

# Flsun V400

## User Manual

---

**Amazing Speed !**

# CONTENTS

|                                      |    |
|--------------------------------------|----|
| <b>Advance and Guidance.....</b>     | 1  |
| <b>1. Printer.....</b>               | 3  |
| 1.1 Parameter.....                   | 3  |
| 1.2 Introduction.....                | 4  |
| 1.3 Packing List.....                | 5  |
| 1.3.1 Main Parts List.....           | 5  |
| 1.3.2 Gift Parts List.....           | 6  |
| <b>2. Assembly Instructions.....</b> | 7  |
| <b>3. First Printing.....</b>        | 10 |
| 3.1 Bed Leveling.....                | 11 |
| 3.2 Load the Filament.....           | 16 |
| 3.3 Printing.....                    | 18 |
| 3.3.1 U Disk Printing.....           | 18 |
| 3.3.2 Online Printing.....           | 19 |
| 3.4 Adjust the nozzle height.....    | 22 |
| <b>4. Slicer software.....</b>       | 23 |
| 4.1 Add V400 configuration file..    | 23 |
| 4.2 Install Cura .....               | 24 |
| <b>FAQ.....</b>                      | 27 |
| <b>Mainboard Wiring Diagram.....</b> | 29 |
| <b>Maintenance.....</b>              | 30 |



## Advice and Guidance

1. Do not operate the printer in ways other than those specified in the manual, to avoid personal safety problems and property damage.
2. **The default power input voltage of the printer is 230V. If the local voltage is 115V, make sure to switch the input voltage before starting the printer.**
3. The assembly videos, configuration file and slicing software are included U disk, please back up the files of U disk to your computer before using.
4. Don't place the printer near inflammable, explosive or high heat source, ensure that the printer is in a safe and stable printing environment.
5. When the printer is running, don't touch the high-temperature parts, such as hot bed and nozzle, to avoid high temperature burns.
6. Children and untrained personnel are not allowed to use the printer alone.
7. It is recommended to use filament recommended by the manufacturer, which can not only reduce the blockage of nozzle, but also ensure the printing quality.
8. In order to ensure the service life of the printer, regular maintenance of the printer, especially the effector module and line rail and other important parts.
9. In case of emergency during printing, please click the emergency stop button on the screen or directly turn off the power.



## Advice and Guidance

Flsun V400 , Amazing Speed!

10. If you don't use the printer for a long time, please unplug the power cord to ensure safe use of electricity.
11. Flsun V400 do not use other printer's configuration files for slicing to avoid unpredictable situations.
12. The printer has been installed and tested before leaving the factory,It is normal if the printer has been used.
13. If you encounter problems with the printer, please contact Flsun's after-sales email:  
[service@flsun3d.com](mailto:service@flsun3d.com).



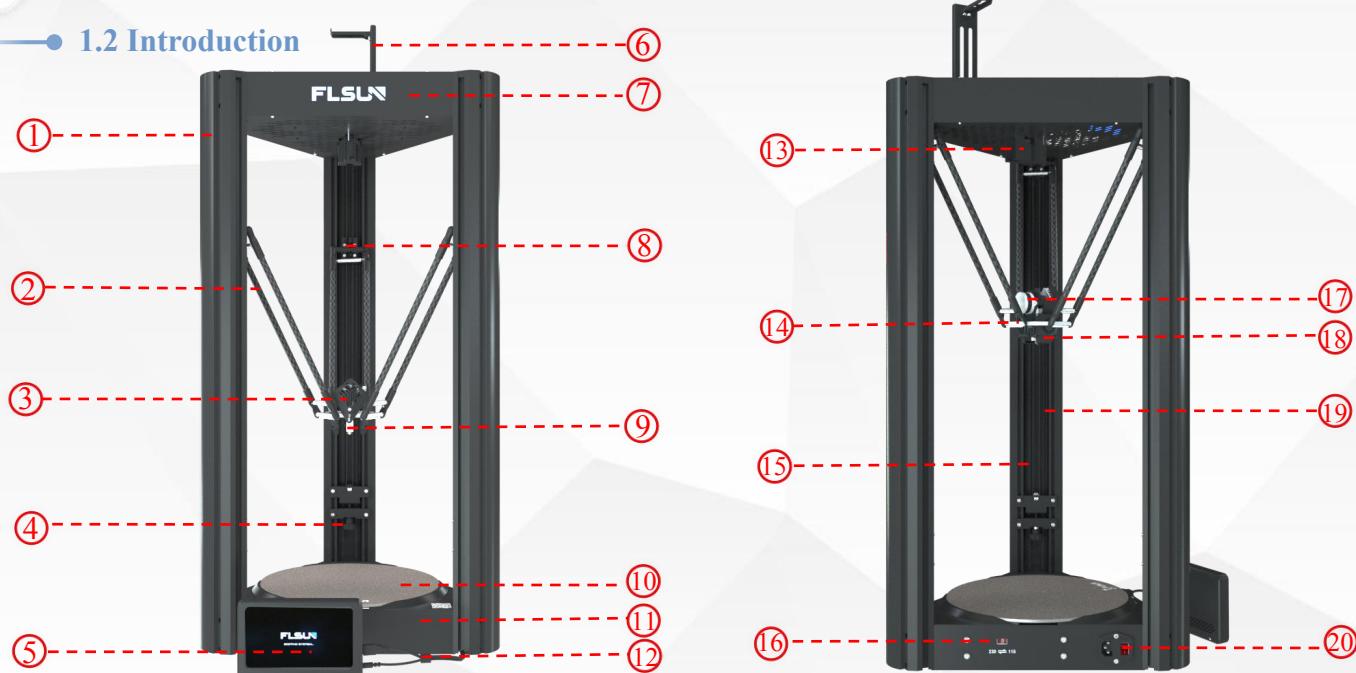
## 1.1 Parameter

|                         |  |
|-------------------------|--|
| Model                   | Flsun V400                                       |
| Printing Size           | Φ300*410mm (Highest Point)                       |
| Molding Tech            | FDM  |
| Nozzle Diameter         | 0.4mm  |
| Layer Height            | 0.05-0.3mm                                       |
| Precision               | ±0.15mm  |
| Nozzle Type             | Single Nozzle                                    |
| Environment Temperature | 5-40°C   |
| Nozzle Temperature      | ≤300°C   |
| Hotbed Temperature      | ≤110°C   |
| Filament Support        | PLA/PLA+/ABS/PETG/WOOD/TPU/PC/NYLON(Need dried)  |
| Printing Speed          | 400mm/s  |
| File Format             | STL/OBJ/AMF/3DS                                  |
| Slice Software          | Cura(recommend)/Simplify3D/prusaslicer/ideamaker |
| File Format             | G-code/UFP (Previewable model)                   |
| Working Mode            | Website/Flsun Speeder Pad                        |
| Data Transfer           | WIFI/U Disk                                      |
| Voltage                 | Input: AC 115V-230V Output: DC 24 V              |
| Power                   | 450W   |
| Leveling Type           | Auto-level                                       |
| Filament Detection      | Yes  |
| Extruder Type           | Direct Extruder                                  |
| System                  | Flsun system 1.0                                 |

# 1 Printer

Flsun V400 , Amazing Speed!

## 1.2 Introduction



|                  |                  |                    |                      |                   |
|------------------|------------------|--------------------|----------------------|-------------------|
| ①Axis            | ②Parallel Arm    | ③Extruder Cover    | ④Belt Adjustment Nut | ⑤PAD              |
| ⑥Filament Holder | ⑦Top Shell       | ⑧Slider            | ⑨Nozzle Kit          | ⑩PEI              |
| ⑪Bottom Shell    | ⑫PAD power cable | ⑬Filament Detector | ⑭LED                 | ⑮Liner Guide Rail |
| ⑯Change Voltage  | ⑰Direct Drive    | ⑱Air Guide Nozzle  | ⑲Belt                | ⑳Power Switch     |

# 1 Printer

Flsun V400 , Amazing Speed!

## 1.3 Packing List

### 1.3.1 Main Part



Top Shell



Bottom Shell



Axis



Effector Module



Parallel Arms



Filament Holder



PAD



Leveling Switch



Filament  
Detection sensor



Power Line



### 1.3.2 Gift Parts List



Diagonal Pliers



Screwdriver



Wrench Set



U Disk



Heating Rod



Thermistor



Clean Needle



PTFE Tube



Screws



Grease



Brush



PAD Holder



## Assembly Instructions

Flsun V400 , Amazing Speed!

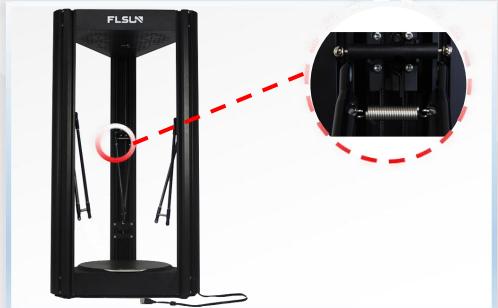
**TIPS**  
Note the one-to-one correspondence between motor and motor lines X, Y and Z



Take out shells and place them vertically on the desktop. The top shell "Flsun" logo and the QR code are in the same direction.



Plug the motor cable before putting the motor into the top shell. Install the 8\*M5 screws on both ends of the axis . Install the other two axis in the same way.



Pass the straightened cable through the inside of the Y-axis,insert the connector into the bottom shell socket

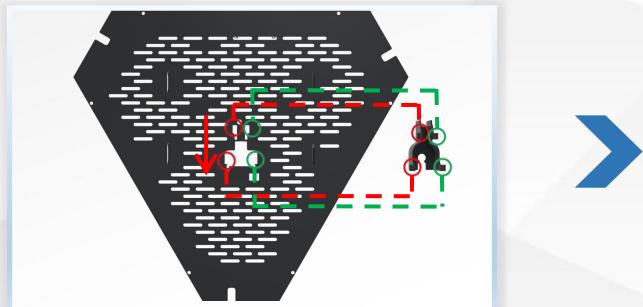


## Assembly Instructions

Flsun V400 , Amazing Speed!



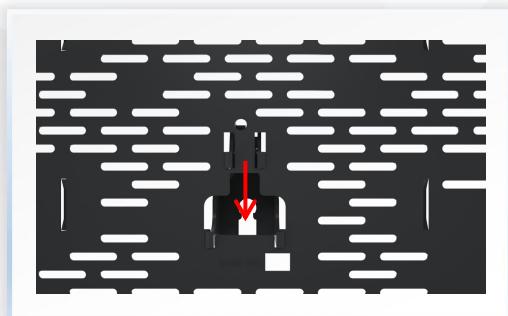
Install the effector module with the extruder hood facing forward. Plug the cable into the top shell adapter board, the color of the connectors is corresponding.



Put the bracket into the slot of the top shell as shown in the figure.



Take out the filament detection sensor, connect the filament detector wire. Snap the bellows into the bracket slot.



Push the bracket into the slot in the direction of the arrow.



## Assembly Instructions

Flsun V400 , Amazing Speed!



Take out the filament holder and two M4\*8 screws and assemble it.

Install the filament holder on the top of the printer, paying attention to the installation direction.



Install 3 axis covers.

Connect the two cables to Pad, put the pad on the Holder, and the installation is complete.



The default input voltage of the printer is **230V**. Please make sure the printer is converted to your local voltage before turning on the power switch for the first time.



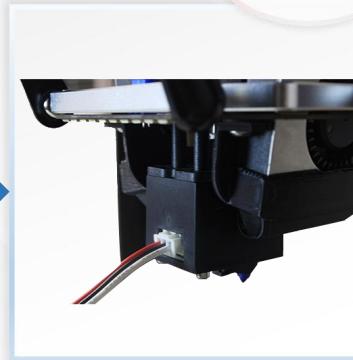
If your local voltage is **115V**, flip the red switch to the right to convert the input voltage to **115V**.



### 3.1 Bed Leveling



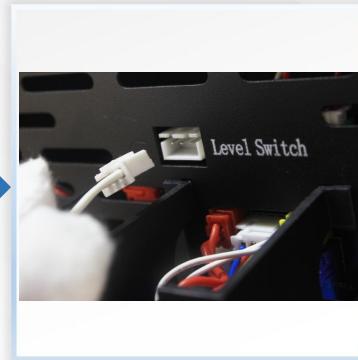
Take out the leveling switch.



Install the leveling switch according to the direction on the photo.



Please insert the leveling module firmly!



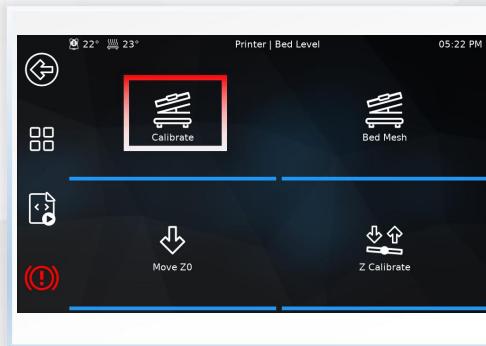
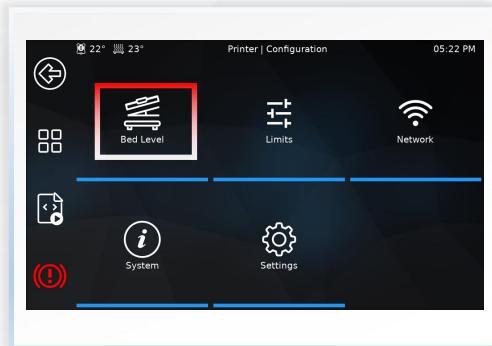
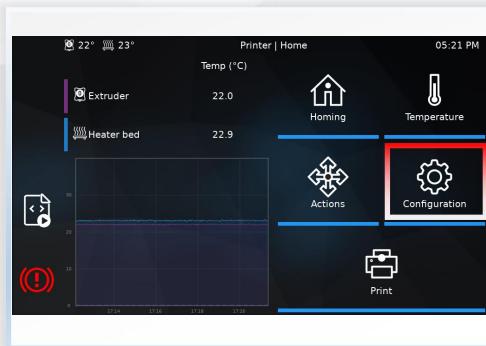
Insert the leveling switch into the adapter board of the top shell.



## First Printing

Flsun V400 , Amazing Speed!

1. Click "Configuration>Bed Level>Calibrate>Continue",please confirm to insert the leveling module before leveling.  
After the first leveling is completed, the printer will restart and display the homepage.Data is automatically saved.



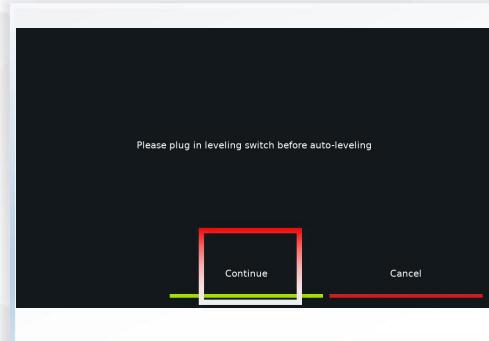
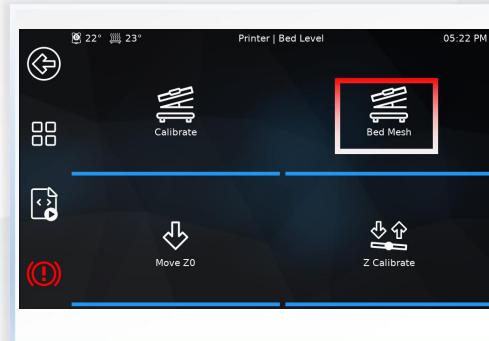
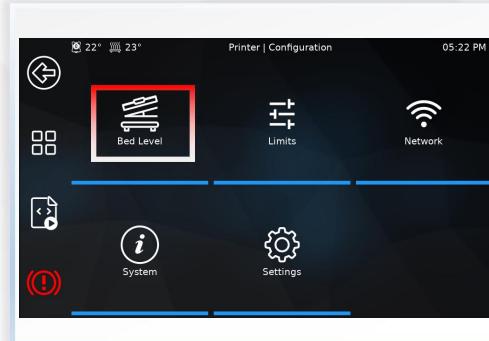
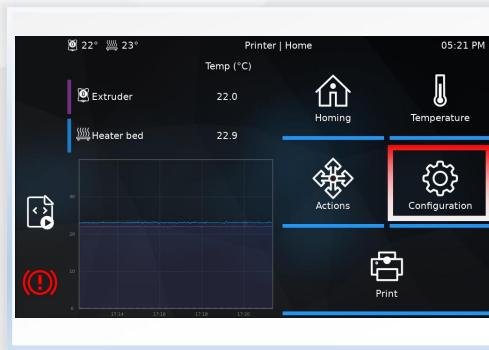
Please make sure  
the leveling switch  
is connected!



## First Printing

Flsun V400 , Amazing Speed!

2. Then click "Configuration>Bed Level>Bed mesh>Continue" for bed mesh.Data is automatically saved.



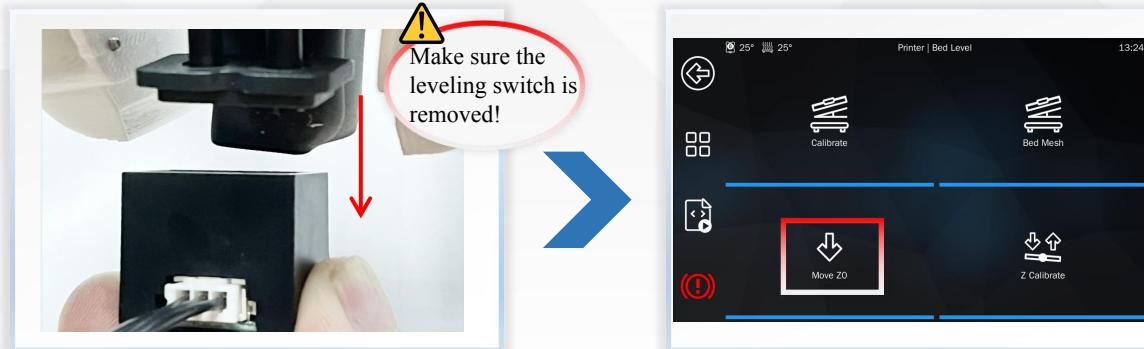
Please make sure  
the leveling switch  
is connected!



## First Printing

Flsun V400 , Amazing Speed!

3. Remove the leveling switch and disconnect the connector after bed mesh leveling fished.Click "Configuration>Bed Level>Move Z0>Continue".

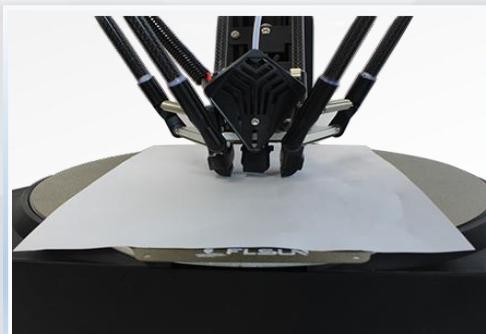
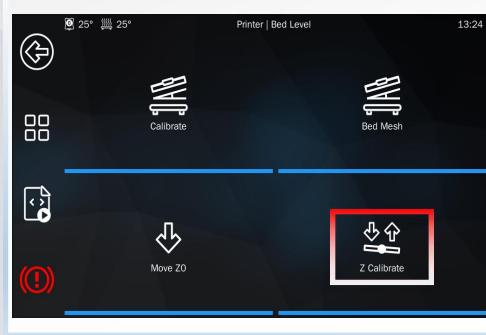




## First Printing

Flsun V400 , Amazing Speed!

4.Take a piece of A4 paper and place it under the nozzle, click "Z calibration".Use "Z+" or "Z-" to adjust the nozzle height. There is slight friction when pushing and pulling the A4 paper slowly. At this time, the distance between the nozzle and the hot bed is the most suitable. Click the back button to return to the home page and click "Home".



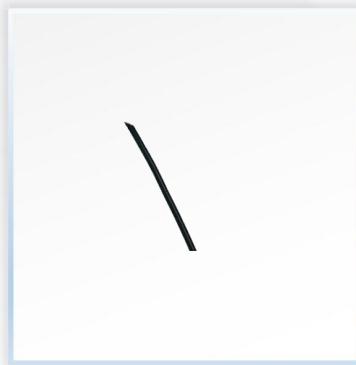
Leveling data is automatically saved and the effector does not go home.



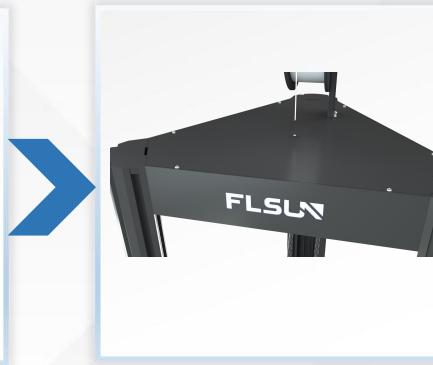
### 3.2 Load the Filament



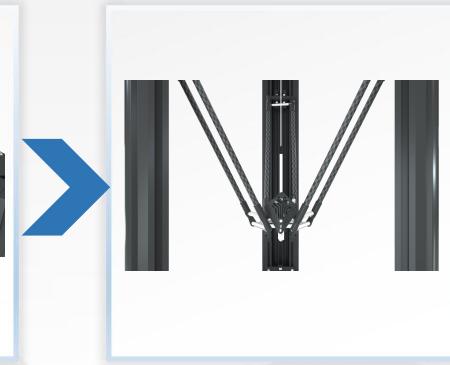
After replacing different types of filament, please extrude an additional 1 meter of filament to completely extrude the remaining filament to reduce the probability of nozzle being clogged.



1. Use diagonal pliers to cut the filament at an angle of 45° .



2. Pass the filament through the top of the printer.

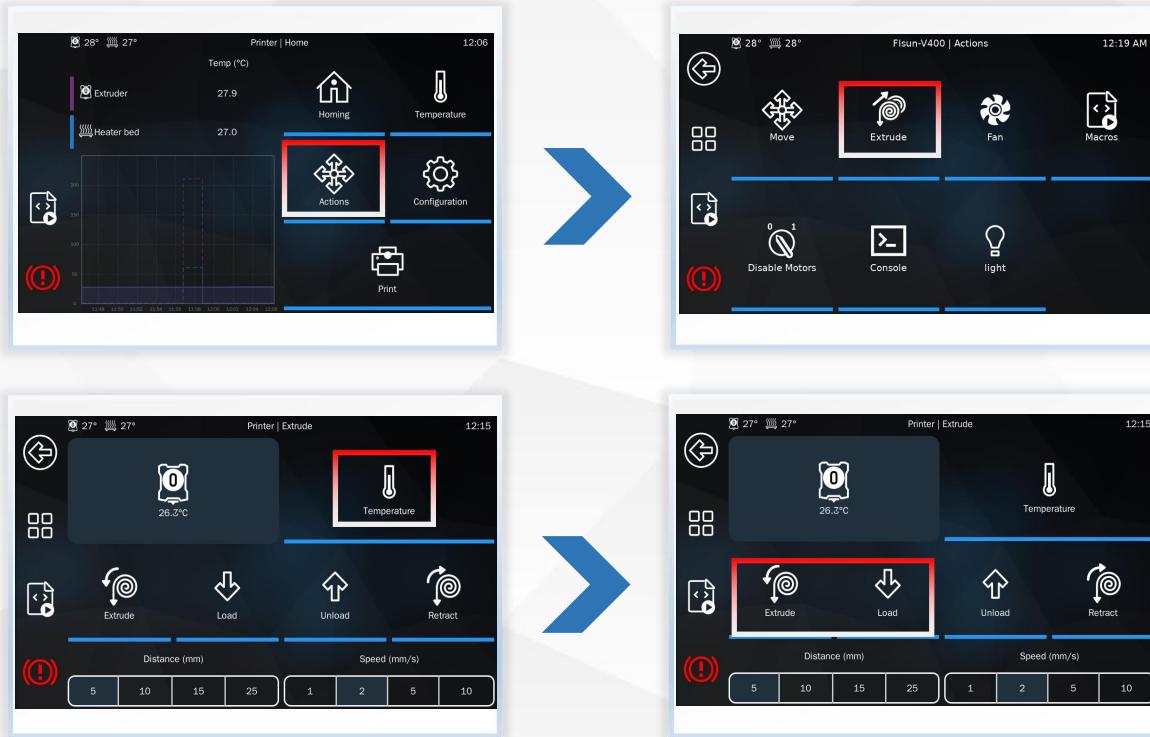


3. Insert the filament into the extruder.

## First Printing

FIsun V400 , Amazing Speed!

1. Click "Actions>Extrude>Temperature" on the screen, set the nozzle temperature above 180°C, and return to the "Extrude" interface. Push the filament down while clicking "Extrude or Load " to load the filament.

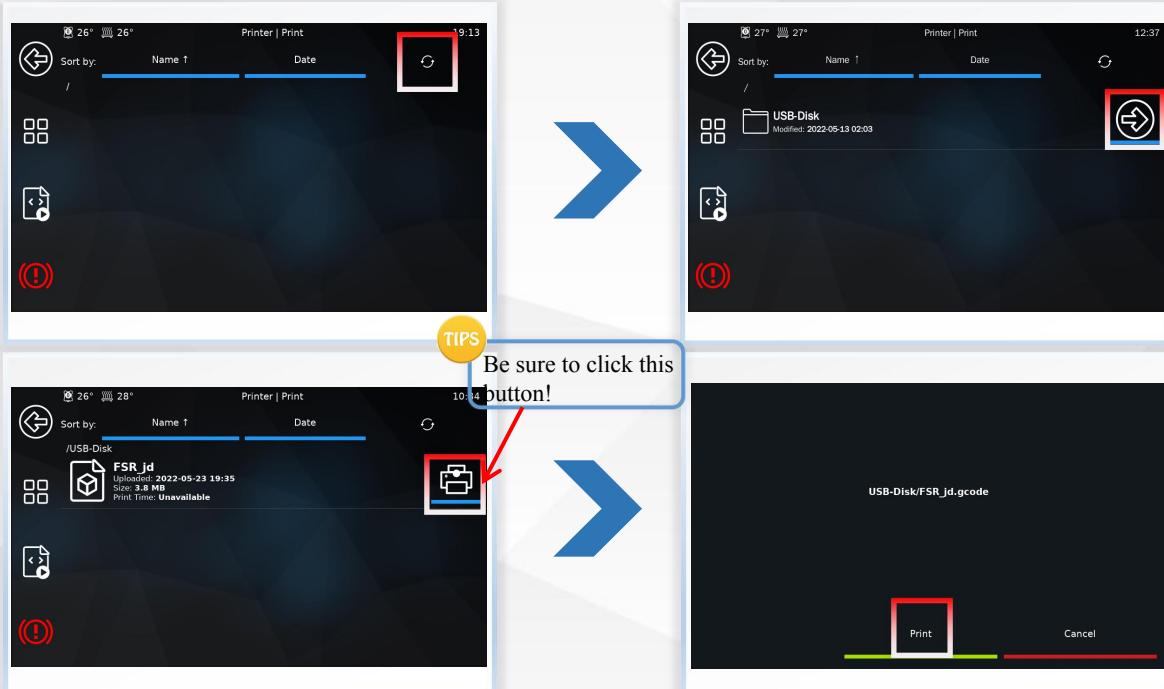




### 3.3 Print

#### 3.3.1 U Disk Printing

Save the G-code to a U disk, and insert the U disk into the USB port of the Pad. Click the refresh button and select the model to print.





Flsun V400 , Amazing Speed!

### 3.3.2 Online Printing

Connect to wifi, and an IP address will be generated after connection. Enter the IP address into the web browser.

The diagram illustrates the steps to connect the Flsun V400 printer to a network:

- Printer | Home**: Shows printer status (Extruder Temp: 212.7°C, Heater bed Temp: 58.7°C), a graph of temperature vs. time, and icons for Homing, Temperature, Actions, Configuration, and Print. The Configuration icon is highlighted with a red box.
- Printer | Configuration**: Shows printer status (Temp: 24°, Bed Level, Limits, Network). The Network icon is highlighted with a red box.
- Flsun-V400 | Network**: Shows network interface (Interface: wlan0, IP: 192.168.1.20) and a list of available WiFi networks (CU bnm3, CU 644f, CU 9g6h, CU J34k). The refresh button (a circular arrow icon) is highlighted with a red box.

**TIPS**

1. Make sure pad Wifi and PC share the same router.
2. If no IP address is displayed, click the refresh button, if not, click "System>Screen Restart". Then wait two minutes.

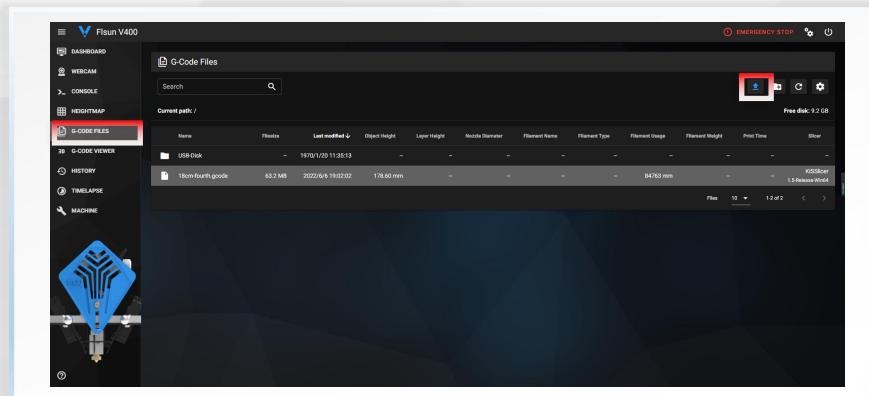
## 3



## First Printing

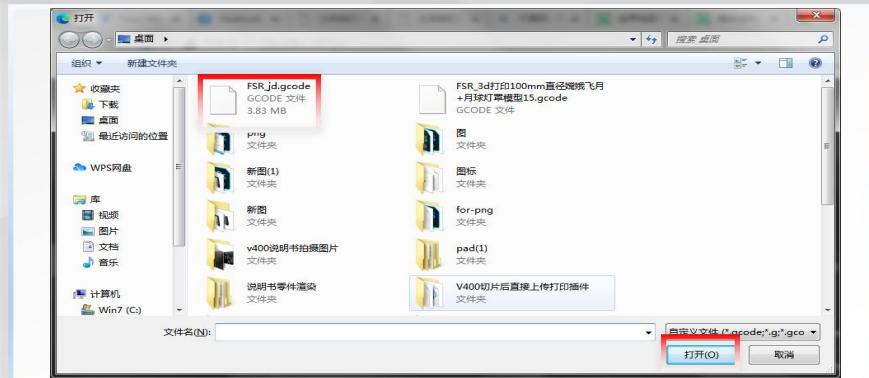
Flsun V400 , Amazing Speed!

Save the UFP or G-code file to the computer, upload files to the printer via web.



TIPS

UFP file preview  
model image.



3



# First Printing

Flsun V400 , Amazing Speed!

Right-click on the file and click "Start Printing".

The image consists of two vertically stacked screenshots of the Flsun V400 software interface.

**Screenshot 1:** Shows the G-Code Files screen. A context menu is open over a file named "18cm-fourth.gcode". The menu items include "Print start" (which is highlighted with a red box), "Add to Queue", "View 3D", "Download", "Edit file", "Rename", and "Delete".

| Name              | Filesize | Last modified     | Object Height | Layer Height | Nozzle Diameter | Filament Name | Filament Type | Filament Usage | Filament Weight | Print Time | Slicer                         |
|-------------------|----------|-------------------|---------------|--------------|-----------------|---------------|---------------|----------------|-----------------|------------|--------------------------------|
| USB Disk          | -        | 19/01/20 11:35:13 | -             | -            | -               | -             | -             | -              | -               | -          | KISSlicer<br>1.5-Release Win64 |
| 18cm-fourth.gcode | 63.2 MB  | 2022/6/8 19:07:02 | -             | -            | -               | -             | -             | -              | -               | -          | -                              |

**Screenshot 2:** Shows a confirmation dialog titled "Start Job". It asks "Do you want to start 18cm-fourth.gcode?". Below the question are two buttons: "CANCEL" (grayed out) and "START PRINT" (highlighted with a red box). The background shows the same G-Code Files screen as the first screenshot.



### 3.2 Adjust the nozzle height

If the nozzle is too low or too high when printing the first layer, you can click "Fine Turning" during printing to adjust the height of the nozzle and the adjustment will be automatically saved.



1. The nozzle is too close to the hot bed



2. Proper distance



3. The nozzle is too far from the hot bed





## ● 4.1 Add V400 configuration file

If you already have Cura installed, follow the steps below to add the V400's configuration file to your Cura. The file has been saved to a U Disk drive.

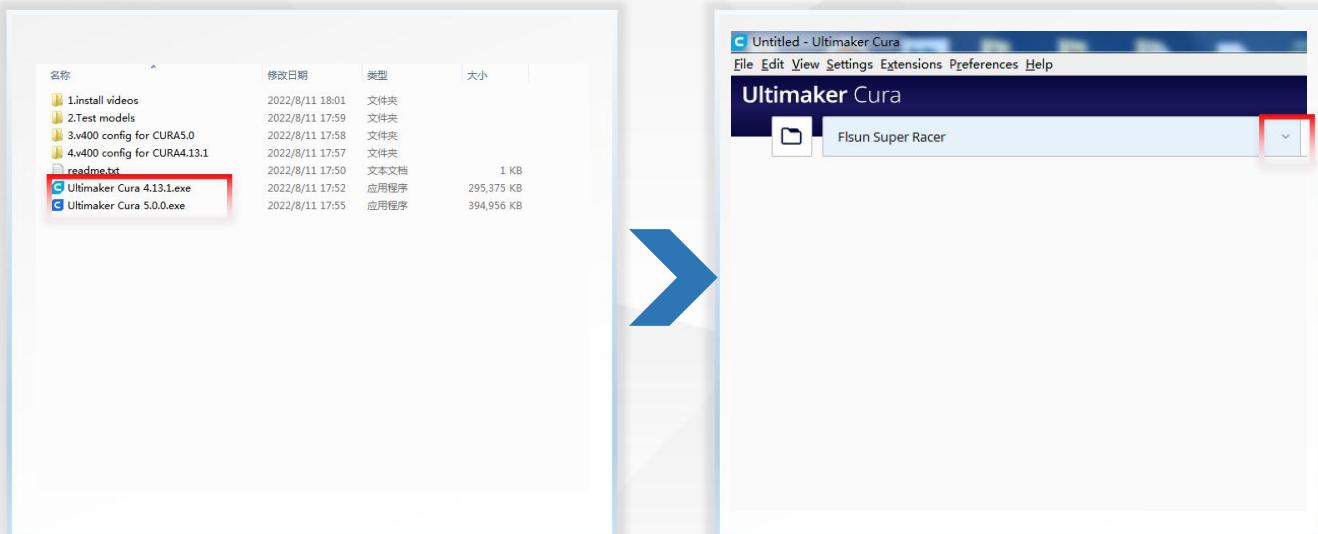
1. Take cura4.13.1 as an example: Follow the steps below to replace the original configuration file in cura with that of the V400.

- ①. Place the "flsun\_v400" folder to the "resources\quality" directory under the Cura 4.13.1 installation path.
- ②. Place the "flsun\_v400.def.json" file to "resources\definitions" directory in the installation path.
- ③. Place the "flsun\_v400\_extruder\_0.def.json" file in the "resources\extruders" directory in the installation path.
- ④. Place the "flsun\_v400.stl" file under the "resources\meshes" directory in the installation path.

2. After the replacement is complete, open Cura and follow the steps on page 24 of the installation manual to add the V400 printer.

## 4.2 Install Cura

If you have not installed Cura, follow the prompts to install Cura. The installation package has been saved to a U Disk drive. And follow the steps below to add the printer.



1. Open the U disk in the Gift Parts List, click "Ultimaker Cura 4.13.1.exe"(recommended) or "Ultimaker Cura5.0.0.exe", and install it according to the installation instructions.

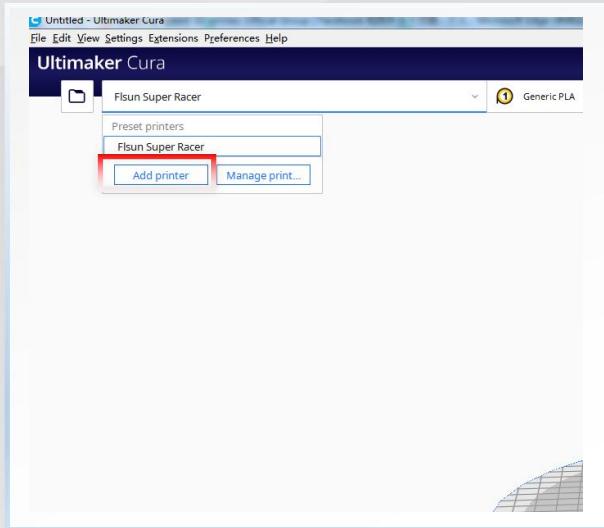
2. Open Cura and click the drop-down arrow in the box.

4

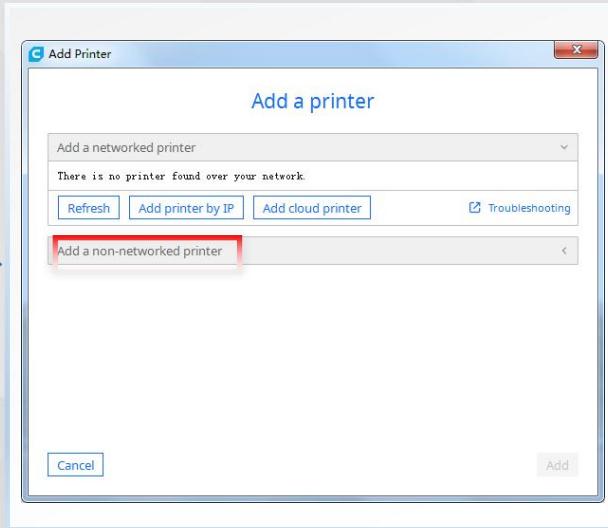


## Slicing software

Flsun V400 , Amazing Speed!



3.Click "Add Printer"



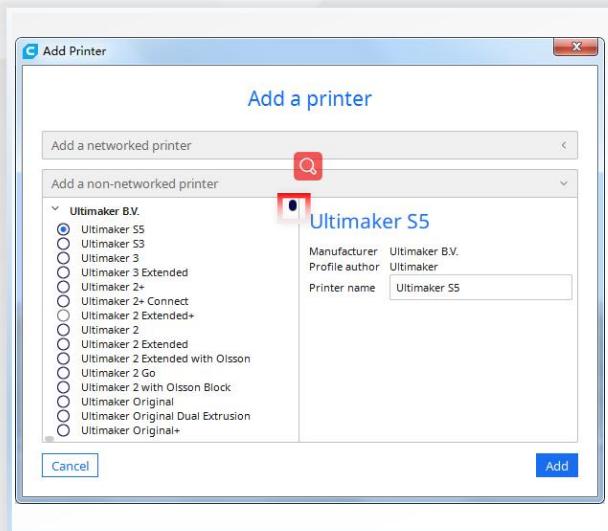
4.Click "Add a non-networked printer".

4

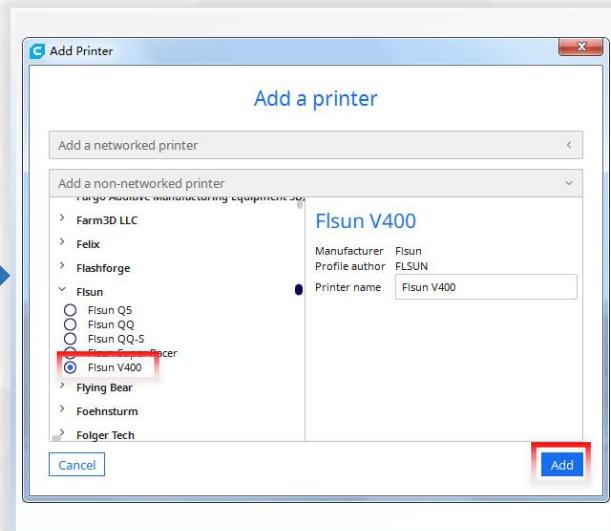


## Slicing software

Flsun V400 , Amazing Speed!



5.Pull down the slider to "flsun".



6.Select "V400" and click "Add".Then finish.



# FAQ

Flsun V400 , Amazing Speed!

## Q1. The model can't stick to the hot bed

- Solution 1: The nozzle is too far from the heated bed, you can re-do the automatic leveling or continue to adjust the distance between the nozzle and the heated bed after printing starts, until the first layer can be well pasted on the heated bed.
- Solution 2: The surface of the hot bed is too dirty, preheat the hot bed to 60°C, and use a cotton cloth dipped in alcohol or water to clean the surface of the hot bed.
- Solution 3: The model is warped, and the "brim" mode is selected when slicing to prevent the model from warping during the printing process.
- Solution 4: Apply solid glue on the surface of the PEI platform.

## Q2. Nozzle abnormality

- Solution 1: Filament overflows from the nozzle, check whether the nozzle is loose or tilted.
- Solution 2: The nozzle is blocked and the filament cannot be squeezed out. Heat it at 240°C and use a cleaning needle to clean the excess filament in the throat and nozzle.
- Solution 3: Wrap the filament in the extruder, clean the filament inside, exit the filament, cut the filament at the front end by 3cm, and re-feed.

## Q3. The printing quality is poor, and the surface of the printed model has spots or layers

- Solution 1: Check if the slider screws is loose.
- Solution 2: Check whether the tightness of the three belts is consistent, and check whether the belts are deformed or stretched.
- Solution 3: The filament is oxidized or wet, please replace the filament. The printing temperature is too low or too high, please adjust the printing temperature.
- Solution 4: Change the appropriate slicing parameters.

## Q4. The printer cannot be leveled.

- Solution 1: Check whether the tightness of the three belts is consistent, and whether the belts are deformed, stretched, or worn. Check whether the slider screws are loose.
- Solution 2: Cleaning the surface of PEI , check whether there is any residue on the bottom surface of PEI, and autolevel again.



## Q5. Extruder abnormality

Solution 1: The nozzle temperature is insufficient and the filament is not fully melted, so the nozzle temperature needs to be increased.

Solution 2: If the extruder is entangled, clean the filament inside.

Solution 3: Rotate the wire feed wheel at the handle. If there is an obvious stuck feeling when turning, you need to replace the pin shaft kit.

Solution 4: If the extruder does not rotate or rotates abnormally, first, check whether the motor wire is loose and whether each connection point is normal. Second, exchange the X drive and the E drive. If the extruder motor is normal and the X axis is abnormal, the drive is broken. If the extruder motor does not return to normal, it may be that the motherboard driver socket is damaged. Switch the motherboard port to insert the motor cable and the original driver into the E1 socket, and contact the after-sales service to update the firmware.

## Q6. Solutions when display errors

error 1: "klipper has shut down". Connect to the network, and check the specific information of the printer error on the web side "DASHBOARD>console", solve problems based on feedback. Possible reasons for the error:

- 1.The temperature sensor is damaged and the connection is not normal. This error will cause the Pad to fail to restart.
- 2.Nozzle temperature drops during printing, install silicone socks.
- 3.If the Pad can't be connected to the motherboard, it may be a problem with the screen, the connecting cable or the motherboard being damaged. This error will cause the Pad to fail to restart.

error 2: "move of out range". When the size of the printed model is close to 300mm, do not use tree supports when slicing.

error 3: When connecting to the network, if the IP address does not appear after clicking Reboot System, please wait for two minutes.

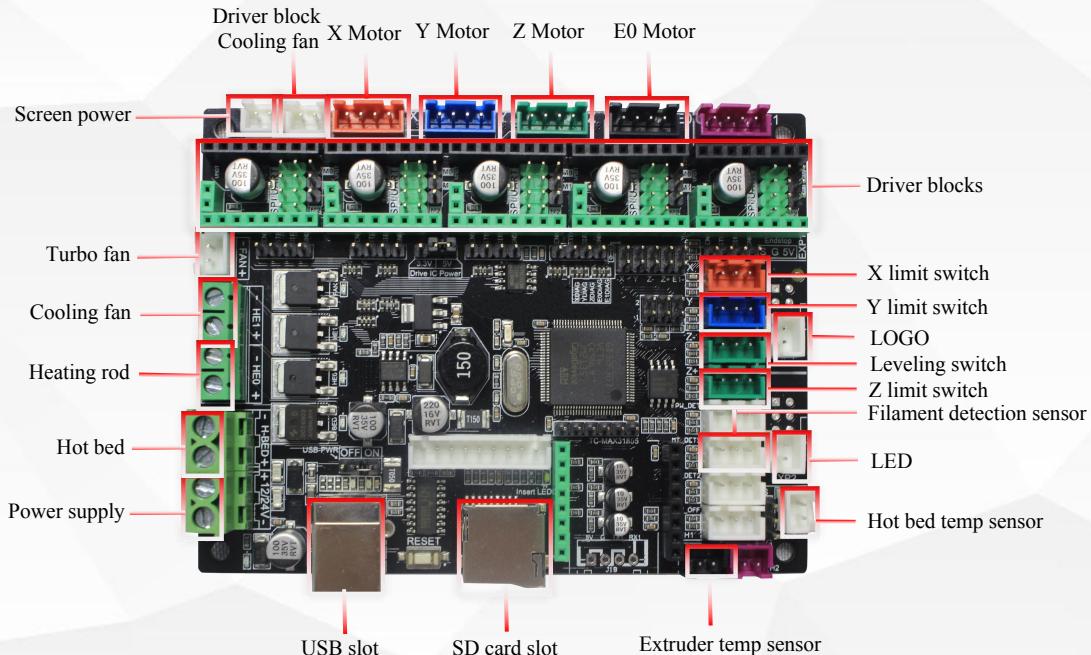
## Q7. PAD cannot recognize U Disk

When there is an error in the PAD, the PAD may not be able to recognize the U disk. After restarting the power of the PAD, the U Disk can be recognized normally.



# Mainboard wiring diagram

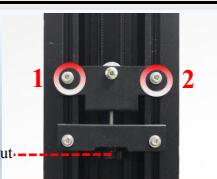
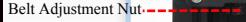
Flsun V400 , Amazing Speed!





## Maintenance

Flsun V400 , Amazing Speed!

|   |   |
|---|---|
|    | <p>If there is dust or filament on the PEI board, clean the PEI board with water or alcohol before printing, the printed model will adhere better to the PEI board.</p>   |
|    | <p>Apply grease to the contact between the parallel arm and the wide angle ball head,<b>do it once every 15 days</b>.</p>   |
| <br>Belt Adjustment Nut:  | <p>Adjust the belt tightness,<b>do it once every 15 days</b>.loosen the two screws marked 1 and 2 in the photo,and then turn the belt adjusting nut clockwise.When there is on gap between the cylindrical gasket and the iron sheet tighten screws 1 and 2 .</p> |
|    | <p>Squeeze the grease onto the optical axis on both sides of the linear guide,then slide the slider up and down to the spread the grease evenly ,<b>do it once every 15 days</b>.</p>   |



V400 Facebook Group



WhatsApp



Facebook



Support Email:[service@flsun3d.com](mailto:service@flsun3d.com)

Support Skype:[FLSUN\\_Zhang](#)

Official Website:<http://www.flsun3d.com/>

Official FB Group :<https://www.facebook.com/groups/flsunv400>