



# Makerbase

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## MKS Robin Lite Motherboard Manual

MAKER BASE

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## Firmware version update

Firmware version	Modified Time	Modify Content	Note
V0.0.1	2017-10	Initial version	
V0.0.2	2017-12	Modified the Hardware section	
V0.0.3	2018-02	Slow down the refresh rate on the LCD	
V0.0.4	2018-05	1. Perfect Chinese display; 2. Repair Stop printing fan does not close the problem;	

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# I .Overview

MKS Robin lite is a product developed by MKS to meet market demand. Configuration of the firmware method is simpler, and with LCD12864 or MINI12864 screen,.support both Chinese and English languages.It is a high price-performance product .It is suitable for low cost, small size, small models of 3D printer manufacturers use.

## II Features

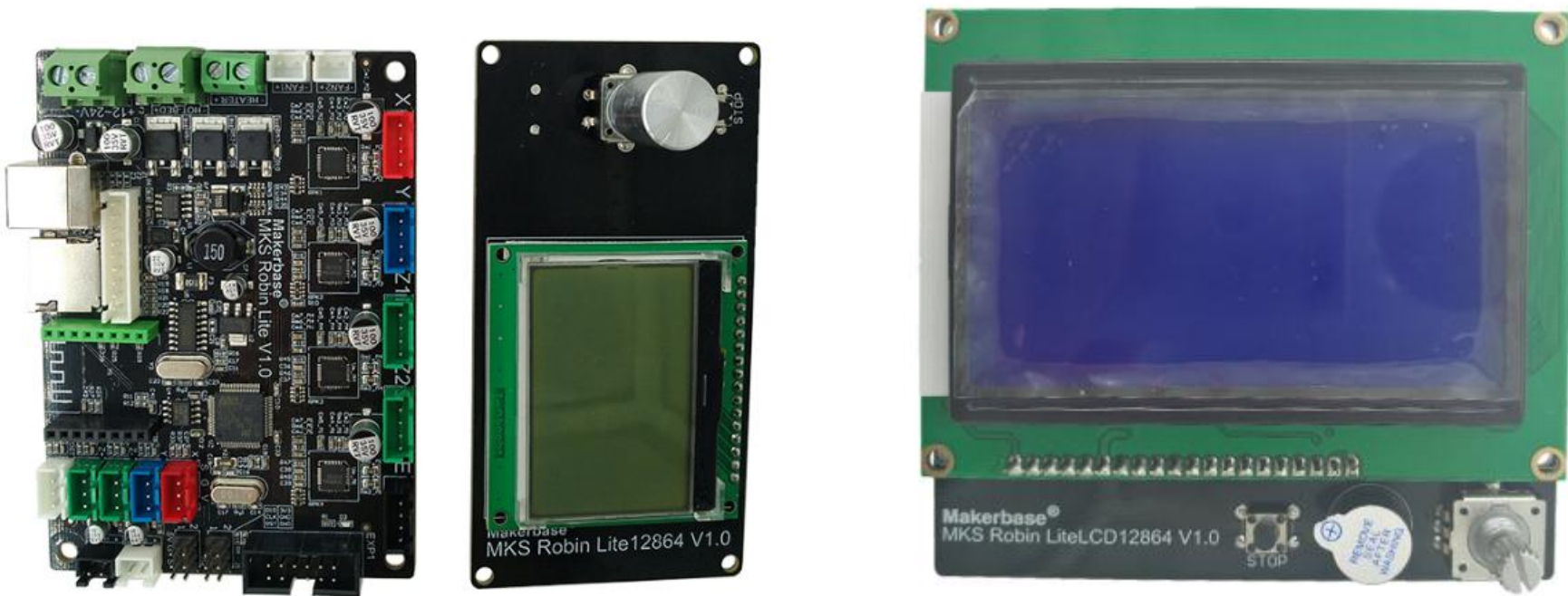
1. Equipped with LCD 12864 and MINI12864 display;
2. Support Chinese and English display
3. 32bit main control chip, 72MHz speed, running faster than 2560.
4. Support for MKS WiFi and cloud printing, such as mobile app control or computer Web control, mobile app support Android, iOS system, and support in both English and Chinese.
5. Upgrade configuration firmware by SD card, easy to operate.
6. The configuration file can be configured to drive current, no longer worried about the adjustment drive led to burnout motherboard;
7. Support for Power off recovery and Filament detecting.
8. The use of high-quality MOSFET tube, cooling effect better;
9. Uses the special power supply chip, supports the 12v-24v power input
10. 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;

## III.Motherboard parameters

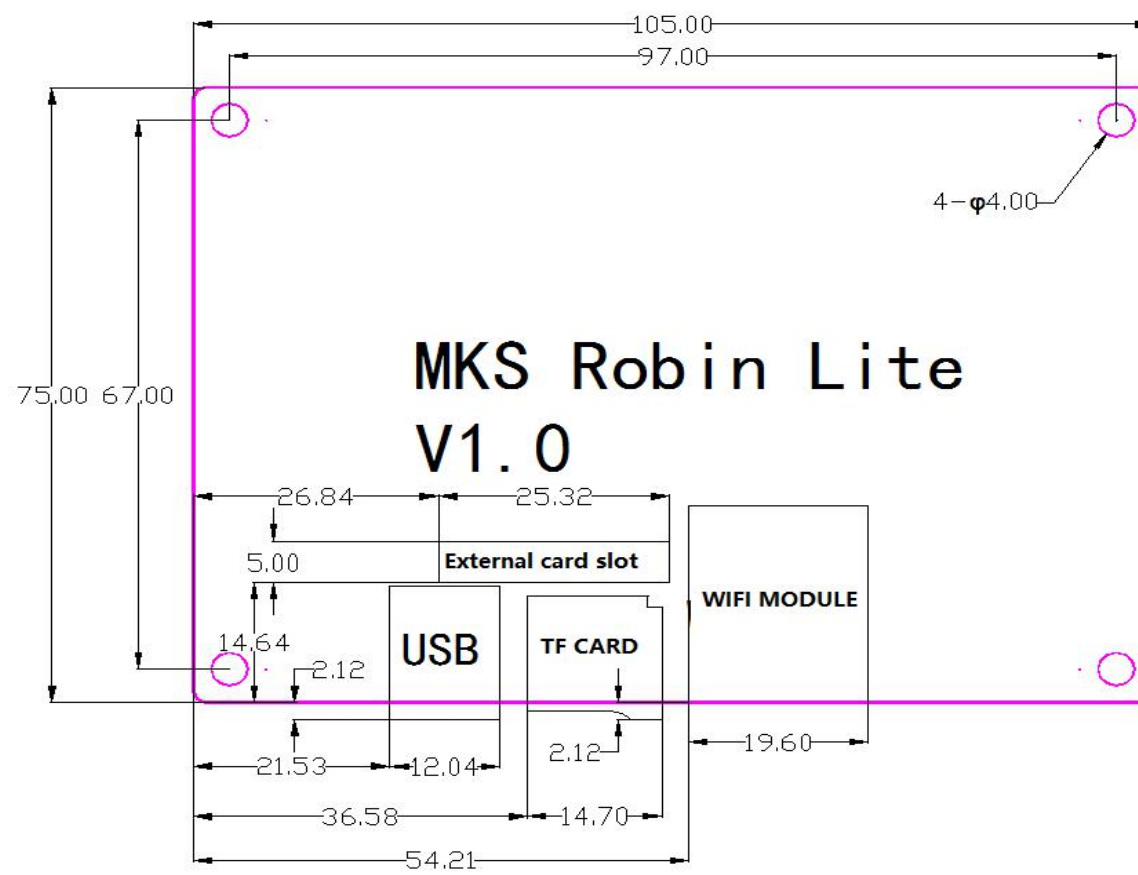
Board model:	MKS Robin lite	Microprocessor:	STM32
Size of exterior:	105*75	Mounting hole size:	97*67
Input:	12V~24V 5A~15A	Motor Drive:	4988 DRIVE
Temperature sensor:	NTC 100K、 31855	Touch screen:	2.4 inches
Print file format:	G-code	Support Machine Structure:	XYZ 、 delta 、 kossel 、 Ultimaker、 corexy
Recommended Software:	Cura 、Simplify3d 、Pronterface 、Repetier-Host	Firmware update:	SD card

## IV.Port Instructions

### 4.1 MKS Robin Lite Front view



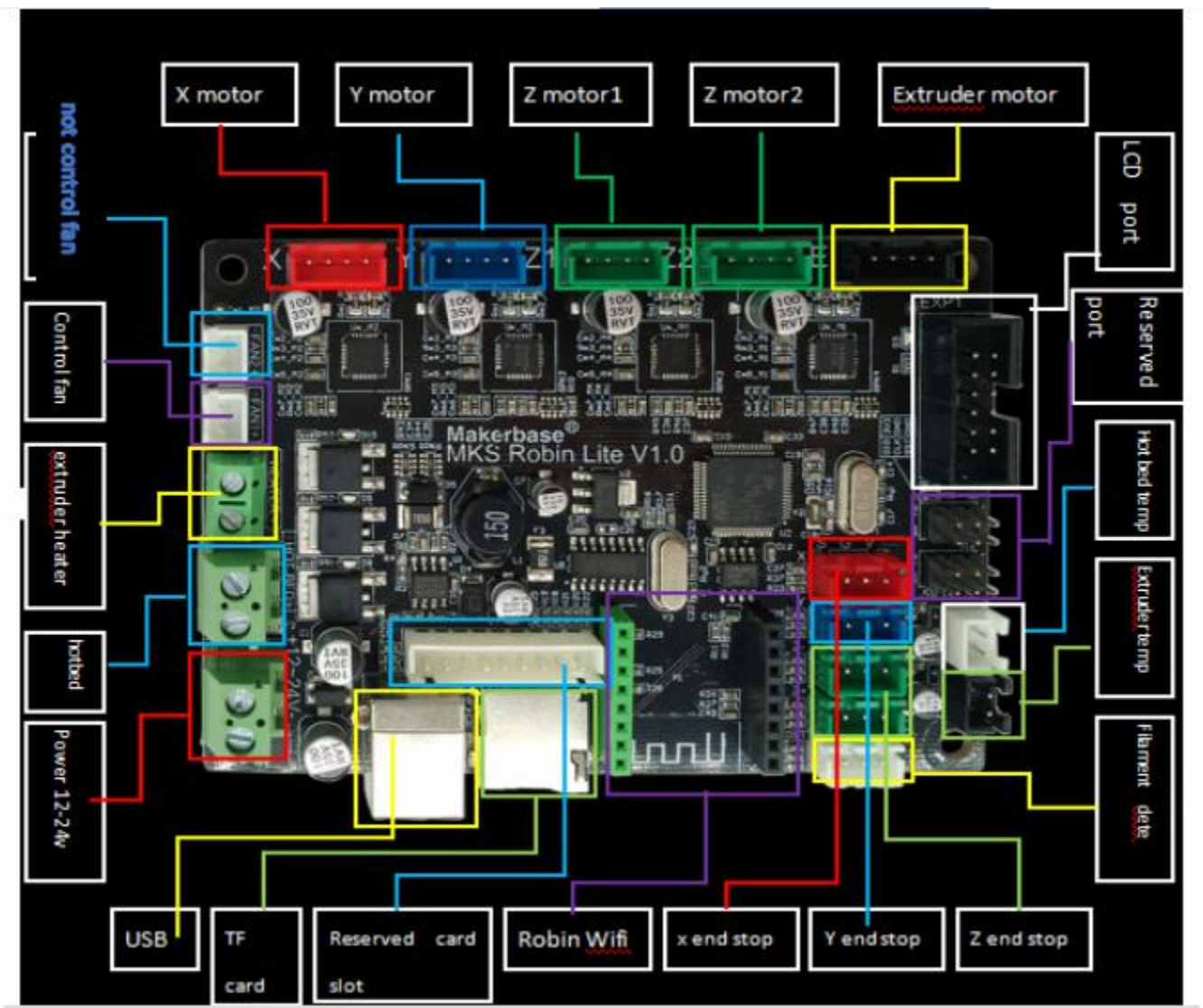
### 4.2 MKS Robin Lite Installation Dimensional Drawing







4.5 MKS Robin lite System connection diagram





## 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 Lite 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 MksWiFi.bin
- ② Mkslite\_mini.bin
- ③ lite\_cfg.txt

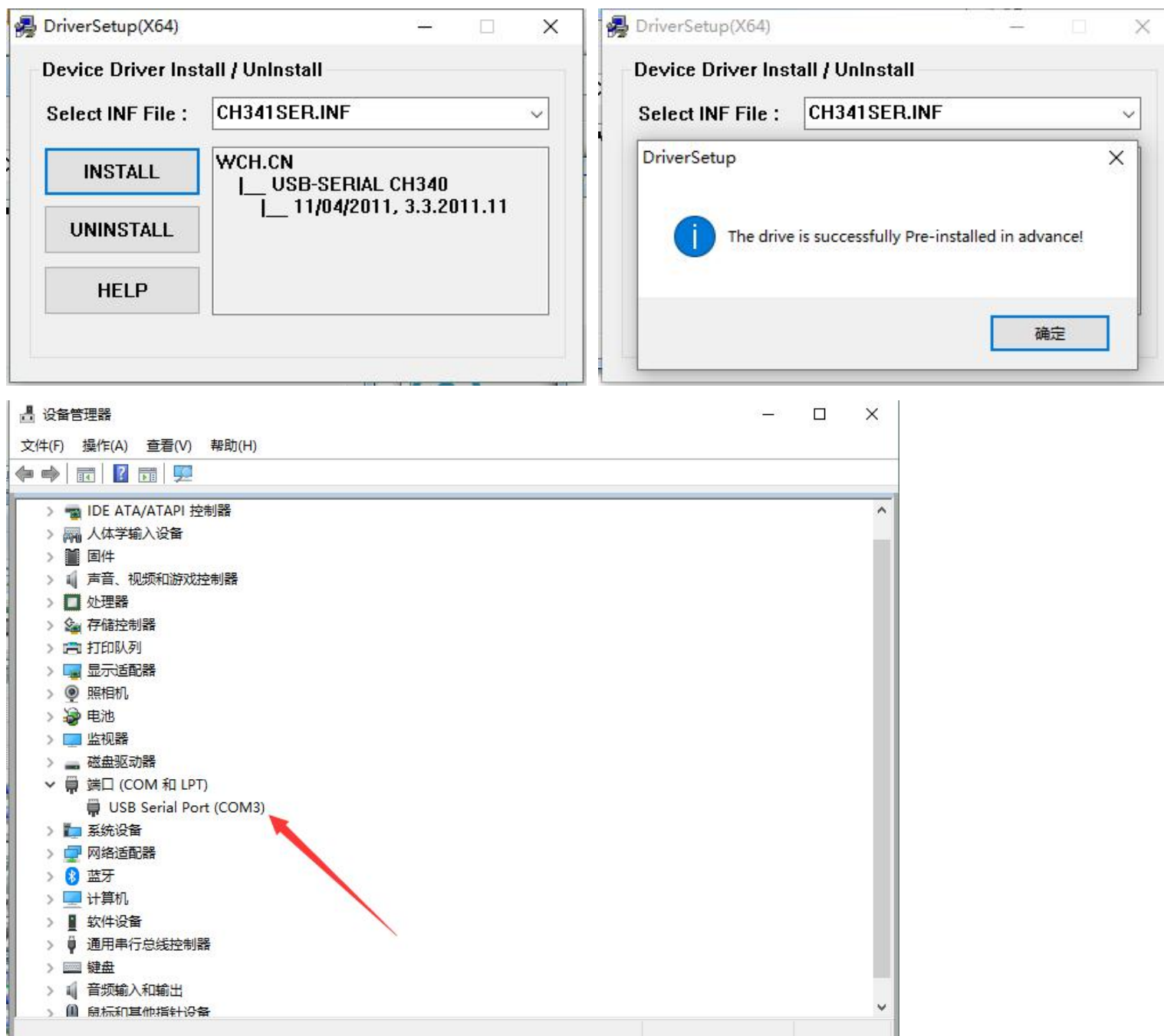
Attention: Do not modify file names. No need to copy mkswifi.bin without WiFi module

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.

## VI. USB driver Installation

MKS Robin lite 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 Power-on settings (Important, must be set)

```
#===== Basic Settings =====

>MACHINETYPE 0          # 0:Cartesian; 1:DELTA ; 2:COREXY

>LCD_LANGUAGE 0         # 0:English; 1:Chinese

>HAS_TEMP_BED 1        # whether enable the heated bed (disable: 0, enable: 1)

# Travel limits after homing (units are in mm)
>X_MIN_POS 0
>Y_MIN_POS 0
>Z_MIN_POS 0
>X_MAX_POS 210
>Y_MAX_POS 210
>Z_MAX_POS 180

# position of hotend for filament change and pause print
>FILAMENT_CHANGE_X_POS 5 # X position of hotend for filament change and pause print
>FILAMENT_CHANGE_Y_POS 5 # Y position of hotend for filament change and pause print
>FILAMENT_CHANGE_Z_ADD 5 # Z addition of hotend (lift) for filament change and pause print
```

A. Machine structure type: According to the mechanical structure model for which kind, choose which kind;

B. Language: Select the displayed language, choose English or Simplified Chinese;

C. Hot bed: Whether to start the hot bed, the platform can be hot bed;

D. Stroke: The largest range of XYZ axis movement, this is a soft limit, generally platform size.

E. Pause position: When paused or when the material is paused, it is recommended that you do not stay above the model and avoid supplies falling on the model.

### 7.2 Stepper motor setting

```
#===== Stepper Motor Settings =====

#Set stepper current
>CURRENT_VREF_XY 500 #Default motor current for XY in mA, range (0~1000)
>CURRENT_VREF_Z 500 #Default motor current for Z in mA, range (0~1000)
>CURRENT_VREF_E 500 #Default motor current for E in mA, range (0~1000)

#Invert the stepper direction.
>INVERT_X_DIR 1
>INVERT_Y_DIR 0
>INVERT_Z_DIR 1
>INVERT_E0_DIR 0

#Movement setting
>DEFAULT_X_STEPS_PER_UNIT 80.6 #Default Axis-X Steps Per Unit (steps/mm)
>DEFAULT_Y_STEPS_PER_UNIT 80.4 #Default Axis-Y Steps Per Unit (steps/mm)
>DEFAULT_Z_STEPS_PER_UNIT 400 #Default Axis-Z Steps Per Unit (steps/mm)
>DEFAULT_E_STEPS_PER_UNIT 90 #Default Axis-E Steps Per Unit (steps/mm)

>DEFAULT_X_MAX_FEEDRATE 200 #Default Axis-X Max Feed Rate (mm/s)
>DEFAULT_Y_MAX_FEEDRATE 200 #Default Axis-Y Max Feed Rate (mm/s)
>DEFAULT_Z_MAX_FEEDRATE 4 #Default Axis-Z Max Feed Rate (mm/s)
>DEFAULT_E_MAX_FEEDRATE 70 #Default Axis-E Max Feed Rate (mm/s)

>DEFAULT_X_MAX_ACCELERATION 1000 #Default Axis-X Max Acceleration (change/s) change = mm/s
>DEFAULT_Y_MAX_ACCELERATION 1000 #Default Axis-Y Max Acceleration (change/s) change = mm/s
>DEFAULT_Z_MAX_ACCELERATION 100 #Default Axis-Z Max Acceleration (change/s) change = mm/s
>DEFAULT_E_MAX_ACCELERATION 1000 #Default Axis-E Max Acceleration (change/s) change = mm/s
```



```
>DEFAULT_ACCELERATION      1000    #X, Y, Z and E acceleration for printing moves
>DEFAULT_RETRACT_ACCELERATION 1000    #X, Y, Z and E acceleration for retracts
>DEFAULT_TRAVEL_ACCELERATION 1000    #X, Y, Z acceleration for travel (non printing) moves
>DEFAULT_MINIMUMFEEDRATE    0.0      #minimum feedrate
>DEFAULT_MINSEGMENTTIME     20000    #minimum time in microseconds that a movement needs to take if the buffer is emptied.
>DEFAULT_MINTRAVELFEEDRATE  0.0      #

>DEFAULT_XJERK              20.0     #Default Axis-X Jerk (mm/s)
>DEFAULT_YJERK              20.0     #Default Axis-Y Jerk (mm/s)
>DEFAULT_ZJERK              0.4      #Default Axis-Z Jerk (mm/s)
>DEFAULT_EJERK              5.0      #Default Axis-E Jerk (mm/s)
```

A. Set stepper motor Current: Set the motor drive current of each axle, the unit is MA, Range (0~1000);

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

C. Pulse value: The pulse value of 1mm for each axis is calculated, and the formula for calculating the pulse value of each shaft motor is as follows:

Formula of pulse number/mm of synchronous wheel motor:  $(360 \div \text{step angle}) \times \text{Subdivision} \div (\text{Diameter} \times 3.14)$

The formula of the pulse number/mm of The screw rod Motor:  $(360 \div \text{step angle}) \times \text{Subdivision} \div \text{lead}$

D. Sport setting: According to the actual situation of the printer, to adjust the speed of movement or printing.

In other general cases, the default is OK.

### 7.3 Endstop setting

```
#===== Endstop Settings =====

>MIN_SOFTWARE_ENDSTOPS 1    # 0:axes can move below MIN_POS; 1:axes won't move below MIN_POS.
>MAX_SOFTWARE_ENDSTOPS 1    # 0:axes can move below MAX_POS; 1:axes won't move below MIN_POS.

# Mechanical endstop with COM to ground and NC to Signal uses "false" here (most common setup).
>X_MIN_ENDSTOP_INVERTING 1    # set to true to invert the logic of the endstop.
>Y_MIN_ENDSTOP_INVERTING 1    # set to true to invert the logic of the endstop.
>Z_MIN_ENDSTOP_INVERTING 1    # set to true to invert the logic of the endstop.
>X_MAX_ENDSTOP_INVERTING 1    # set to true to invert the logic of the endstop.
>Y_MAX_ENDSTOP_INVERTING 1    # set to true to invert the logic of the endstop.
>Z_MAX_ENDSTOP_INVERTING 1    # set to true to invert the logic of the endstop.
>Z_MIN_PROBE_ENDSTOP_INVERTING 1 # set to true to invert the logic of the probe.
>FIL_RUNOUT_INVERTING 0      # set to true to invert the logic of the Filament Runout Sensor.

# Specify here all the endstop connectors that are connected to any endstop or probe.
>USE_XMIN_PLUG 1            # 1:used; 0:noused
>USE_YMIN_PLUG 1            # 1:used; 0:noused
>USE_ZMIN_PLUG 1            # 1:used; 0:noused
>USE_XMAX_PLUG 0            # 1:used; 0:noused
>USE_YMAX_PLUG 0            # 1:used; 0:noused
>USE_ZMAX_PLUG 1            # 1:used; 0:noused

#===== Home Settings =====

>X_HOME_DIR -1              # Direction of endstops when homing; 1=MAX, -1=MIN :[-1,1]
>Y_HOME_DIR -1              # Direction of endstops when homing; 1=MAX, -1=MIN :[-1,1]
>Z_HOME_DIR -1              # Direction of endstops when homing; 1=MAX, -1=MIN :[-1,1]
>HOMING_FEEDRATE_XY 2400    # Homing X Y speeds (mm/m)
>HOMING_FEEDRATE_Z 600     # Homing Z speeds (mm/m)
>HOME_Y_BEFORE_X 0         # When G28 is called,0: X home before Y; 1: Y home before X
```

A. Maximum or minimum soft endstops: This is related to the travel size set above, and when moving to the maximum or minimum stroke, the motor can no longer be moved.

B. Enable XYZ shaft limit: This belongs to the limit switch installed on the printer, the printer back to 0 points touch the limit switch. The general I3 model is to enable the minimum limit, delta is to enable maximum limit.

C. Endstop switch type on the XYZ axis: Set the endstop switch type to open or close normally.

D. Leveling probe Switch Type: Adjust the normal use of the leveling switch type.

E. Homing settings: The location after homing is the maximum or minimum, which will cause a print mirror.

F. Filament detecting switch type: Used to detect filament detecting switch, set this switch type is often open or often closed.

## 7.4 Power off recovery

The motherboard itself has power off recovery function, at least one layer of printing can be directly power off, when the power is selected to resume printing.

## 7.5 Thermal setting

#===== Thermal Settings =====

```
>EXTRUDE_MINTEMP      170
>HEATER_0_MAXTEMP     275
>BED_MAXTEMP          150

>PREHEAT_1_TEMP_HOTEND 180      #Preheat PLA conf
>PREHEAT_1_TEMP_BED    70
>PREHEAT_1_FAN_SPEED   0

>PREHEAT_2_TEMP_HOTEND 240      #Preheat ABS conf
>PREHEAT_2_TEMP_BED    110
>PREHEAT_2_FAN_SPEED   0
```

#===== Thermal Runaway Protection =====:

```
>THERMAL_PROTECTION_PERIOD      40      #Seconds
>THERMAL_PROTECTION_HYSTERESIS  4       #Degrees Celsius
>WATCH_TEMP_PERIOD             20      #Seconds
>WATCH_TEMP_INCREASE           2       #Degrees Celsius
>THERMAL_PROTECTION_BED_PERIOD  20      #Seconds
>THERMAL_PROTECTION_BED_HYSTERESIS 2     #Degrees Celsius
>WATCH_BED_TEMP_PERIOD         60      #Seconds
>WATCH_BED_TEMP_INCREASE       2       #Degrees Celsius
```

# Type of heat manager for extruder.

```
>PIDTEMP      1      # 1:PID ; 0:bang-bang
>DEFAULT_Kp    22.2   #      --default
>DEFAULT_Ki    1.08   #      --default
>DEFAULT_Kd   114     #      --default
```

#Type of heat manager for this heatedBed.

```
>PIDTEMPBED    0      # 1:PID ; 0:bang-bang
>DEFAULT_bedKp  10.00  #      --default
>DEFAULT_bedKi  0.023  #      --default
>DEFAULT_bedKd  305.4  #      --default
```

A. Minimum or maximum temperature: the minimum or maximum temperature setting, when exceeding the defined value, will protect the function.

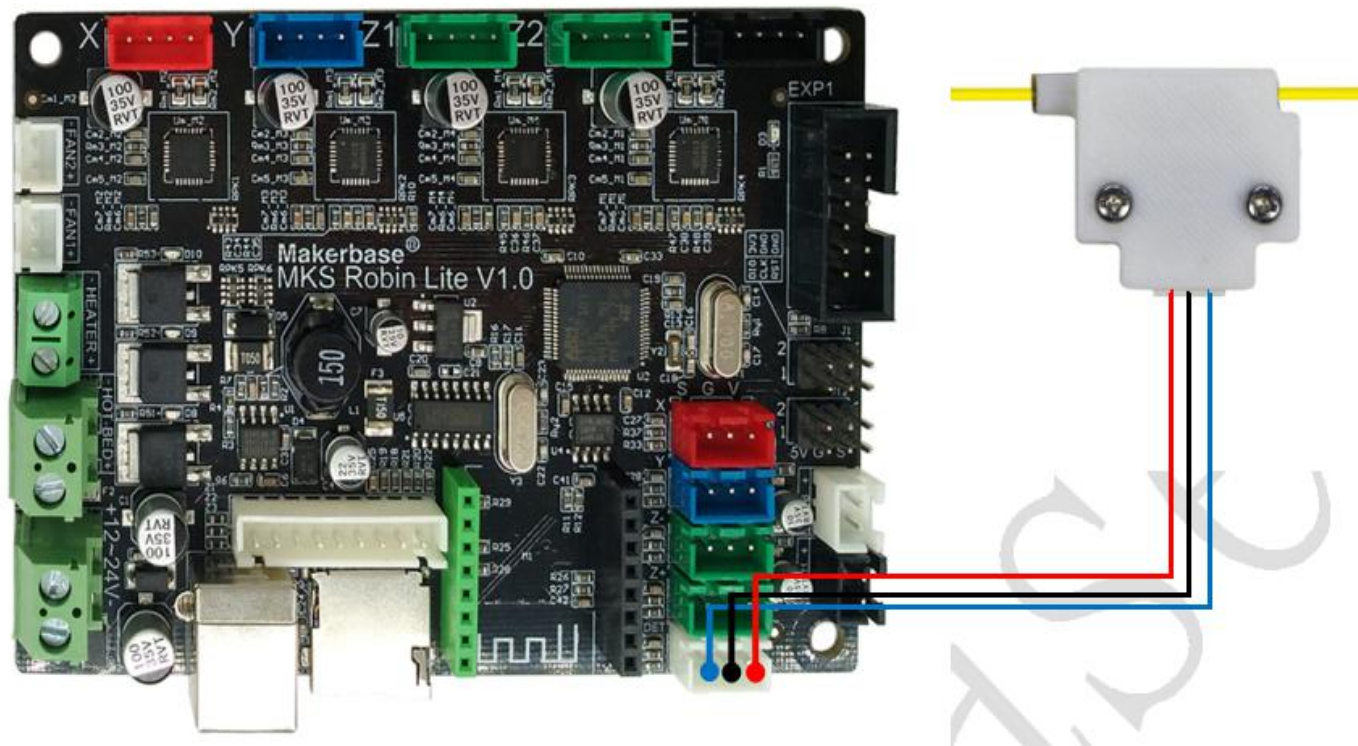
B. Preheating temperature: The temperature of the PLA or ABS can be warmed by the choice of the screen;

C. Heat uncontrolled protection: heating in normal heating and printing, when the temperature in the specified time does not rise in temperature, it will be thought that the heating out of control. Need to check for heat-sensitive or heating rod problems;

D. PID Adjustment: The general default is OK.

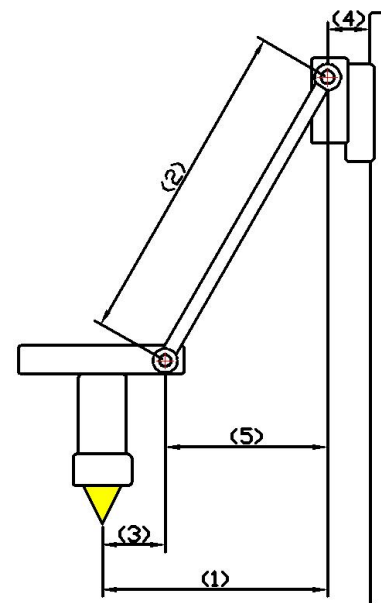


## 7.6 Filament detecting



## 7.7 Delta setting

```
#===== Delta Settings =====
>DELTA_SEGMENTS_PER_SECOND 40 #--default
>DELTA_DIAGONAL_ROD 346.75 #Center-to-center distance of the holes in the diagonal push rods.
>DELTA_SMOOTH_ROD_OFFSET 211.5 #Horizontal offset from middle of printer to smooth rod center.
>DELTA_EFFECTOR_OFFSET 28 #Horizontal offset of the universal joints on the end effector.
>DELTA_CARRIAGE_OFFSET 14.5 #Horizontal offset of the universal joints on the carriages.
>DELTA_RADIUS 169 #Horizontal distance bridged by diagonal push rods when effector is centered.
>DELTA_HEIGHT 302 #height from z=0.00 to home position
>DELTA_PRINTABLE_RADIUS 125 #Print surface diameter/2 minus unreachable space (avoid collisions with vertical towers).
>DELTA_CALIBRATION_RADIUS 100 #set the radius for the calibration probe points - max 0.8 * DELTA_PRINTABLE_RADIUS
```



## 7.8 Automatic Leveling

### 7.8.1 Z Leveling probe setting

```
#===== Z Probe Options =====

#Select for a probe connected to Z-Min or Z-Max.
>Z_MIN_PROBE_PIN_MODE 2 # 0 : NULL; 1: ZMIN; 2: ZMAX

>Z_PROBE_OFFSET_FROM_EXTRUDER 0 # Z offset: -below +above [the nozzle]
>X_PROBE_OFFSET_FROM_EXTRUDER 0 # X offset: -left +right [of the nozzle]
>Y_PROBE_OFFSET_FROM_EXTRUDER 0 # Y offset: -front +behind [the nozzle]
>XY_PROBE_SPEED 4000 # X and Y axis travel speed (mm/m) between probes
>Z_PROBE_SPEED_FAST 6000 # Speed for the first approach when double-probing (with PROBE_DOUBLE_TOUCH)
>Z_PROBE_SPEED_SLOW 3000 # Speed for the "accurate" probe of each point
```

- Define the pin of the leveling probe;
- Nozzle as the origin, set the leveling probe and nozzle offset;
- Adjust the speed of the leveling movement.

### 7.8.2 Bed leveling

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

>BED_LEVELING_METHOD 0 # 0:NULL_BED_LEVELING; 3:AUTO_BED_LEVELING_BILINEAR; 5:MESH_BED_LEVELING

>GRID_MAX_POINTS_X 5 # the number of grid points per dimension. <= 15
>GRID_MAX_POINTS_Y 5 # the number of grid points per dimension. <= 15
>Z_CLEARANCE_DEPLOY_PROBE 20 # Z Clearance for Deploy/Stow > 0
>Z_CLEARANCE_BETWEEN_PROBES 20 # Z Clearance between probe points > 0

# Set the boundaries for probing (where the probe can reach).
>LEFT_PROBE_BED_POSITION 30
>RIGHT_PROBE_BED_POSITION 180
>FRONT_PROBE_BED_POSITION 30
>BACK_PROBE_BED_POSITION 180

>MESH_INSET 20 # Mesh inset margin on print area for MESH_BED_LEVELING
```

Attention:Delta can only use 3 of that automatic leveling mode, ordinary models can use any one.

A. Leveling method:

NULL\_BED\_LEVELING: disable leveling .

AUTO\_BED\_LEVELING\_BILINEAR:It is necessary to detect several points in the region network and the density of sampling points in the area specified in the platform;

MESH\_BED\_LEVELING: The result is a mesh, suitable for large or rugged beds. For machines without probes, the mesh leveling provides a method of leveling on the steps to manually adjust the z height on each grid point. According to the LCD controller instructions step-by-step adjustment.

B. Leveling points: Adjust the normal amount of points, spacing;

C. Leveling Range: Determining the leveling range by coordinates;

## VIII. The network printing function

MKS Robin Lite 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

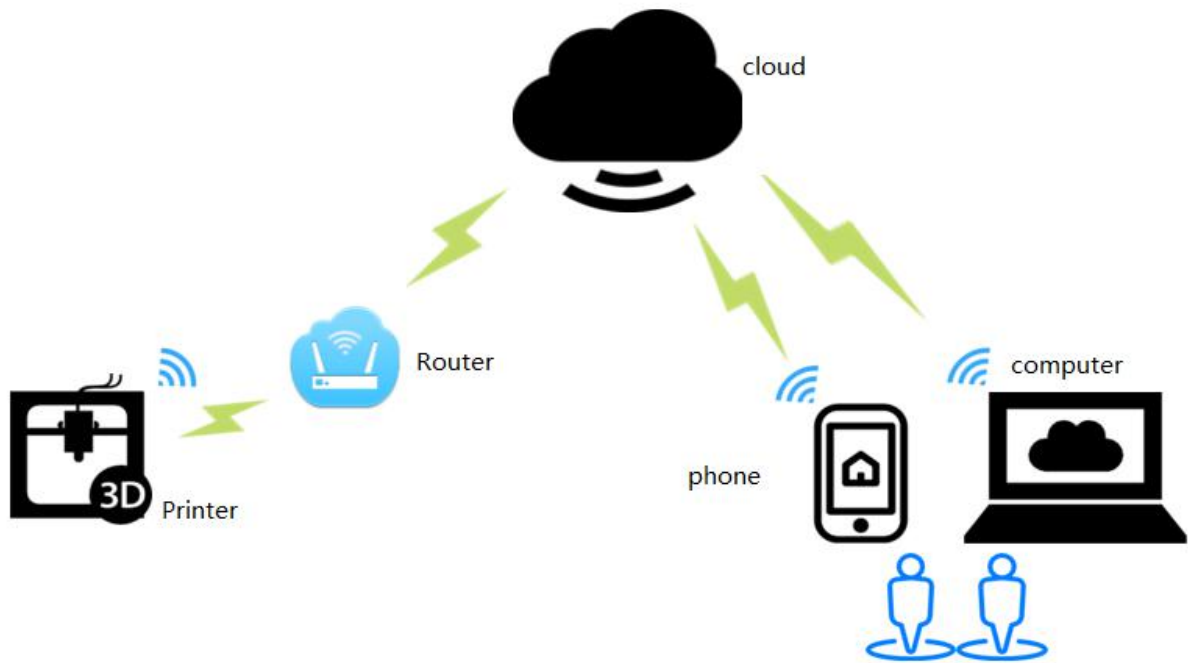
1. Cloud Print Mode: Recommended for use in a WiFi router environment with Internet access. Once you have a network connection to the WiFi module, the printer becomes the online printer on the cloud.Access to the app or control printer anywhere in the world. can also be in the local area network through 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 Lite-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)	Set WiFi mode to STA mode
>CFG_WIFI_MODE 0	

#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

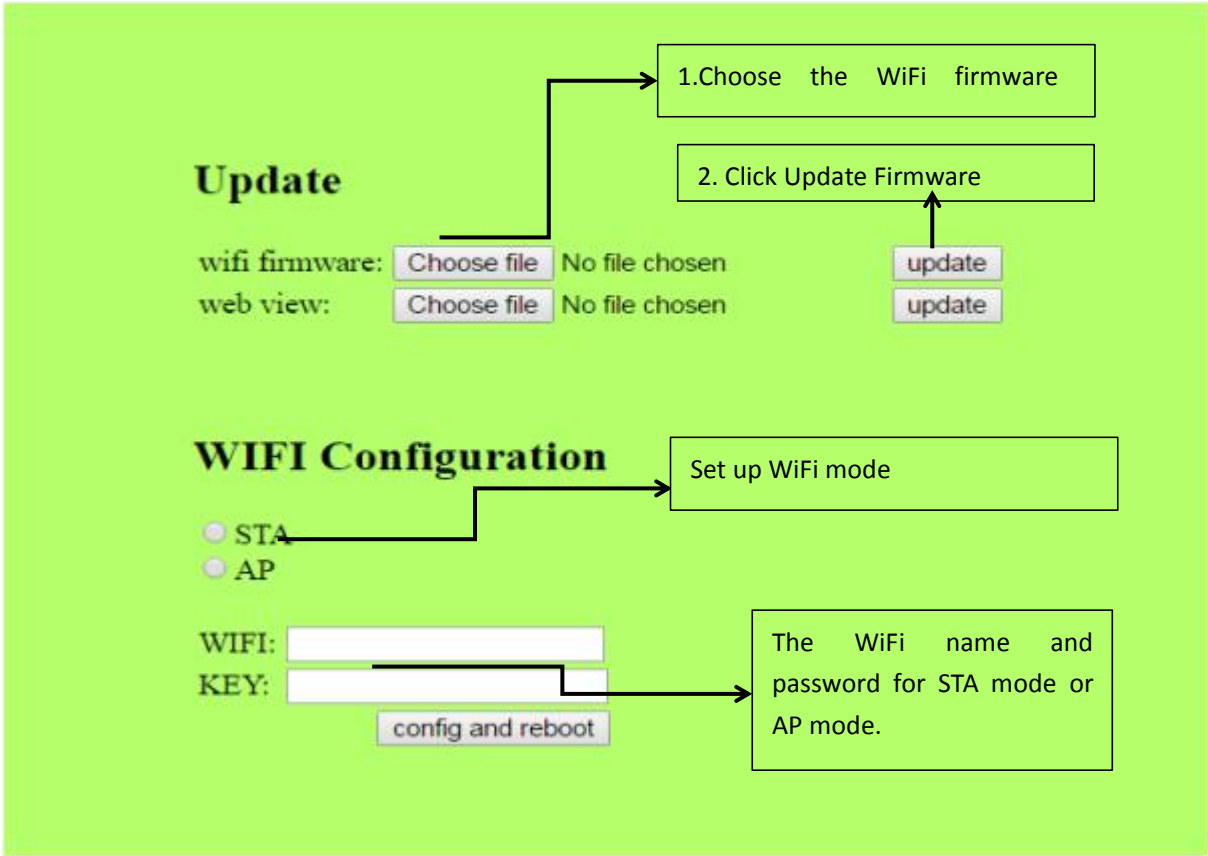
3.1 Copy the latest upgrade program to the SD card root directory, the motor can be renewed, upgrade procedures include:

Configuration file: lite\_cfg.txt  
Motherboard firmware: mksLite.bin  
WiFi firmware: MksWiFi.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:

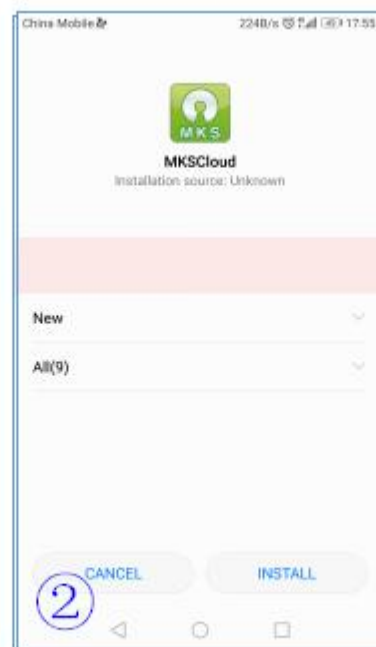




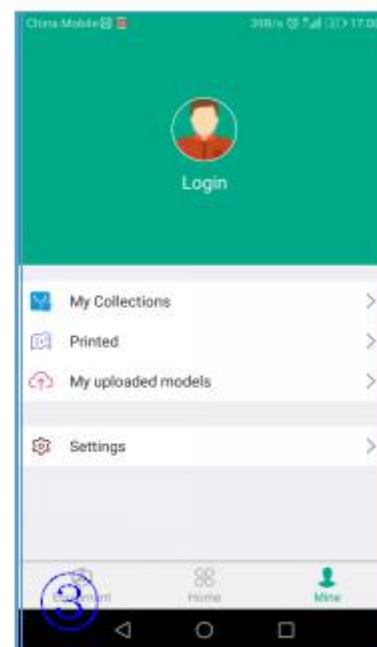
#### 4. APP print



Download MKSCloud App



Installation



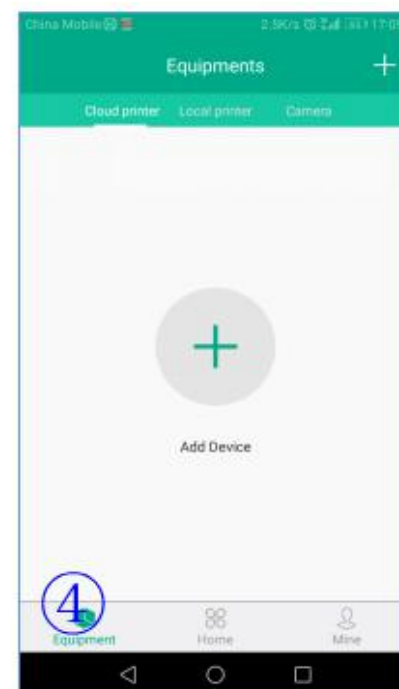
login



Model Preview Interface



Printer bindings



Add Printer page



Adjust the Print Parameters page



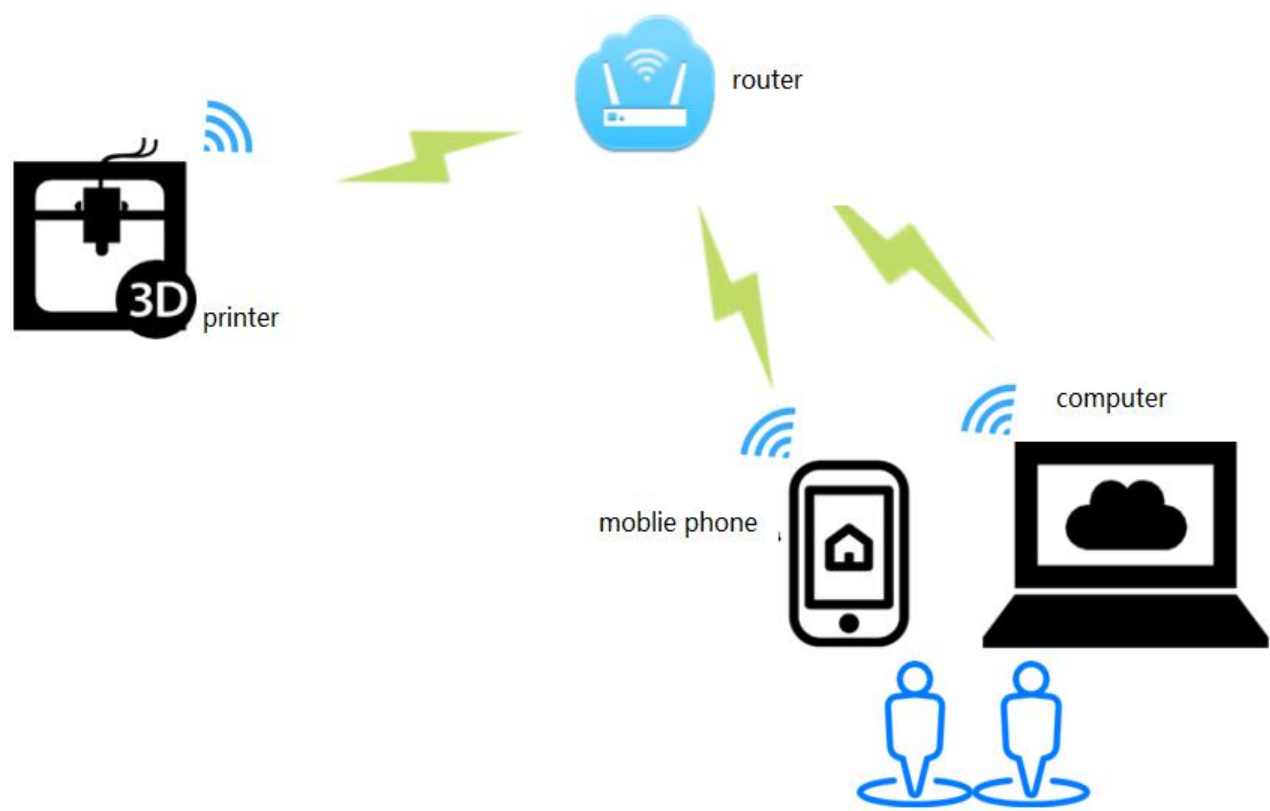
Printing pages



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

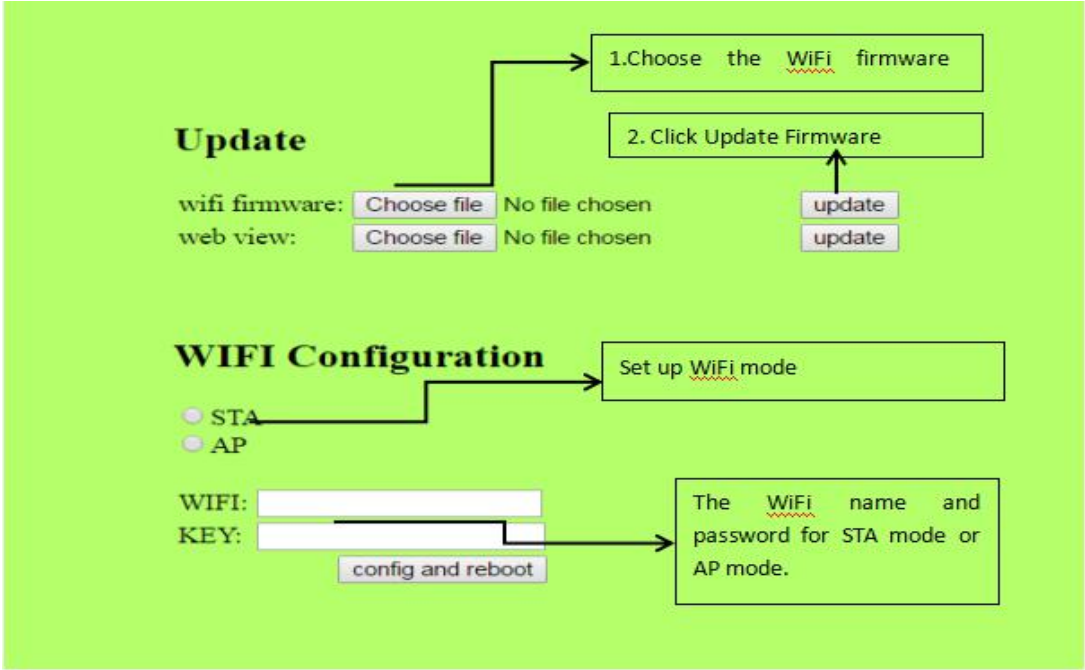
3.1 Copy the latest upgrade program to the SD card root directory, the motor can be renewed, upgrade procedures include:

- 1 . Configuration file: lite\_cfg.txt
  - 2 . motherboard firmware: mkslite.bin
  - 3 . WiFi firmware: mksWifi.bin

#### 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;

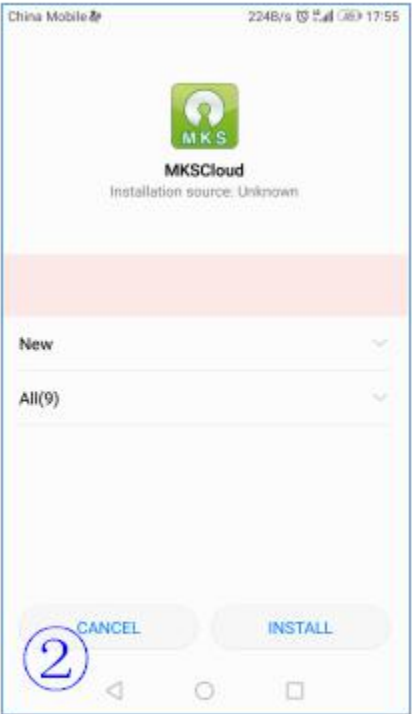
3.3 WiFi firmware update can also be updated through the web side, in the same LAN, in the Computer browser input IP address, access to the Web page update firmware interface, the following figure:



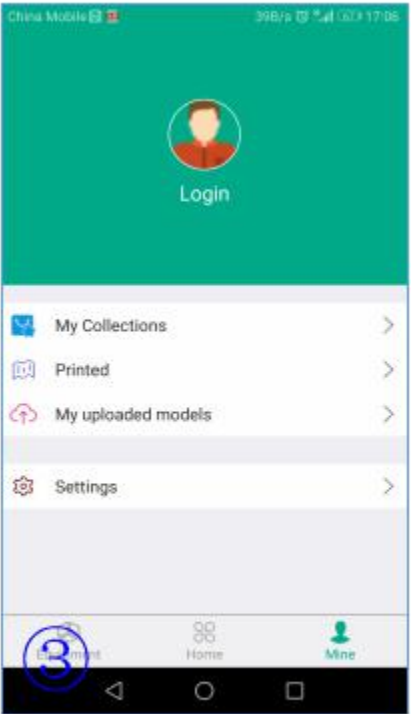
4. APP print



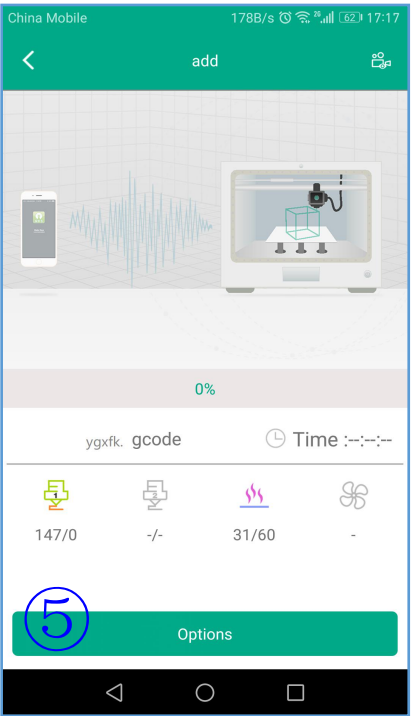
Download MKS Cloud App



Installation



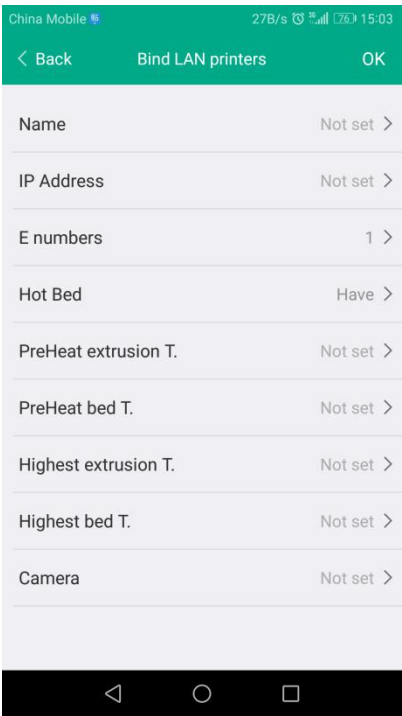
login



Printing interface



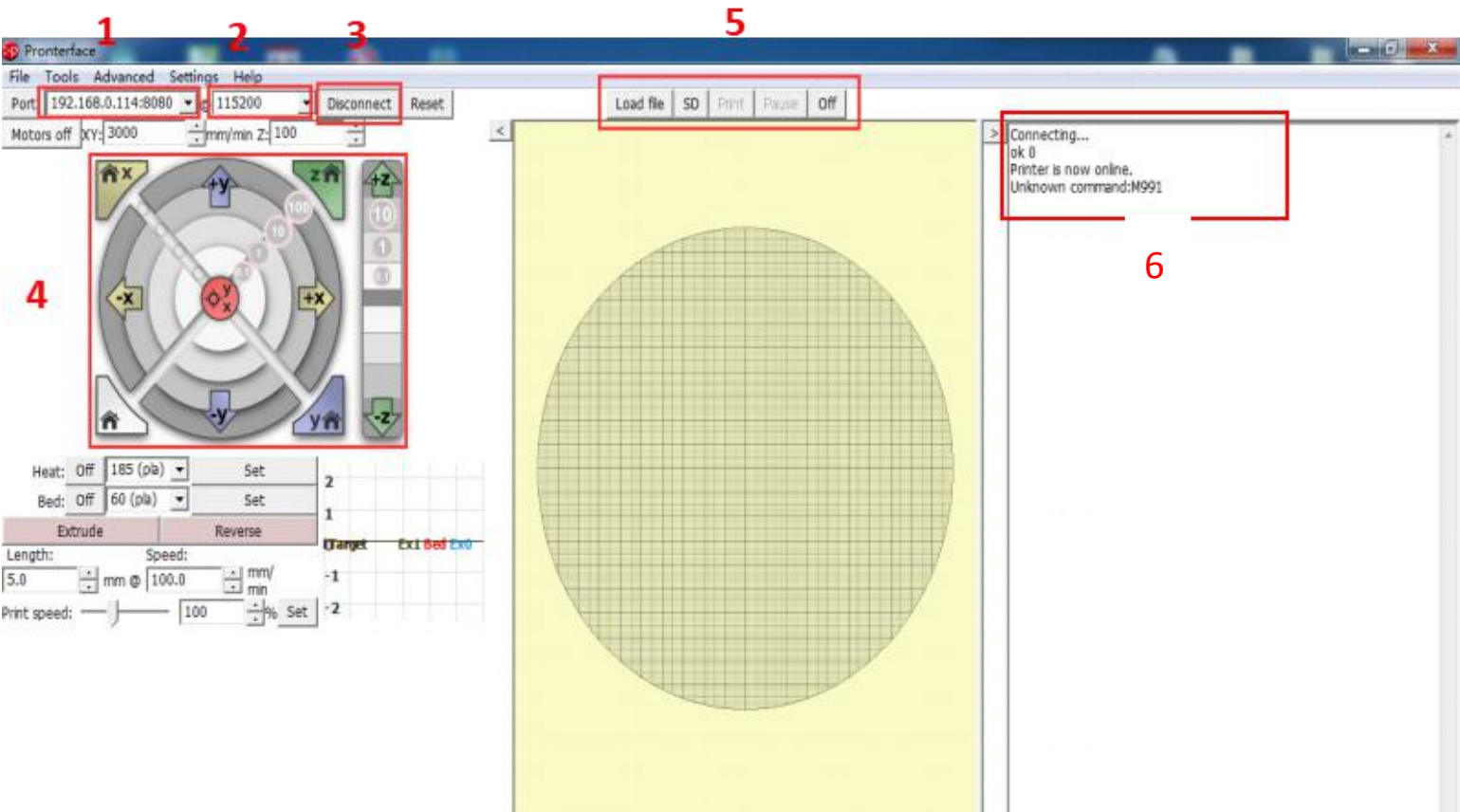
choose the file



add the printer

5. Upper Computer Printing

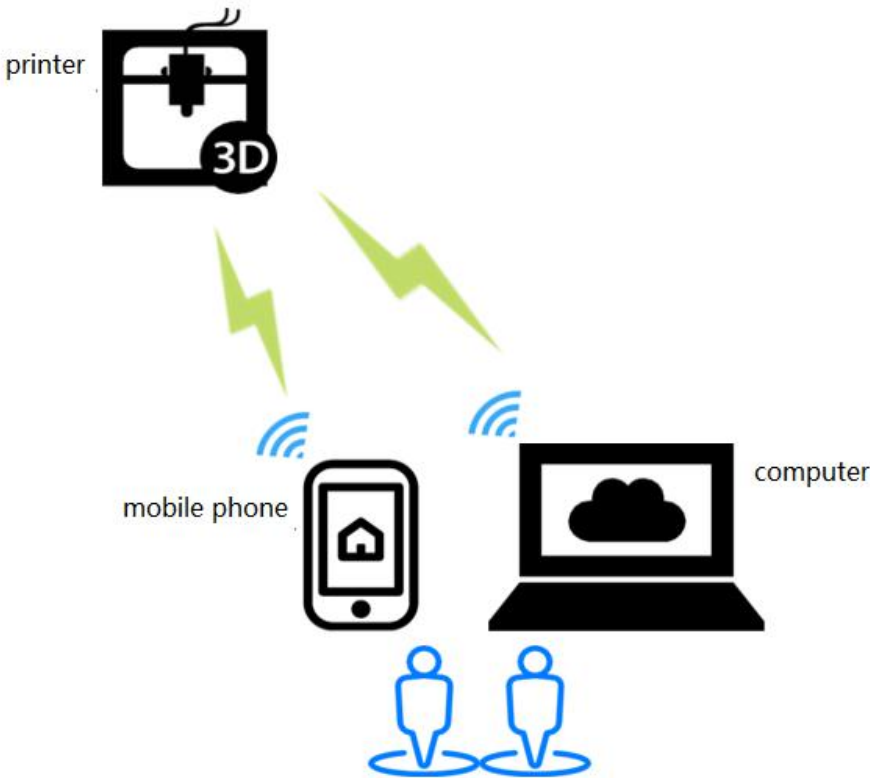
5.1 printrun printing



- 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

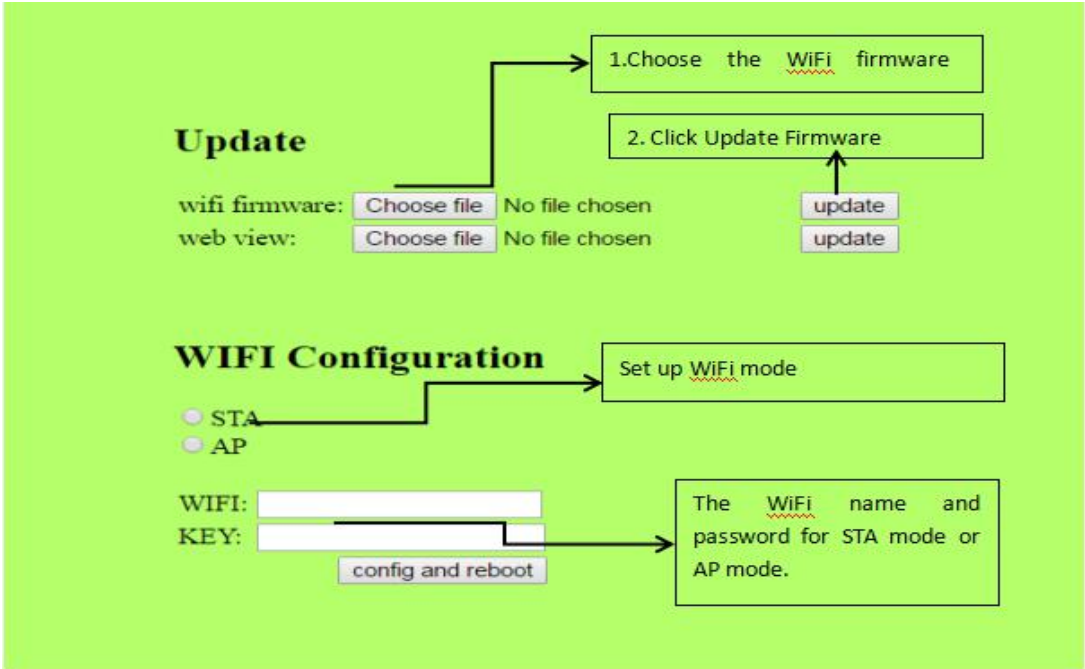
3.1    Copy the latest upgrade program to the SD card root directory, the motor can be renewed, upgrade procedures include:

- 1 . Configuration file: lite\_cfg.txt

2 . motherboard firmware: mkslite.bin

3 . WiFi firmware: mksWifi.bin

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.

万众云  
baizhongyun.cn

Home

Category ▾

Modeling ▾ for a Special

Looking for a model

Seek!

Upload

Software

SIGN IN / JOIN

EN ▾

Chinese

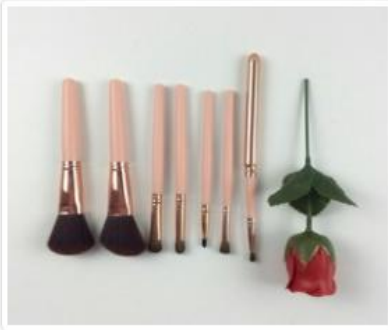
English

Popular Searches: Cup Piggy Box

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](#)

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[Problems](#)

Join Us

**Upload:** Share Designs  
**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

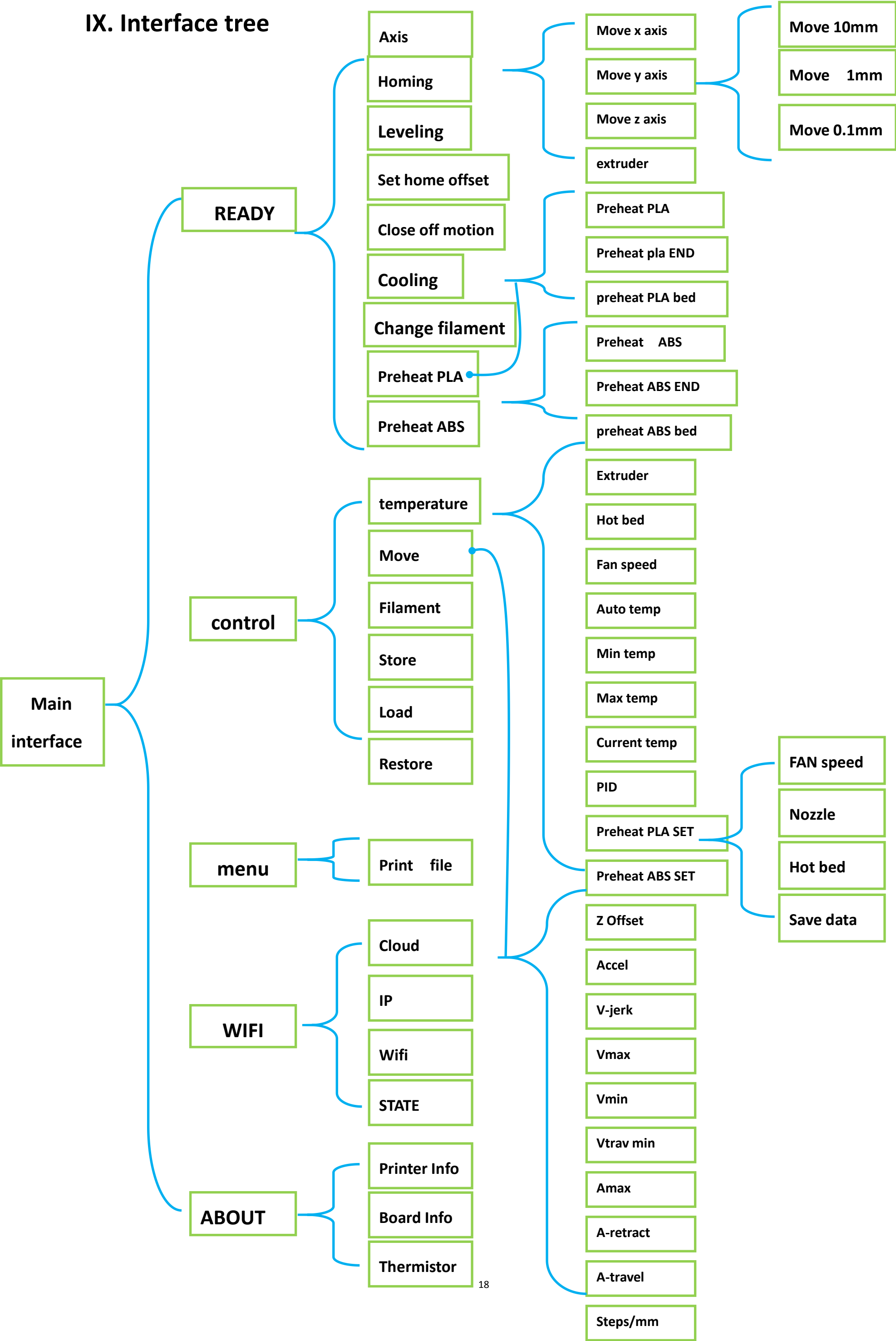


WeChat Channel  
Service



WeChat Mini  
Programs

IX. Interface tree





## X . Technical Support and Guarantee

1. Power test will be done prior to shipment to ensure normal use of the product
2. Welcome to join the discussion group: 489095605
3. Welcome to the blog exchange: <http://flyway97.blog.163.com>
4. 3D printer motherboard contact

Miss Zhong: [15521638375](tel:15521638375) Mr. Huang: [13148932315](tel: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