MINGDA

User Manual

[MD-1000D 3D Printer]

*Please read this guide carefully before using this printer

Shenzhen MINGDA Technology Co.,Ltd

V1.3

Thank you for choosing MINGDA Technology's products!

For the best experience, please read this user manual carefully and follow the instructions to operate the printer. If you encounter any issues with the printer, please contact us using the contact information provided at the end of this user manual. Our team is always ready to provide you with high-quality service.

To enhance your usage of our product, you can also learn how to use the printer through the following means:

1. User Manual: Relevant instructions and videos can be found on the included USB drive.
2. You can also visit our official website (**www.3dmingda.com**) for information on software, hardware, contact details, device instructions, device specifications, and warranty information, among other things.

Cautionary Notes

1. Please do not place the printer in environments with significant vibrations or instability, as machine shaking can affect the print quality.
2. Avoid touching the nozzle and heated bed while the printer is in operation to prevent potential burns from high temperatures, resulting in personal injury.
3. Refrain from moving the device during the printing process to prevent accidents and injuries.
4. Do not dismantle the equipment or alter circuit settings without authorization.
5. Avoid using the device in high-temperature or humid environments to prevent compromising device performance or creating safety hazards.
6. In case of an emergency, immediately cease using the device and power it off.

Contents

1. Overview

This manual provides instructions on the usage of the 3D printer, covering aspects such as an overall introduction to the device, operational procedures, maintenance, and care. The aim of this manual is to assist you in correctly using and maintaining the 3D printer, ensuring device performance and safety, extending the lifespan of the equipment, and enhancing print quality. We hope that you follow the requirements and recommendations outlined in this manual during usage, and maintain attention to and care for the equipment. Thank you for choosing our product, and we wish you a pleasant experience!

2. Device Introduction

Device Parameters

Basic Parameters	
Product Model	**MD-1000D**
Machine Dimensions	1680*1365*1665 mm
Max. Build Dimensions	1000*1000*1000mm
Print Technology	Fused Deposition Modeling (FDM)
Rated Voltage	100-240V, 50/60Hz
Rated Power	2700W
Ambient temperature	10℃-30℃ / 50°F-86°F
Extruder Type	Dual Extruders
Max. Nozzle Temperature	350℃
Max. Bed Temperature	110℃
Screen	10inch touch screen
Printing Method	USB Flash Disk / LAN Printing
Connection	USB Flash Disk / WIFI / Ethernet
Power Loss Recovery	Yes
Filament Detection	Yes
Fast Auto leveling	Yes
Camera	Yes
Fast Calibrate Offset	Yes
Supported Filament	**Common filament:** PLA, PETG; **Engineering filament:** PA-CF/GF, PET-CF/GF, HtPA-CF/GF, PA-GF25/CF25; **Support filament:** S-Mulit, S-HtPA, PVA, etc

Packing List

Tool List

U-disk

Nozzle*2

Diagonal pliers

7mm Sleeve

Indicator light & screw

Allen wrench

Antenna

If you choose high temperature filament, we will provide a drying box.

Note: **The picture is for reference only. When the real thing is inconsistent with the picture, the actual object shall prevail.**

Precautions for the Use of High Temperature Filament

Note: Please put the high-temperature filaments in a dry box for printing, otherwise humidity will affect the print quality.

If the high-temperature filament is not used up, put it in an aluminum foil bag in time. If the filament is wet or the surface of the print has obvious drawing, it means that the filament is damp, and it needs to be dried in an industrial oven before use.

3. Operational Steps

Part assembly

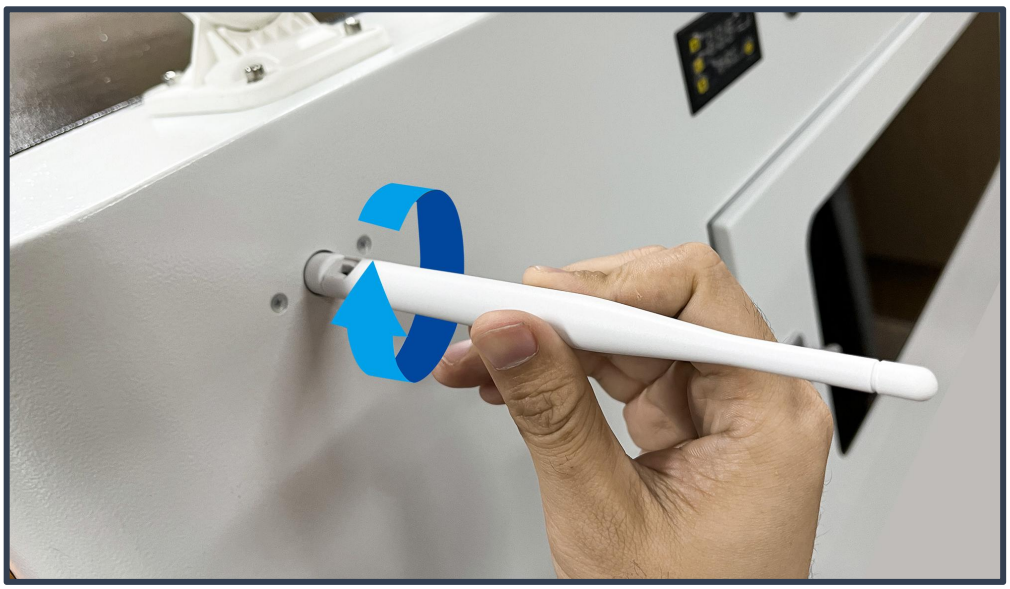
1. Install the indicator light.

Green light: Indicates that the printer is working properly.

Red light: Indicates that the printer is in an emergency stop or fault state, requiring immediate attention or repair by the user. For example, overload, short circuit, or error message on the screen.

Yellow light: Indicates that the printer is in a warning or abnormal state, requiring user attention or intervention. For example, insufficient filament or paused printing.

2. Install the antenna.



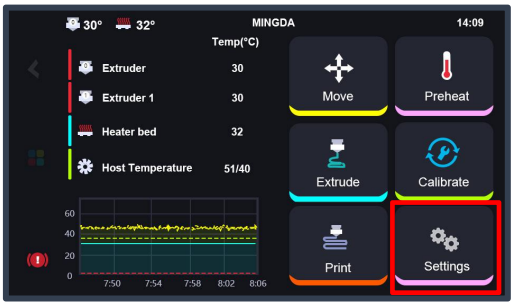
3. Power on

Insert a power socket

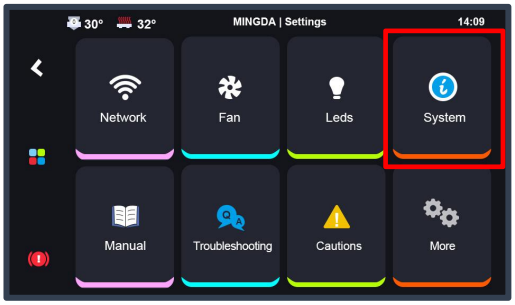
Press the power button to turn on the printer

4. Power off

When you turn off the printer, please don't press the power directly! Click "Settings-System-Shutdown-Printer" to turn off the printer



Click the "**Settings**"

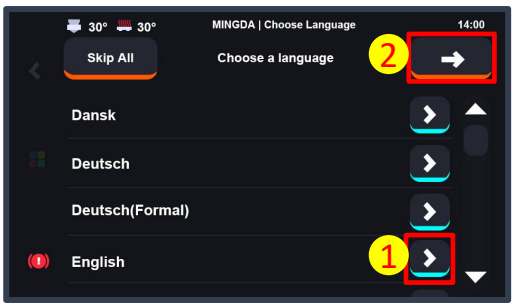


Click the "**System**"

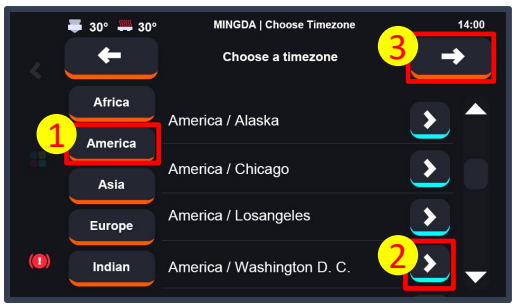
Click the "**Shutdown**"

Startup Configuration

1. Select Language and Time Zone



Click to choose the language, and click to proceed to the next step.

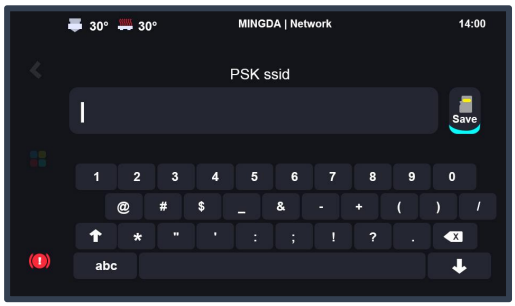


Select timezone, click to confirm, and click to next step.
[Time zone settings will take effect after connecting to Wi-Fi and restarting the system.]

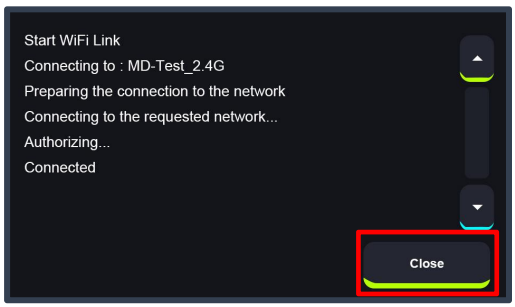
2. Wi-Fi

Note: If you find that the printer cannot detect your WiFi signal, you can click to skip this step for now. After completing the startup wizard, move the printer to a location closer to a stronger signal source, and then reconnect to WiFi.

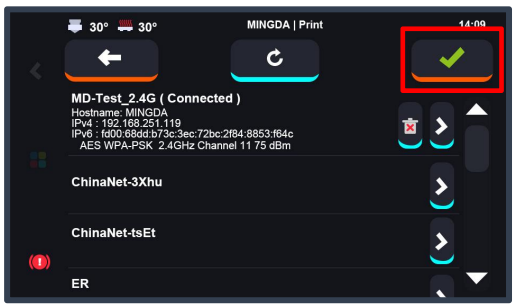
Select the WiFi and click
(If your WiFi cannot be displayed for more than 20s, please click to refresh)



Enter the WiFi password and click



Once the connection is successful, click Close



Upon successful connection, click the in the upper right corner to enter the main interface of the machine. If you do not need to connect to the network, you can also click the to skip this step.

Printer Calibration

Click "**Calibrate** "

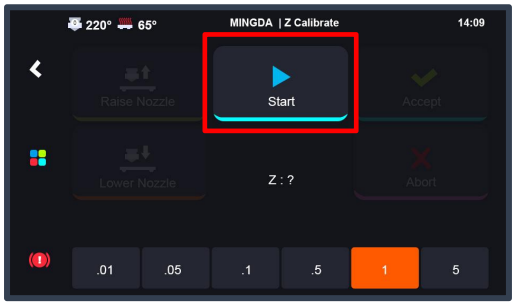
Tip: **Please follow the sequence shown in the diagram to calibrate step by step.**

Z Endstop → Z Calibrate → Leveling → XY Offset → Z Offset → Input Shaper

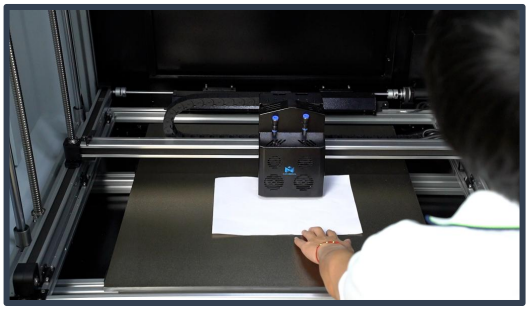
1. Z Endstop

Adjust the position of the photoelectric switch.

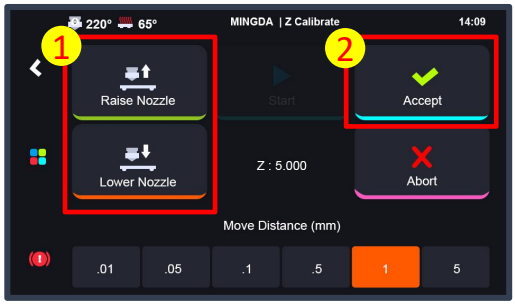
Click "**Z Endstop**" 



Click "**Start**"  , click "Accept" and confirm

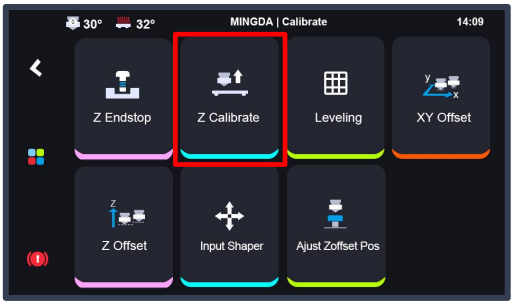


Put an A4 paper between the nozzle and heated bed.

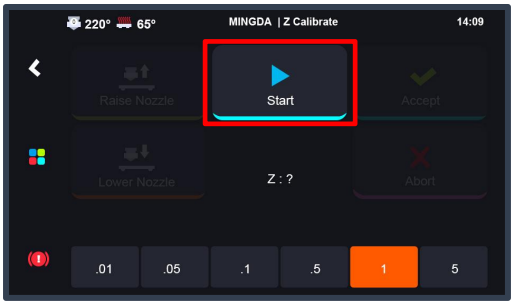


Move the nozzle downward  until it lightly presses against the paper and the paper can be moved with slight resistance. Then, save the settings. 

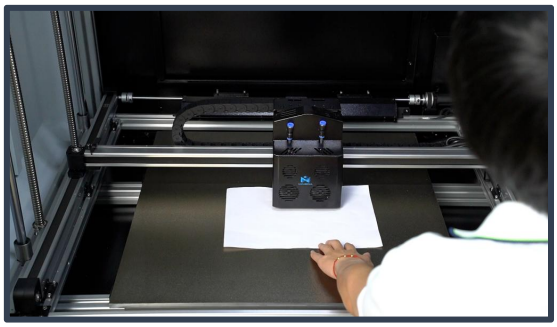
2. Z Calibrate



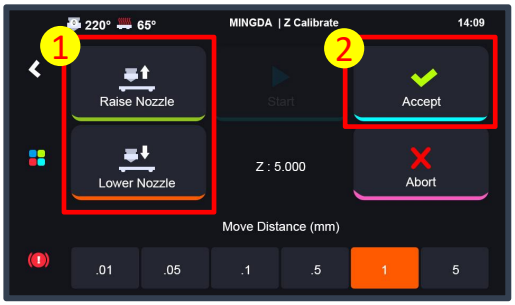
Click "**Z Calibrate**" 



Click "**Start**"  , wait Z axis calibrating and click "Accept" and confirm

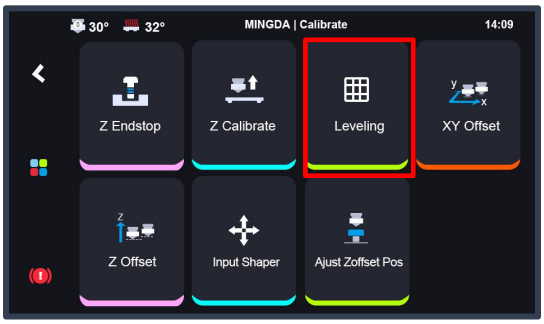


Put an A4 paper between the nozzle and heated bed.

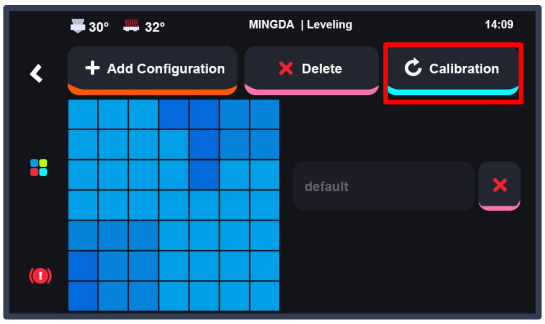


While moving the A4 paper back and forth, adjust  and  . When you feel slight resistance as the paper moves, you can click the  to save.

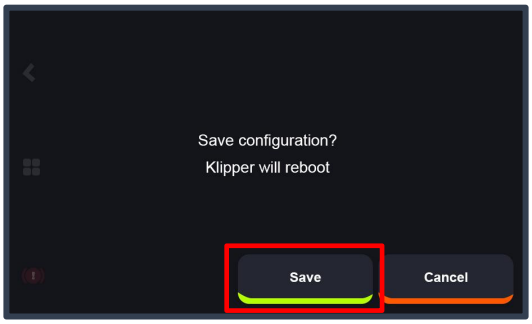
3. Auto Bed Leveling

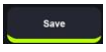


Click "**Leveling**" 



Click  to start auto-leveling, which will take approximately 3 minutes

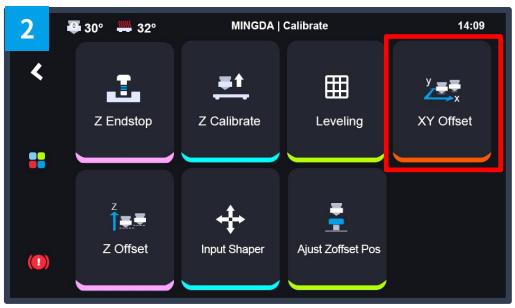


Click  to save the value, the printer will reboot automatically.

4. XY Axis Offset Calibration

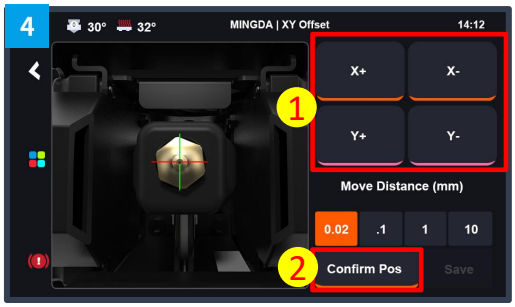
Tips: Wipe the nozzle clean before calibration to avoid any interference during the process.

Click the "**Calibration**"

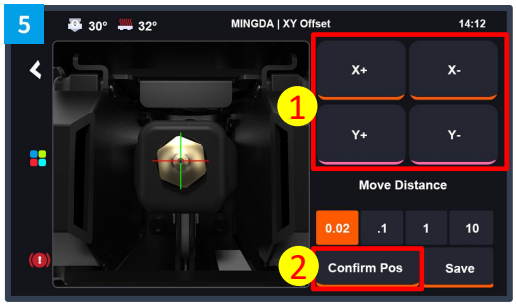


Click "**XY Offset**"

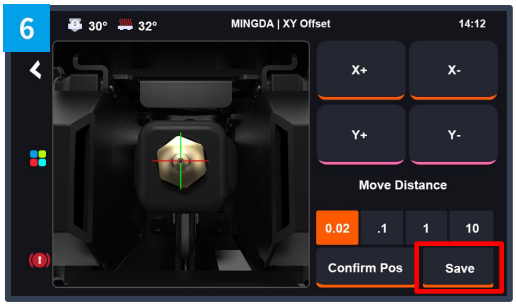
After the camera Led light up, Click "**Start**" , and the left extruder will move to the calibration camera's position.



Adjust the left extruder nozzle to align with the crosshairs of the screen and click "**Confirm Pos**" Confirm Pos



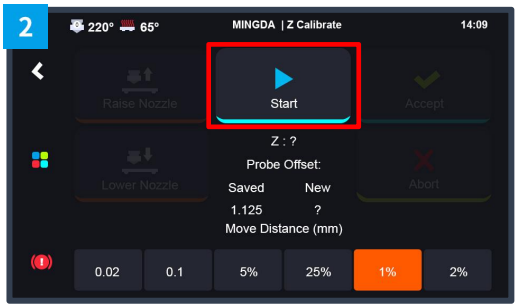
Adjust the right extruder nozzle to align with the crosshairs of the screen click Confirm Pos



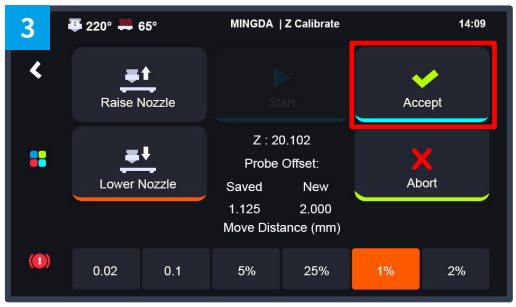
Click the "**Save**" Save

5. Z Axis Offset Calibration

Click "**Z Offset**" 



Click "**Start**" to start Z offset automatically



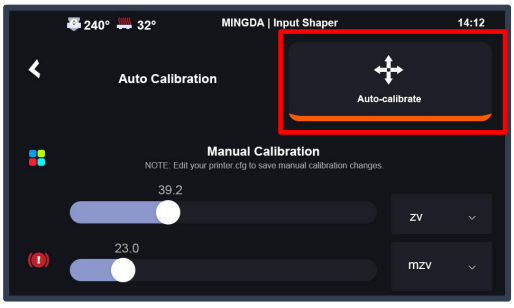
After finishing, click "**Accept**"  and confirm

While calibrating the Z-axis offset, the extruder will move towards the sensor located the left side of the camera.

Safety Reminder: To ensure that the nozzle correctly lands on the sensor, please calibrate the XY axis before calibrating the Z axis. While the extruder is moving downward, pay close attention to its movement. If there is excessive deviation or signs of extreme extrusion pressure, click the return in the top left corner of the screen or the emergency stop  in the bottom left corner to stop the calibration. Contact customer support or refer to official videos for troubleshooting solutions.

6. Input Shaper

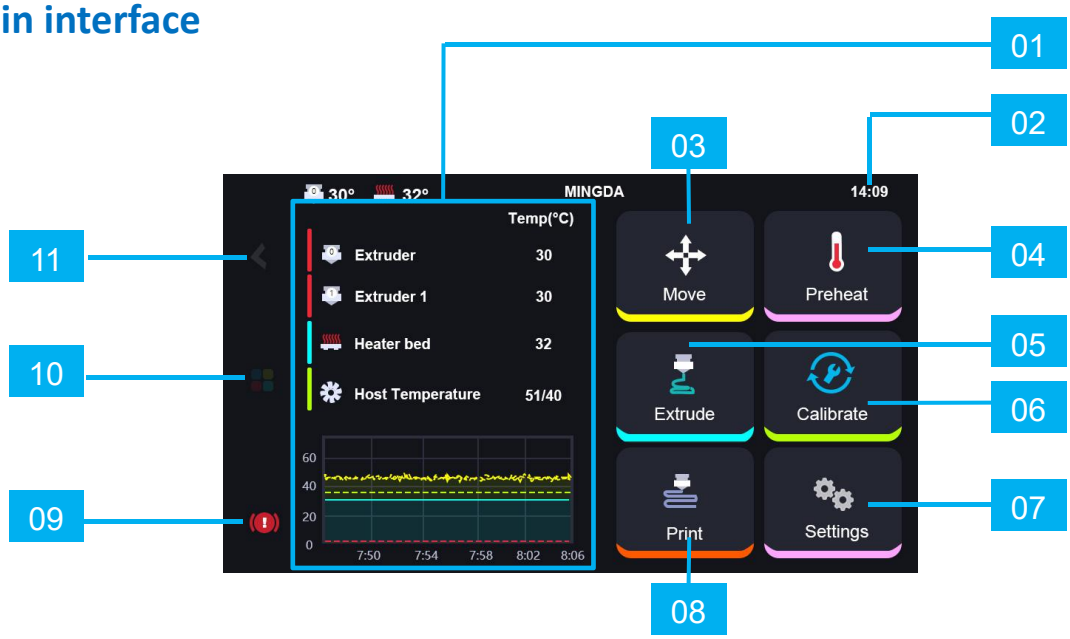
Click "**Input Shaper**" 



Click "**Auto-calibrate**", After calibration is complete, click the save button.

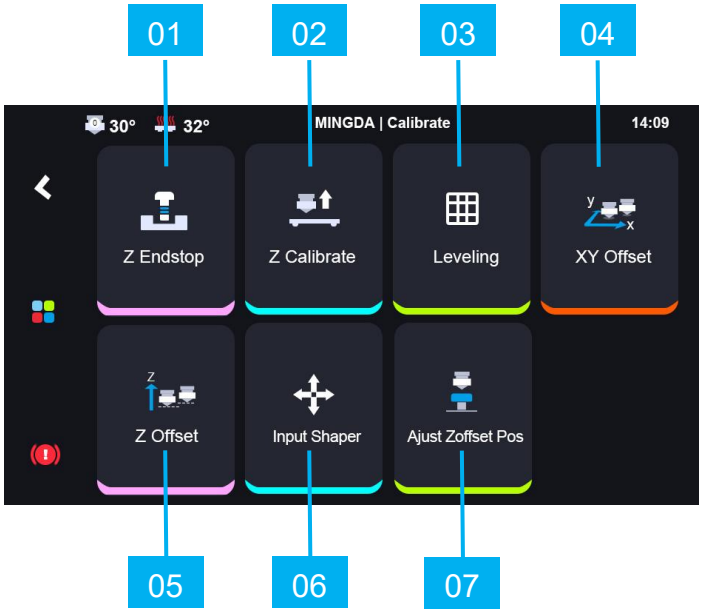
4. Operating interface introduction

Main interface



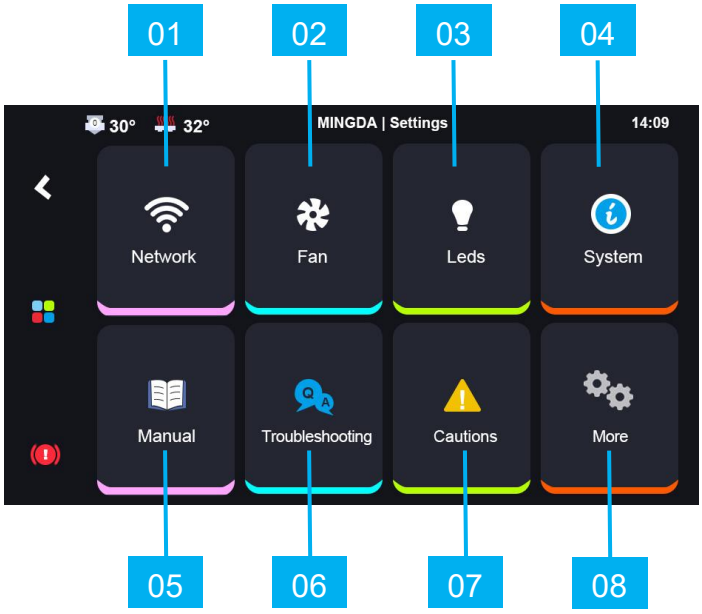
	Primary interface	Explain
01	**Temperature**	Temperature display area.
02	**Time**	Time display.
03	**Move**	Adjust the value of the XYZ axis.
04	**Preheat**	Pre-set nozzle & hotbed's temperature.
05	**Extrude**	To unload or load filament.
06	**Calibrate**	Printer Calibration
07	**Settings**	Printer's printing value adjustment.
08	**Print**	Start printing.
09	**Stop**	Emergency stop .
10	**Homepage**	Return to the main page.
11	**Return**	Return to the previous page.

Calibrate:



	Secondary interface	Explain
01	**Z Endstop**	Adjust the position of the photoelectric switch.
02	**Z Calibrate**	Calibrate Z offset
03	**Leveling**	Auto-leveling
04	**XY Offset**	Calibrate XY axis
05	**Z Offset**	Calibrate Z axis
06	**Input Shaper**	Test the resonance compensation value.
07	**Ajust Z offset Pos**	Ajust Z offset Pos

Settings:



	Secondary interface	Explain
01	**Network**	To connect Wi-Fi
02	**Fan**	Cooling fan adjustment
03	**Leds**	Turn on/off Light
04	**System**	Machine shutdown, restart, reset function
05	**Manual**	Manual
06	**Troubleshooting**	Troubleshooting
07	**Cautions**	Cautions
08	**More**	Includes some basic settings such as time, language, screen timeout, notification sound toggle, and automatic shutdown after printing completion.

Printing Interface:

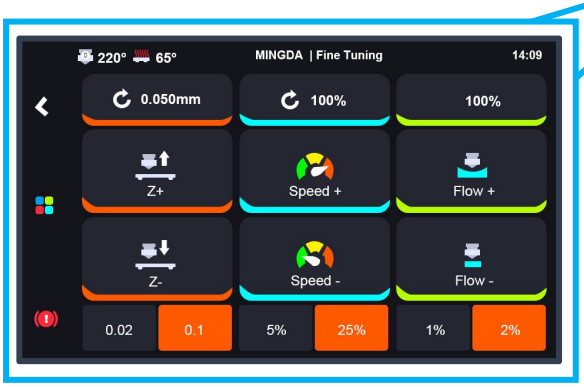


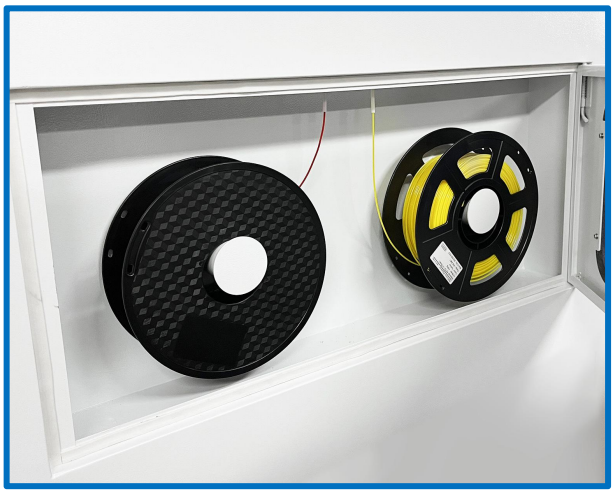
Figure 1

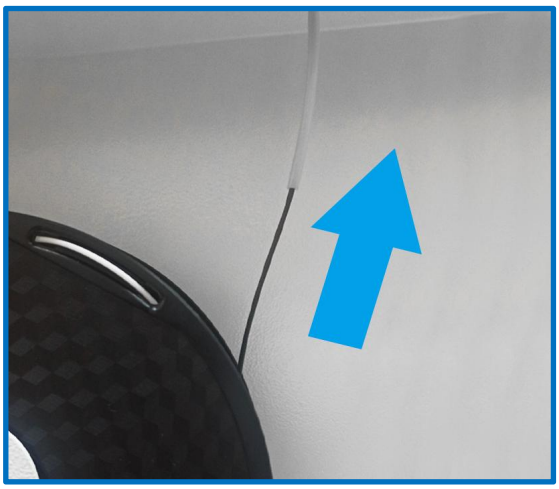
Figure 2

	Secondary interface	Explain
01	**Cancel**	Stop printing
02	**Pause**	Pause printing
03	**Fine Tuning**	Adjust Z-offset, Printing Speed, Printing Flow [Please refer to Figure 1.]
04	**Settings**	Basic setting, browse camera, adjust cooling fan, light and Exclude object. [Please refer to Figure 2.]

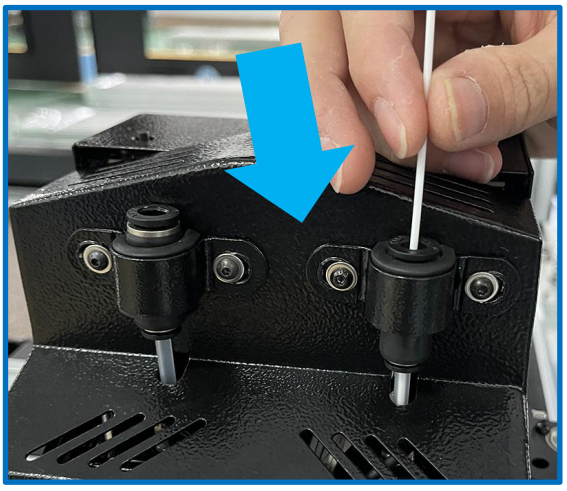
5. Insert filament

1. Hang two volumes of PLA Filament on the scraping pole in the left and right Filament box, and insert the Filament from the inlet port until the Filament are exposed to the printed head along the guide pipe.



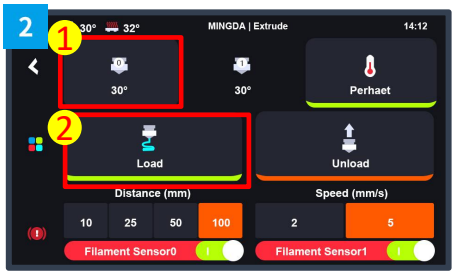


2. Press the gas joint , pull out the guide tube, pull the handle of the inlet port, insert the Filament into the squeeze machine into the material mouth.

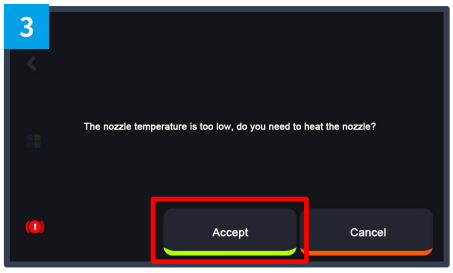


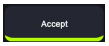
3. Load Filament for the Left and Right Extruders

Click the "**Extrude**" 

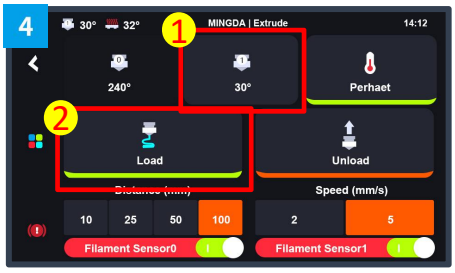


Click Extruder “T0”  , select Distance “100mm” and Speed”5”, click Load 



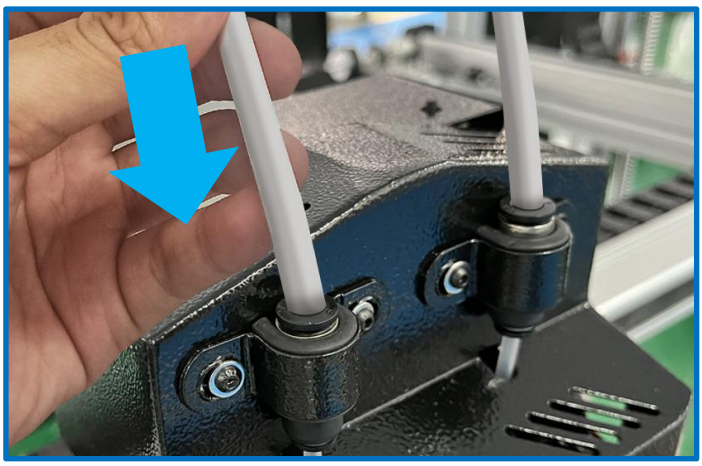
Click Accept 

, hot end will be heated up automatically.

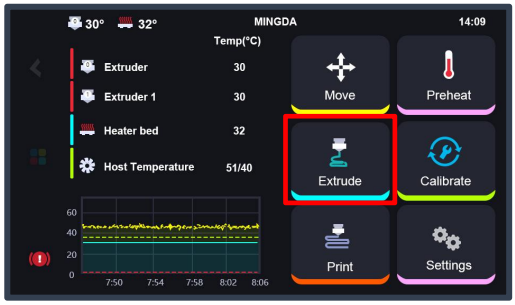


Click Extruder “T1”  , repeat the step 2 and 3 again.

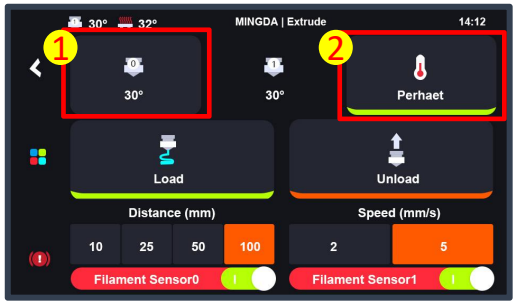
4. After the filament feeding is completed, Insert the large catheter.



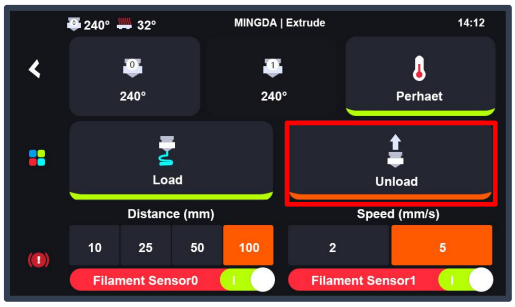
6. Unload Filament



Click the "Extrude" 



Select the extruder you want to unload filament and heat it up to 240°C.

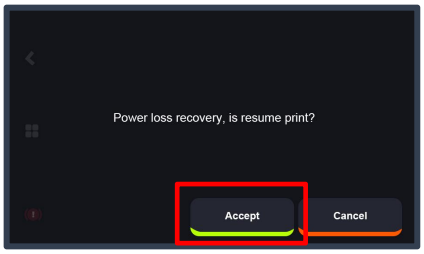


Click “**unload**”  and wait for the extruder to unload the filament automatically.

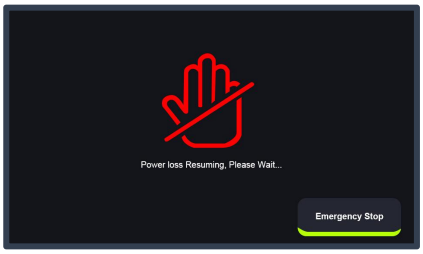
7. Resume Printing

1. Resume printing after power failure

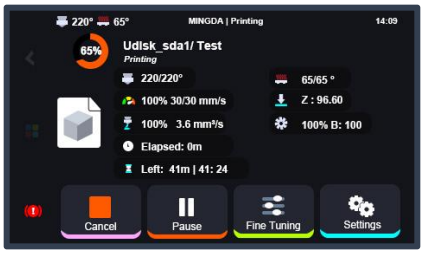
When the printer is in the midst of the printing process, power outages may occur at times. This printer is equipped with a resume printing function to assist you in resuming the print from the point of interruption.



After power restored, turn on the printer, click "**Accept**"



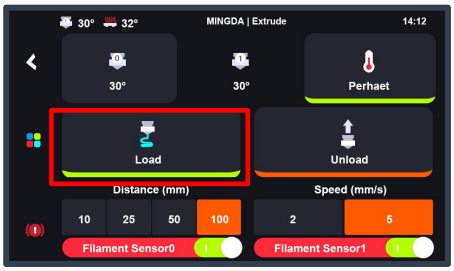
Please wait the printer resuming.



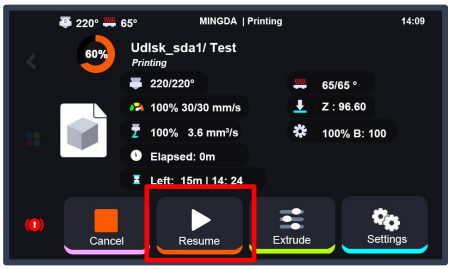
After reaching the specified temperature, the printer will automatically transition to the printing interface.

2. After filament run out

Printer will stop working, and yellow light up.



Replace new filament into the extruder, click load till the filament was feed out.



Click "Resume"  , continue to print from the point of interruption.

8. Slicing Software Installation and Usage

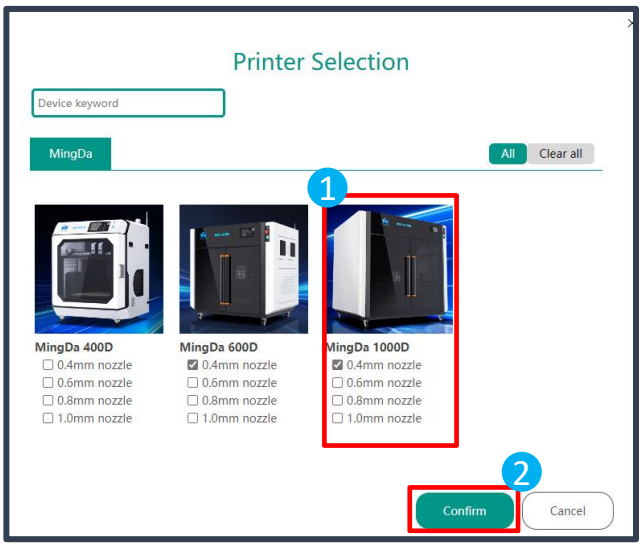
Installation:

Search "www.3dmingda.com/download" in any Broswer.

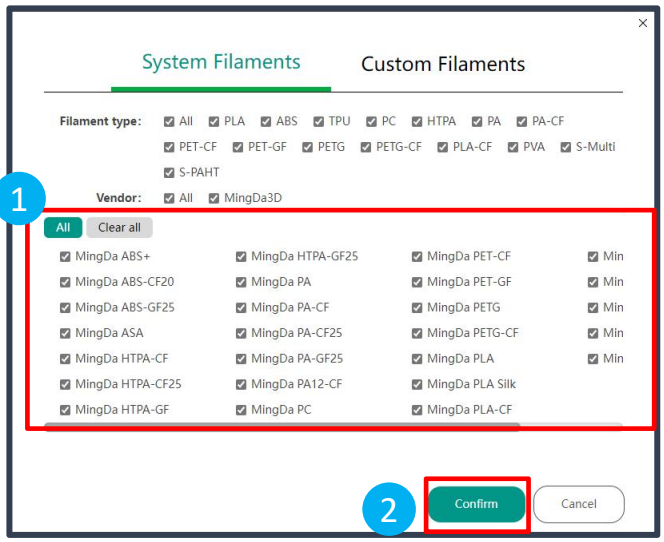
Download "**MINGDA OrcaSlicer**"

Configuration:

Upon the first run of Mingda OrcaSlicer, you will enter the configuration wizard.

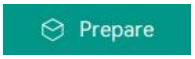


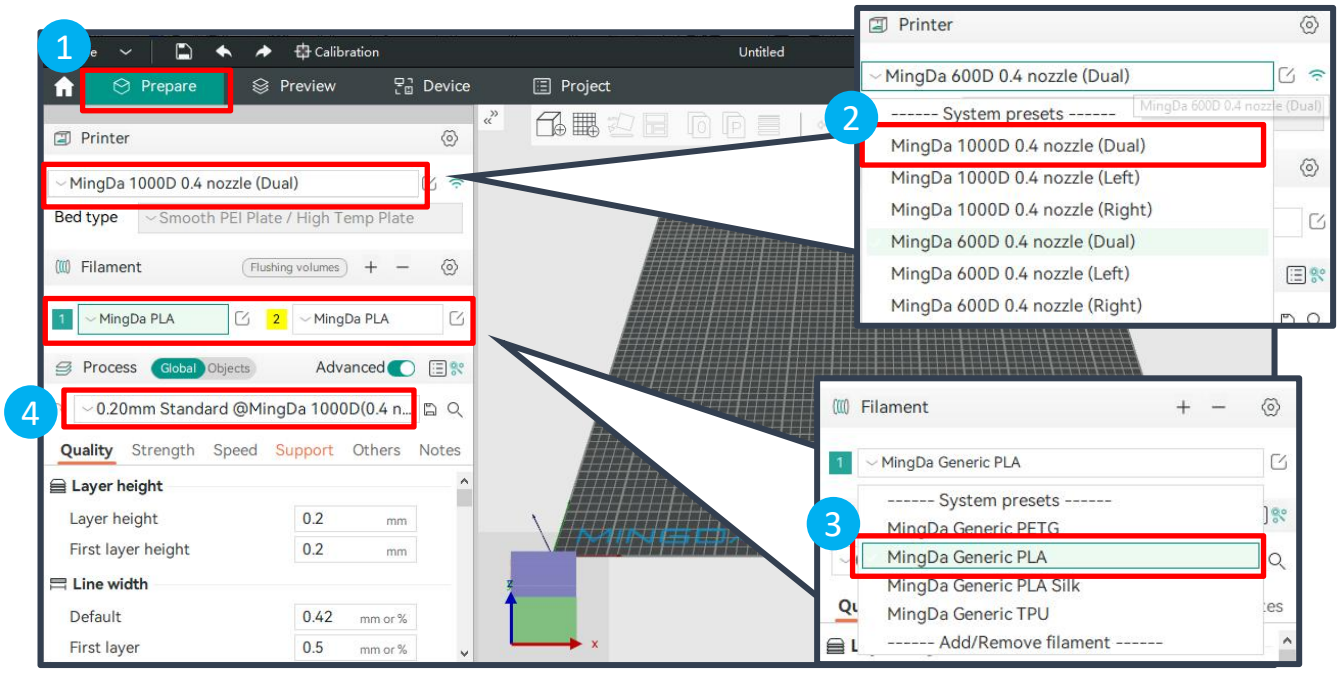
Choose the MD-1000D model and click "**Confirm**."



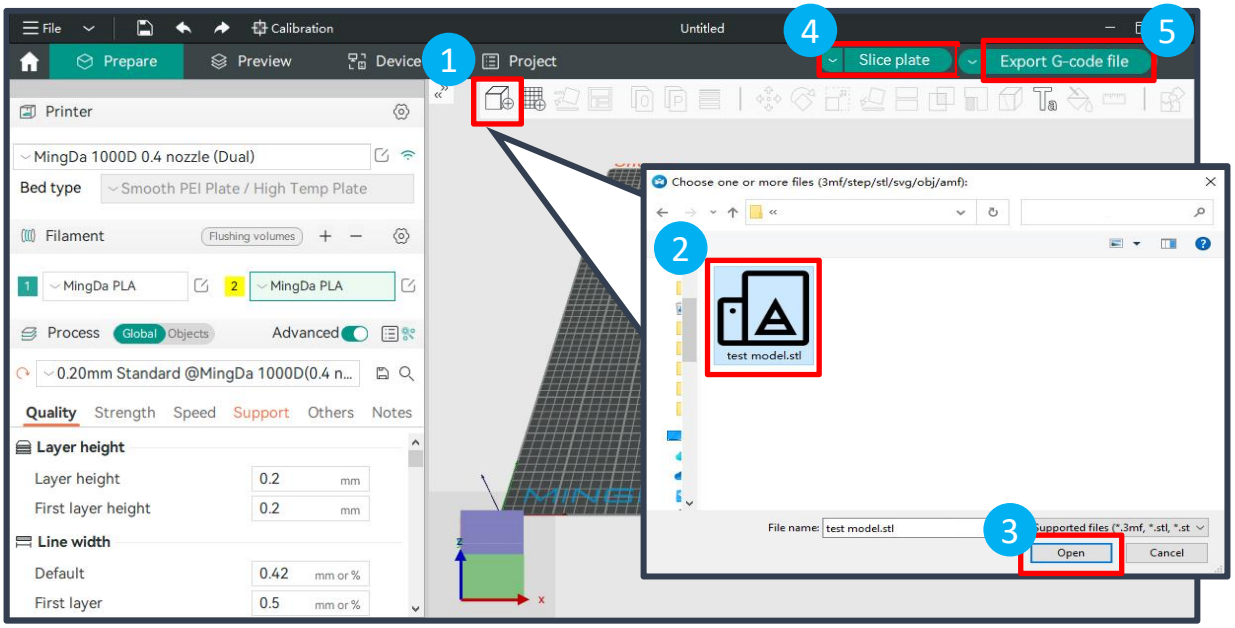
Select the desired filament type.

Usage

Click the "**Prepare**" 



Select the printer model, filament type and printing parameter.



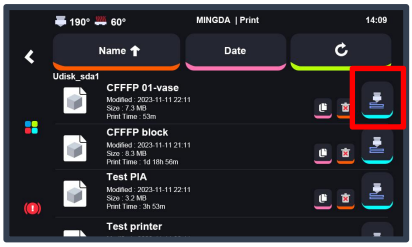
Click  , upload your STL in your slicer, adjust your model parameter, after finishing, click “Slice plate” to create the Gcode file.

Printing

Local Printing

Insert the U-disk, then click the "**Print**"

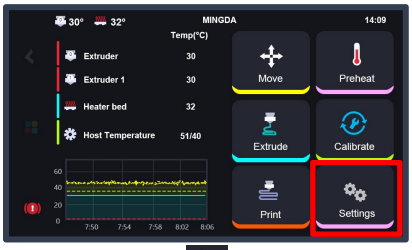
Find the folder and Click the arrow on the right



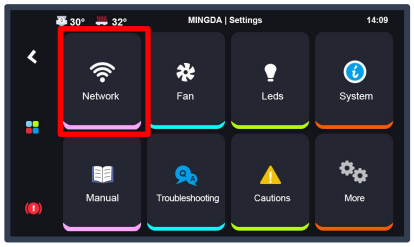
Select the test gcode which was preset in the U-disk.

LAN Printing

Ensure that the printer and the computer host are on the same local network.

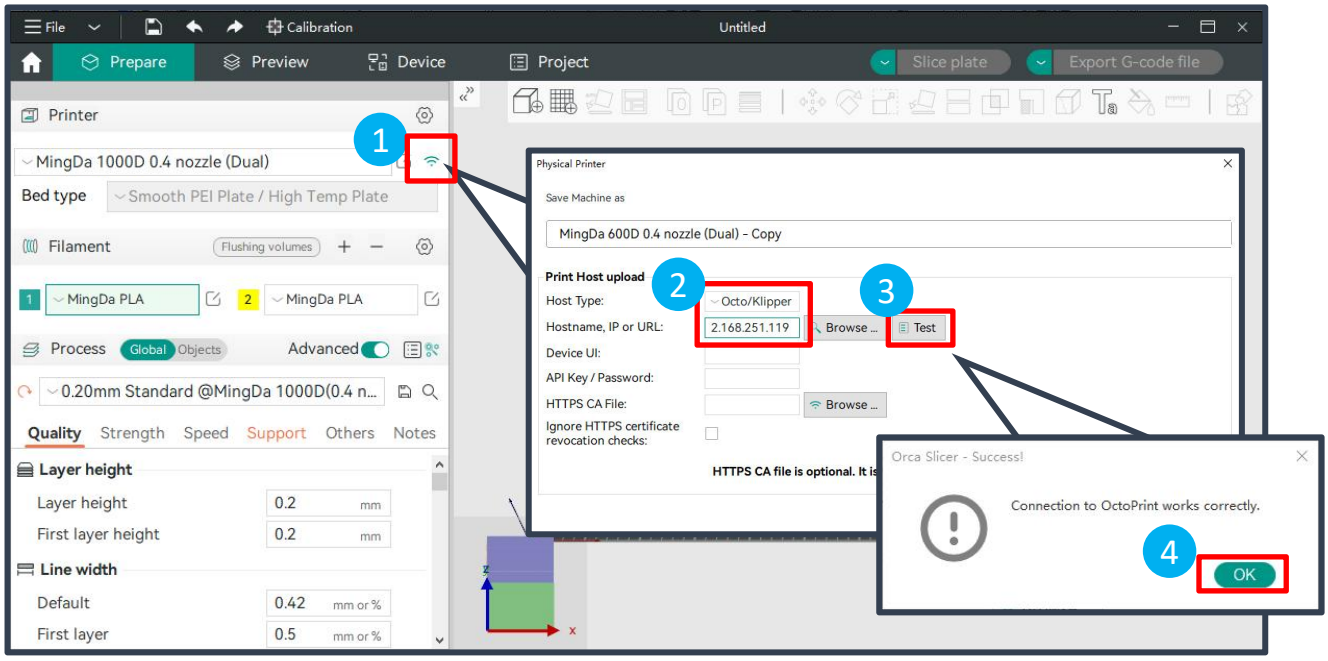


Click "Settings" to enter the settings page.



Click "Network" to enter the network page.

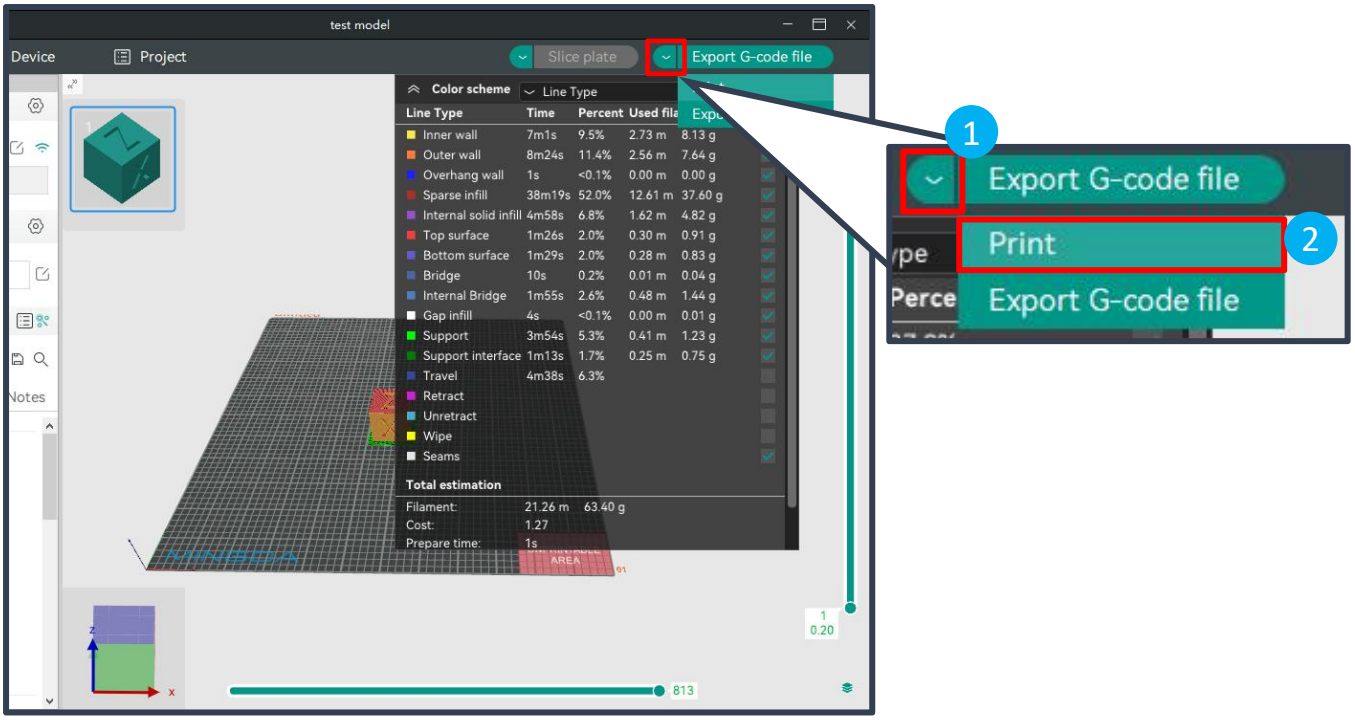
Check the printer's IP address.



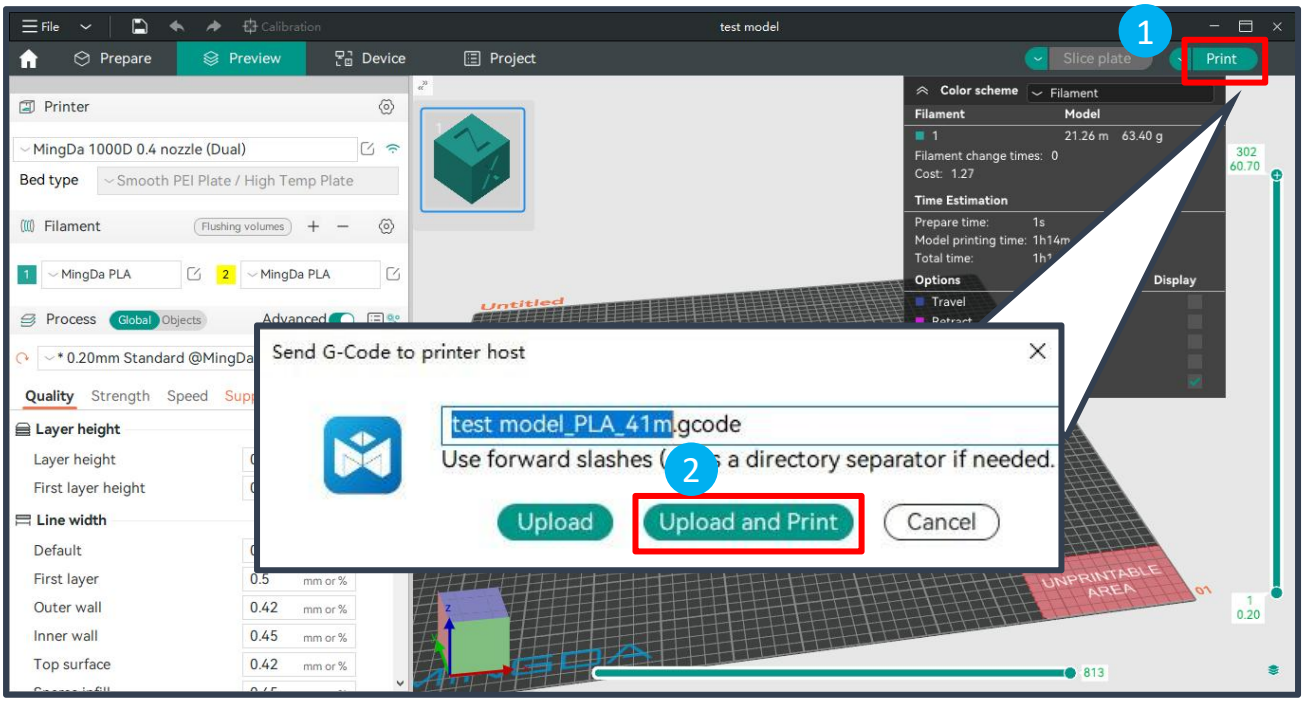
Click WIFI , select Host type as Octo/Klipper, enter the printer's IP address, and click "Test" and "OK"

LAN Printing

File Transfer:



Click the dropdown icon  in the top right corner , select "**Print**."

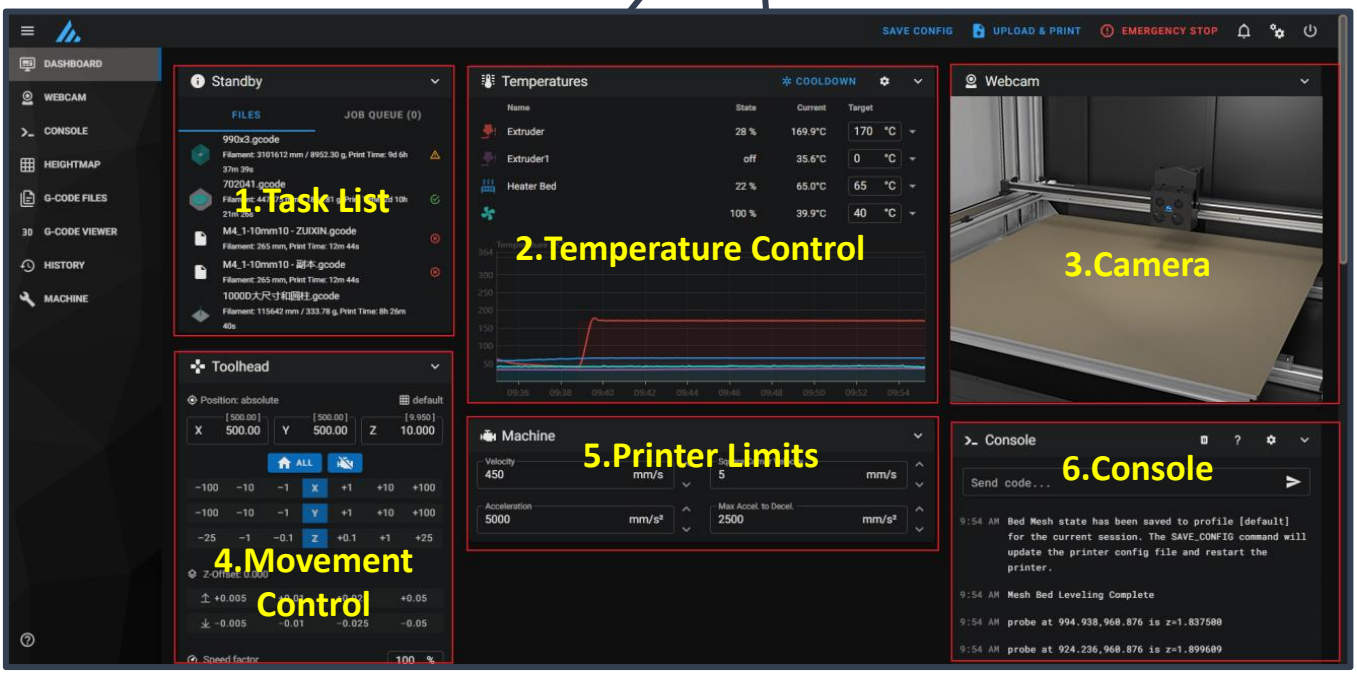


Click "**Print**" and choose "**Upload and Print**".

Device Connection

After successful connection, click on "Device" 

Enter the control interface below the diagram



1. **Task List:** Drag G-code files to this task list for printing.

2. **Temperature Control:** Displays machine temperature changes and allows pre-setting nozzle and bed temperatures.

3. **Camera:** Monitors the printing status.

4. **Movement Control:** Controls the movement of each axis and allows compensation settings after leveling.

5. **Printer Limits:** Controls the maximum acceleration of the printer, usually doesn't need to be changed.

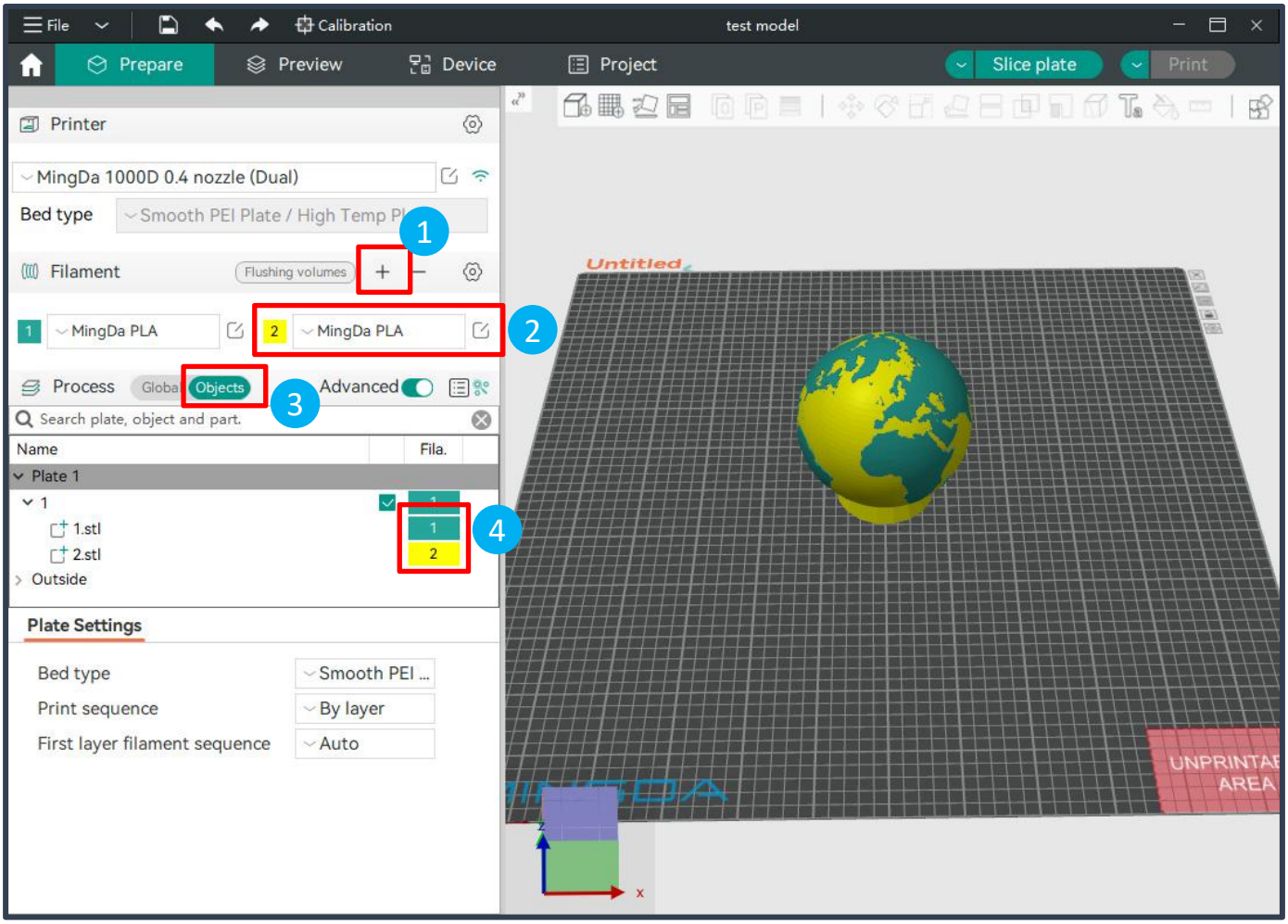
6. **Console:** Sends G-code commands to run the machine and displays error output.

Print Mode

Print Two Colors

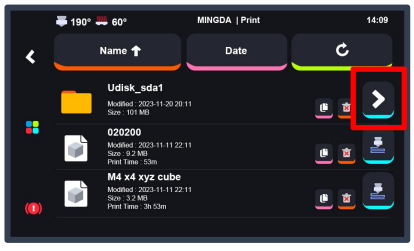
Printing size: 1000 * 1000 * 1000mm

Selecting the [MingDa 1000D 0.4 nozzle (Dual)]

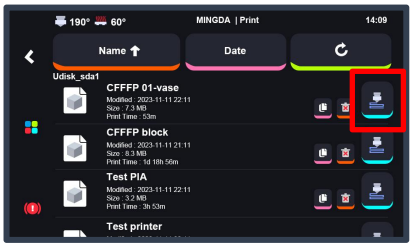


1. In the filaments column on the left side of the interface, click "+" to add another filament.
2. Choose and modify the filament information.
3. In the Process section, click to switch to the "Objects" option.
4. Click on the color box next to the STL file to select the desired filament.

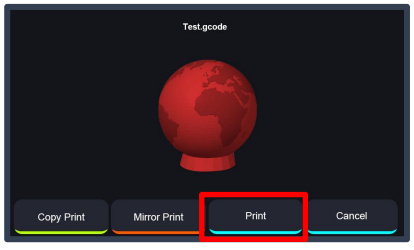
In the printer interface:



Select "**Print**", Insert the U-disk.



Choose the print file for printing.

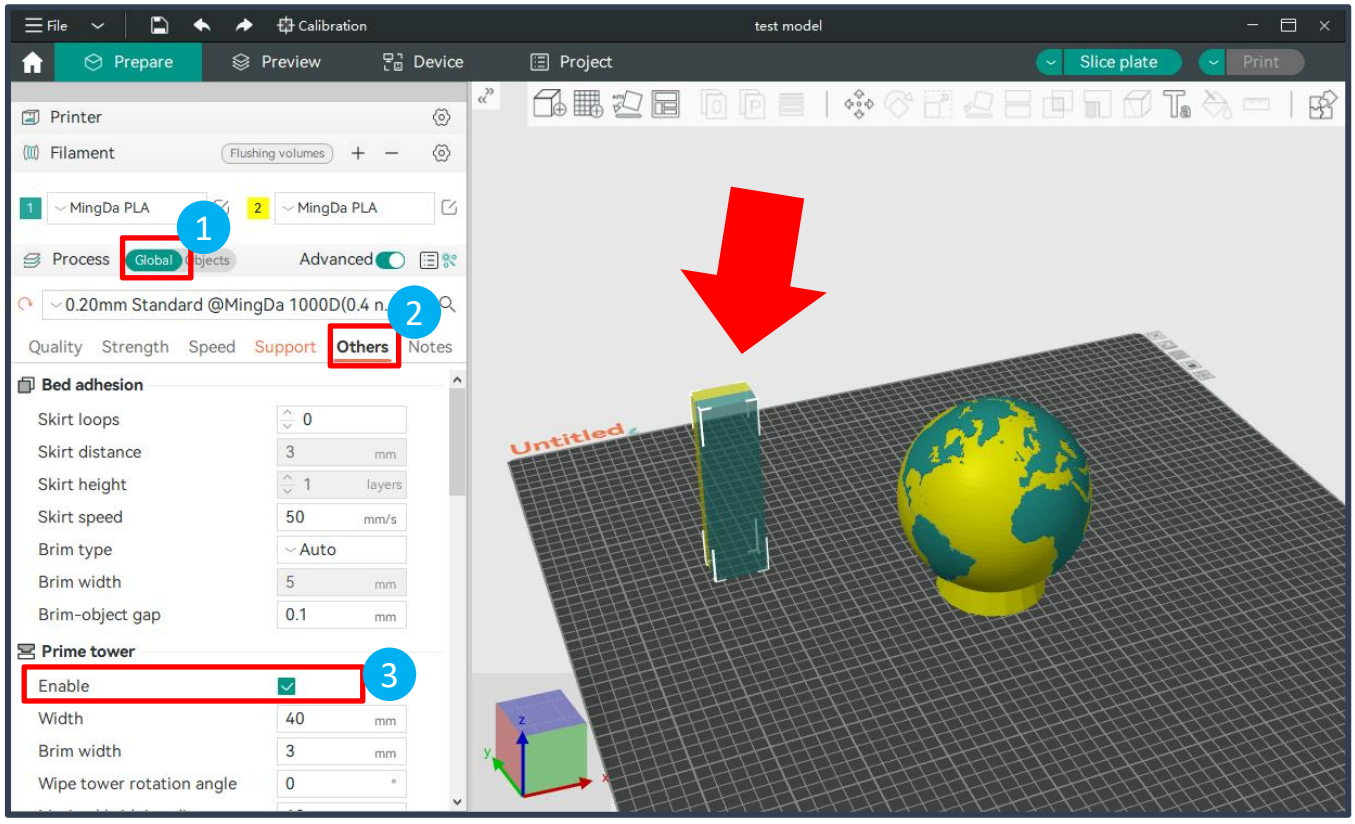


Choose " **Print**".

Double extrusion: Start the Prime tower

Because there is always one printer in standby mode during the printing process, it is easy to cause defects such as wire drawing and material leakage. Prime tower can solve this problem, the extruder will print a prime tower before each layer printing. Any material leakage will be printed on the tower, effectively avoiding the phenomenon of material leakage when replacing the extruder.

If you want to print the following two modes, we recommend adding this option to your Gcode.



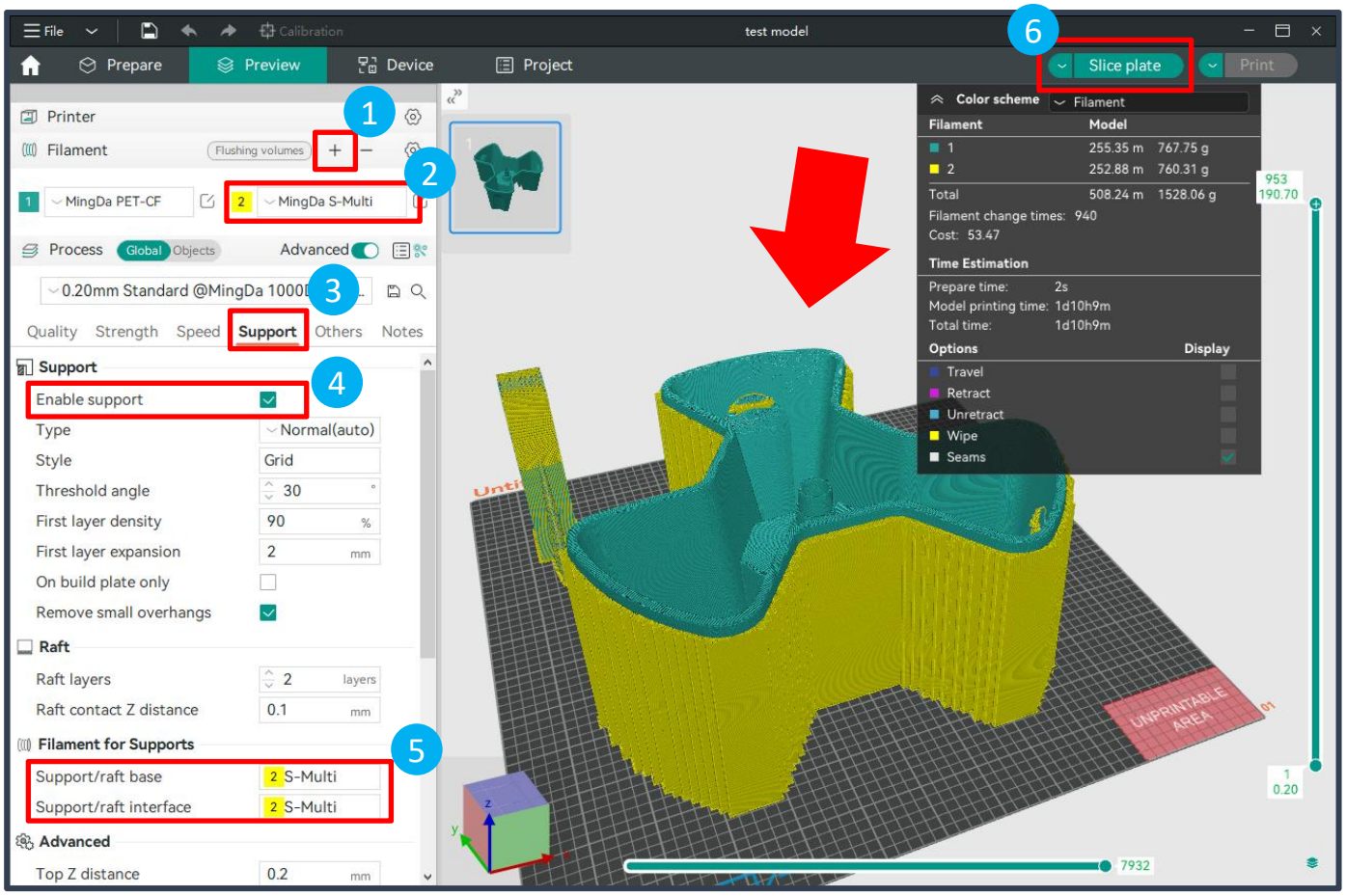
1. Select the "Global" section.
2. Select the "Others" section.
3. Check the "Enable" option in the "Prime tower" settings.

Note: The printing position of the Prime tower cannot coincide with the model

Printing Support

Printing size: 1000 * 1000 * 1000mm

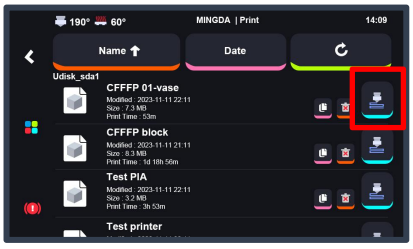
Selecting the [MingDa 1000D 0.4 nozzle (Dual)]



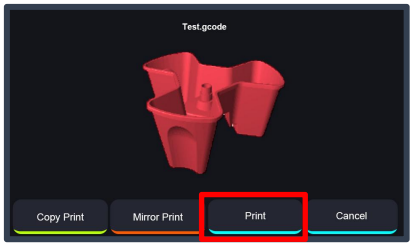
1. On the left side of the interface, in the filaments column, click "**+**" to add another filament.
2. Choose and modify the filament information.
3. Then, select the "**Support**" section.
4. Check the "**Enable support**" option.
5. In the "**Filament for Supports**" option, choose the filament needed for supports.
6. Click "**Slice plate**" to preview.

In the printer interface:

Select "**Print**", Insert the U-disk.

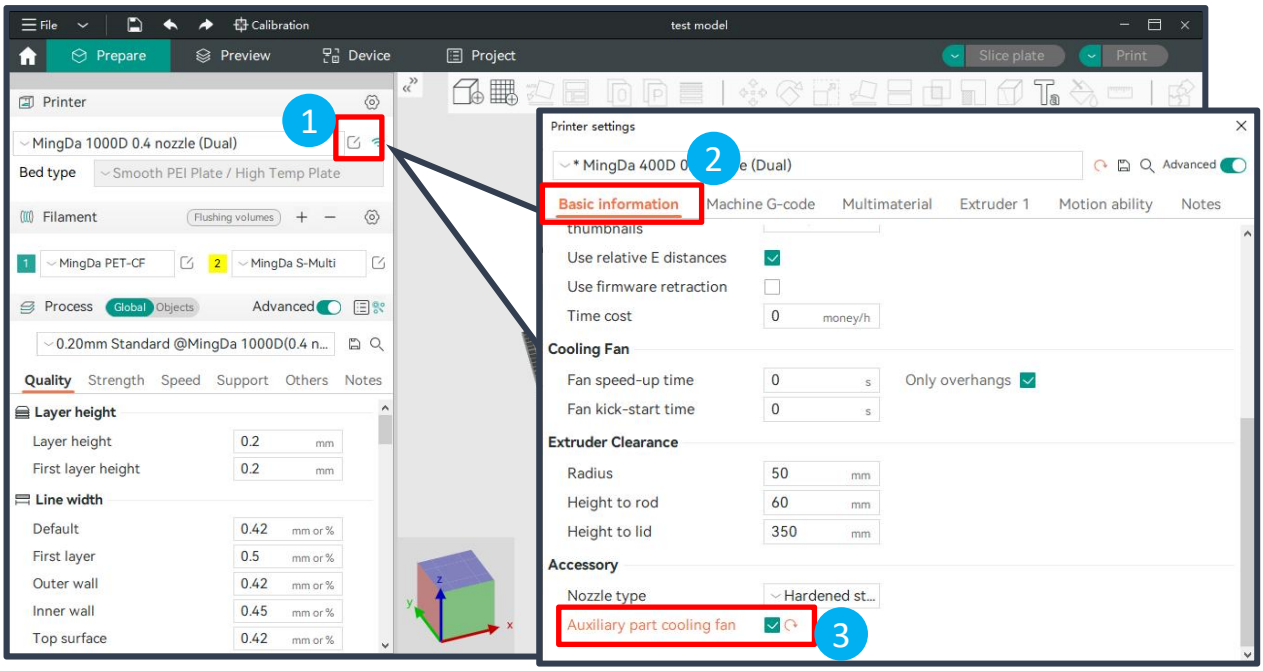


Choose the print file for printing.

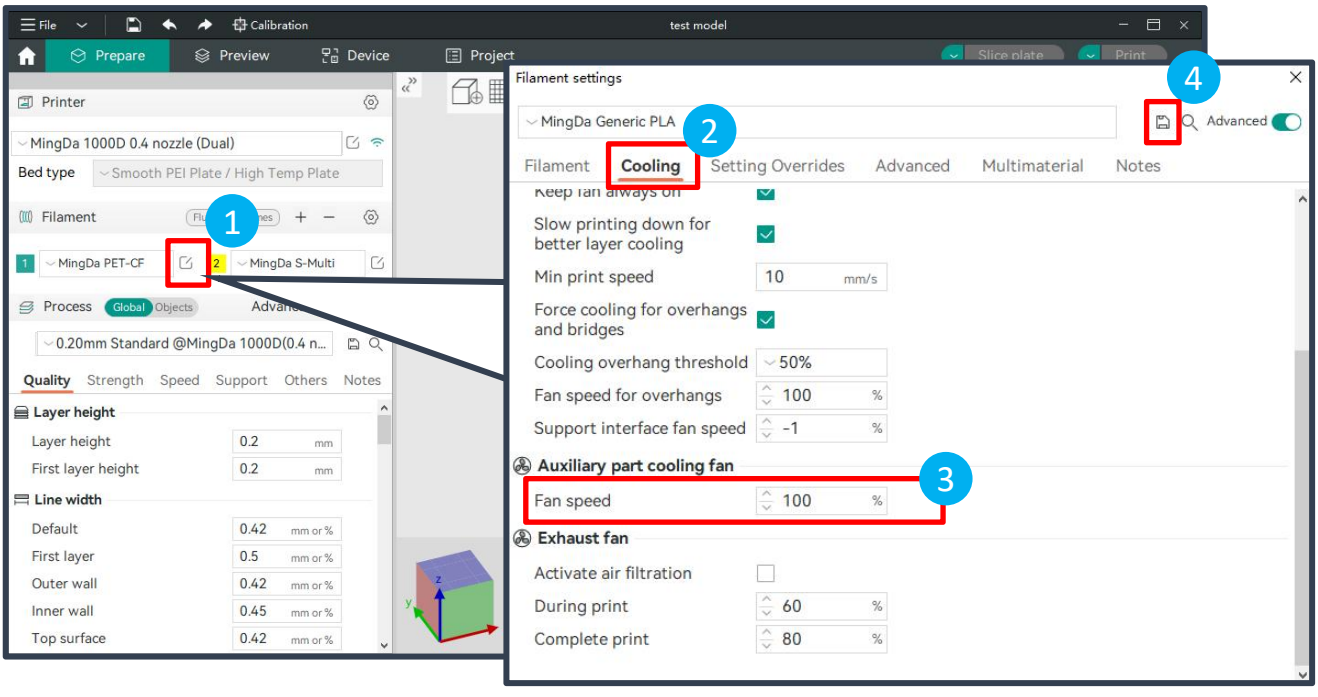


Choose " **Print**".

Printing



Open the settings interface in the Printer tab, and check 'Auxiliary Part Cooling Fan' under "Basic Information-Accessory".



Due to the different feature of filament, if you do not need an auxiliary fan or need to adjust the fan speed, please go to the Filament tab, open the settings interface, and choose Cooling-Auxiliary Part Cooling Fan. Adjust the Fan Speed as needed.

9. Maintenance and Care

Cleaning the Nozzle:
After printing is complete, promptly clean the residue on the nozzle using a tool and taking advantage of the nozzle's residual heat. Avoid touching the nozzle directly with your hands to prevent burns.

Replacing Filaments:
Timely replace filaments based on the type and actual usage. It is recommended to use filaments recommended by the manufacturer. Seal filament not in use for an extended period, as excessive exposure to moisture in the air can make the filament brittle.

Checking the Platform:
Regularly check if the print platform is flat. If there is deformation or damage, contact the manufacturer or dealer for repairs.

Regular Lubrication:
Periodically apply lubricating oil to the lead screw and guide rails. During the operation of the printer, friction between various parts occurs. Without proper lubrication, it can lead to wear and damage.

Software Updates:
Regularly update the printing software to improve print quality and efficiency.

10. Common Issues and Solution

X/Y/Z Axis Motor Not Moving or Making Unusual Noises When Homing
1.Motor cables are loose. Please recheck the connections.
2.The corresponding limit switch fails to trigger. Check if there is any interference with the movement of the corresponding axis and whether the limit switch cable is loose.

Abnormal Extrusion from the Nozzle
1.Check if the extrusion motor cable is loose.
2.Ensure that the extrusion gear is securely fastened to the motor shaft.
3.Insufficient cooling for the printhead. Ensure that the printhead cooling fan is working properly.
4.Nozzle clogged. Attempt briefly heating the nozzle to 230°C and manually extruding filaments with force to help clear the blockage. Alternatively, use a fine needle to clear the nozzle while it is preheated.

Model Not Sticking to the Platform, Warping
1.The key to model adhesion is whether the filaments adhere to the platform during the first layer printing. If the distance between the nozzle and the platform exceeds 0.2mm during the first layer printing, it will significantly reduce adhesion to the platform, and re-leveling is needed.
2.In MingDa Orcaslicer, set the platform adhesion by choosing the adhesion type as "Brim." This helps enhance adhesion and prevent warping issues.

Model Misalignment
1.Movement or printing speed is too fast; try reducing the speed.
2.X/Y axis belts are too loose, or the synchronous pulley is not securely fixed.
3.Drive current is too low.

Excessive Stringing
1.Insufficient retraction distance; increase the retraction distance during slicing.
2.Retraction speed is too slow; increase the retraction speed during slicing.
3.Set retraction Z lift during slicing, lift height around 0.25mm.
4.Printing temperature is too high, causing strong viscosity of the filaments. Lower the printing temperature slightly.

Printer Cannot Connect to the Computer
1.Computer and printer are not on the same local network; connect to the same local network.
2.Device is offline; check if the printer or computer is properly connected to the network.

Device Cannot Power On
1.Power failure; check the power connection.
2.Hardware failure; contact the manufacturer for repairs.

MINGDA

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