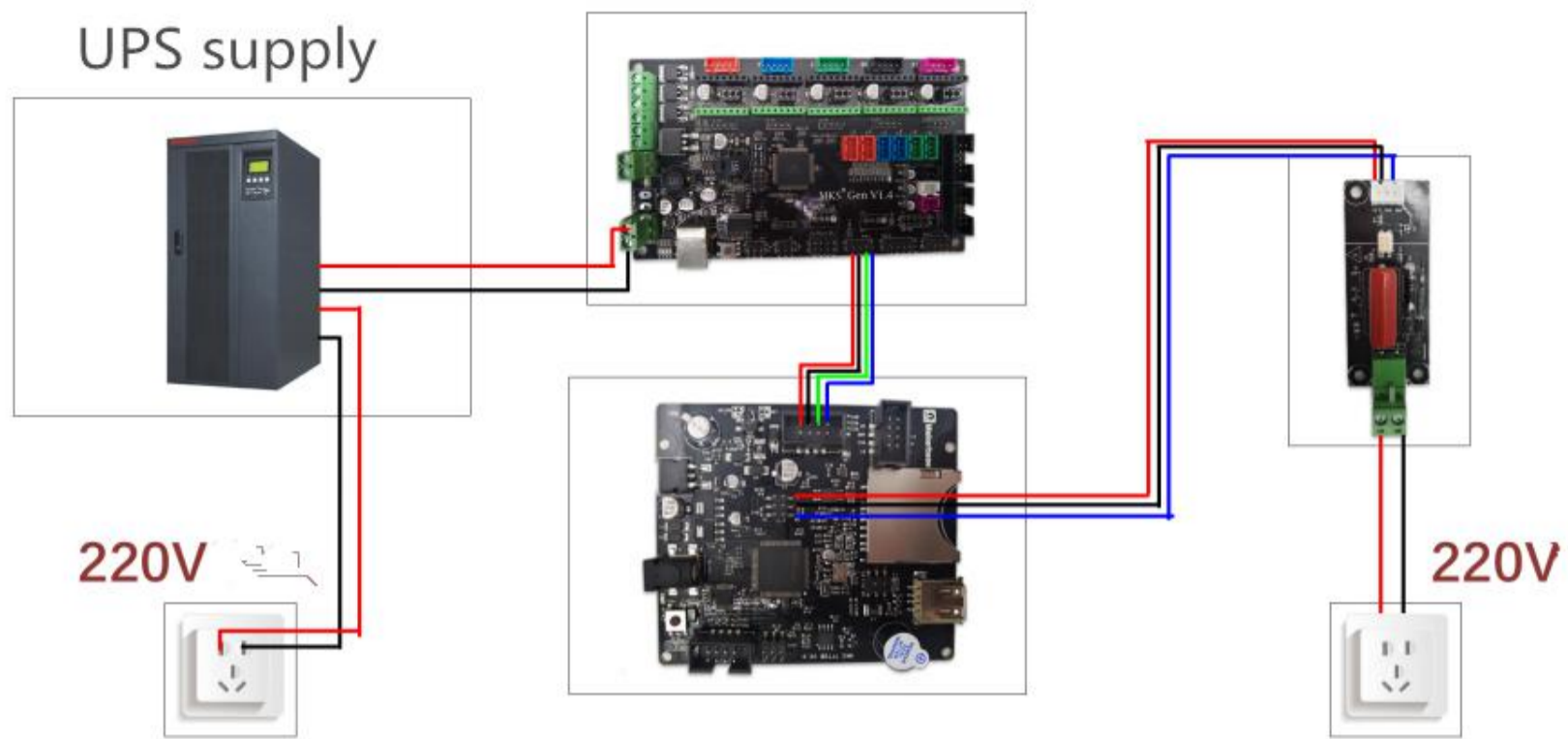
1.1 A sudden power outage during the printing process, machine can continue to print from the power off. (due to power failure can not drive the motor, the print head will still remain on the model, may cause defects in the model, if the need for more complete power off processing, the need for power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

Have UPS power

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

2.2 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.

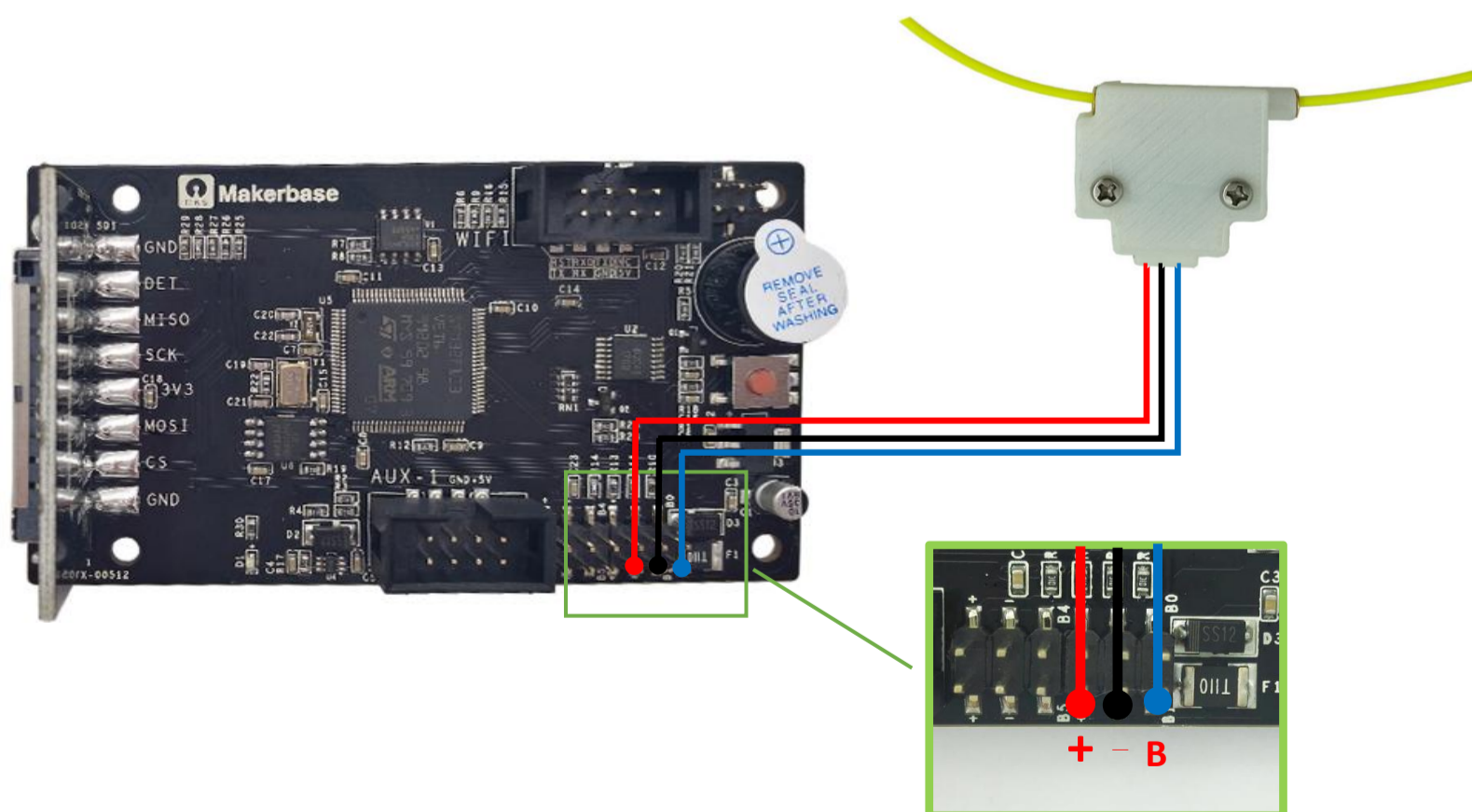




## 6.8 Filament detecting

The end of the break detection switch is connected to the PB1, the other end is connected to the PB1 under the ” - ” pin, can be in the configuration file to select a high level of effective or low level effective, the following figure

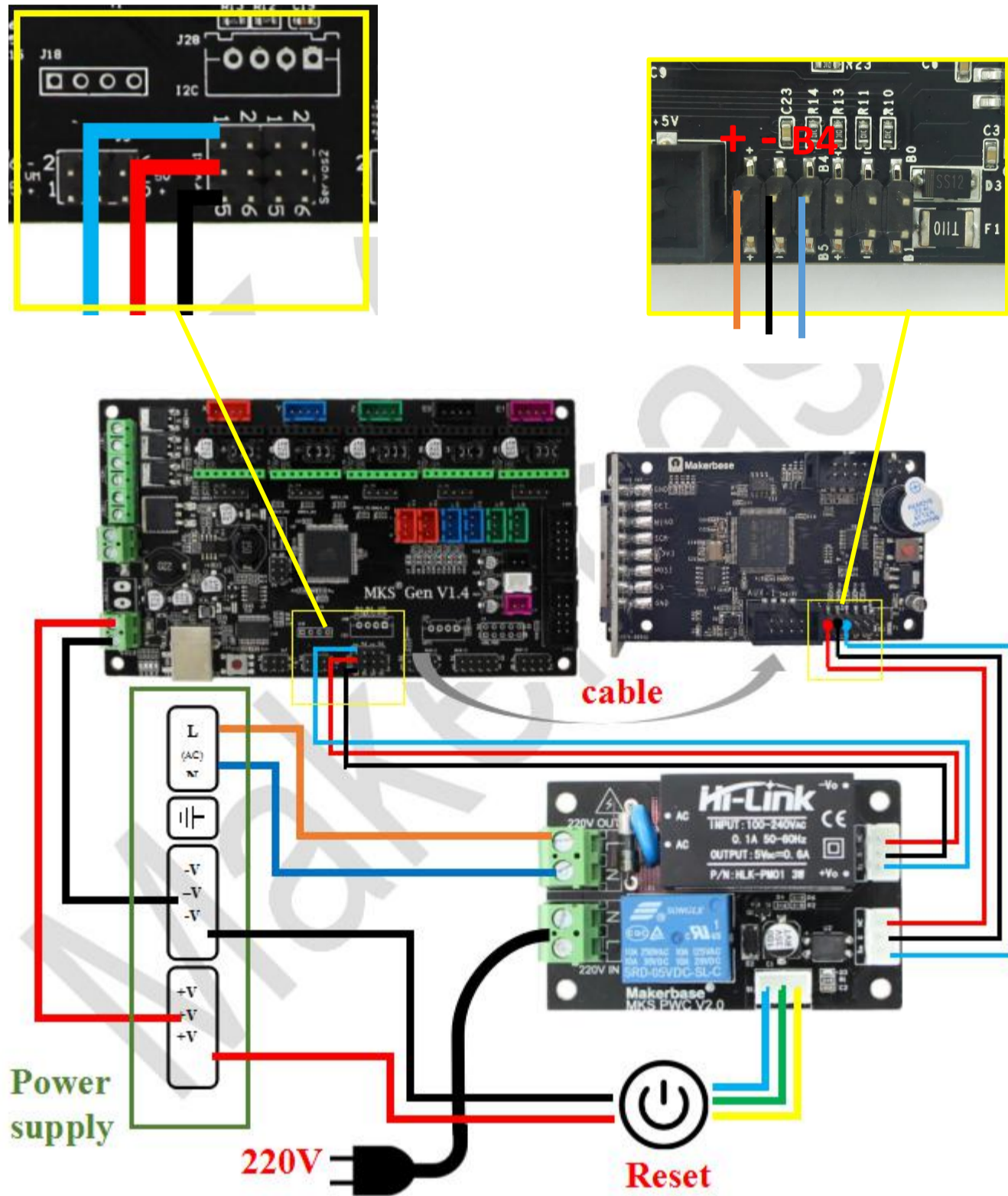
```
#set PB1 signal (high level:1; low level:0)
>cfg_PB1_trigger_Level:0
```



## 6.9 Auto off after print finish function

Open the auto off after print finish function in the configuration file, cooperate with PWC to complete the shutdown module, you can use the shutdown function after playing.

```
#enable auto off after print finish function (no:0; Yes:1 )  
>cfg_print_finish_close_Machine:0
```



## VII .The network printing function

MKS TFT24 Need to use MKS TTF-WIFI to achieve network printing.

### 7.1 Introduction to Print 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.

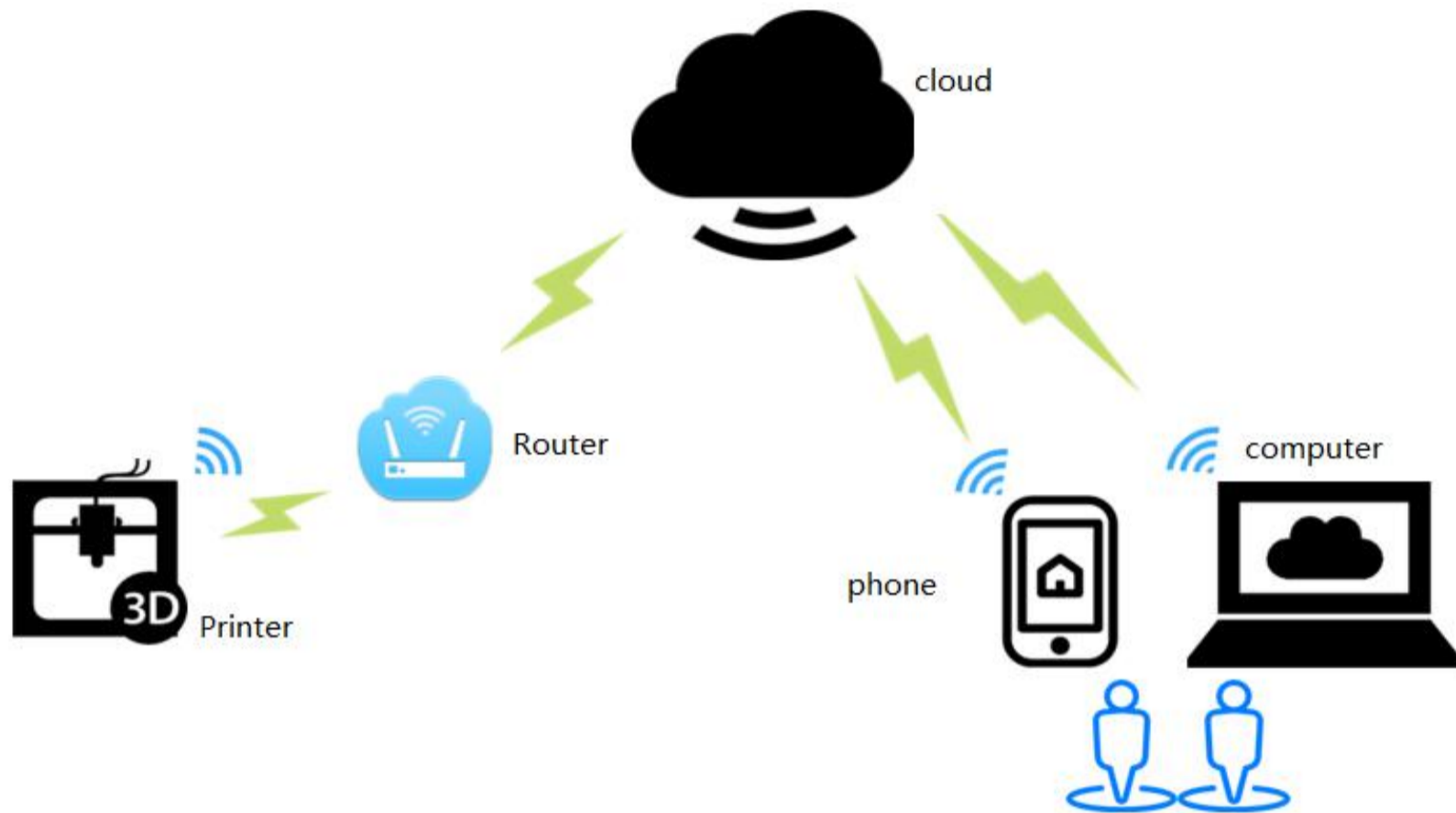
2. LAN Print Mode: Recommended in the case of a WiFi router, but the router is not available on the Internet or the network is slow (the cloud Print mode printer responds too slowly).

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.

4 . WebServer print mode: special mode, not recommended. This mode also controls the printer in the LAN. It can be controlled by the computer's Web, transfer files, print, etc. It can't use the APP control. You need to brush the Web version firmware to use it.

## 7.2 Cloud Print Mode

### 1 .Network Diagram



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

### 2 .WiFi setting

#### MKS Robin Lite-wifi Configuration

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

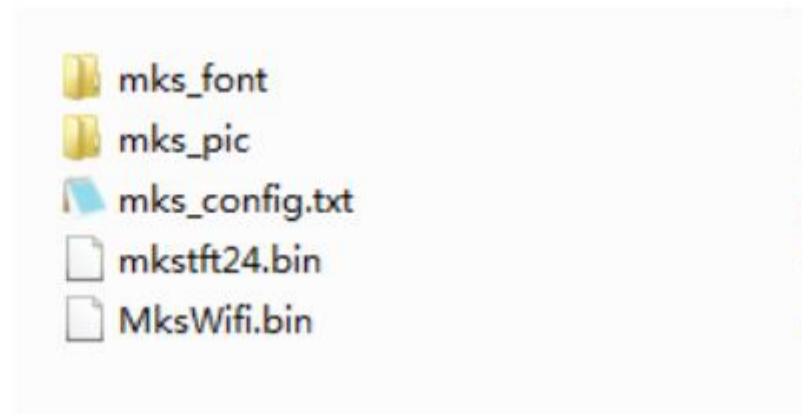
Mks_config.txt	Description
#wifimodel(0:MKS WIFI TFT 1:MKS HLK-WIFI) >cfg_wifi_type:0	
#wifi mode(0:sta;1:ap) >CFG_WIFI_MODE 0	Set WiFi mode to STA mode
#wifi name >CFG_WIFI_AP_NAME MKSWIFI	Set the WiFi name to the name of the router you want to connect to
#wifi password >CFG_WIFI_KEY_CODE MAKERBASE	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 >cfg_cloud_port:10086	The default settings can be



### 3 .Firmware update

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

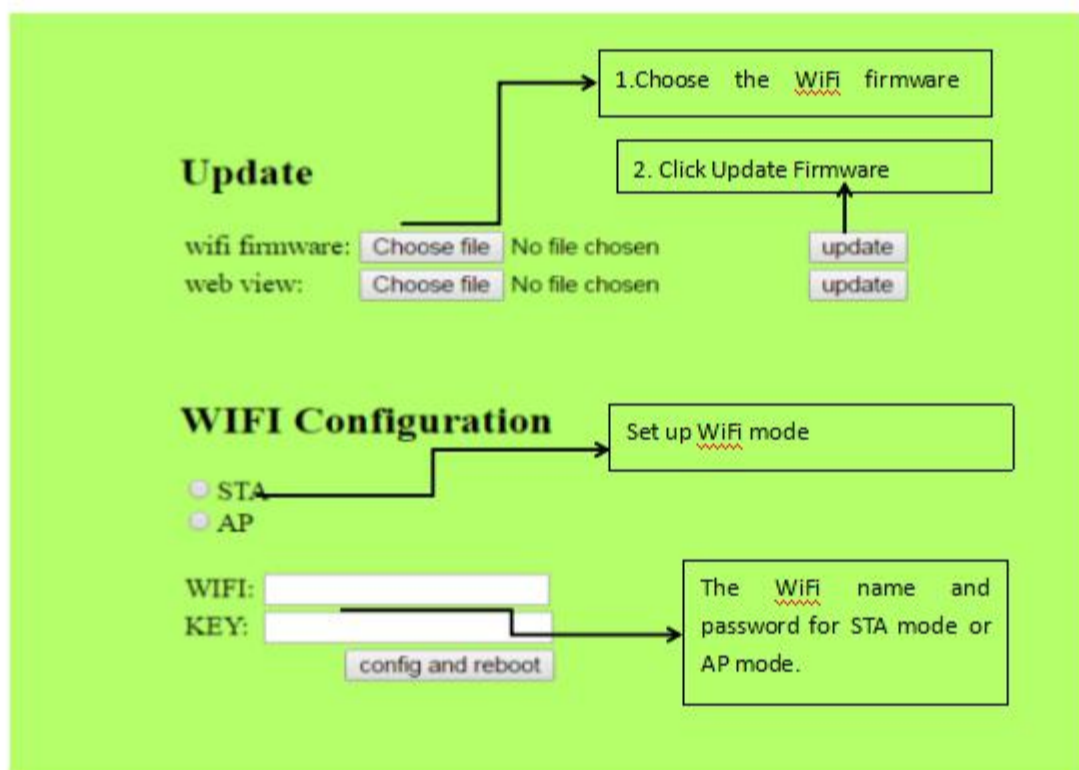
Mks\_font  
Mks\_pic  
Mks\_config.txt  
Mks\_tft24.bin  
Mks\_WiFi.bin



### 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:



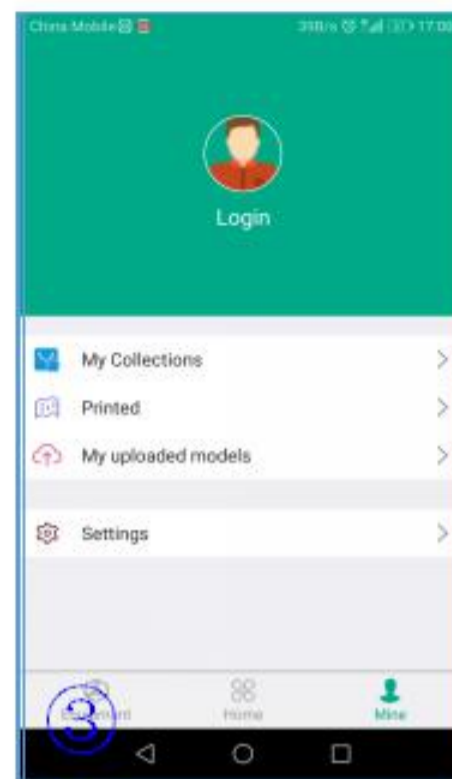
### 4 .APP print



Download MKS Cloud App



Installation



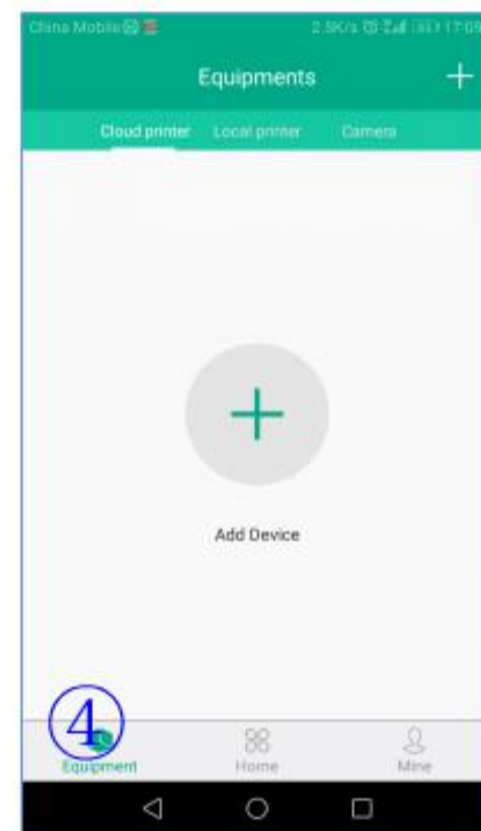
login



Model Preview Interface



Printer bindings



Add Printer page



Adjust the Print Parameters page



Printing pages



Print complete

## 7.3 LAN Print mode

### 1. Network Diagram



**Features: Can control printer in LAN**

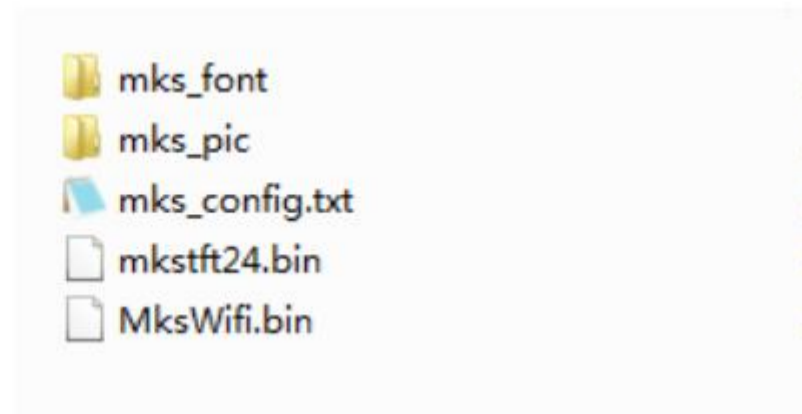
### 3 .Software update

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

Mks_config.txt	Description
#wifimodel(0:MKS WIFI TFT 1:MKS HLK-WIFI) >cfg_wifi_type:0	
#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 >cfg_cloud_port:10086	It is recommended to disable the cloud services,when LAN control. Other parameters can be used by default.

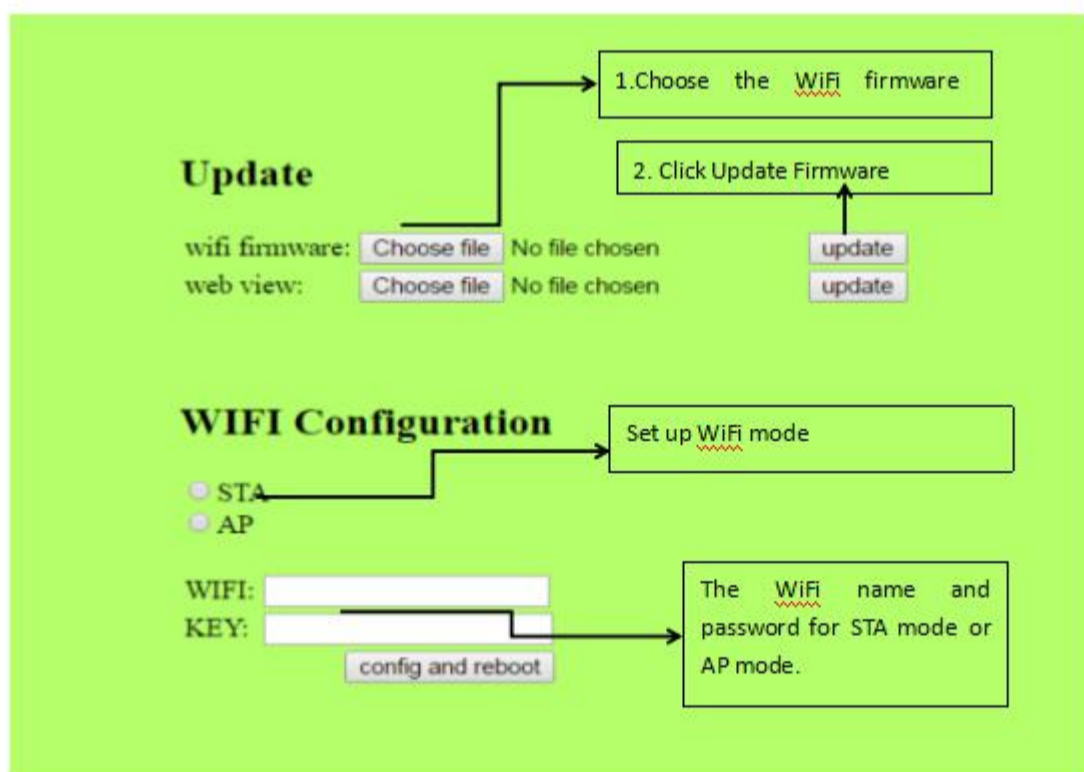
### 3.2 Update Considerations

Mks\_font  
Mks\_pic  
Mks\_config.txt  
Mks\_tft24.bin  
Mks\_WiFi.bin



- 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:

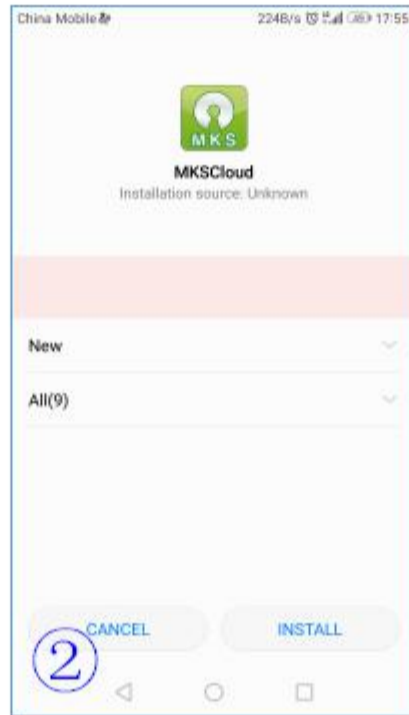




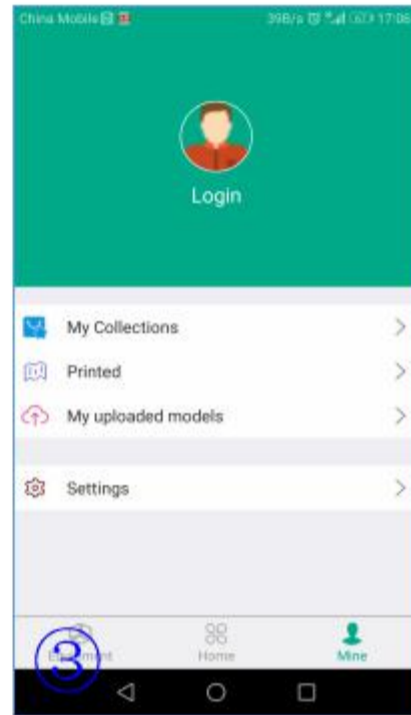
#### 4 .APP print



Download MKSCloud App



Installation



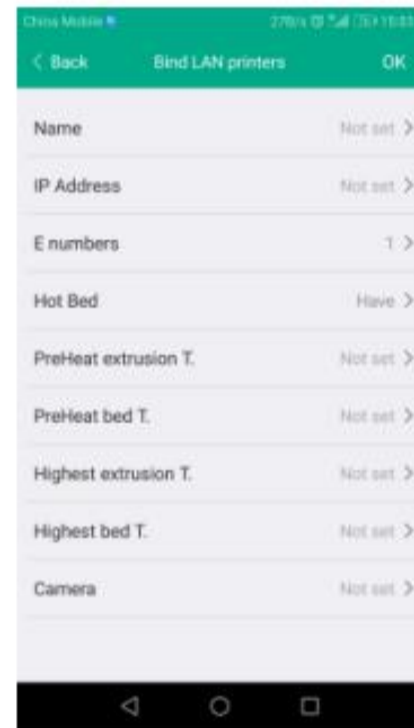
login



Printing interface



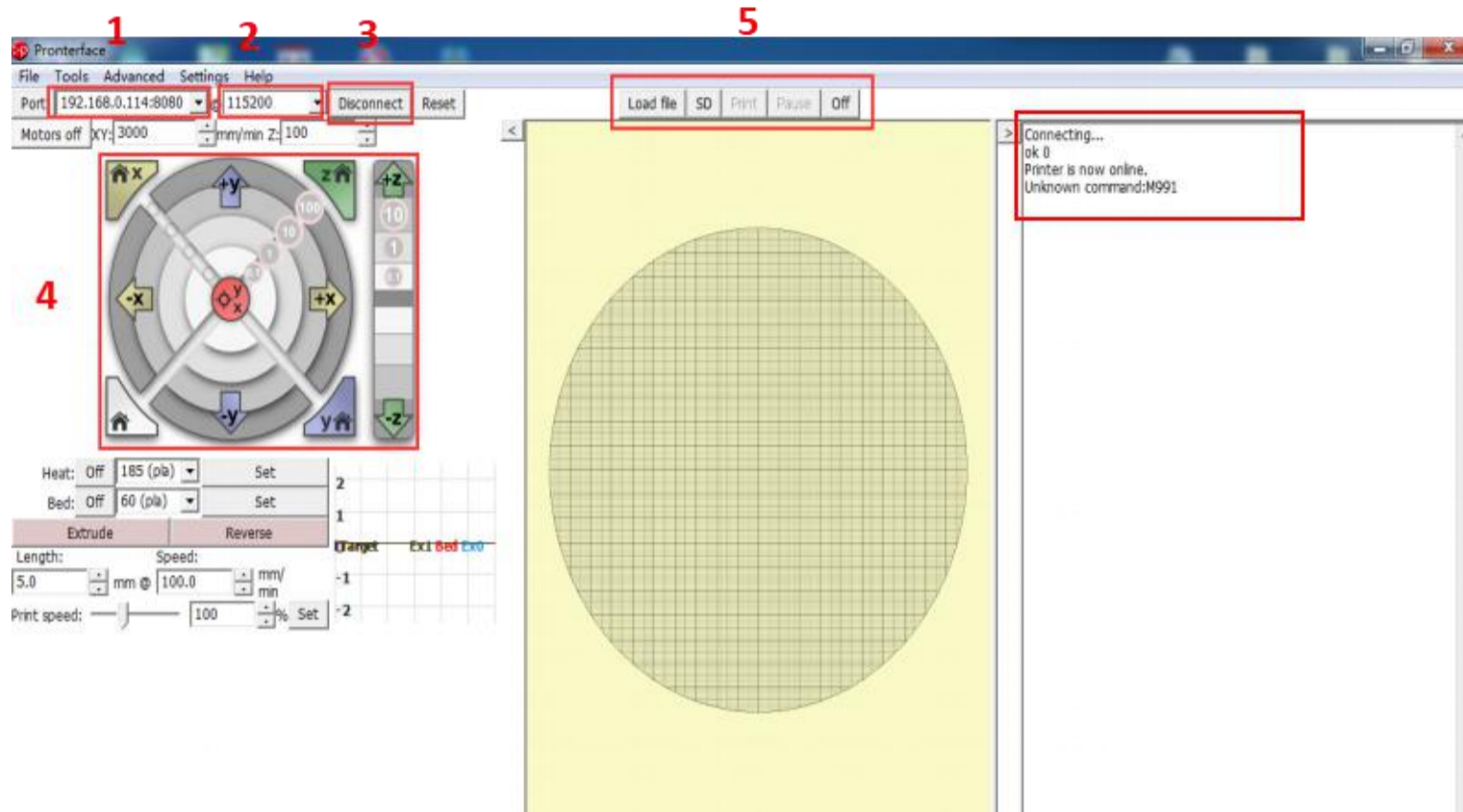
choose the file



add the printer

## 7.4 Upper Computer Printing

### 4.1 pringtrun printing



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: 192.168.0.11.4:8080;

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

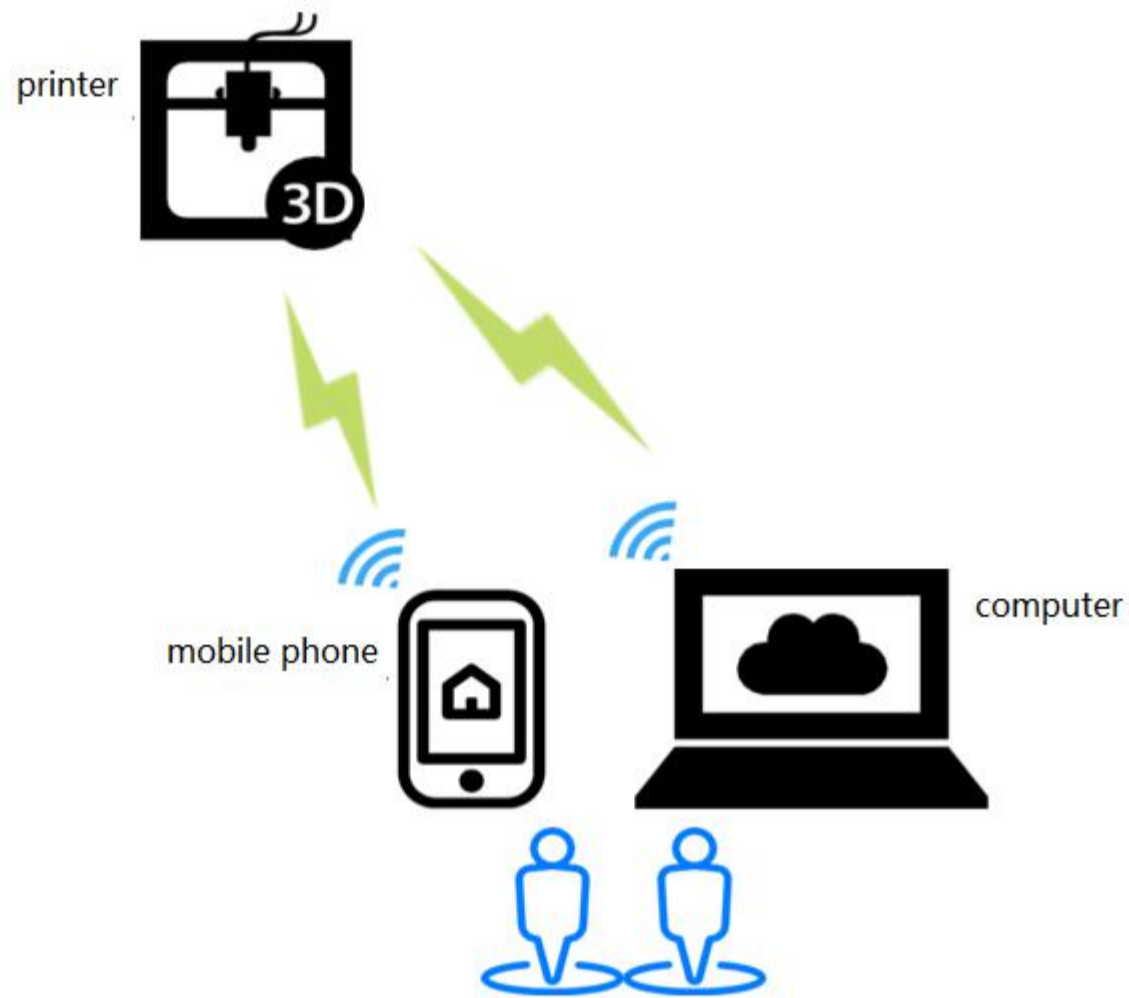
The button of connect and disconnect.

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

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)

View information about the printer feedback.

## 7.5 AP mode



Features: WIFI module will generate hotspot "MKSWIFI-XXXX" (open hotspot, no password), you can access the hotspot to control the printer.

## 2 .Software update

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

Mks_config.txt	Description
#wifimodel(0:MKS WIFI TFT 1:MKS HLK-WIFI) >cfg_wifi_type:0	
#wifi mode(0:sta;1:ap) >CFG_WIFI_MODE 1	Set WiFi mode to AP mode
#wifi name >CFG_WIFI_AP_NAME TEST	Set the WiFi name to the name of the hotspot you want to connect to
#wifi password >CFG_WIFI_KEY_CODE MAKERBASE	Set the WiFi password to the hotspot 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 >cfg_cloud_port:10086 #Dynamic ip acquisition >cfg_ip_dhcp_flag:1	The default settings can be

```
#IP/mask/gate
>cfg_ip_address:192.168.3.100
>cfg_ip_mask:255.255.255.0
>cfg_ip_gate:192.168.3.1
```

### 3.2 Update Considerations

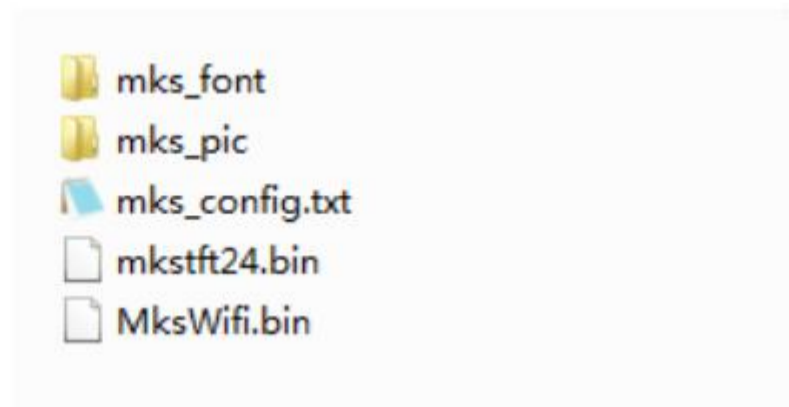
Mks\_font

Mks\_pic

Mks\_config.txt

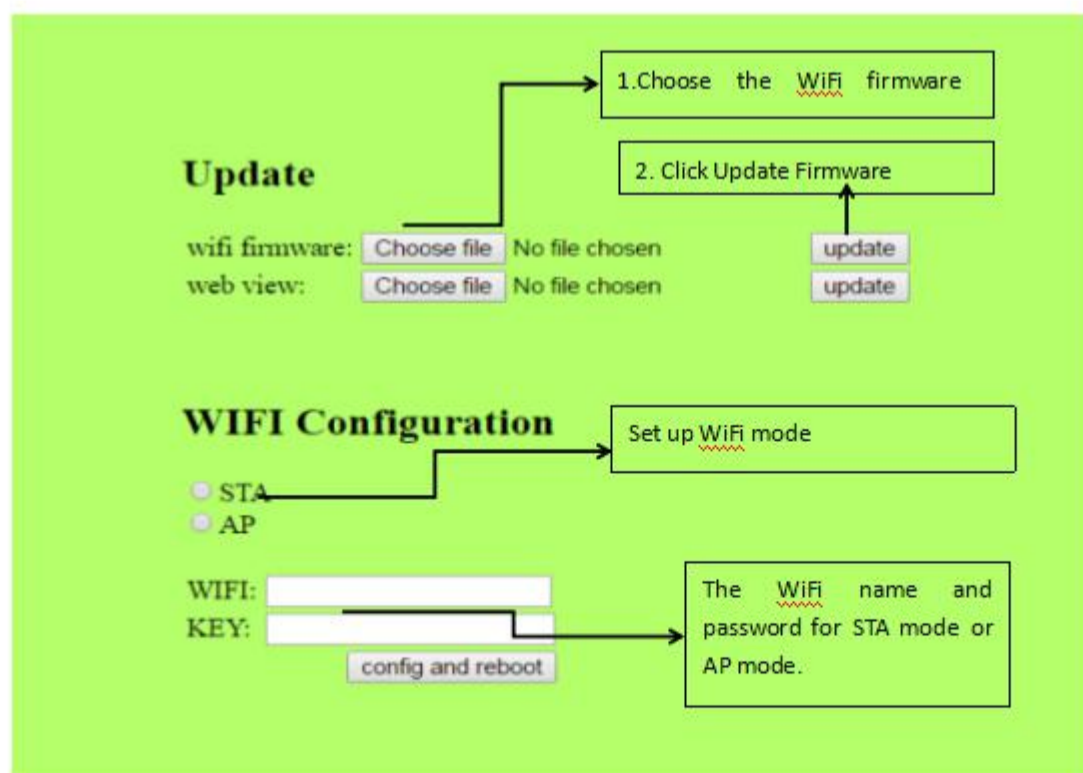
Mks\_tft24.bin

Mks\_WiFi.bin



- D. The filename is not modifiable, or it will cause an update failure;
- E. After the successful upgrade of the program, the filename will change;
- F. The current motherboard firmware and WiFi firmware version number can be viewed in the about.

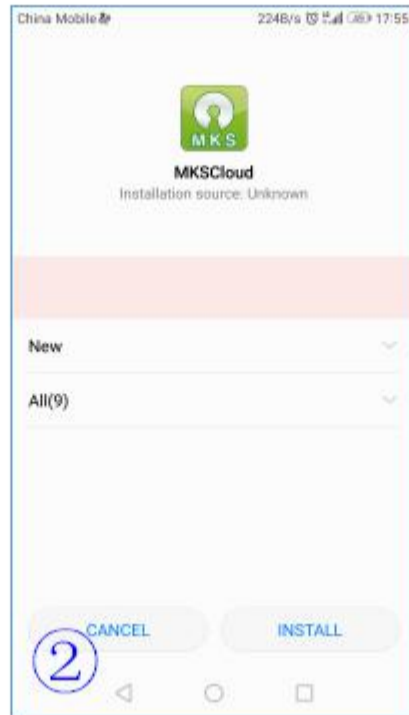
3.3 WIFI firmware update can also be updated through the web side, in the same LAN, in the Computer browser input IP address, access to the Web page update firmware interface, the following figure:



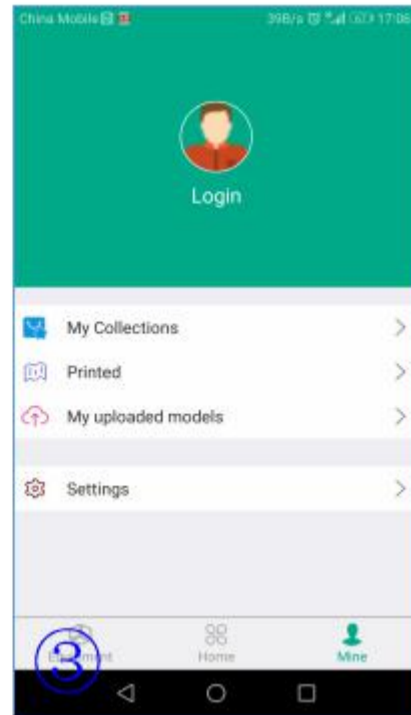
## 4 .APP print



Download MKSCloud App



Installation



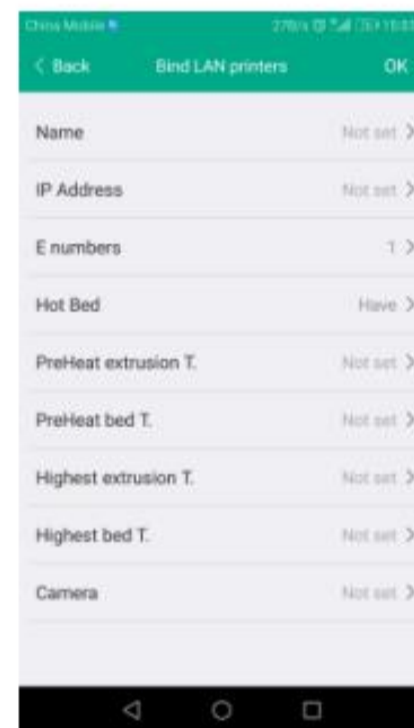
login



Printing interface



choose the file



Attention: The ip address can be viewed on the wifi interface of the touch screen (the hotspot sent by the wifi module on the phone sequence can be printed with the app)



## 7.6 Model Library Web site

Web site : <https://baizhongyun.cn/home/index>

Welcome small partners to upload their favorite models and use.

**百众云** baizhongyun.cn

Home Category Modeling Special Looking for a model Seek! Upload Software SIGN IN / JOIN EN

Popular Searches: Cup Piggy Box

Chinese English

**Recommended Classification** Excellent classification of outstanding works **More +**

**Tools** **Home Supplies** **Characters** **Plants&Animals**

**Links**

3ddayinw.com 3g.3d2013.com 3done.cn china3dprint.com Thingiverse Pinshape 3dkoukou.com 3daihao.com

**Contact And Cooperation** **Join Us** **Service Support** **Share And Attention**

About Us Upload: Share Designs Exchange Group: **156492164(Full of people)**

Contact Us Demand: Help Print 3D Models **489095605**

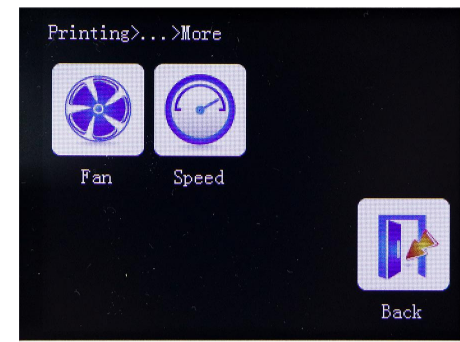
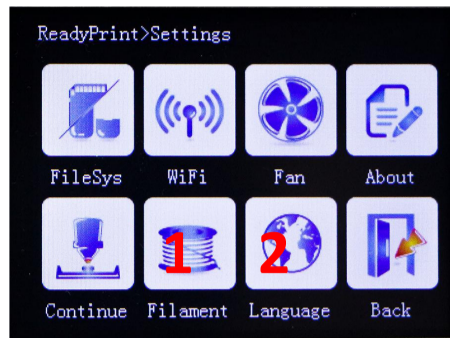
Disclaimer Search: Fast Positioning Model Consumer Hotline: **020-23337068**

Problems

WeChat Channel Service WeChat Mini Programs

Copyright © Guangzhou.baizhongyun,Gaungzhou.ICP NO.15057496-2

## VIII. special function button customization



### 1: function\_btn1\_cmd

### 2: function\_btn2\_cmd

#user-defined function1 and 2.  
(display this button . disable: 0; enable: 1)  
>cfg\_function\_btn1\_display:1

#command of user-defined function  
>function\_btn1\_cmd:M84;

Must be enabled to display

```
#set number of "More" button
>moreitem_pic_cnt:0

#edit command for 1~7 "More" button,e
>moreitem_button1_cmd:G28 X0;
>moreitem_button2_cmd:G28 X0;
>moreitem_button3_cmd:G28 Y0;
>moreitem_button4_cmd:G28 Y0;
>moreitem_button5_cmd:G28 Z0;
>moreitem_button6_cmd:G28 Z0;
>moreitem_button7_cmd:G28;
```

must first set the number of  
then define the command

```
#how many "More" button display on screen interface
>morefunc_cnt:0
```

```
#command setting on button1~6
>morefunc1_cmd:G28;
>morefunc2_cmd:G28;
>morefunc3_cmd:G28;
>morefunc4_cmd:G28;
>morefunc5_cmd:G28;
>morefunc6_cmd:G28;
```

When the pause is time, there are four buttons,  
buttons on the page, and six at other times.



# IX. each theme interface display

## 9.1 Blue style



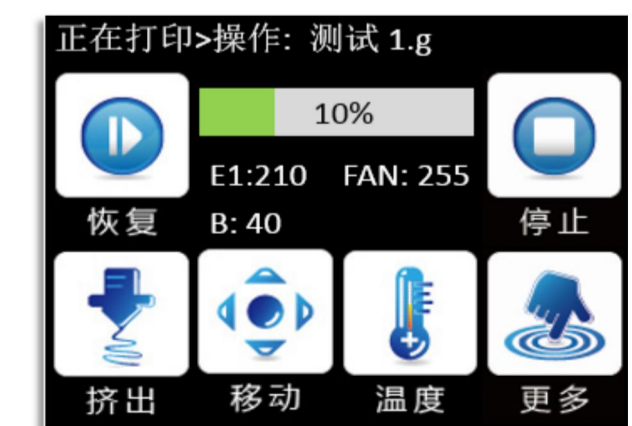
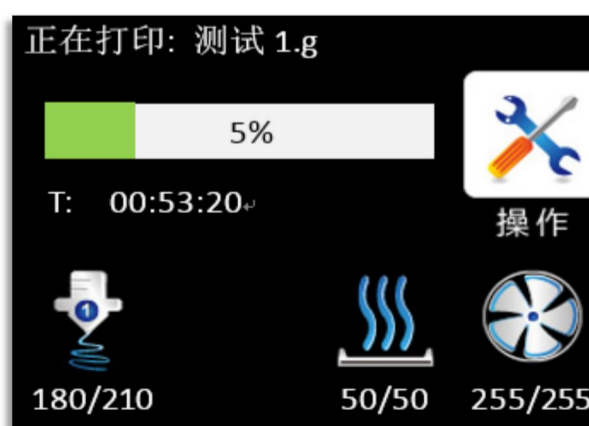
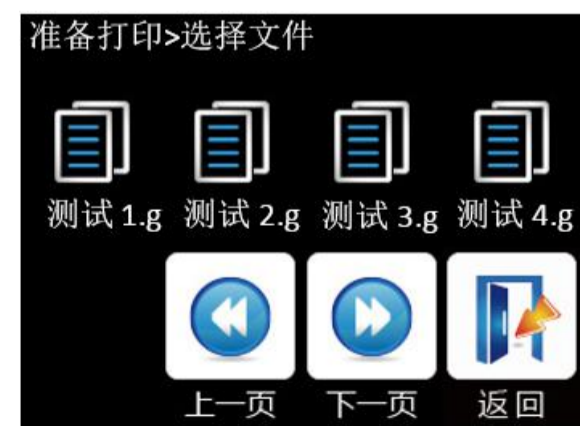
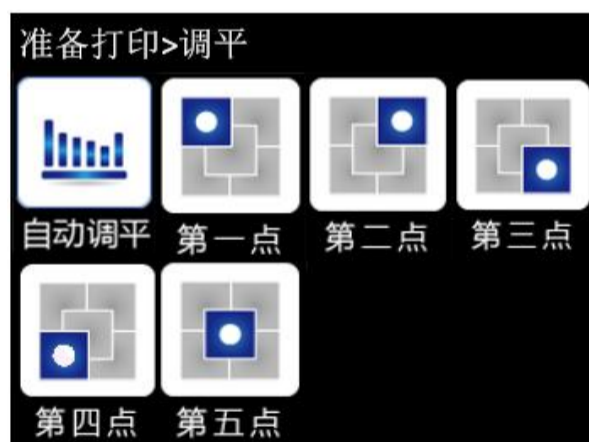
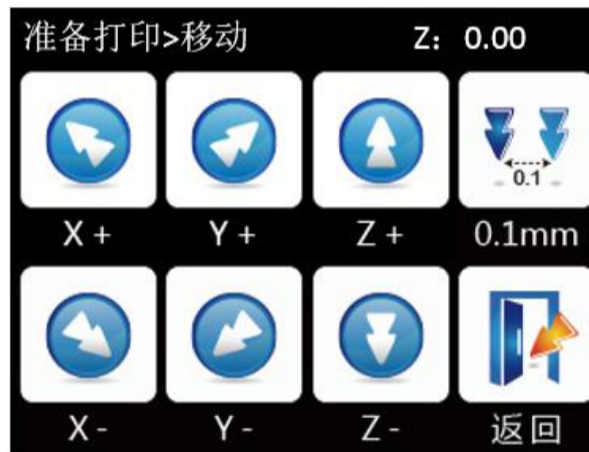
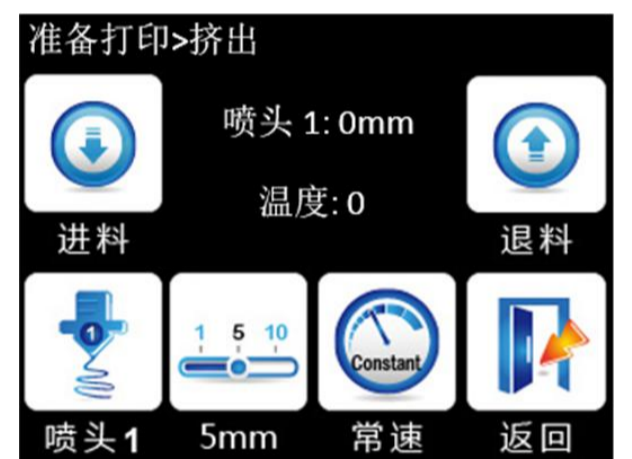
(Simple)



(Classic)



(Retro)





## 9.2 Windows style



(Simple)



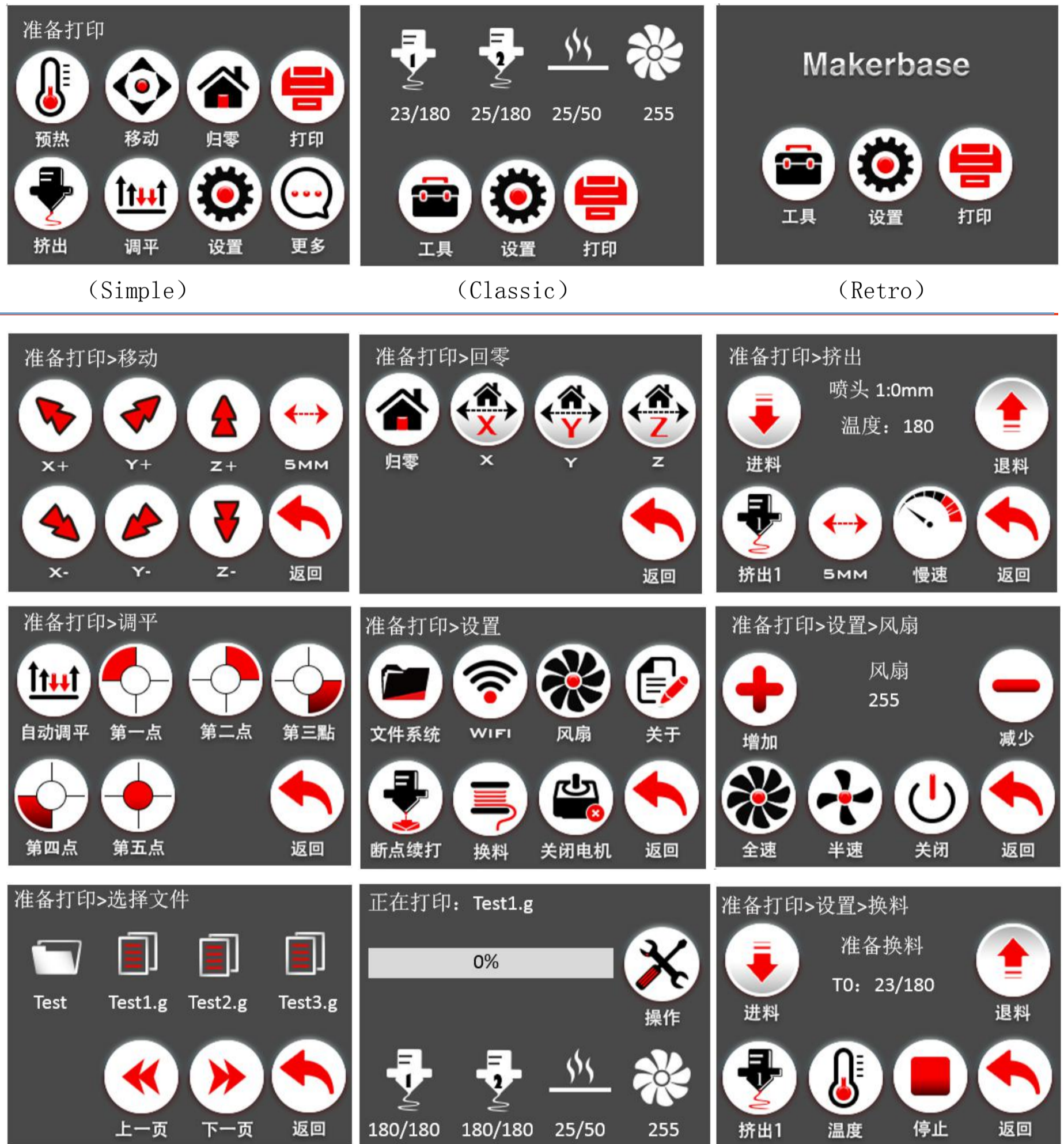
(Classic)



(Retro)



### 9.3 Red style



#### (1) Special instructions

The red style is modified on the basis of a UI designed by a foreign user, allowing users to choose more styles.

I am very grateful to this excellent design engineer. The following is the original words of the design engineer:

Special explanation: The red style is modified from the UI designed by Isaac Norris, which provides the users with more choice. The following is the designer Isaac Norris

words:

Hello and thank you for downloading my modified version of the MKS TFT User Interface.

Instructions-

1. copy the contents of the firmware folder to an SD card then insert the card into the reader on the MKS TFT Display. I am using the 3.2" variant and that is all that will work with this OS.
2. Power on the board, it will automatically install the firmware.
3. Once it powers on you are ready to go!

This interface took a lot of design time and effort to put together so I hope that you all appreciate it as a step forward in User Interfaces for 3D Printers.

All Credit for this UI's Design and assembly goes to me, Isaac Norris, the owner and operator of Dimension 3 Fabrication in Asheville NC.

I hope that you all get the best from this user interface and share it freely, but I do not want this UI sold as it is Copywritten under the Creative Commons Copywrite.

The purpose for designing this UI was for the custom Delta 3D Printers that my company, Dimension 3, will be manufacturing and the reason that I am sharing this with all of you is that I believe in sharing information, as the only way to make the world better is to help the spread of ideas.

Thanks everyone for your support and if you have any questions email me at [Dimension3fab@gmail.com](mailto:Dimension3fab@gmail.com) or personally at [Flightfixit@gmail.com](mailto:Flightfixit@gmail.com).

If you want to find me online search FlightFixit for my 3D modeling and Dimension 3 Fabrication for the Delta 3D Printers.

Hope you all get the best out of my UI.



# X .TFT touch Screen User interface configuration

## 10.1 Conventions:

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

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



- (1) Custom boot logo picture, 16DPP, wide =320 pixel, high =240 pixel;
- (2) Custom button picture, 16DPP, wide =78 pixel, high =104 pixel;
- (3) The name of the customized picture must be named in accordance with the appendix;
- (4) Custom color value is 16, in accordance with 3 primary colors blue, green, red order;
- (5) Customize the "More" menu function button, can be customized up to 7 function buttons;
- (6) Custom "Print more" function button, can be customized up to 6 function buttons;

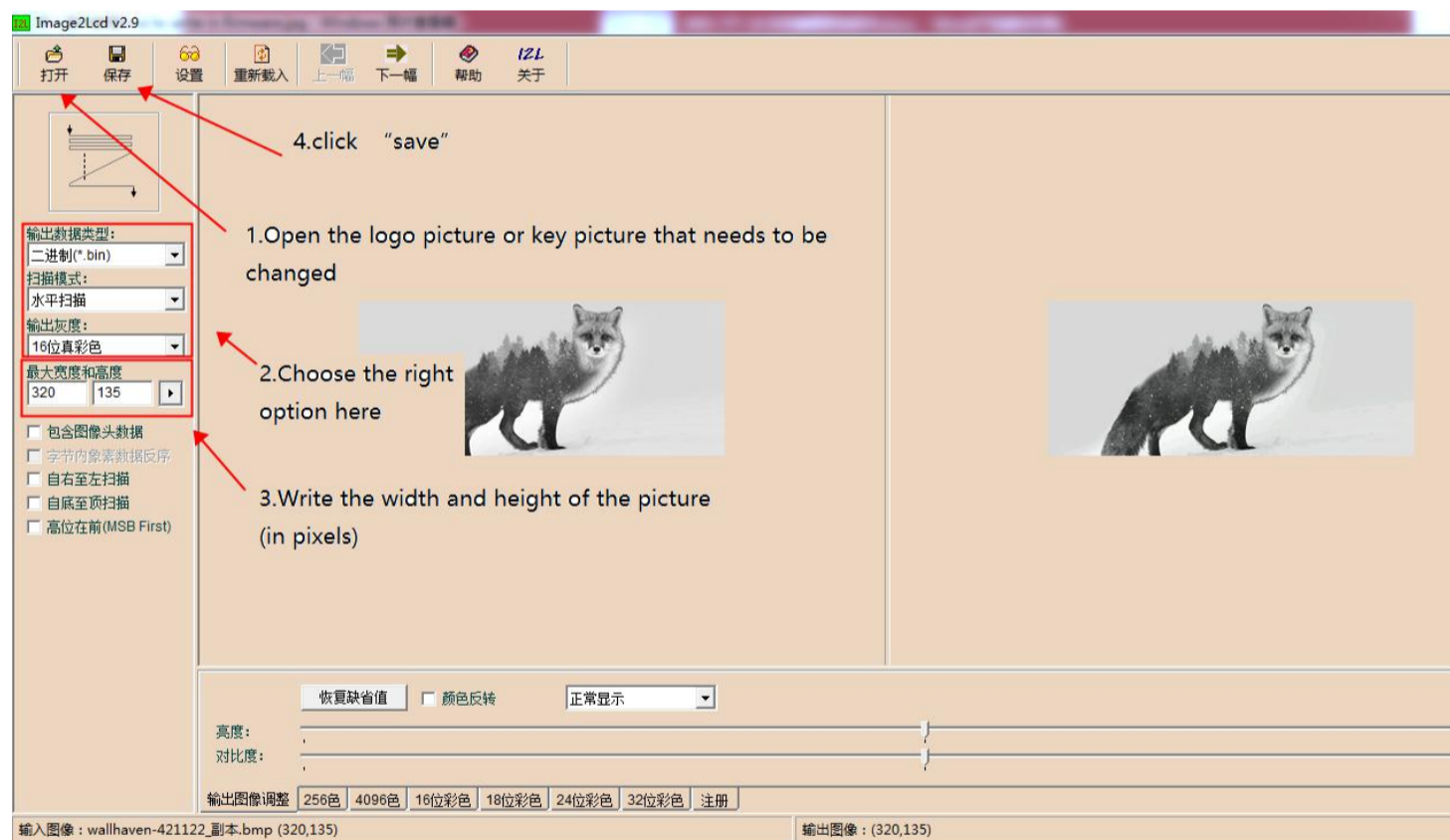
## 10.2 Steps

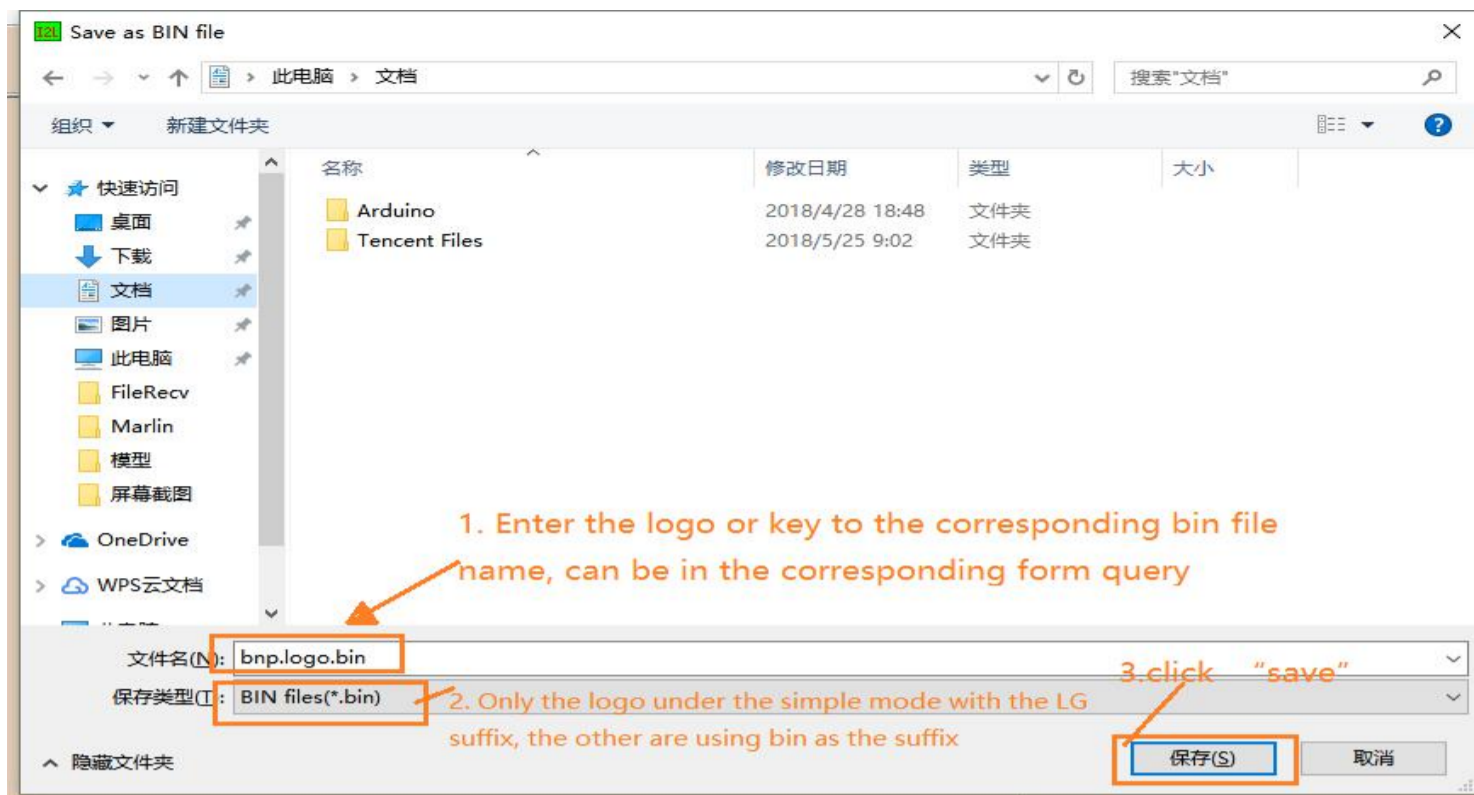
### 1.1 Preparation Tools

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

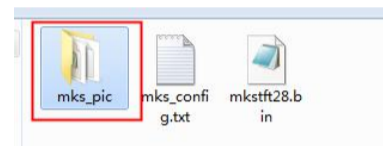
2.corresponding to the. bmp suffix name of the picture, pixels to correspond, do not know the pixel, please see above.

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





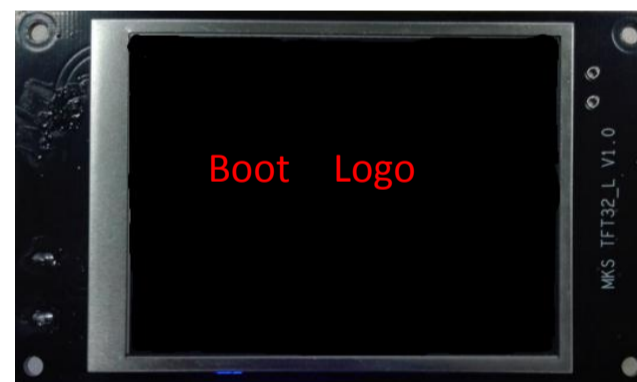
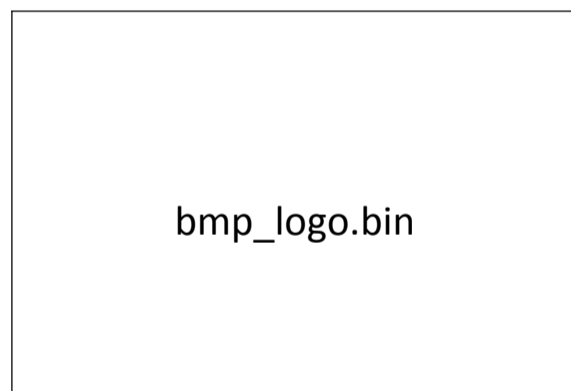
Copy the saved files to the Mks\_pic folder  
logo and key picture naming



### 10.3 Name of logo and button picture

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

Power-on logo.

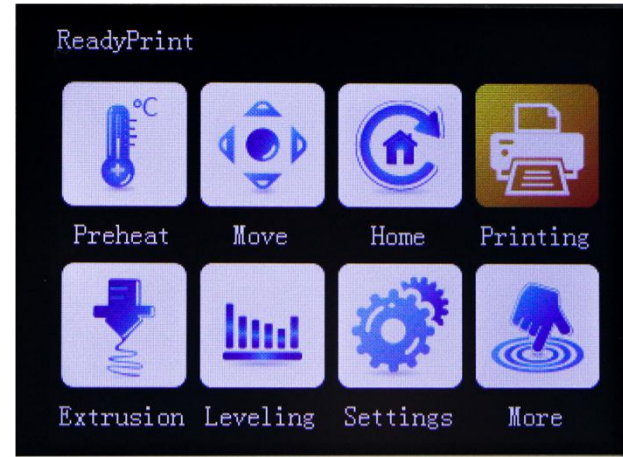


Small LOGO (Simple)



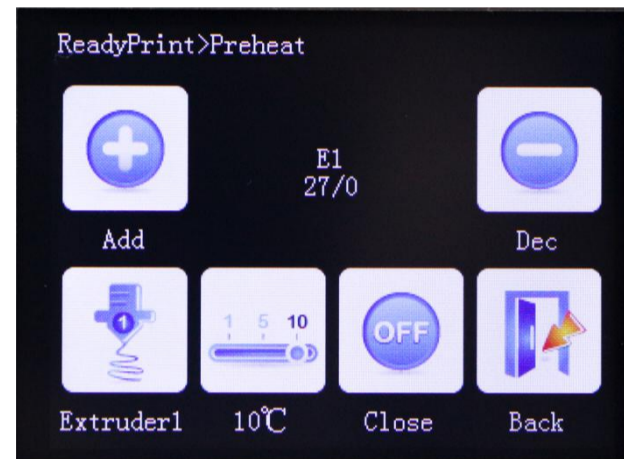
### Ready to print Interface:

Preheat: bmp_preHeat.bin	Move: bmp_move.bin	Home: bmp_zero.bin	Print: bmp_printing.bin
Extrude: bmp_extrude.bin	Leveling: bmp_leveling.bin	Setting: bmp_setting.bin	More: bmp_more.bin



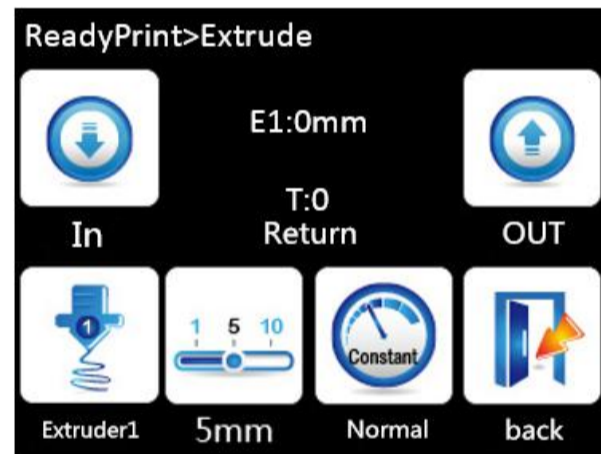
### Preheat interface:

Add: bmp_Add.bin		Dec: bmp_Dec.bin
Preheat: Hot bed : bmp_bed.bin Extruder1 : bmp_extruder1.bin Extruder2: Bmp_extruder2.bin	Step: Step1_degree: bmp_step1_degree.bin Step5: bmp_step5_degree.bin Step10: bmp_step10_degree.bin	close: bmp_speed0.bin Return: bmp_return.bin



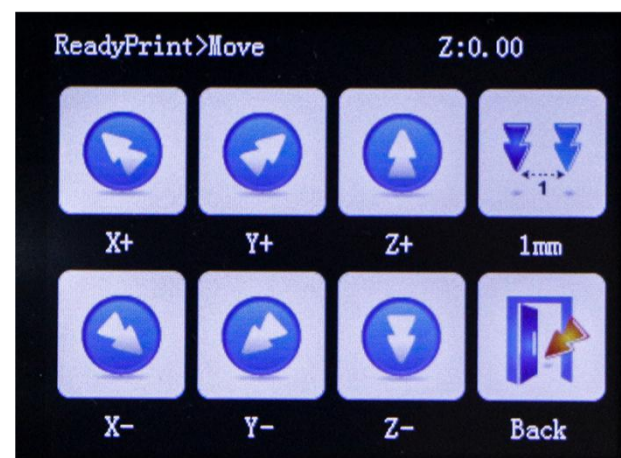
### Extrusion interface

In: bmp_in.bin		Out: bmp_out.bin
Extruder (E) : E1: bmp_extruder1.bin E2: bmp_extruder2.bin	Step: 1mm: bmp_step1mm.bin 5mm: bmp_step5mm.bin 10mm: bmp_step10mm.bin	Rate: Low: bmp_speed_slow.bin Normal: bmp_speed_normal.bin High: bmp_speed_high.bin Return: bmp_return.bin



### MOVE interface

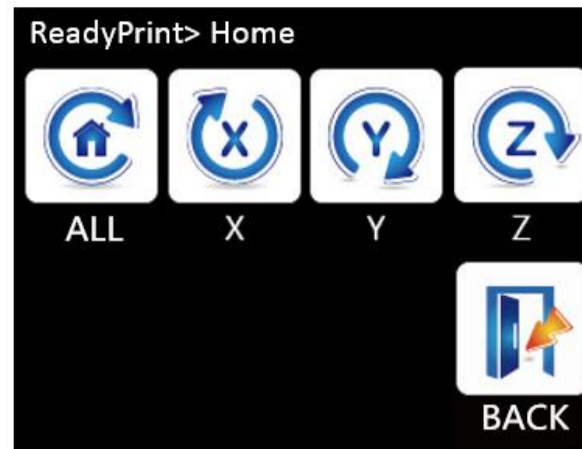
X+: bmp_xAdd.bin	Y+: bmp_yAdd.bin	Z+: bmp_zAdd.bin	Step: 0.1mm: Bmp_step_move0.1.bin 1mm: bmp_step_move1.bin 10mm: bmp_step_move10.bin
X-: bmp_xDec.bin	Y-: bmp_yDec.bin	Z-: bmp_zDec.bin	return: bmp_return.bin





### Home interface

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



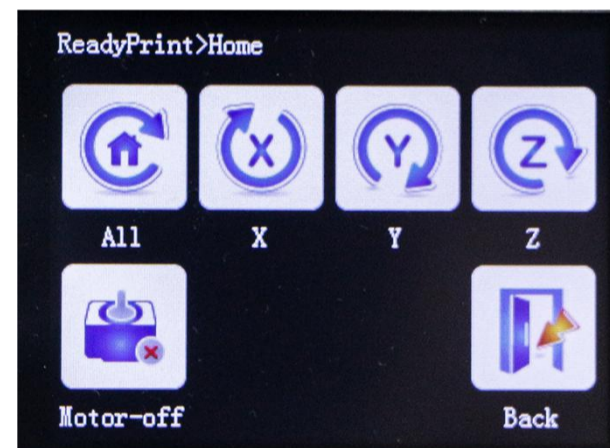
### Language interface

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



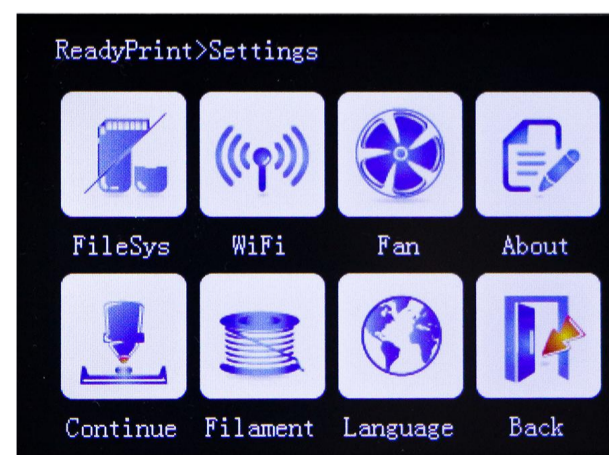
### Leveling interface

Autoleveling: bmp_autoleveling. bin	Leveling1: bmp_leveling1. bin	Leveling2: bmp_leveling2. bin	Leveling3: bmp_leveling3. bin
Leveling4: bmp_leveling4. bin	Leveling5: bmp_leveling5. bin		



### Setting interface

File system: bmp_fileSystem. 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





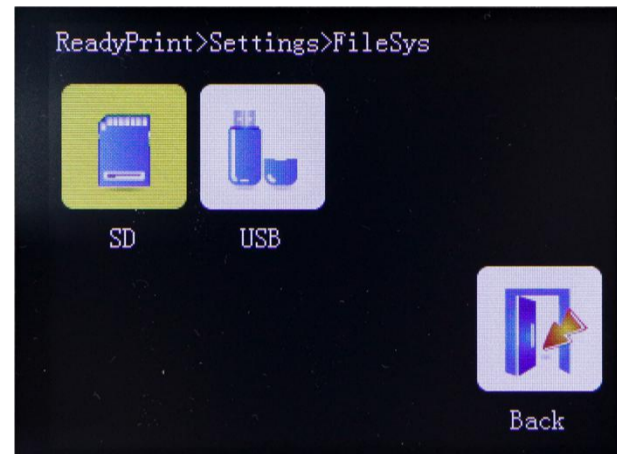
### Fan interface

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



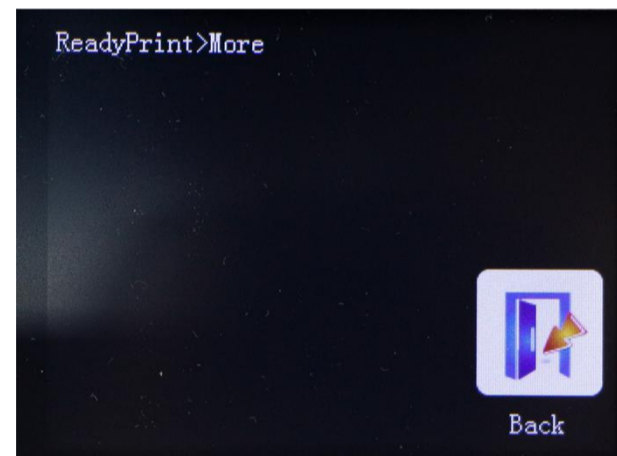
### File system interface

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



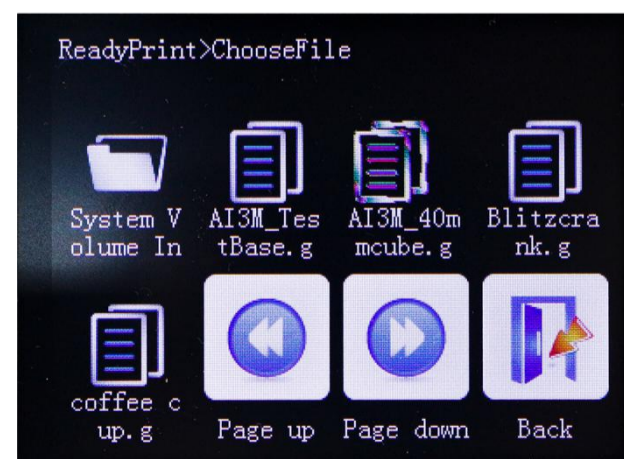
### more interface

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



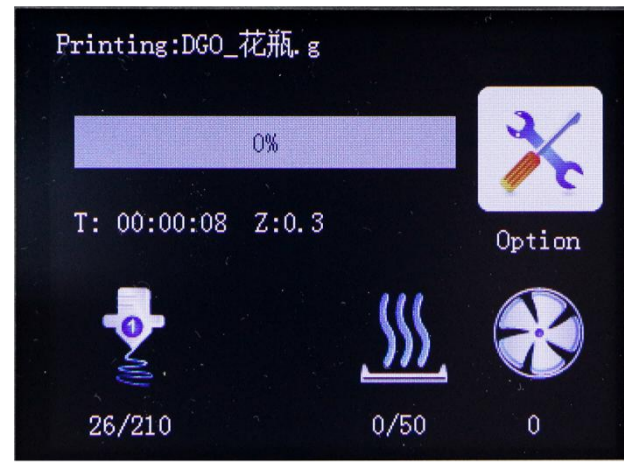
### choose file

File: bmp_ file.bin			
	Pageup: bmp_pageU p.bin	Pagedown: bmp_pageD own.bin	Return: bmp_return.bi n



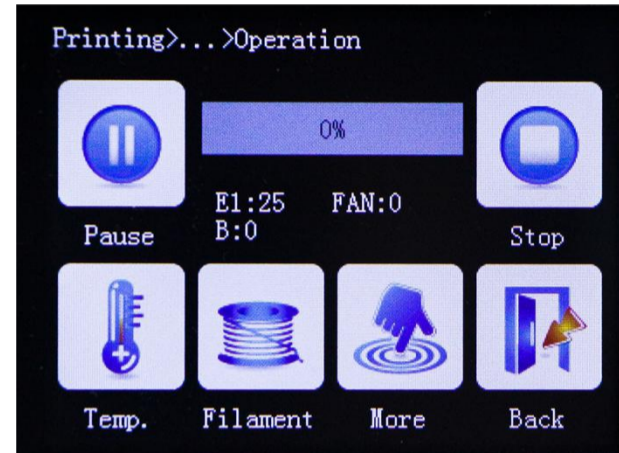
### Printing interface

			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



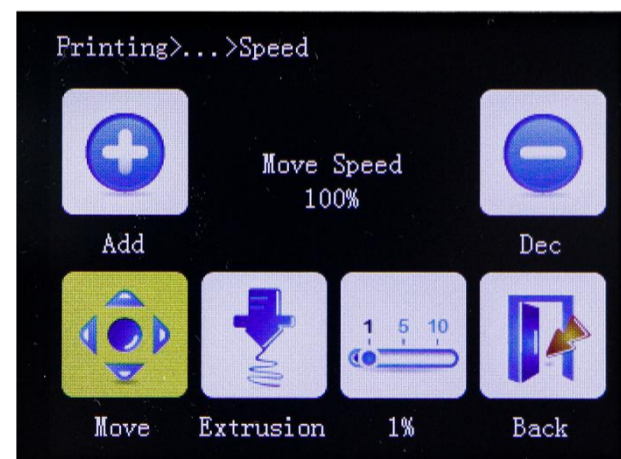
### Pause interface

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



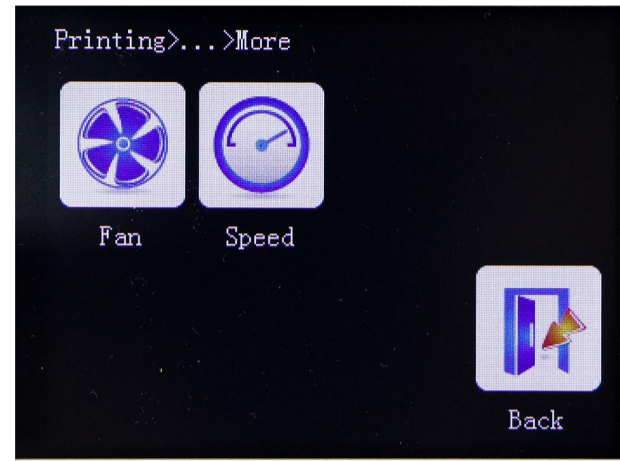
### Speed interface

Add: bmp_Add.bi n			Dec: bmp_Dec.bin
Move: No set: bmp_mov.bi n Set : bmp_mov_se l.bin	Extract: No set: bmp_extract .bin Set : bmp_extract _sel.bin	Step: 1mm: bmp_step1_m m.bin 5mm: bmp_step5_m m.bin 10mm: bmp_step10_ mm.bin	Return: bmp_return.bin



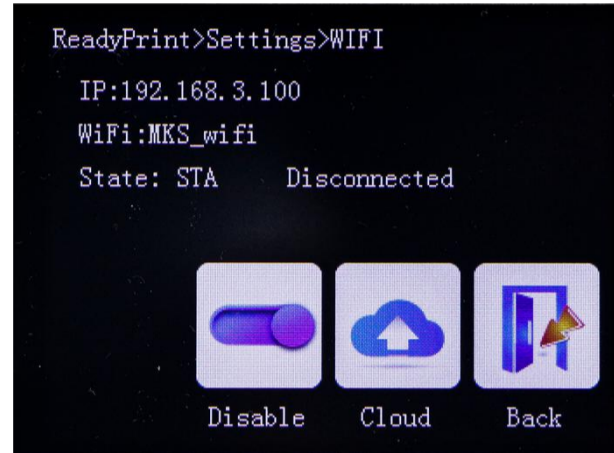
### More interface in pause printing

Fan: bmp_fan.bin	Filament change: bmp_filamentchange.bin	Auto off: bmp_auto_off.bin Maunal off: bmp_manual_off.bin	morefun1: bmp_morefun1.bin
morefun2: bmp_morefunc2.bin	morefun3: bmp_morefunc3.bin	morefun4: bmp_morefunc4.bin	Return: bmp_return.bin





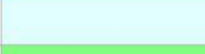



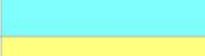









### Wifi interface

		Cloud: bmp_cloud.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		0xFFFFFFFF



## X I . 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