Makerbase

广州谦辉信息科技有限公司

Guangzhou Qianhui Information Technology Co.,Ltd.

MKS TFT70 **Touch Screen Manual**

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Document Version:1.0
Release date: 2018-5-25

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Firmware version update

Firmware version	Modified Time	Modify Content	Note
V1.0.0	2017.10	1. Initial version	

Directory

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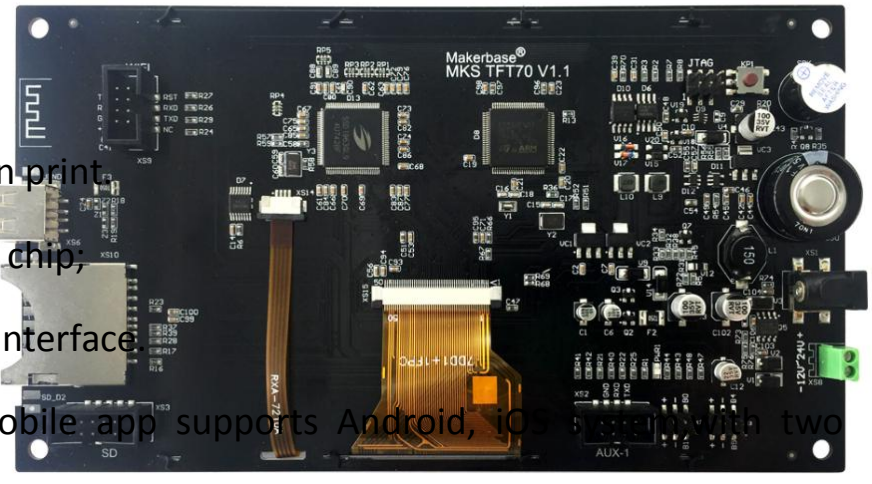
Ⅰ.Overview

MKS TFT7.0 is a product independently developed by the maker base to meet market demand.With 7.0-inch TFT touch screen and simple operation interface.Firmware can be easily upgraded via SD card and user interface can be customized,switching 7 languages online,previewing Gcode model image.It is suitable to manufacturers who mass production of 3D printers.

Makerbase

II Features

1. Support 7 Languages Online switching.
2. Support Preview File Model and show model picture in print.
3. Using 32-bit high-speed ARM chip as the main control chip;
4. With 7.0-inch TFT touch screen and simple operation interface.
5. Support wifi,it can be controled by app or web.Mobile app supports Android, iOS system,with two versions in Chinese and English.
6. Upgrade configuration firmware by sd card, simple and convenient operation.
7. Boot logo and all buttons and other interfaces can be designed by yourself;A maximum of 13 directive functions can be customized.
8. 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.
9. Support for Marlin firmware, Repetier firmware, Smoothieware firmware.
10. Gcode Print to support Chinese filename.



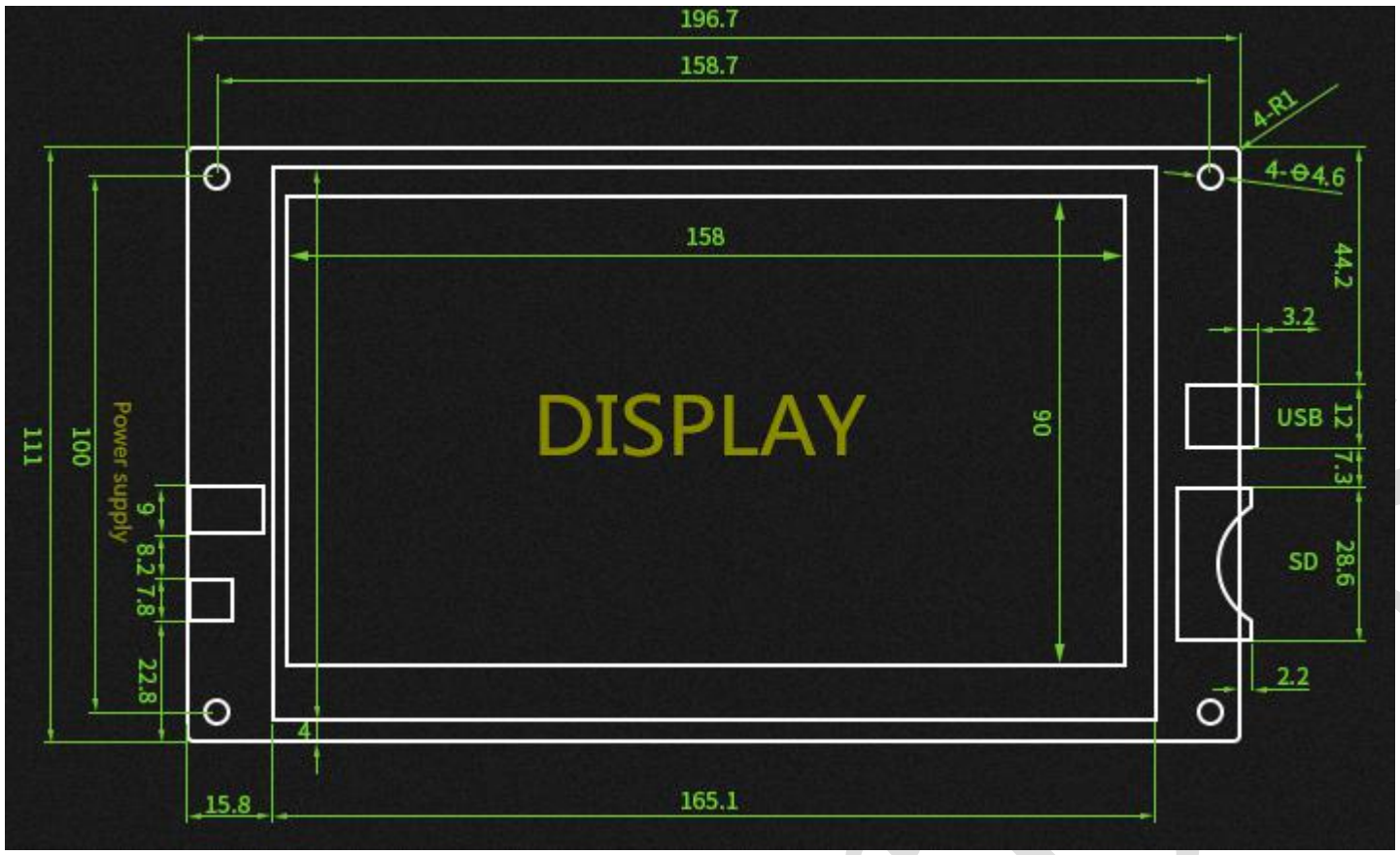
Ⅲ. The motherboard parameters

Motherboard model:	**MKS TFT7.0**	**microprocessor:**	**STM32**
Dimensions:	**196.7mm x 111mm**	**Mounting dimensions:**	**185.7mm x 100mm**
Input:	**12V~24V**	**touch screen:**	**7.0 inch**
Print file format:	**G-code**	**Firmware update:**	**SD card**
Power off recovery：	**support**	**Filament detecting：**	**support**
Auto off after print finish：	**support**	**Model preview ：**	**support**
Breakpoint recovery：	**support**	**External power supply：**	**yes**

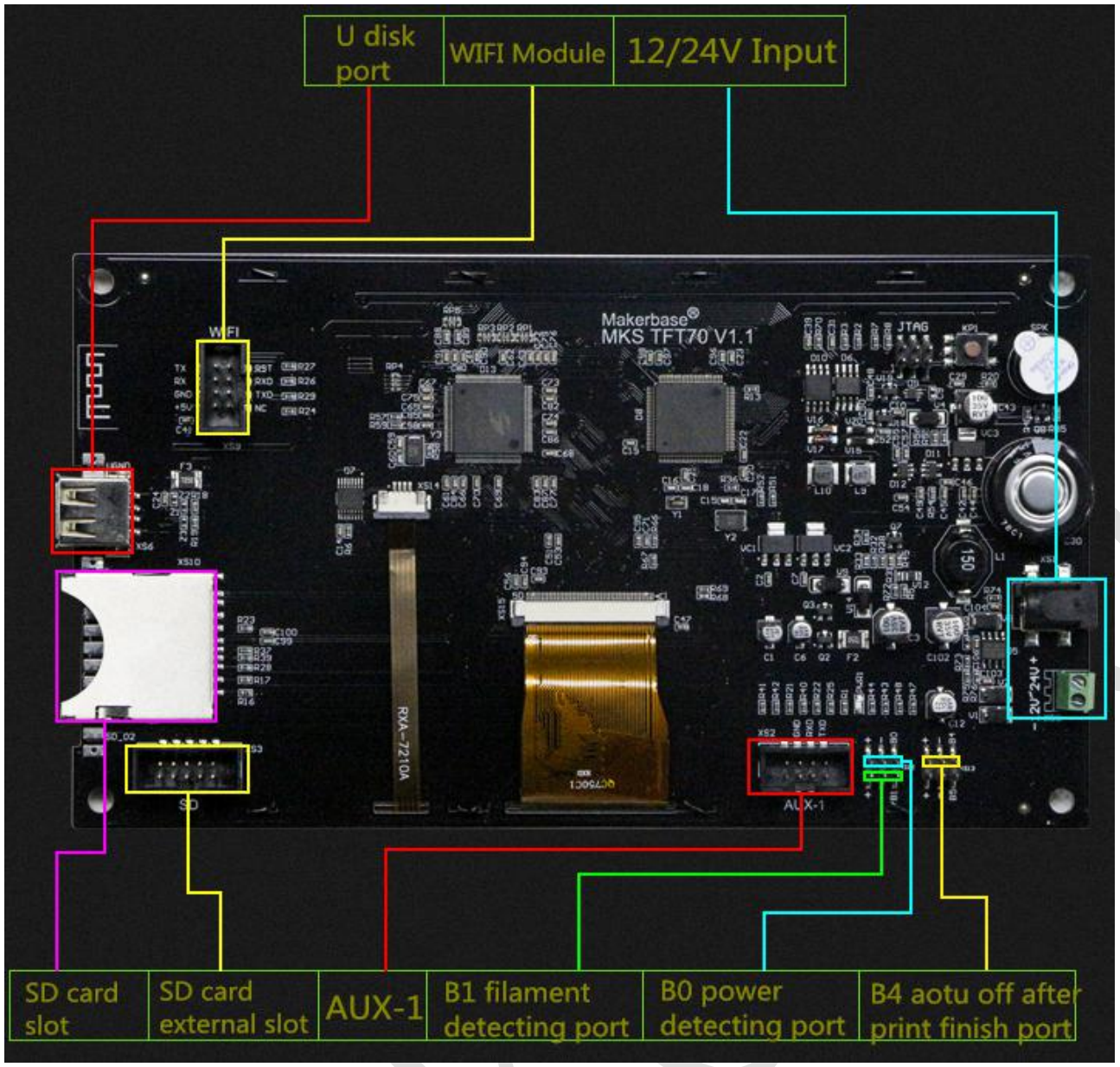
Ⅳ . Port Instructions

4.1 MKS TFT7.0 Front

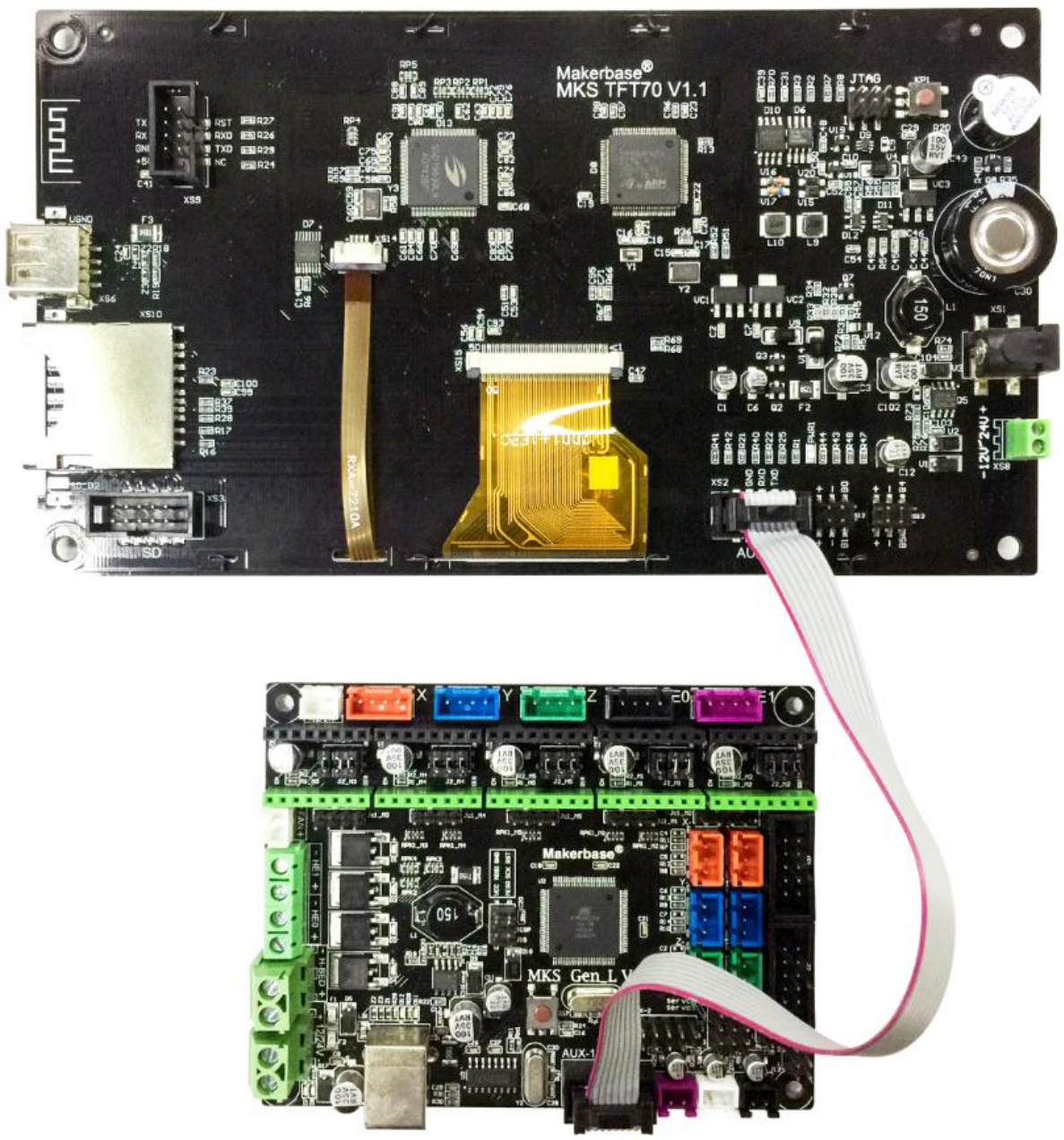
4.2 MKS TFT7.0 Installation Dimensional Drawing



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 TFT7.0 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

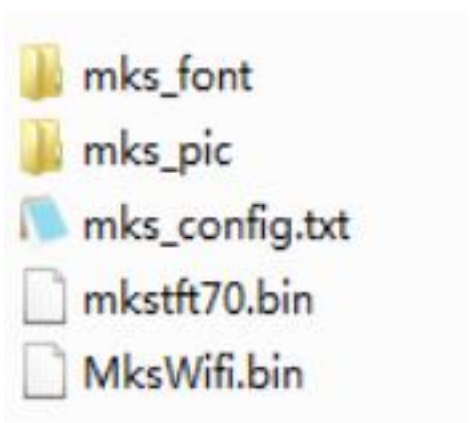
Mks_pic

Mks_config.txt

Mks_tft70.bin

Mks_WiFI.bin

As figure



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 Pwer-on 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.

6.2 Multiple language Settings

Currently, languages can support 7 national languages, 1: Simplified Chinese, 2: Traditional Chinese, 3: English; 4: Russian; 5: Spanish, 6: French, 7: Italian.

Enable the difference between multiple languages:

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 7 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
```

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
```

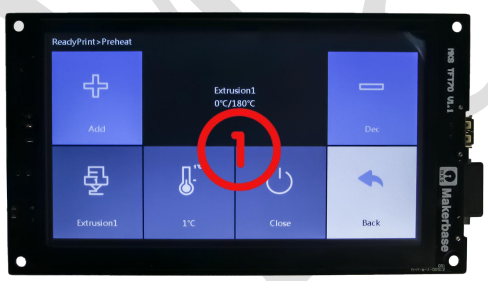
6.5 Breakpoints recovery

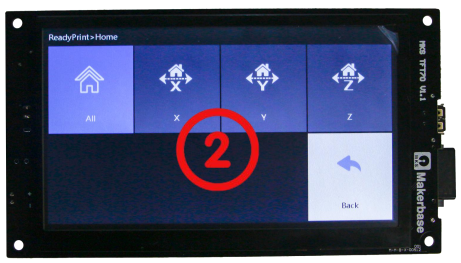
When you spend most of your time printing a model, the careless error operation causes the print to stop, but does not want to waste the printed model. Then you can use the breakpoint to continue to play the function, save your beloved model. The following illustration requires that you follow these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

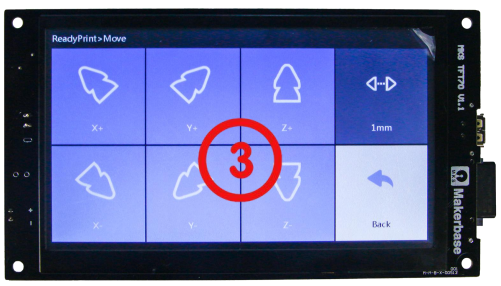
1. First click “Preheat”, the extrusion head and hot bed target temperature set (no hot bed can ignore the hot bed target temperature).as Figure 1
2. When the temperature reaches the target temperature, click “homing”, choose to homing, so that the axes are back to home point.(Attention:Model printing 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.

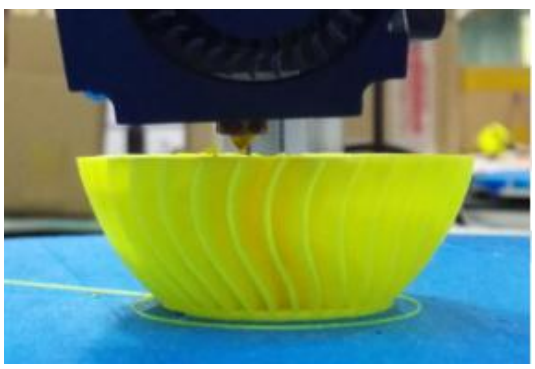
(After selecting the model, the larger the model, the more complex it is, the longer it waits here.)

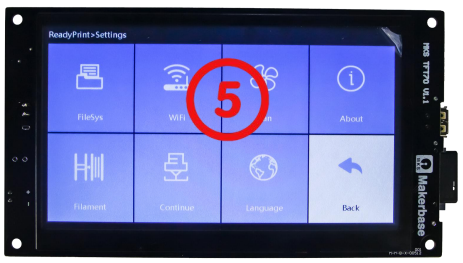
The steps of breakpoints recovery:

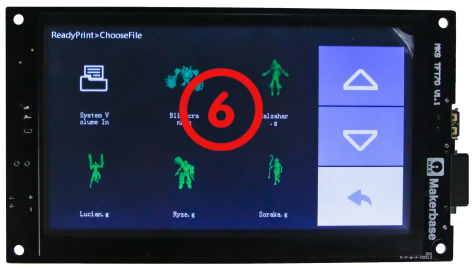












6.6 Save the gcode data with power off

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

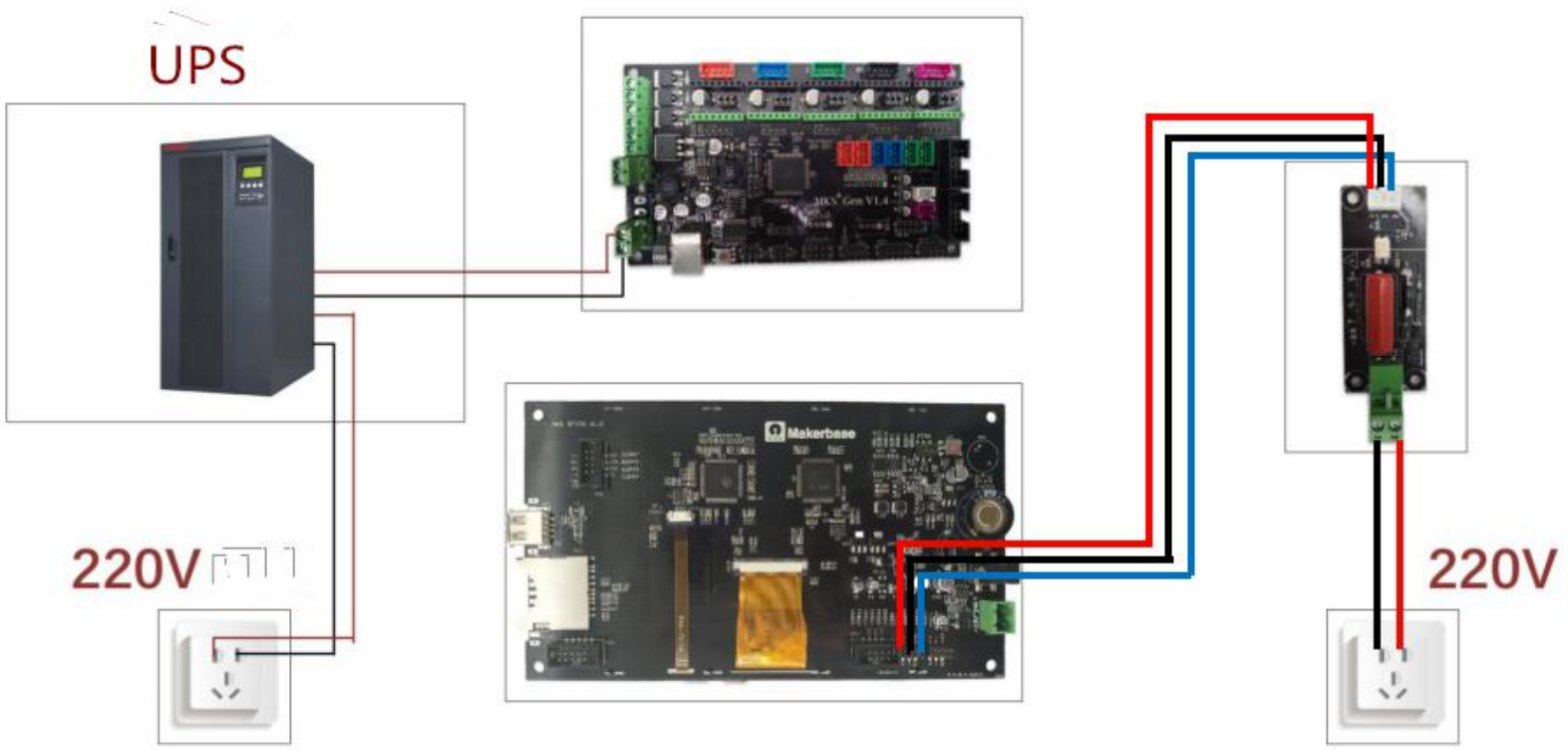
1. No UPS Power

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 PB0, negative positive connection -and + two pins blow the PBO.

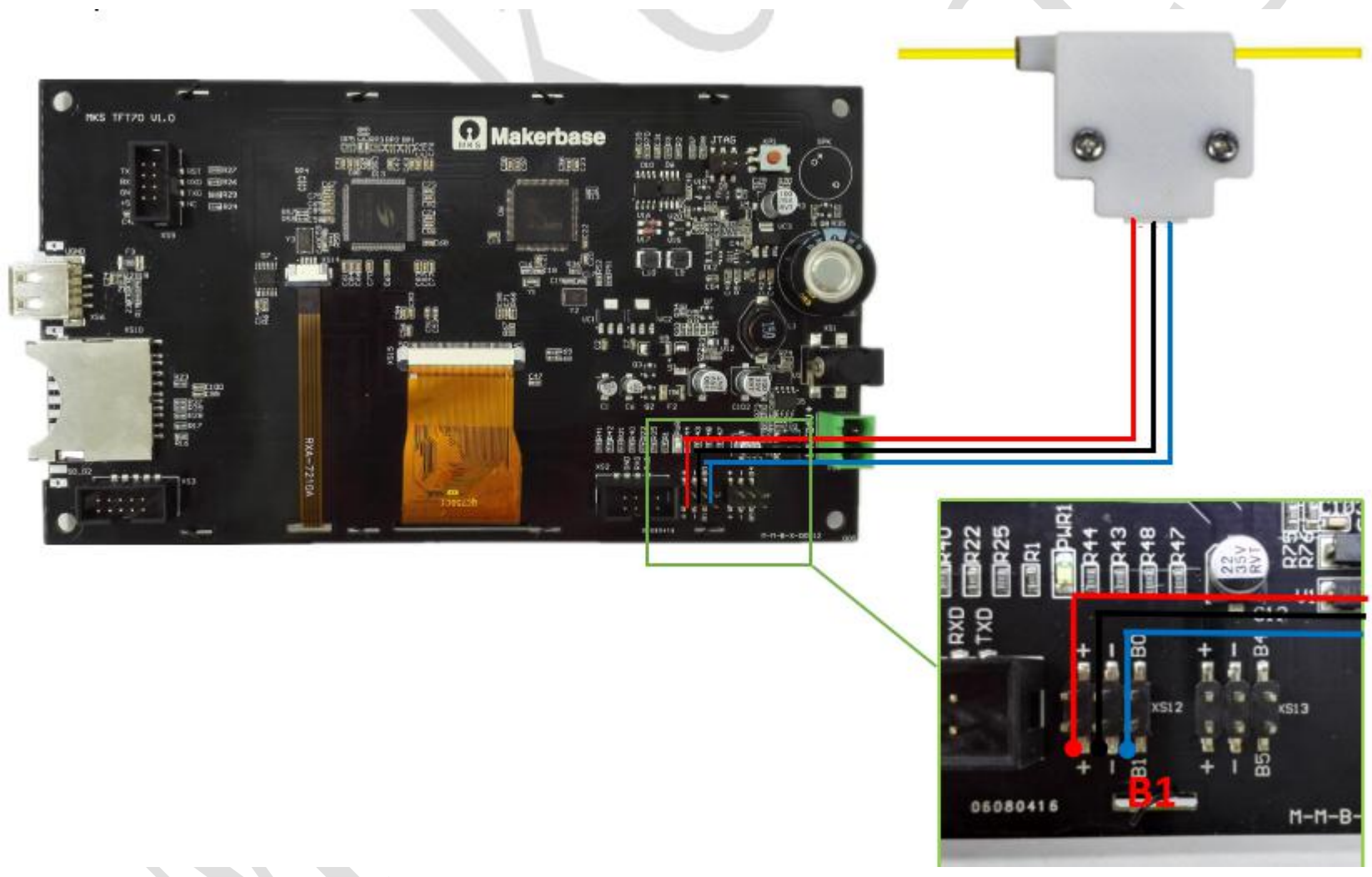
2.2 When the system loses power, the Power detection module informs the touch screen to enter the suspend printing state, UPS power supply. Leave the print head out of the model.



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

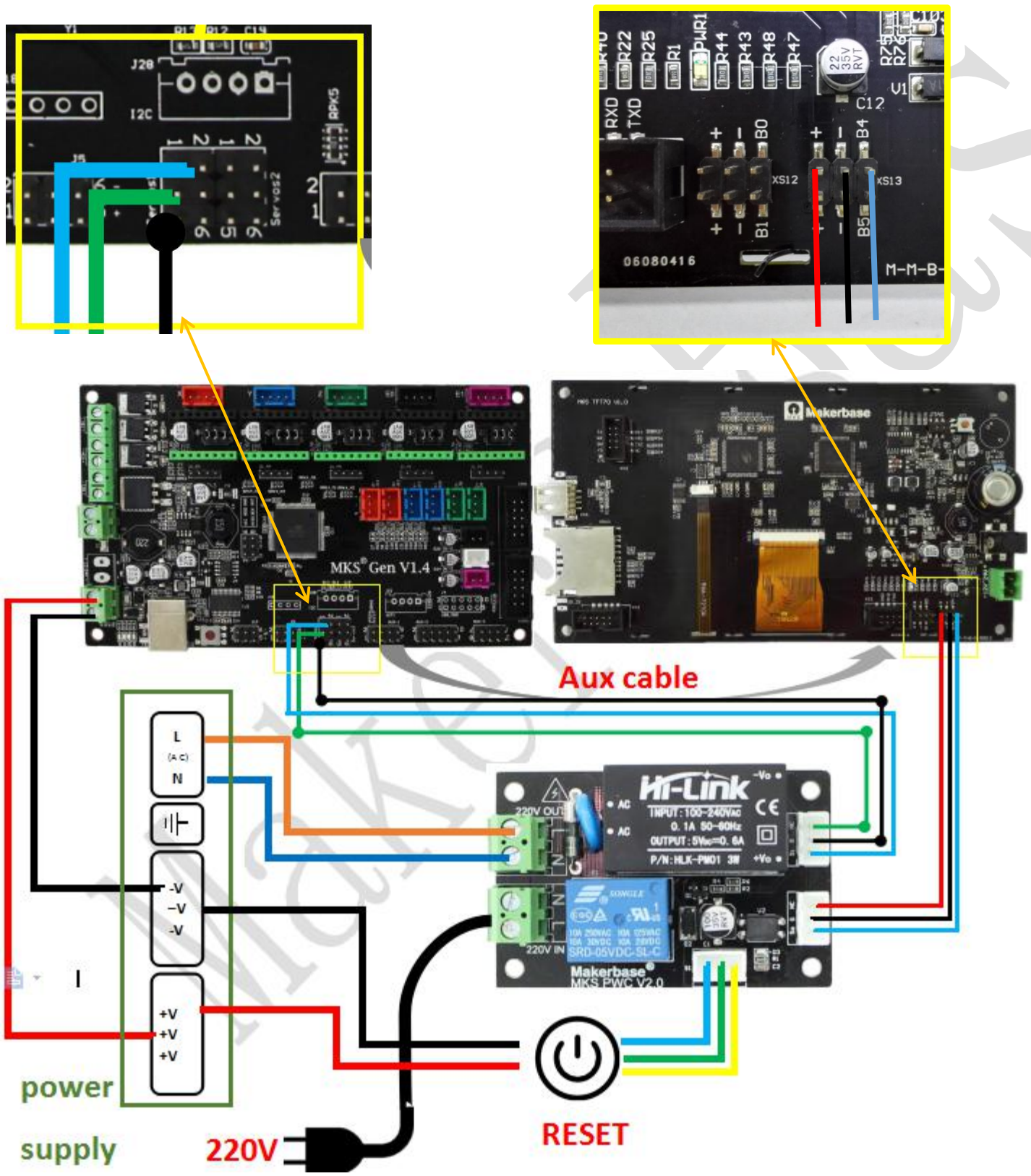
```
#set PB1 signal (high level:1; low level:0)
>cfg_PB1_trigger_Level:0
```



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.

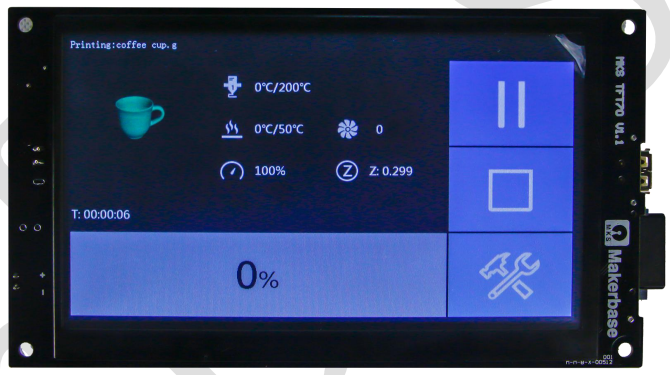
#enable auto off after print finish function (no:0; Yes:1)
>cfg_print_finish_close_Machine:0



6.10 Preview Print Model features

There are two ways to implement a model preview MKS TFT7.0

NO.1 The model that is sliced out using the MKS host slicing software developed by the makerbase has a preview function, as figure.(MKS Host installation Information and instructions can be consulted customer service, technical support to obtain, or download in the makerbase group.)



NO.2. The cura slicing software installs the MKS Plugin (plug-in) developed by the makerbase, its sliced model also has the preview function, the preview effect is shown in the following figure.(MKS plugin installation Information and instructions can be consulted customer service, technical support to obtain, or download in the makerbase group.)

Ⅶ .The network printing function

MKS TFT70 Need to use MKS TFT-WIFI to achieve network printing.

7.1 Introduction to Print Mode

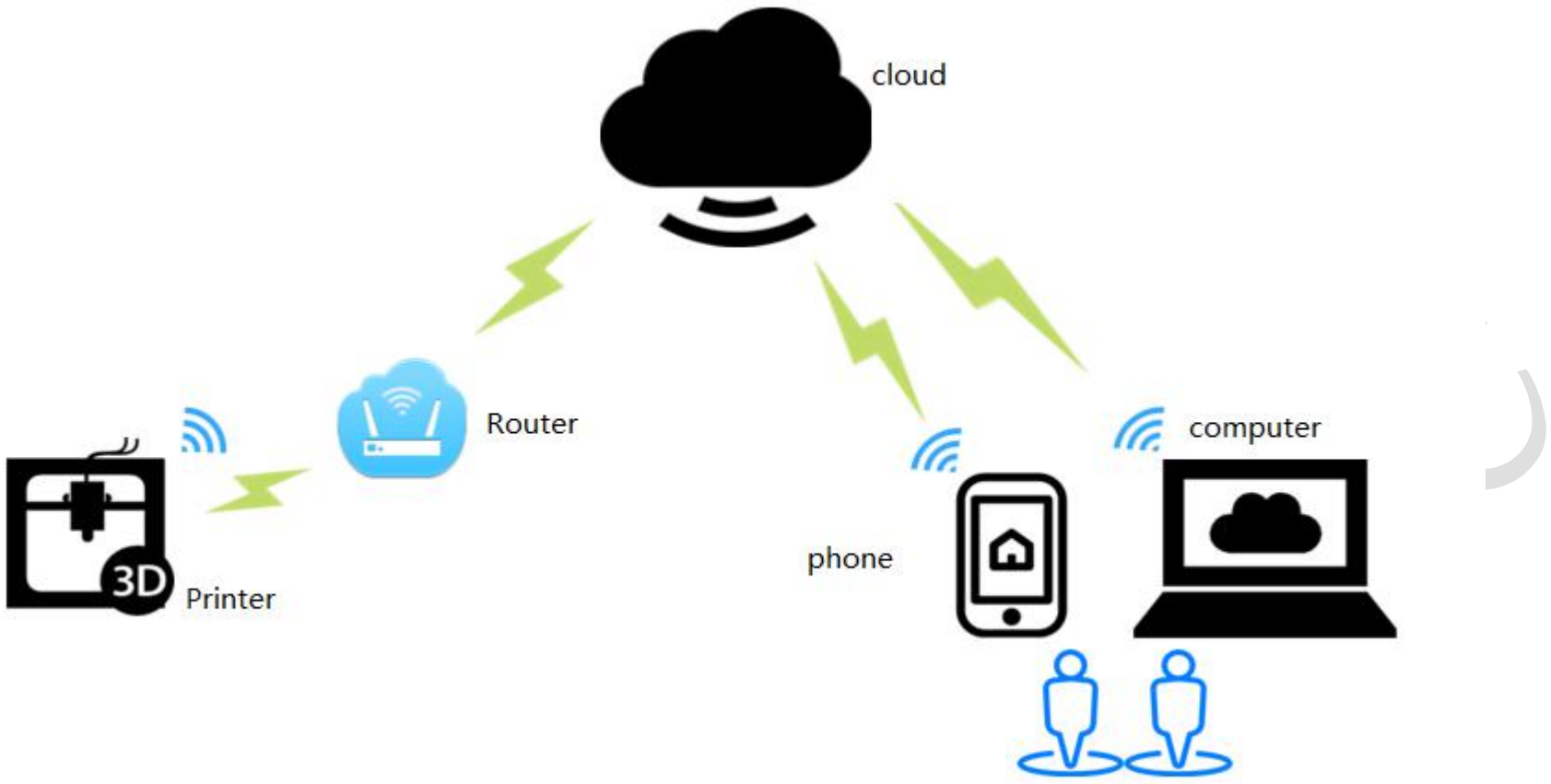
1. Cloud Print Mode: Recommended for use in a WiFi router environment with Internet access. Once you have a network connection to the WiFi module, the printer becomes the online printer on the cloud.Access to the app or control printer anywhere in the world. can also be in the local area network through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

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

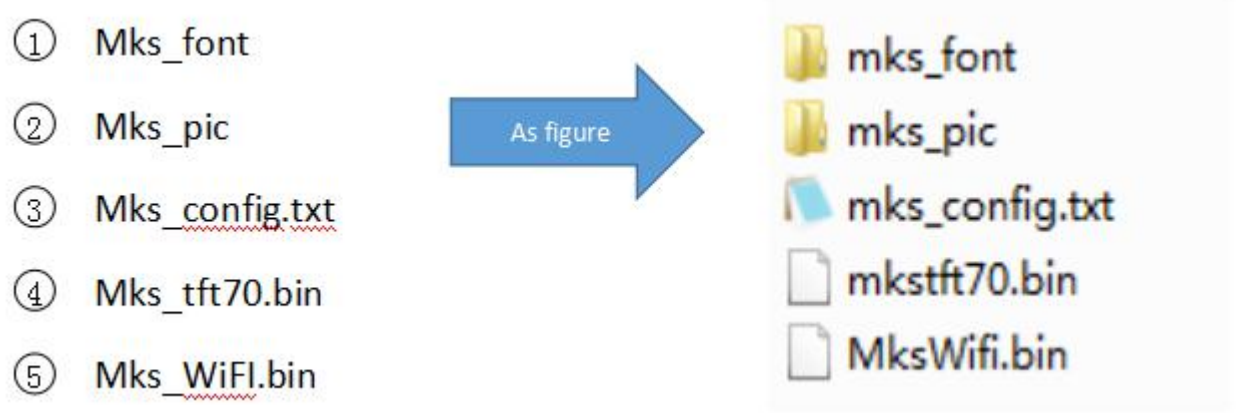
The WiFi configuration options in the configuration file are shown in the following table:

Mks_config.txt	Description
#wifmodel(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:



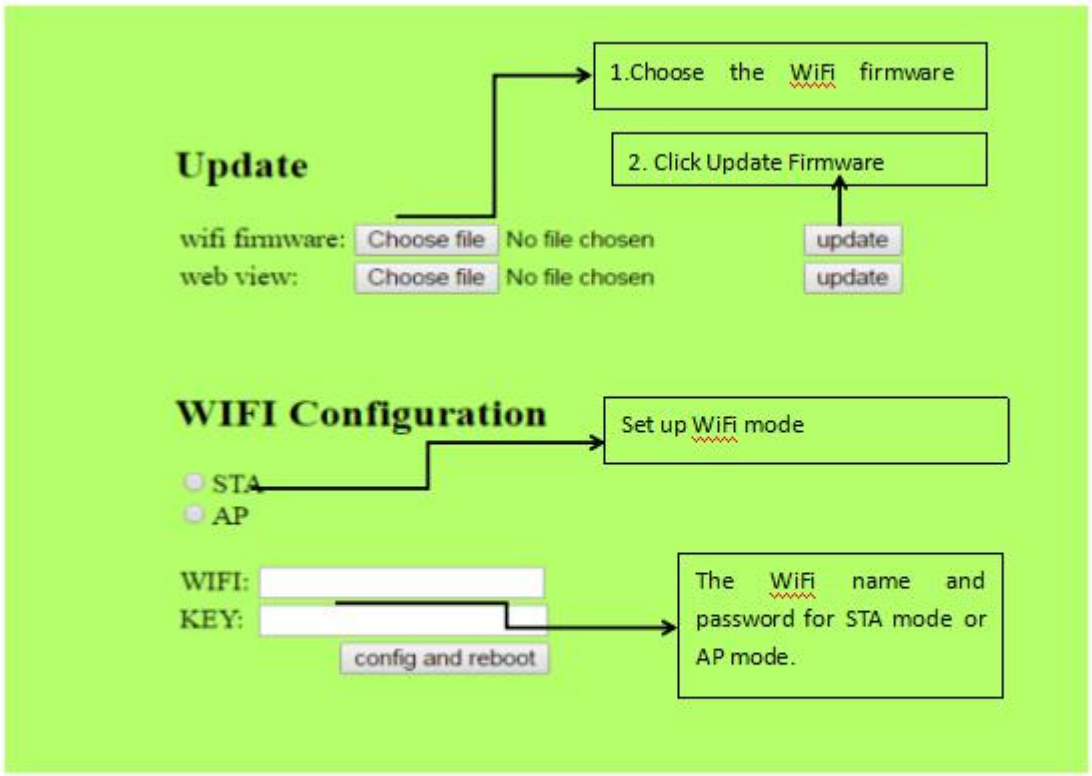
3.2 Update Considerations

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;

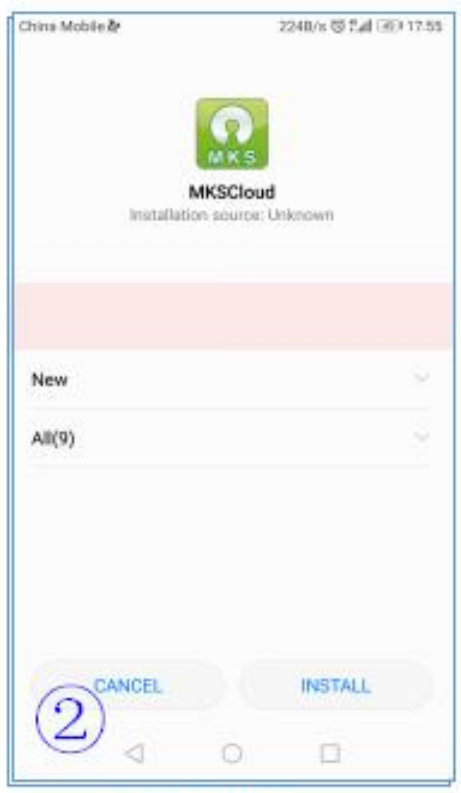
C. The current motherboard firmware and WiFi firmware version number can be viewed in the about.

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:

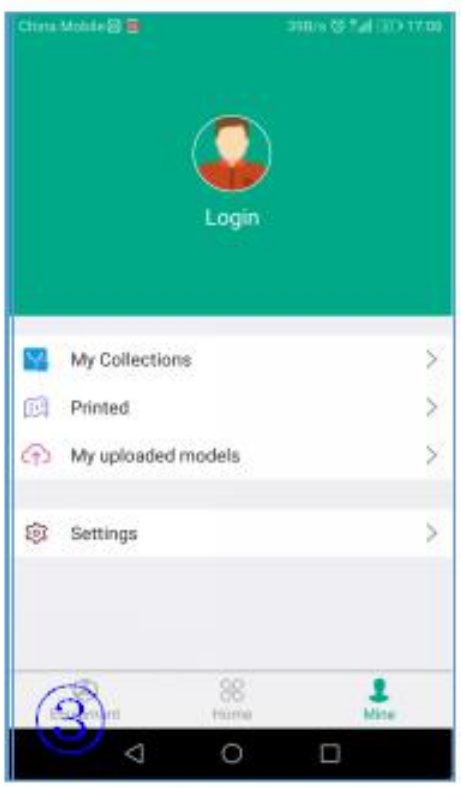


4 .APP print

Download MKSCloud App



Installation

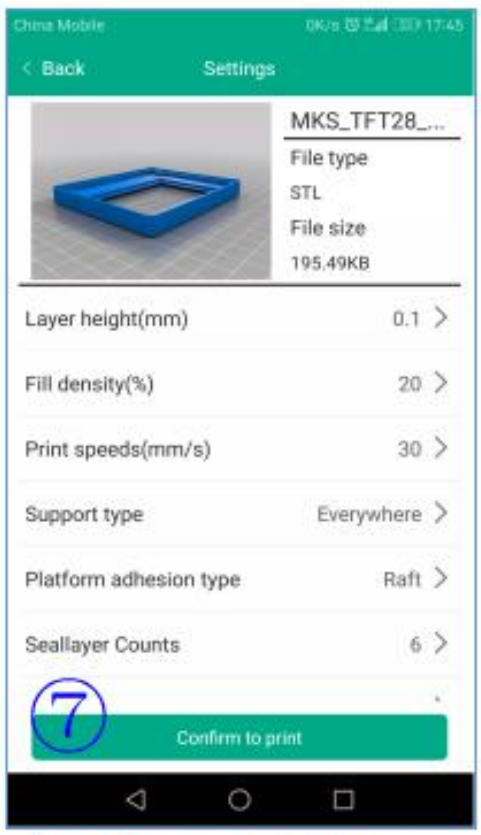


login

Model Preview Interface

Printer bindings

Add Printer page



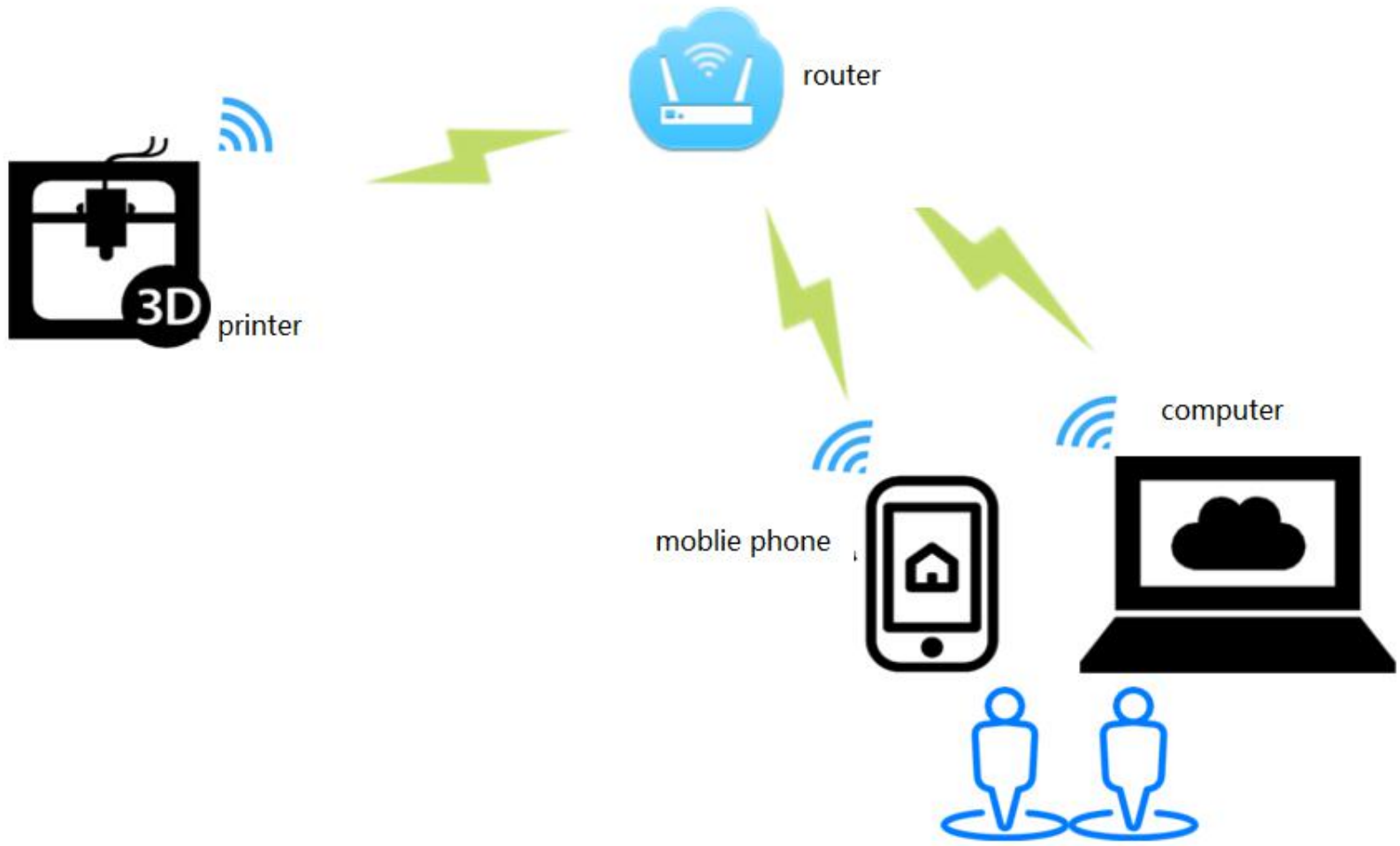
Adjust the Print Parameters page

Printing pages

Print complete

7.3 LAN Print mode

1.Network Diagram



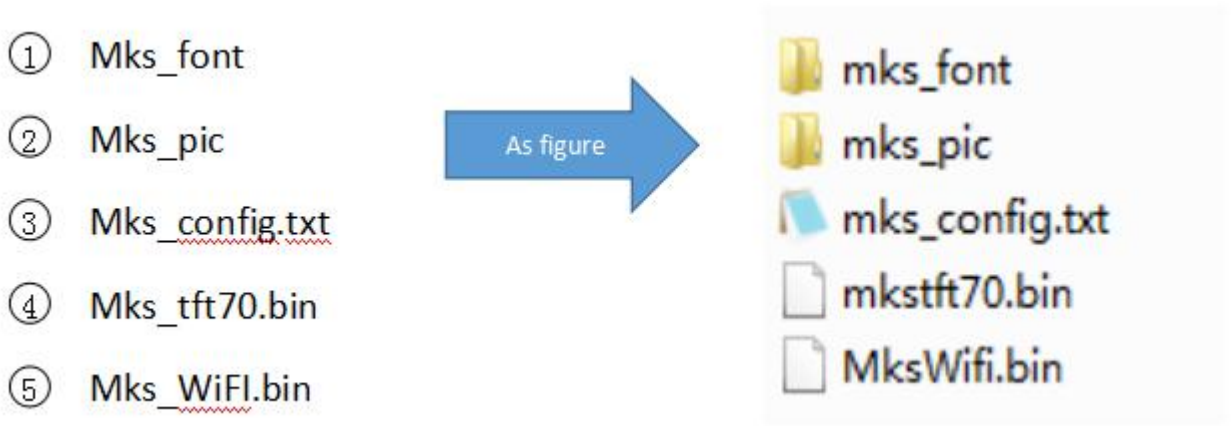
Features: Can control printer in LAN

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
#wifmodel(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.



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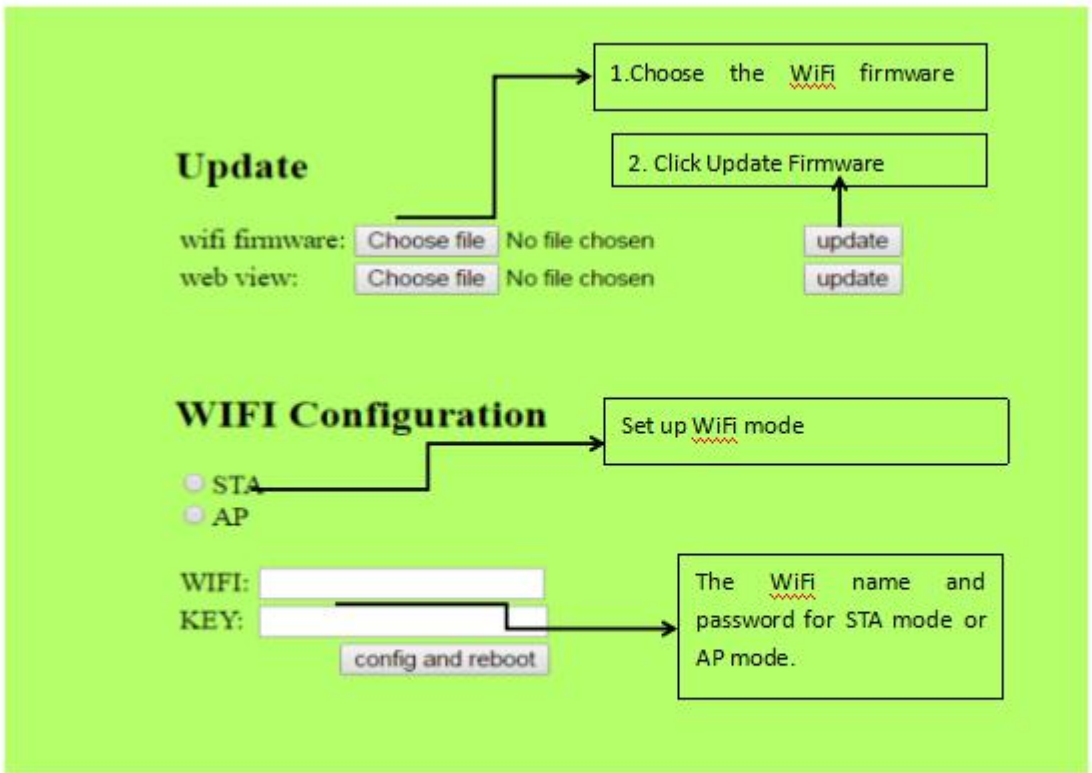
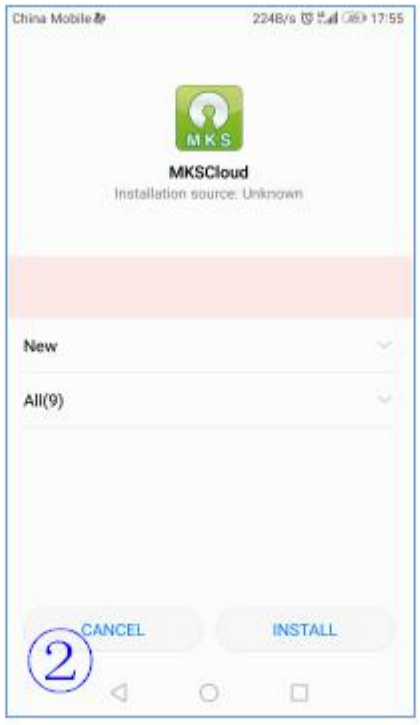
The current motherboard firmware and WiFi firmware version number can be viewed in the about.

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:

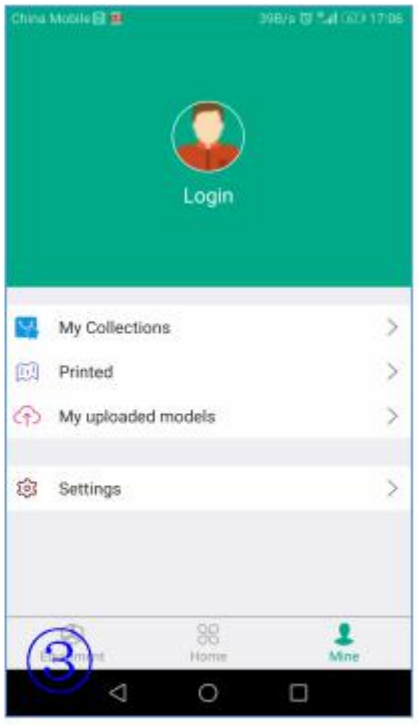


4 .APP print

Download MKSCloud App



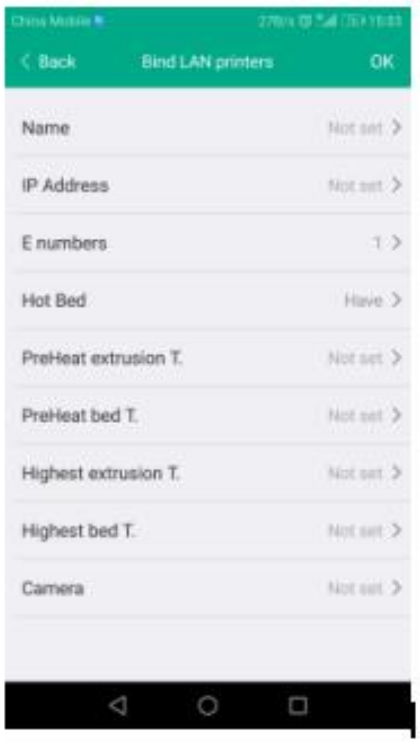
Installation



login

Printing interface

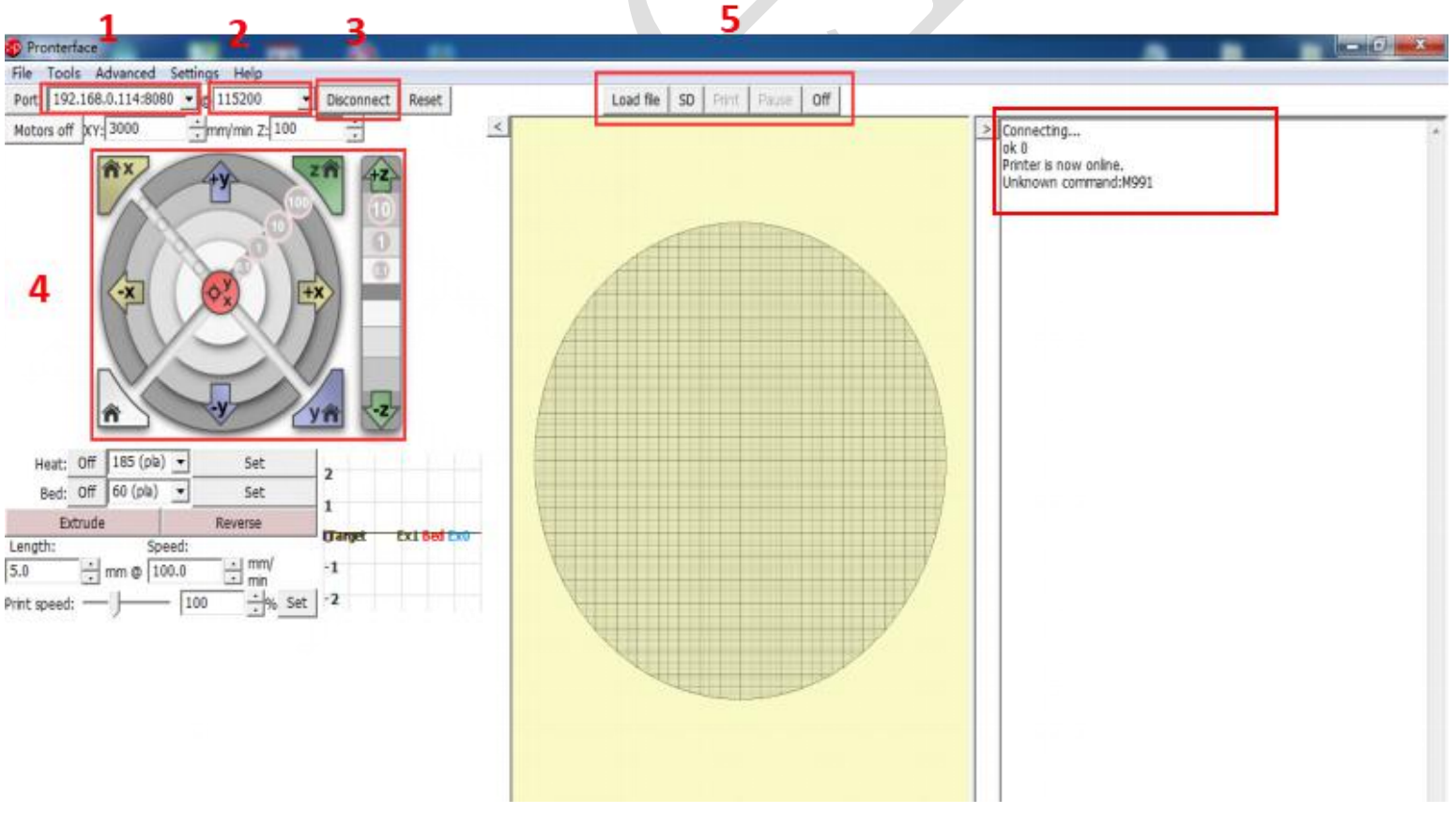
choose the file



add the printer

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: 192.168.0.114:8080;

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.

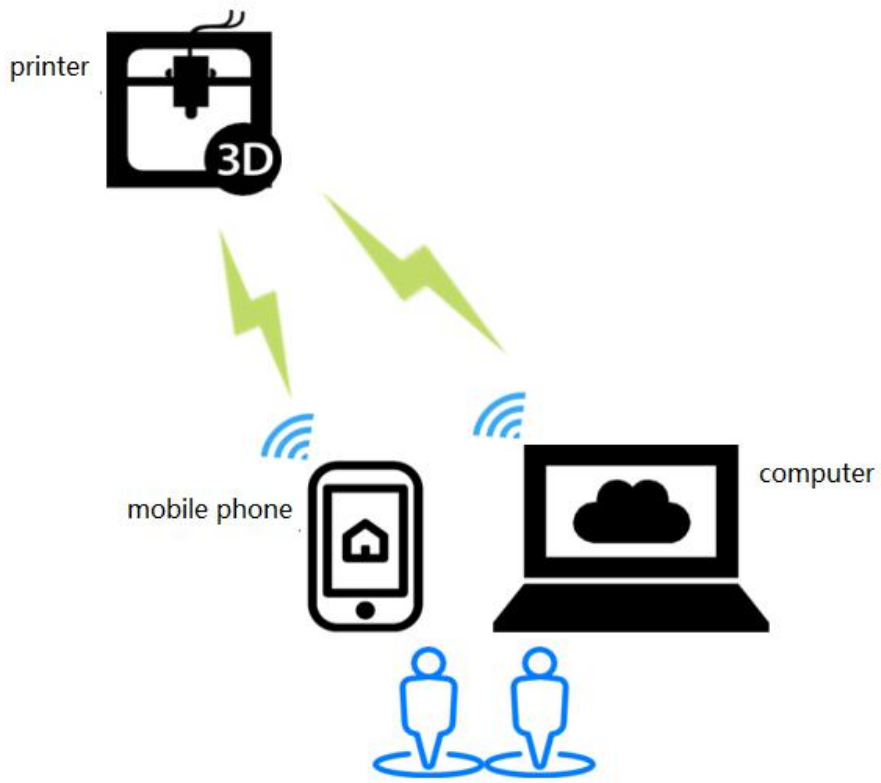
After the icon color becomes darker, the connection is successful;

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.

7.4 AP print mode

1. Network Diagram:



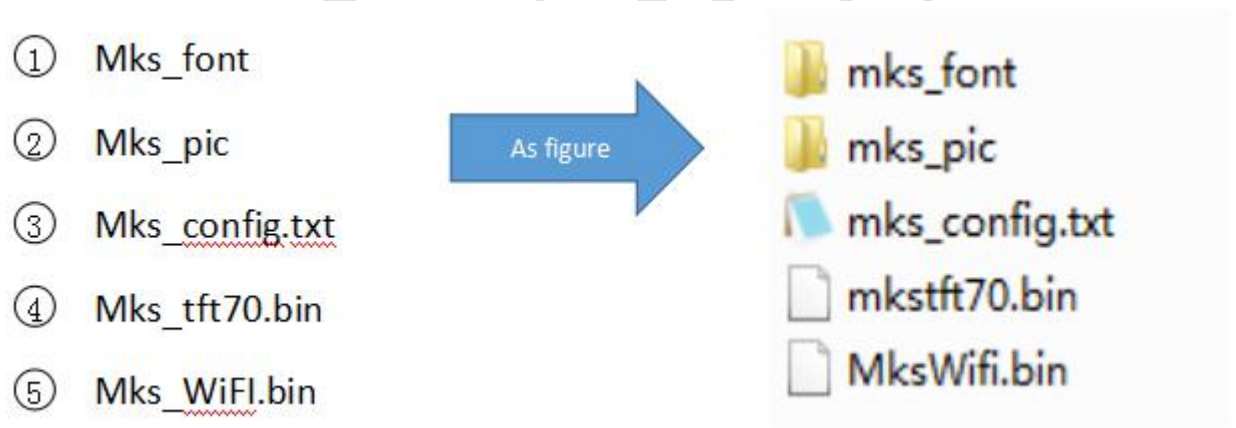
Features: WiFi module will produce hot "mkswifi-xxxx" (open hotspot, no password), you can access the Hotspot control printer.

2. WiFi configuration

lite_cfg.txt	Description
#wifi mode(0:sta;1:ap) >CFG_WIFI_MODE 1	Set WiFi mode to AP mode
#wifi name >CFG_WIFI_AP_NAME MKSWIFI	Set the WiFi name to the name of the WIFI module you want to connect to
#wifi password >CFG_WIFI_KEY_CODE MAKERBASE	Set the WiFi password to the wifi module 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:



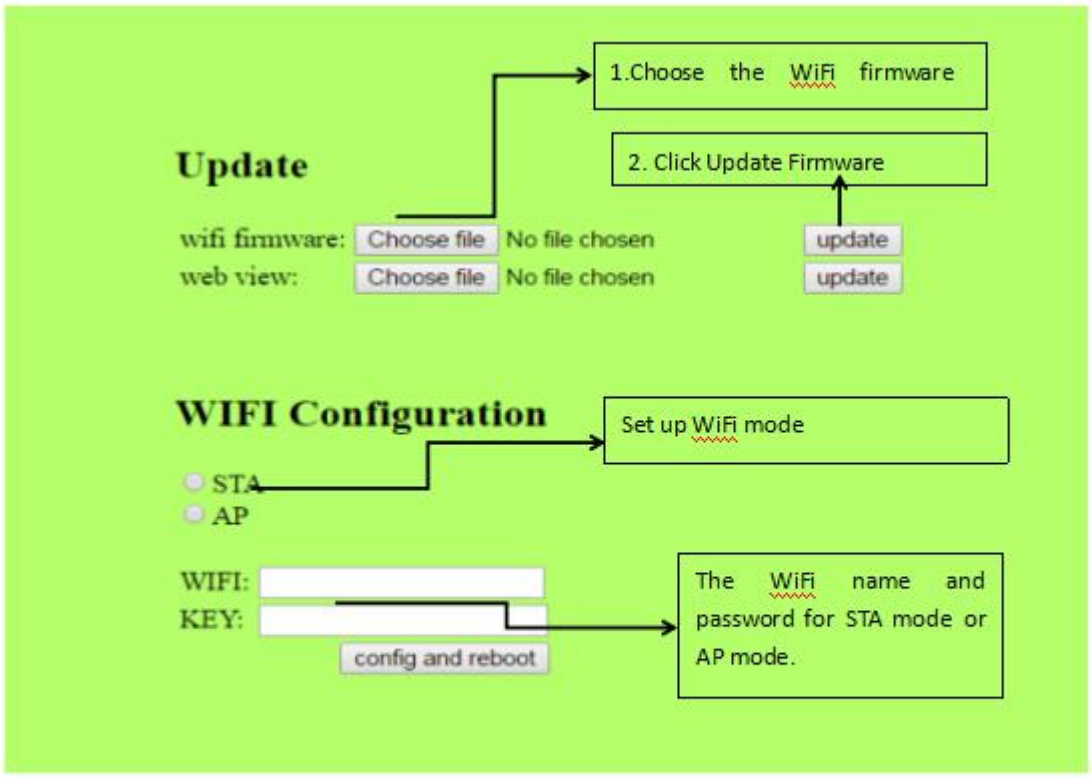
3.2 Update Considerations

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

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

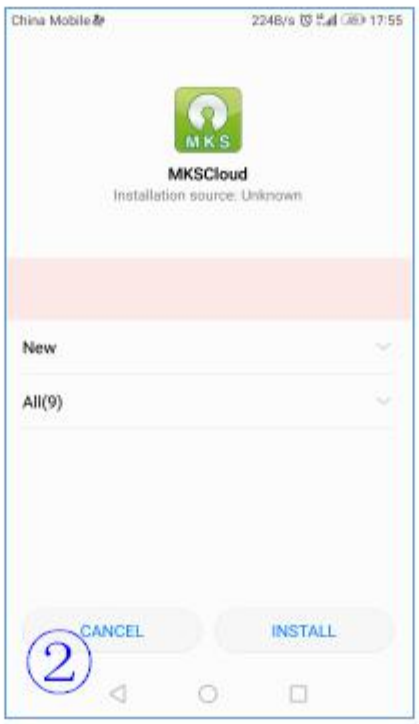
The current motherboard firmware and WiFi firmware version number can be viewed in the about.

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:

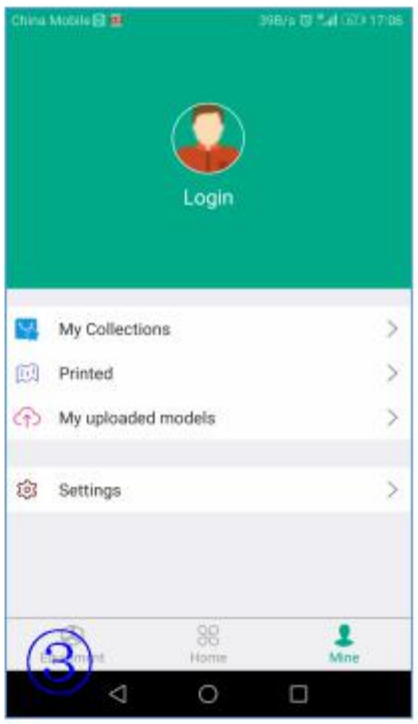


4 .APP print

Download MKSCloud App



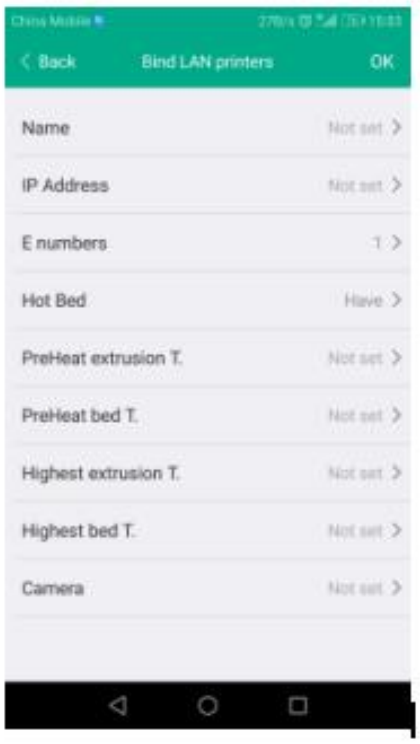
Installation



login

Printing interface

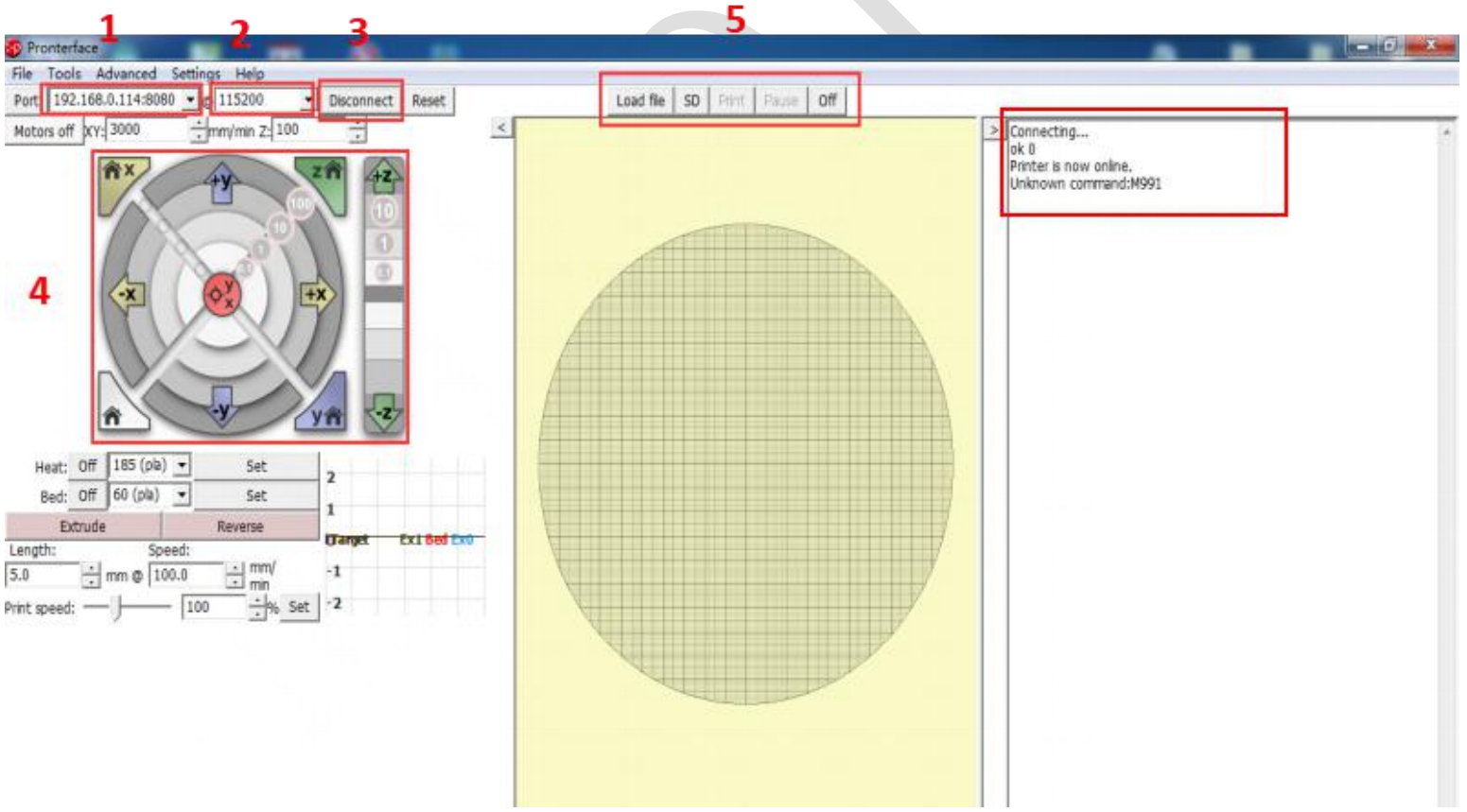
choose the file



add the printer

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: 192.168.0.114:8080;

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;

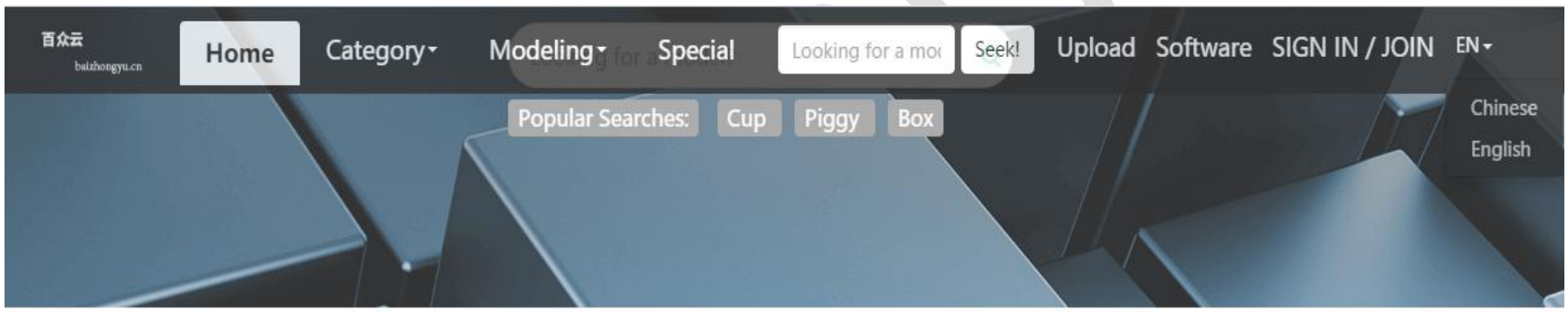
choose SD file printing or select the computer file printing (select the computer file printing is a command transmission printing, so the printing effect is not good, and unstable, do not recommend this method)

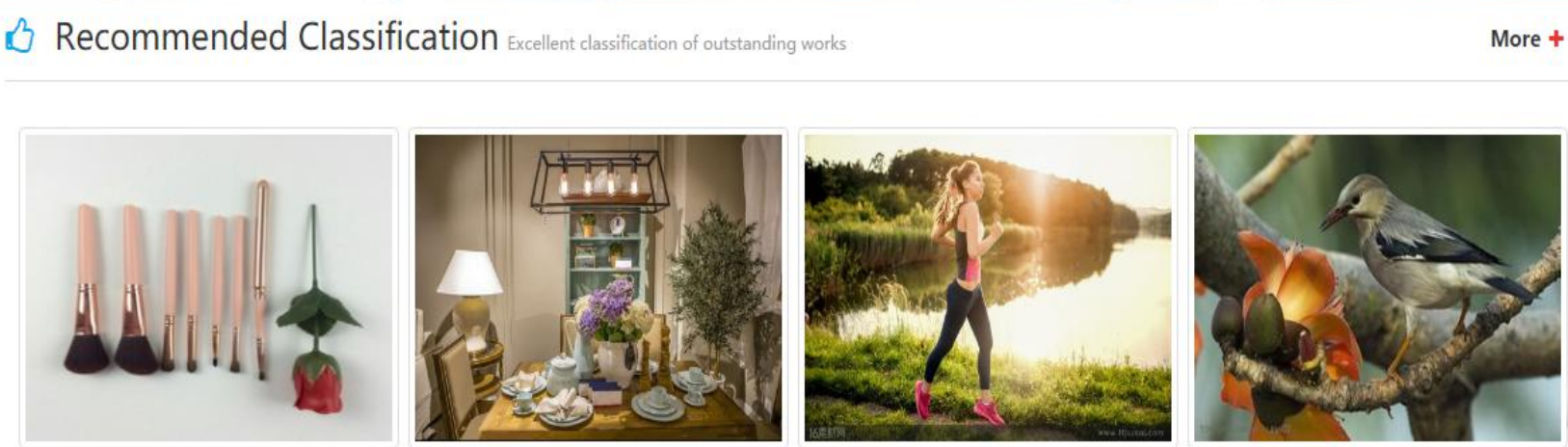
View information about the printer feedback.

7.5 Model Library Web site

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

Welcome small partners to upload their favorite models and use.





Ⅷ .TFT touch Screen User interface configuration

8.1 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);

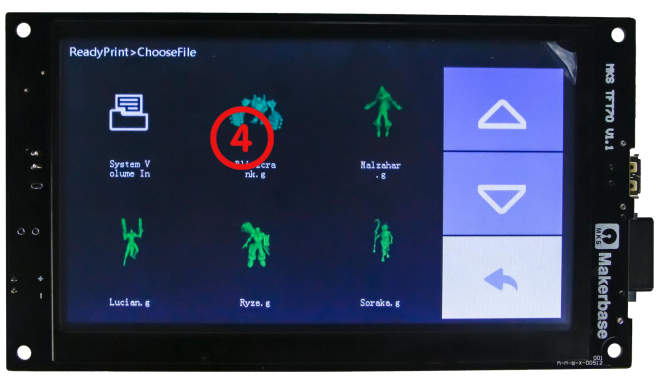
G. " Select the file interface, the font color of the file name (see figure "7", the default white);

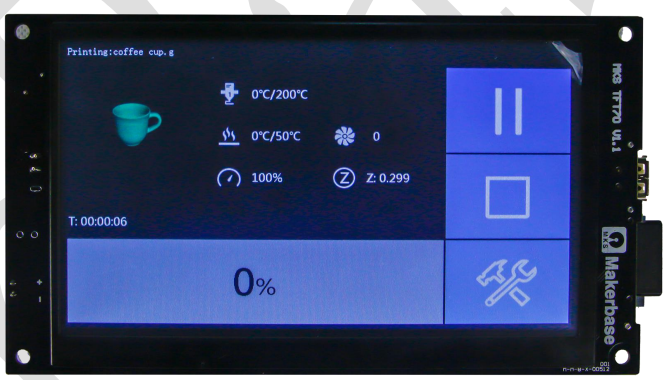
H. " Select the file interface, the font background color of the file name, and suggest the same color as the picture;

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 =800 pixel, high =480 pixel;

(2) Custom button picture, 16DPP, wide =100 pixel, high =100 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;

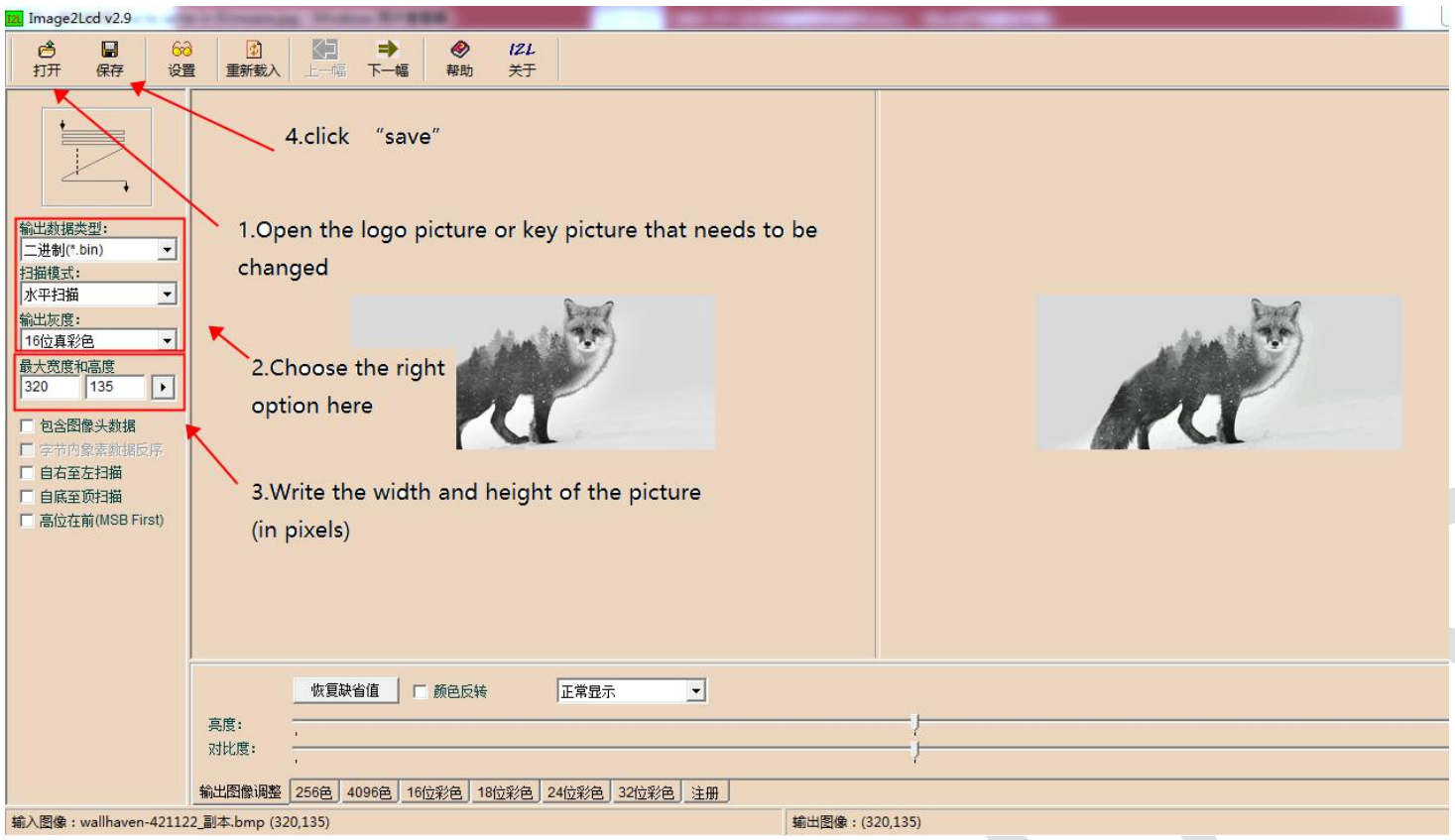
8.2 . Steps

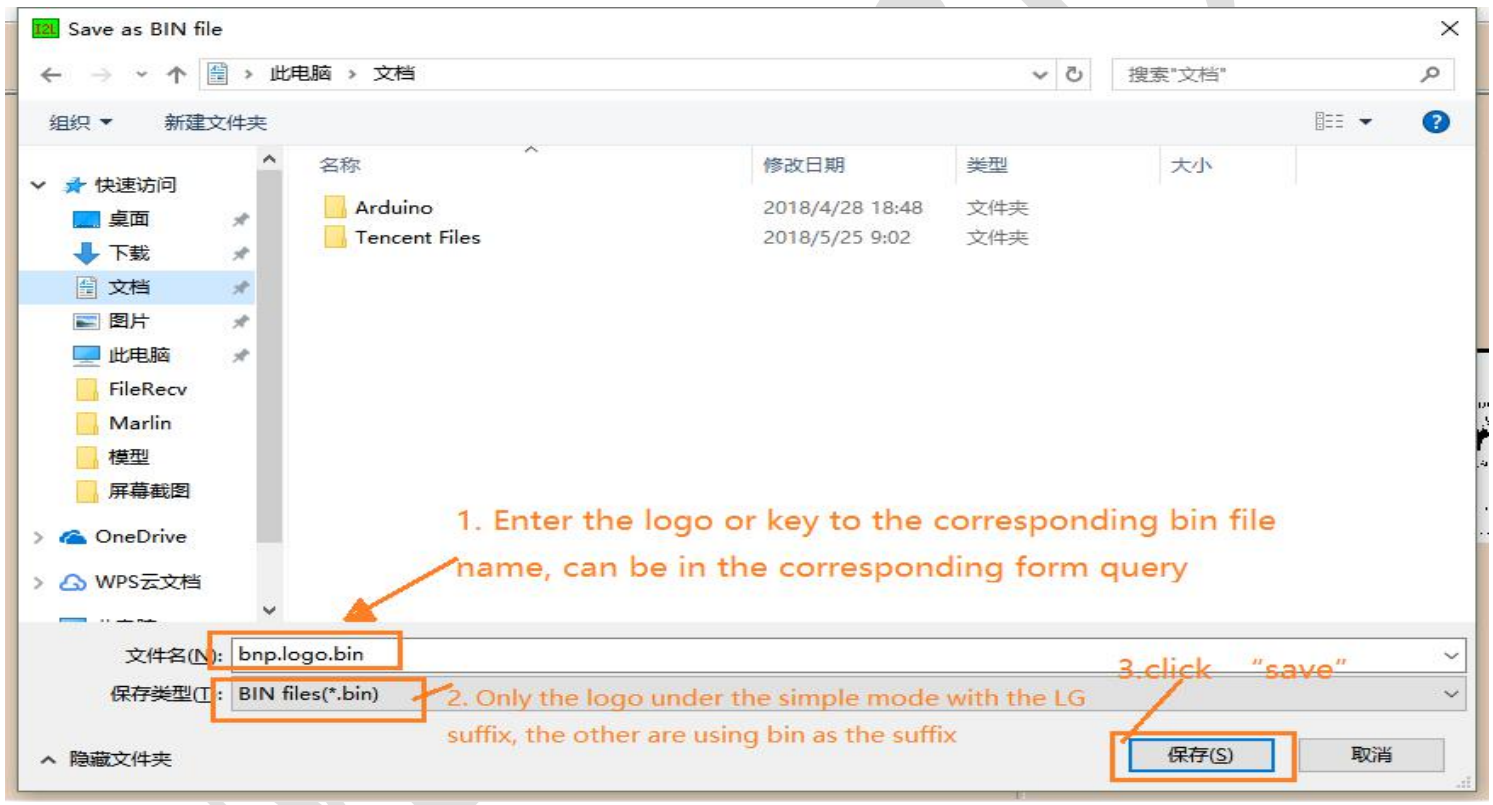
1.1 Preparation Tools

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

8.3 Name of logo and button picture

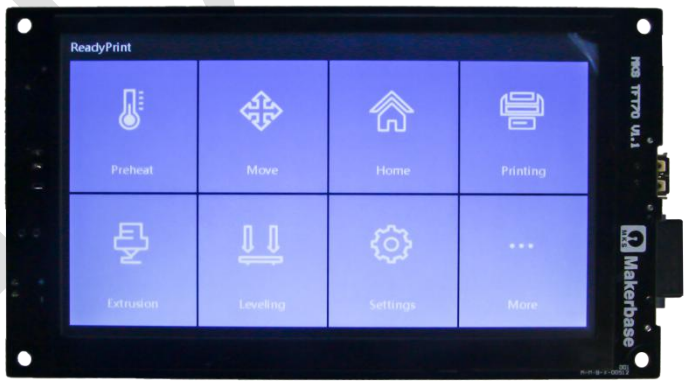
Picture naming rules (note that some pictures are duplicated, just provide one)

Power-on logo.

bmp_logo.bin

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



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 度: bmp_step5_degree.bin 10 度: bmp_step10_degree.bin	close: bmp_speed0.bin	Return: bmp_return.bin

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

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

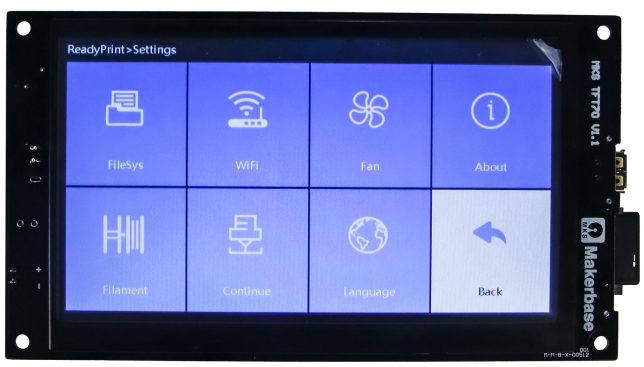
simplified_cn: bmp_simplified_cn.bin simplified_cn: bmp_simplified_cn_sel.bin	_traditional_cn.: bmp_traditional_cn.bin traditional_cn.: bmp_traditional_cn_sel.bin	english : bmp_english.bin english : bmp_english_sel.bin	russian: bmp_russian.bin russian : bmp_russian_sel.bin
spanish: bmp_spanish.bin spanish: 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

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_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			Pageup: bmp_pageUp.bin
			Pagedown: bmp_pageDown.bin
Directory: bmp_dir.bin			Return: bmp_return.bin

Printing interface

			Pause: bmp_pause.bin
			Stop : bmp_stop.bin
			Option : bmp_menu.bin

option interface

Temperature ： bmp_temp.bin	Fan ： bmp_fan.bin	Chance fliament: bmp_filament.bin	Speed ： bmp_speed.bin
More ： bmp_more.bin			Return ： bmp_return.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