ZONESTAR

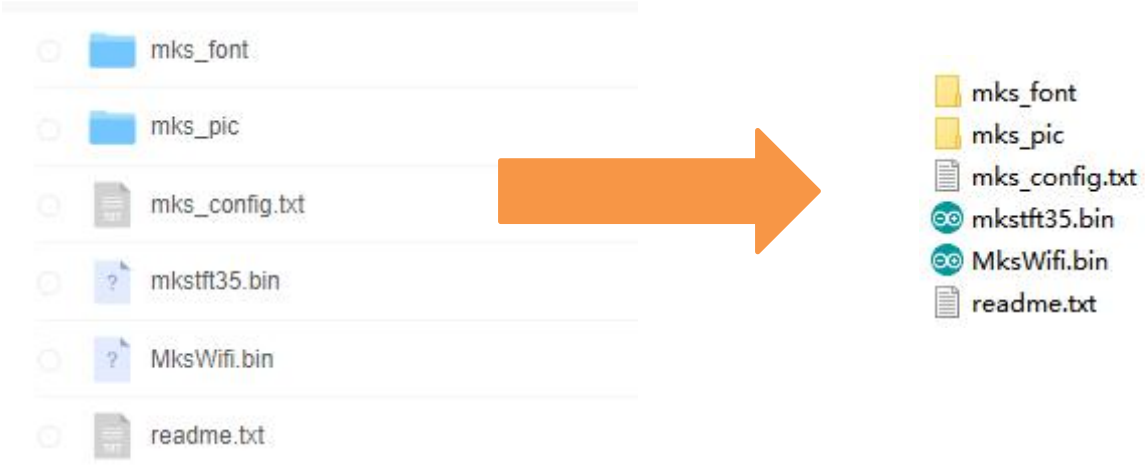
3.5" TFT Touch Screen

Base on MKS35 V2

User Manual

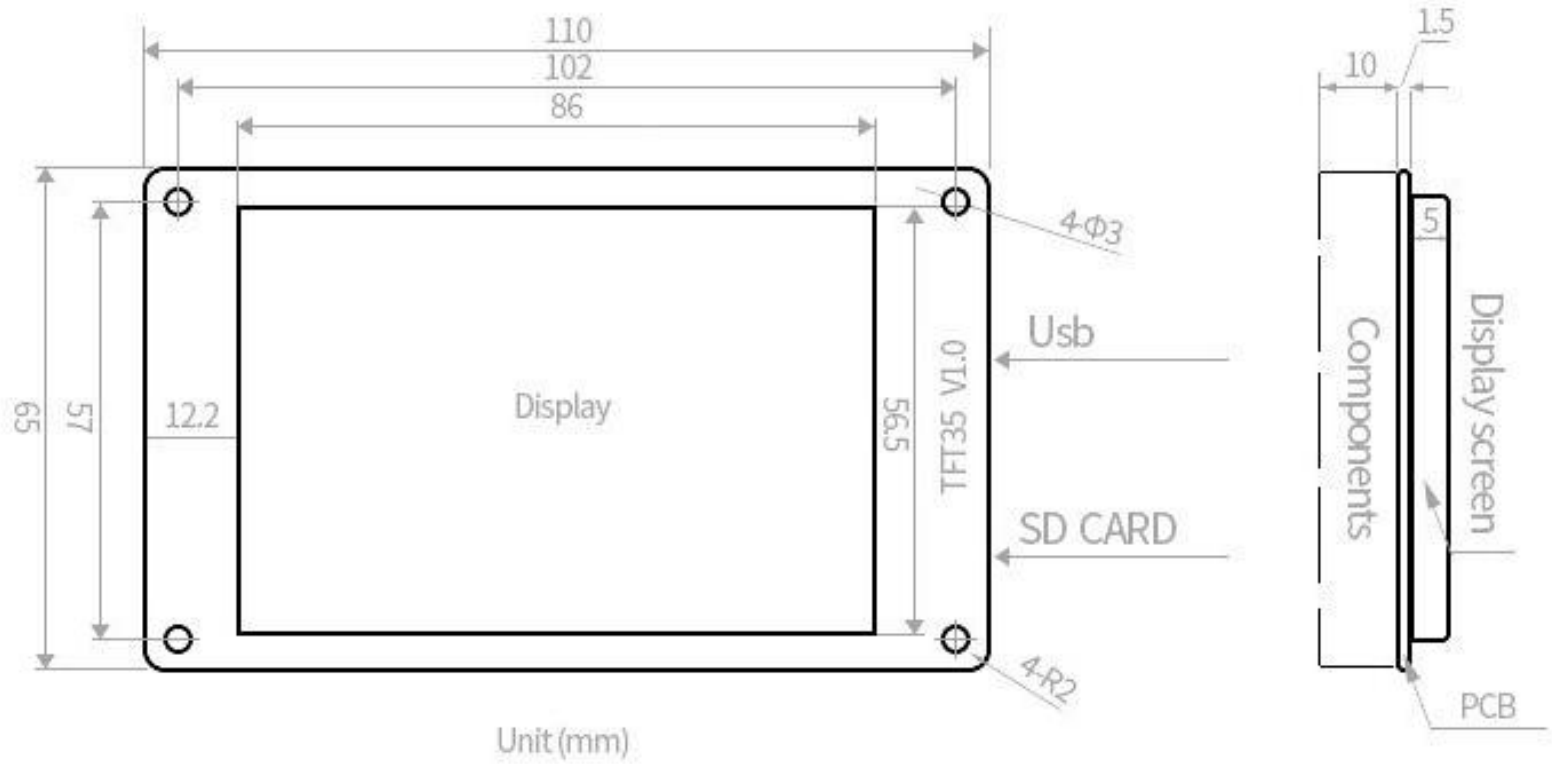
Firmware update method

1. Log in to the website to download. Or find customer service and after-sales service. **https://github.com/ZONESTAR3D**
2. Copy the latest firmware to the root directory of SD card, including the following files(**Note: the file name cannot be modified. If there is no WiFi module, copy is not required MksWIFI.bin**):



3. Insert the SD card into the SD card slot of the motherboard, power on again, and the update is completed in about 30 seconds.
4. Click “Settings”----> “about” to view the current firmware version.

Dimension

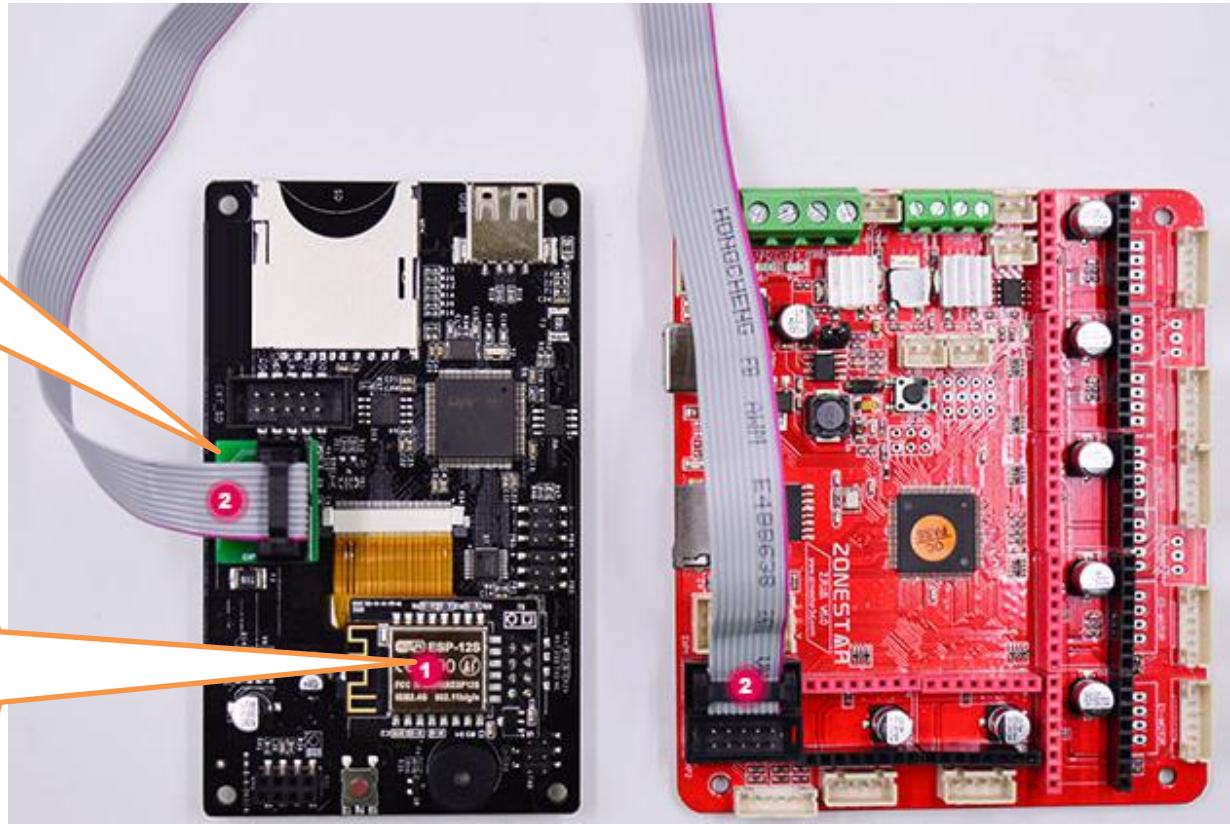

110
102
86
65
57
12.2
Display
56.5
TFT3.5 V1.0
4-Φ3
4-R2
Usb
SD CARD
Unit (mm)
1.5
10
5
Components
Display screen
PCB

Wiring Diagram

Connection with motherboard(ZRIB V6.0):Pay attention to the location and connection direction of WiFi module. And,Please download the latest motherboard program!

Adapter plate

WiFi



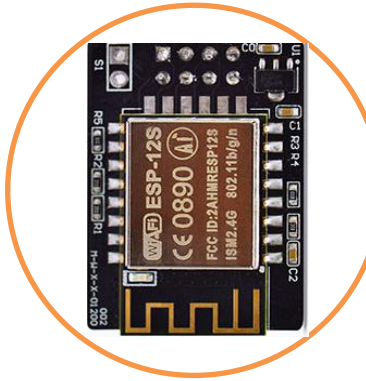
3.5" TFT touch screen

motherboard

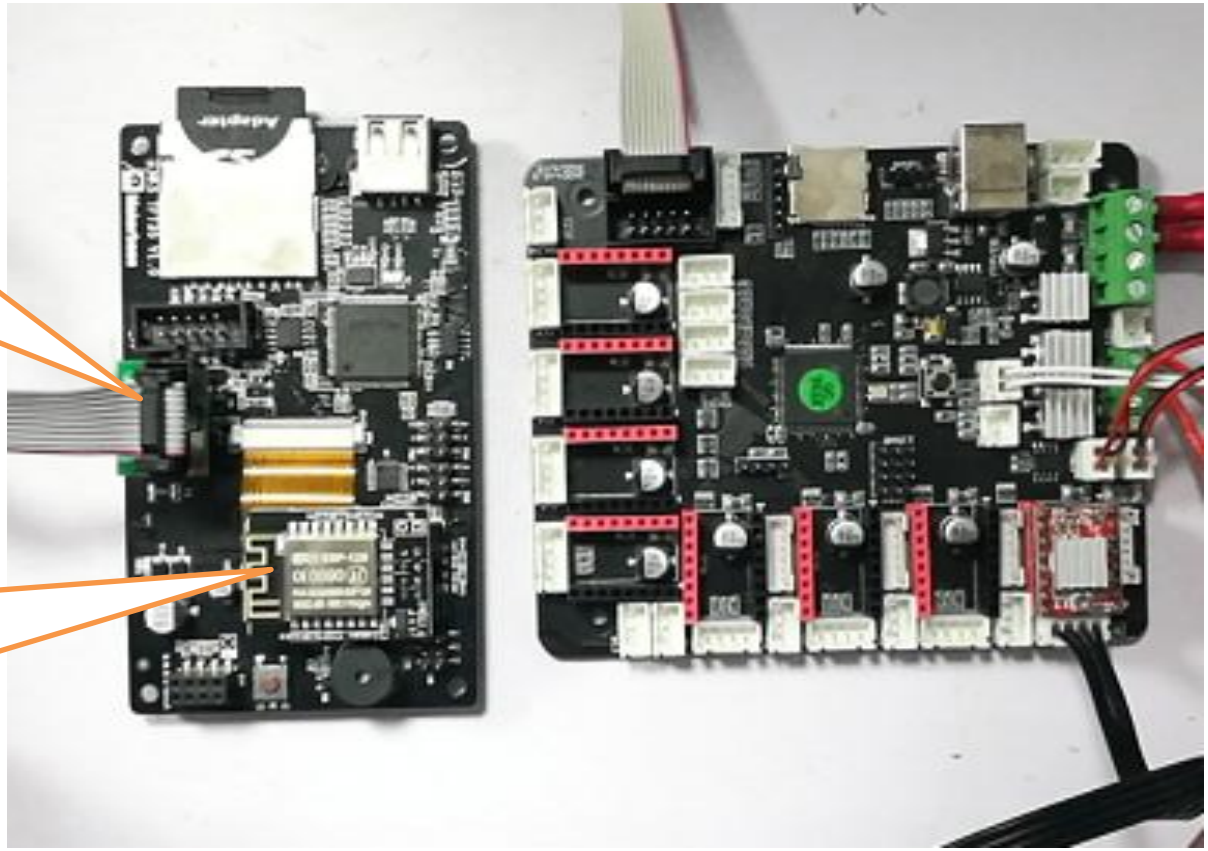
Wiring Diagram

Connection with motherboard(ZM3E4 V1.0):Pay attention to the location and connection direction of WiFi module. And,Please download the latest motherboard program!

Adapter plate



WiFi

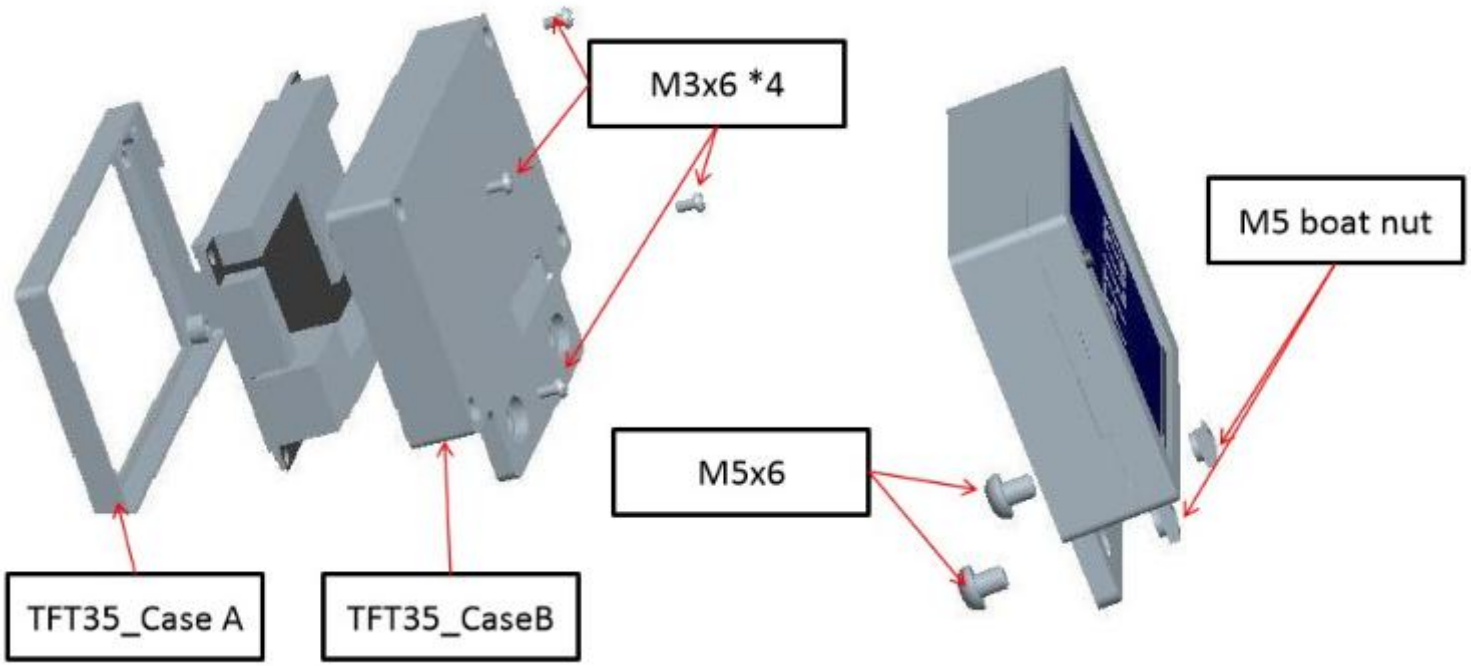


3.5" TFT touch screen

motherboard

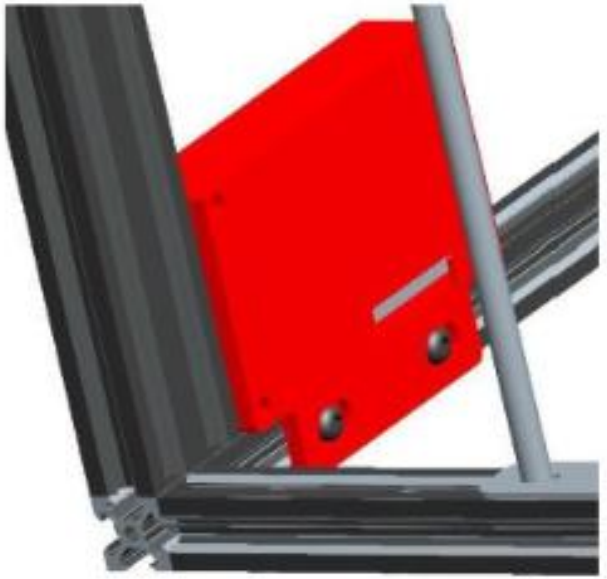
Installation Guide

In order to install the TFT-LCD screen to the printer, a mounting bracket is required. (STL files can be downloaded from the official website or provided by customer service or after-sales service).



Install

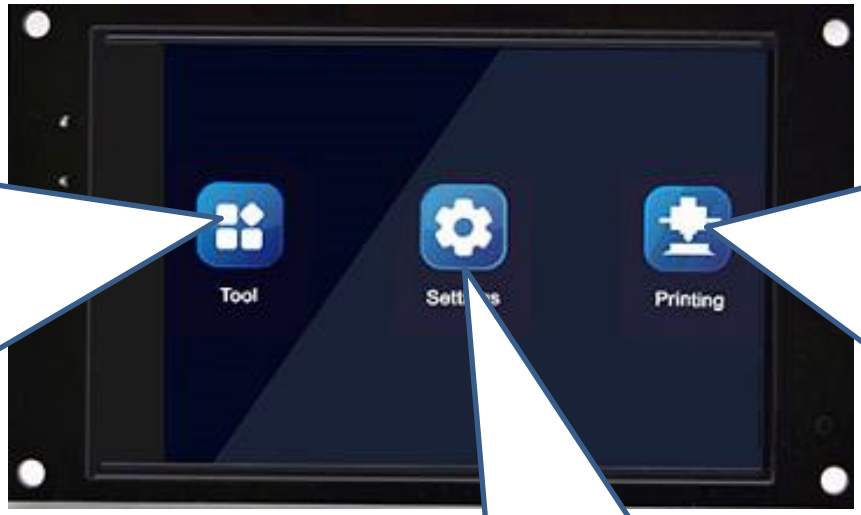
This bracket is suitable for the Z9 printer series of zonestar company..



Menu introduction

Main menu introduction:

Power on to enter the main menu, including tool settings printing three function buttons.



The tool button can be used for temperature control, consumable extrusion speed control, XYZ axis moving speed control, and color mixing ratio control, etc

The settings button can be used for file source selection, language selection, version query, WiFi setting, fan setting, and breakpoint continue setting.

The printing button controls the gcode file to be printed. In the printing process, you can also control or set the relevant parameters.

Menu introduction

Tool menu

Temperature setting for Hot bed and Nozzle

Preheat

Extrusion control

Extrusion

X/Y/Z axis movment control

Move

Mixed color printing control

Mixer

Back to main menu

Back

Home X/Y/Z

Home

bed leveling Manualty

Leveling

load and unload control

filament

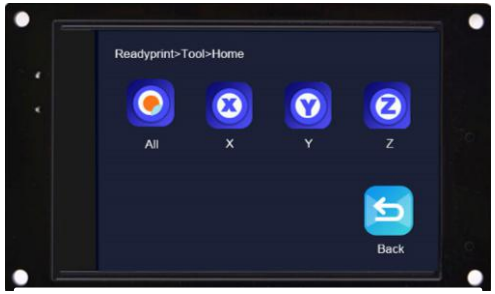
Menu introduction

Tool submenu:

Preheat submenu

Extrusion submenu

Move submenu



Home submenu

Leveling submenu

Filament submenu

Mixer submenu

Menu introduction

Settings menu introduction:The settings button contains 6 function buttons, such as file, language, fan, version, breakpoint call, WiFi, etc

Gcode files stored in SD card or USB disk can be selected

Can choose from Chinese, English, Russian, Spanish, French and Italy

The speed of the fan can be controlled

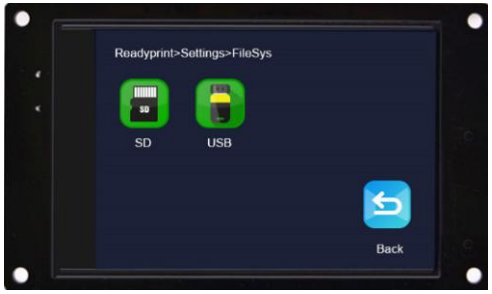
In case of power failure, the breakpoint can be continued through relevant settings

WiFi control printing can be carried out through relevant settings

Version query

Menu introduction

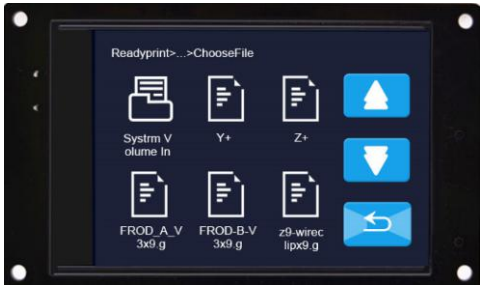
Settings submenu:



File system submenu

Language submenu

Fan submenu



Continue submenu

WIFI submenu

Menu introduction

Printing menu introduction:Press the printing button to print the 3D model when the SD card or USB stick is inserted.

- In the printing process, you can see the printing progress, printing time, z-axis distance, the temperature of the hot bed and extrusion head, the speed of the fan,and the Mixing ratio(2, 3, 4 colors can be configured).
- In the printing process, you can pause printing, continue printing, and of course stop printing.
- In the printing process, you can press the operation button to set or control.

Menu introduction

Printing submenu：

In the print menu,click “Pause”

In the print menu,click “Resume”

In the suspended state, press the operation button

In the printing state, press the operation button

Function parameter Configuration

Power on settings: please open the mks_config.txt file stored in the SD card, and make sure to set the relevant parameters.

```
#baud rate (9600:1; 57600:2; 115200:3; 250000:4)
>cfg_baud_rate:3

#extruder number(one:1; dual:2;)
>cfg_sprayer_counter:1

#enable heated bed(yes:1; no: 0)
>cfg_custom_bed_flag:1

#cfg_print_extruder_number (2:M2, 3:M3, 4:M4)
>cfg_print_extruder_number:4
```

Note:

1. The baudrate in the configuration file must be the same as the motherboard baudrate, 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 touch screen, it is best not to connect the USB port on the motherboard. Similarly, when burning the firmw are to the motherboard, it is best to unplug the touch screen connector.
3. The number of extruder configuration determines how many colors you choose to print (2, 3, 4 colors can be configured)

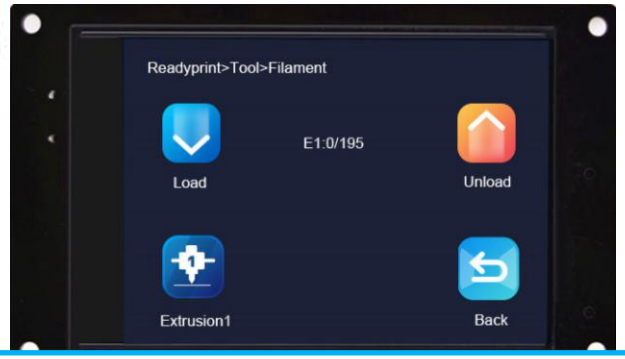
Filament Change

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 configurationfile, 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
```



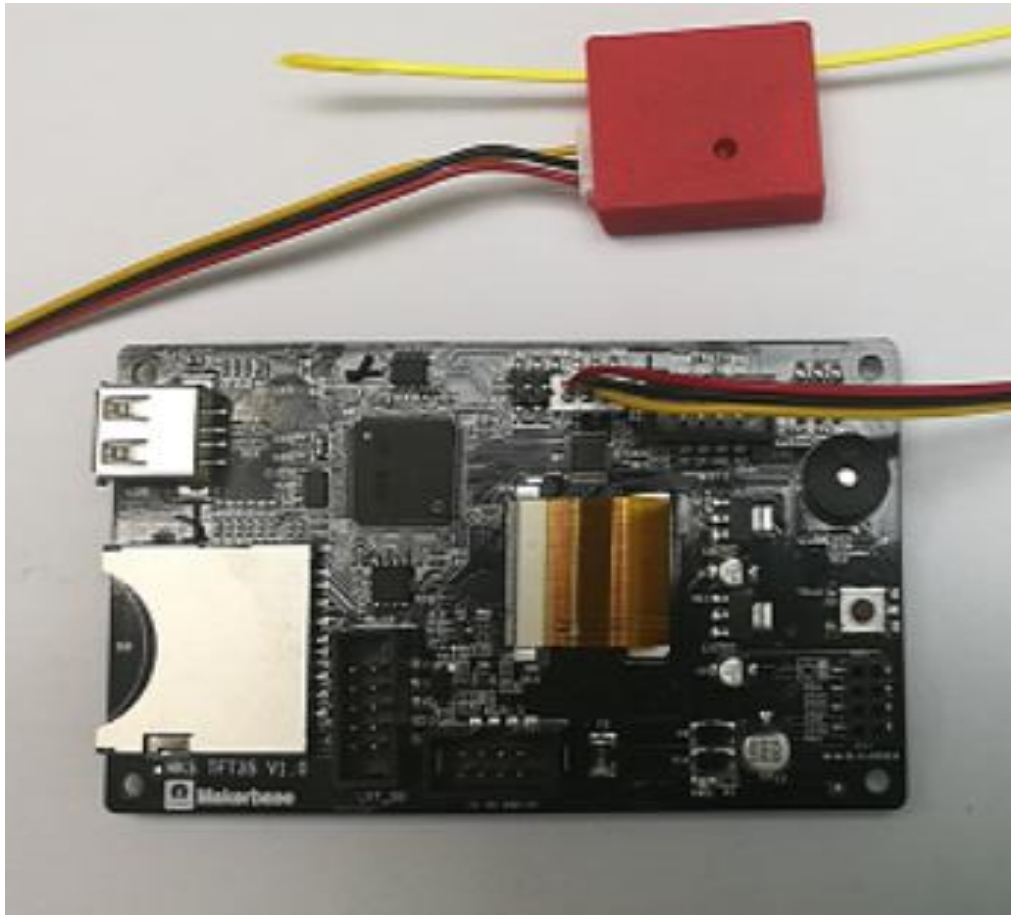
- Wait for the temperature of extrusion head to reach the set value.
- Select the extrusion head.
- Feed or return through in or out button

Filament Run Out

When filament run out detector detects that there is no filament, the printing will be suspended and the printing will continue after the filament is replaced(PB1 control pin).

It can be configured as high level or low level active.

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

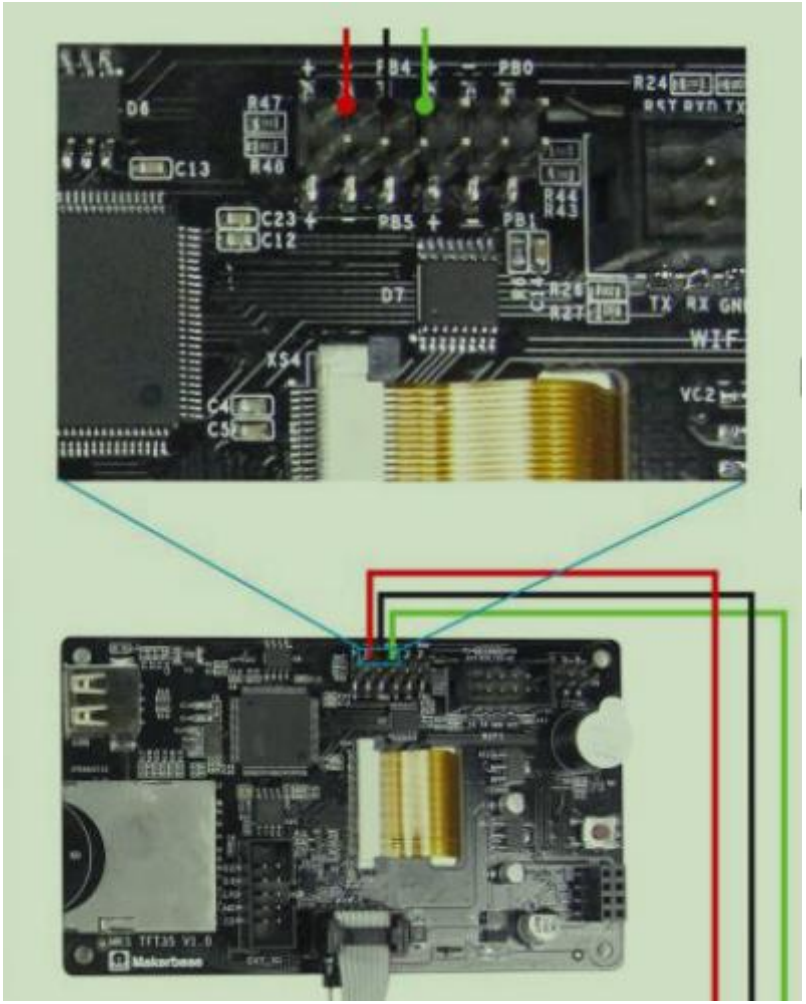


Shutdown after printing

Turn on the shutdown function in the configuration file, and use the shutdown function after completing the shutdown module(PB4 control pin);

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

It can be set to manual or auto mode



Save the gcode data with power off

In the printing process into a paused state, when without any one watching you can directly shut down,the next time you can start from the pause to continue printing,Of course, the SD card must remain on the motherboard.

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

When you click "Pause", You can cut off the power directly !

Breakpoints recovery

When you spend most of your time printing a model, the care less 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 Figure1

2.When the temperature reaches the target temperature,click“home” 

,then click “All” 

,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 out age must be homing operation,such as continuous electricity can not return to home point operation). as Figure2

3.After the axis back to home points,move the z axis will touch the mouth to stop printing of the layer,such as Figure3,Figure4,the time to test eyesight(can be selected in the configuration file to allow error,the following figure

```
#set error range of Z-axis on breakpoints recovery
>cfg_breakpoint_z_error:0.2
```

4.Point setting 

,click on the breakpoint recovery and select the file to be printed on the breakpoint recovery, as shown in Figure5,figure6.

5.After you select the file,wait for it to print. as Figure7. (After selecting the model,the larger the model,the more complex it is,the longer it waits here.)

The steps of breakpoints recovery:

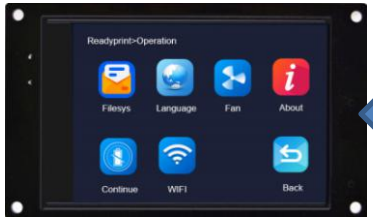
Breakpoints recovery

1

2

3

4



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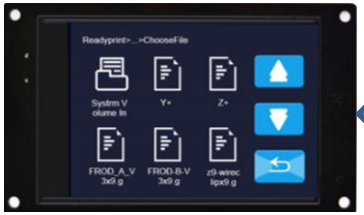


6

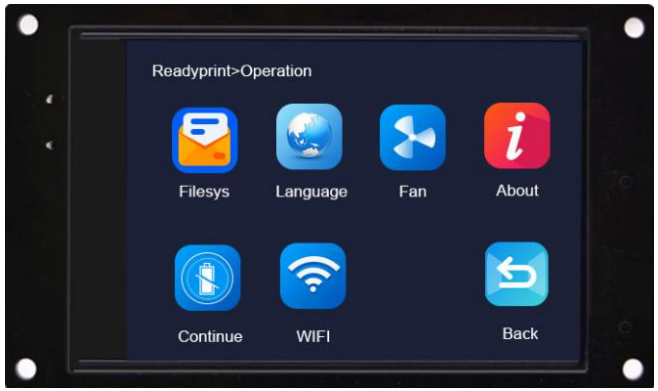
7

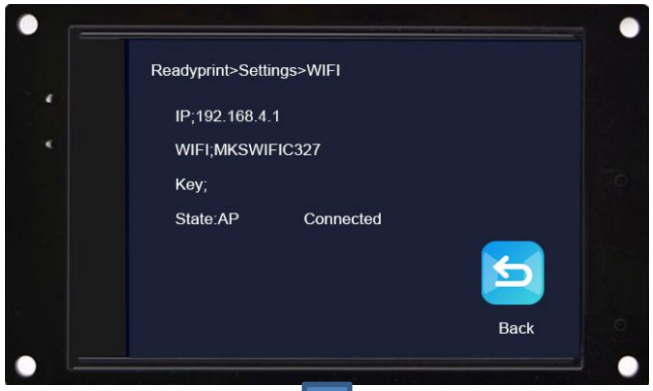
NOTE:

The above steps should not be less than one step! Otherwise, printing will not succeed.

The network printing function(WIFI)

Zonrstar 3.5" TFT touch screen with MKS TFT-wifi can realize the network printing function. The operation steps of the network printing function please refer to MKSCloud app manual. Information can be consulted customer service,technical support to obtain.





NOTE: For details, please refer to the mkscloud app manual and the definition on the provided configuration file.

Mixed color printing

Color mixing printing is a feature of the zonestar 3D printer. It includes three printing functions: manual, automatic and random. As shown below:

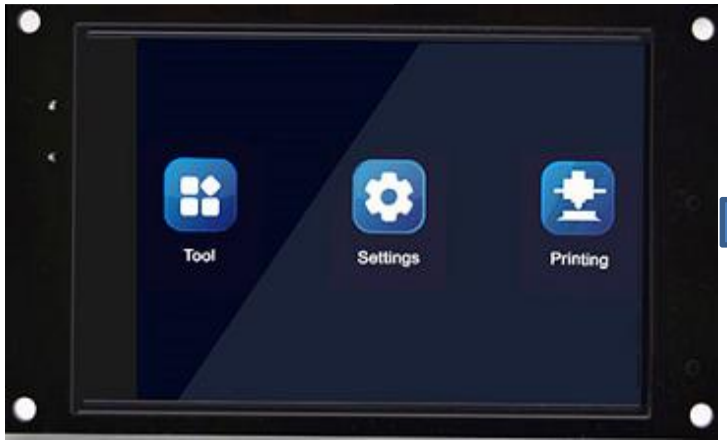
Click “Mixer”, and enter the mixed color printing interface

- In manual mode, the customer can set a mixed print ratio at will.
- In automatic mode, the customer can set the start mixing proportion and end mixing proportion first, And set the start and end points of the z-axis.and then the printer will automatically complete printing according to the set parameters.
- In random mode, the printer will randomly generate a mixed ratio column every minute until printing is completed.

Mixed color printing(Manual)

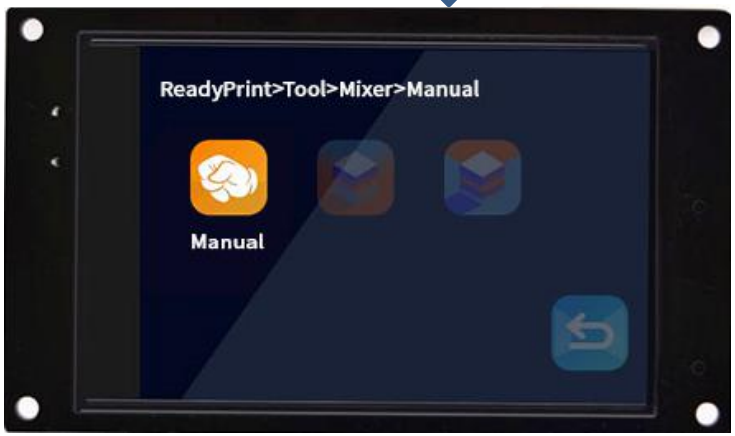
- Manual mode setting:Arbitrary setting of mixing ratio.

1:Click “Tool”



2:Click “Mixer”

3:Click “Manual”

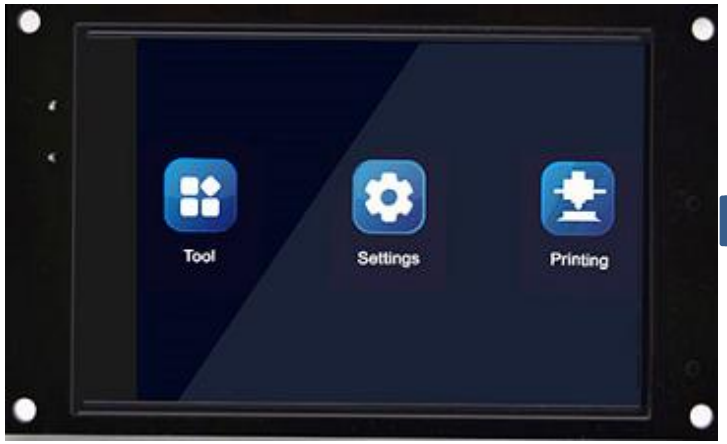


4:Setting parameters,then click “Apply”

Mixed color printing(Auto)

- Automatic mode setting:You need to set the start mixing ratio, the end mixing ratio, and the start and end points of the Z axis.

1:Click “Tool”



2:Click “Mixer”

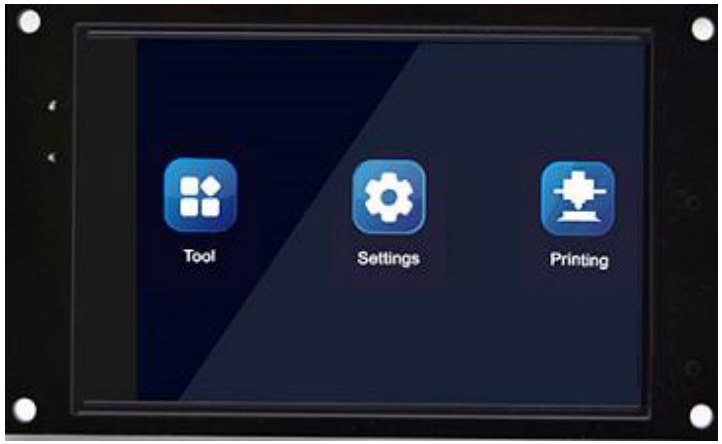
3:Click “Auto”

4:Setting parameters,then click “Apply”

Mixed color printing(Random)

●Random mode setting:One mixing ratio per minute.

1:Click “Tool”



2:Click “Mixer”

3:Click “Random”

About ZONESTAR

ZONESTAR Innovation Technology Co., Ltd. is a high-tech manufacturer specializing in the development and production of 3D printers.

Since began to develop and manufacture 3D printers in 2013, we have successively introduced several series of products such as P802, D805, Z5, Z6, Z8, Z9, and Z10, which are popular with customers all over the world. Now, ZONESTAR has Gradually grew to be a leader in the category of DIY 3D printers.

At the same time, we are committed to applying 3D printing technology to a wider range of fields and have successfully developed 3D printers for use in food, advertising, ceramics, and other fields.

ZONESTAR has always regarded ***Innovation***, ***Quality*** and ***Service*** as our core value of the company and strived to provide customers with high-quality and high-tech products and excellent services.

www.zonestar3d.com