User Manual

[MD-600D & MD-1000D 3D Printer]

*Please read this guide carefully before using this printer

Shenzhen MINGDA Technology Co.,Ltd

V1.1

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 **2**

2 Device Introduction **2**

Device Parameters 2

Packing List 3

Precautions for the Use of High Temperature Filament 4

3 Operational Steps **5**

Unboxing Inspection 5

Device Installation 5

1. Install the indicator light 5

2. Install the antenna **5**

3. Power on 6

Startup Configuration 7

Select Language and Time Zone **7**

Auto Bed Leveling 7

Wi-Fi 7

Introduction to machine operation page 9

Extruder Offset Calibration 13

XY Axis Offset Calibration 13

Z Axis Offset Calibration 14

Install the filament 15

Slicing Software Installation and Usage 18

Installation 18

Configuration 18

Usage 19

Printing 20

Local Printing 20

LAN Printing 20

Print Mode 23

Print Two Colors 23

Printing Support 25

Printing 26

4 Maintenance and Care **27**

5 Common Issues and Solution **28**

6. After sales service and support **29**

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-600D | MD-1000D
Machine Dimensions	1300*965*1255mm | 1680*1365*1665 mm
Max. Build Dimensions	600*600*600mm | 1000*1000*1000mm
Print Technology	Fused Deposition Modeling (FDM)
Rated Voltage	100-240V, 50/60Hz
Rated Power	2000W | 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

Below we will take MD-1000D as an example to introduce the function and use of the printer:

Tool List

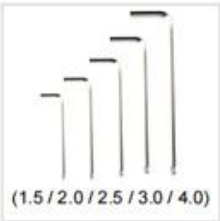
U-disk

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

Unboxing Inspection

Unpack and inspect the device for any damage. If there is any abnormality, please contact the manufacturer or dealer.

Device Installation

1. **Install the indicator light.**

2. **Install the antenna.**

2. Power on

Please ensure that the print platform is clear before connecting the power and check if the device is connected properly.

In a good ventilation and dry environment

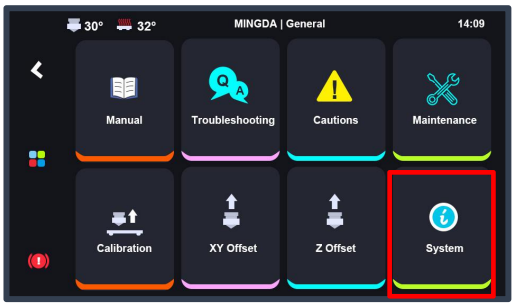
Insert a power socket

Press the power button to turn on the printer

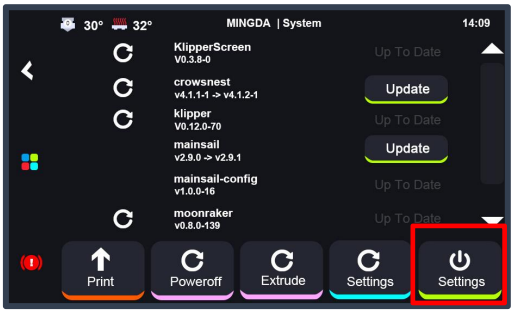
3. Power off

When you turn off the printer, please don't press the power button directly! Check the Page 12, click "General-System-Shutdown-Printer" to turn off the printer

Click the "**General**" button.



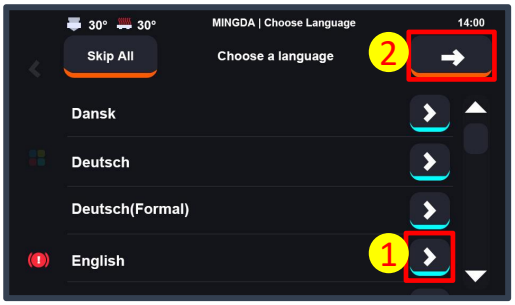
Click the "**System**" button.



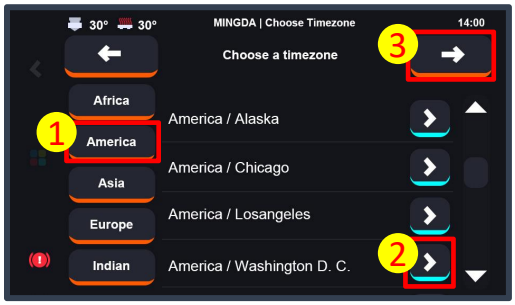
Click the "**Shutdown**" button.

Startup Configuration (For the first startup, it will enter the configuration wizard.)

1. Select Language and Time Zone



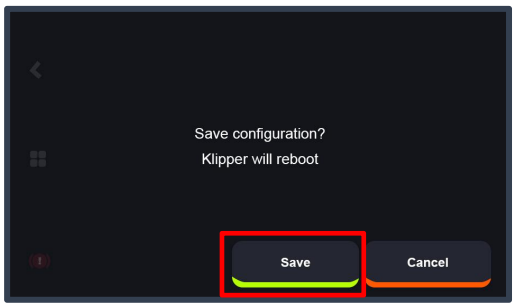
Click the right arrow to choose the language, and click the upper right arrow to proceed to the next step.



Start by selecting your continent on the left, then click the right arrow to choose your specific region. [Time zone settings will take effect after connecting to Wi-Fi and restarting the system.]

2. Auto Bed Leveling

Click the "Calibrate" button to initiate the quick auto bed leveling process, which will take approximately 3 minutes. Please be patient.

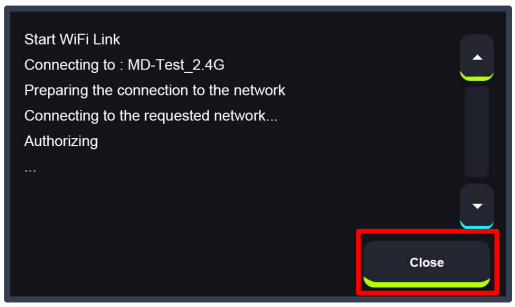


Click the "Save" button to store the bed leveling data and automatically restart the printer.

3. Wi-Fi

Click the right arrow button, select the network you want to connect to. The first connection may take some time, please be patient. If the network is not displayed for an extended period, click the refresh button at the top.

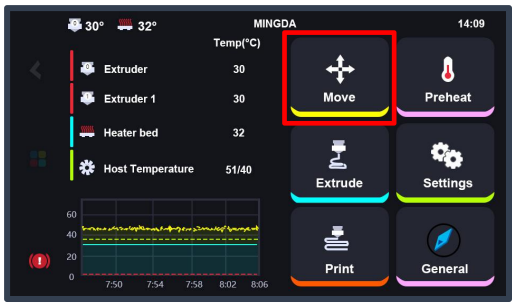
Enter the network password and then click Save.



Once the connection is successful, click the Close button.

Upon successful connection, click the checkmark 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 checkmark to skip this step.

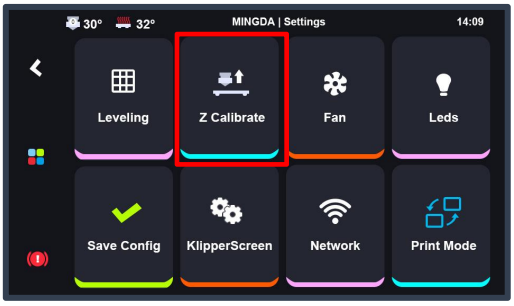
After completing the above steps, Home all Axis



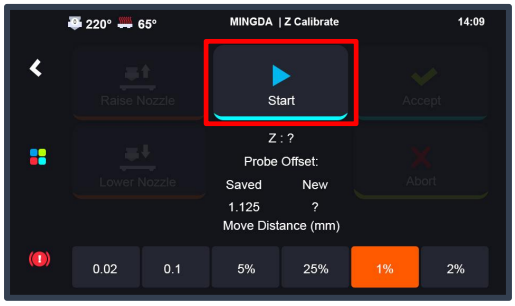
Click the "Move" button

Click the "Home" button

Z Calibrate

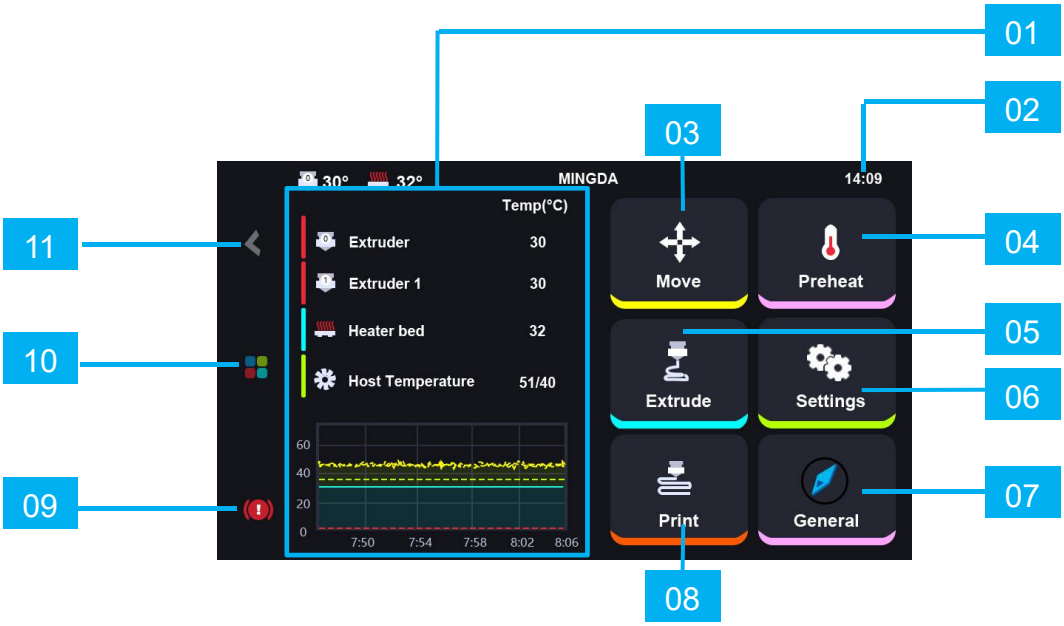


Click "Setting-Z Calibrate"



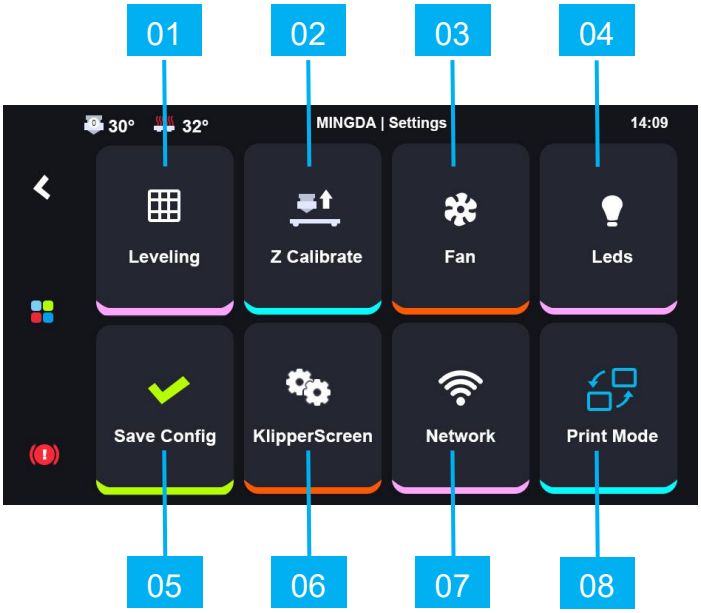
Click "Start" , wait Z axis calibrating and click "Accept" and comfirm

Introduction to machine operation page



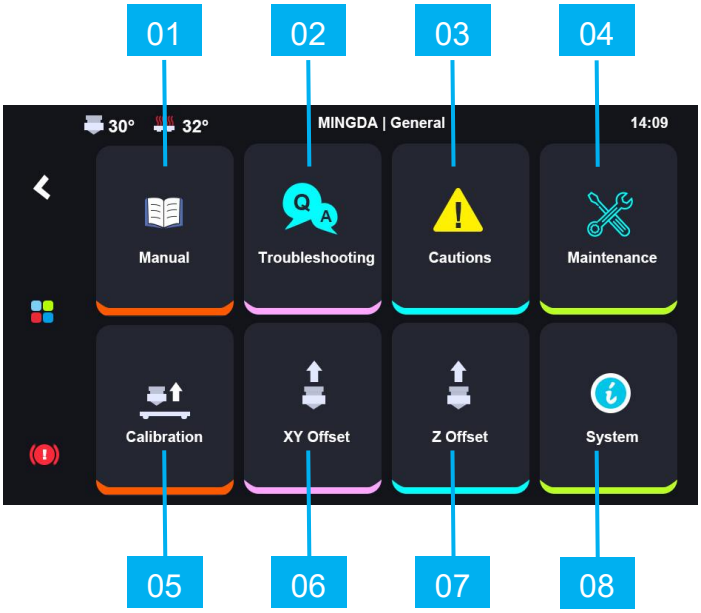
	Primary interface	Explain
01	**Temperature**	Temperature display area.
02	**Time**	Time display.
03	**Move**	Adjust the value of the XYZ axis.
04	**Preheat**	Pre-set nozzle & hotbed's temperature.
05	**Extrude**	To unload or load filament.
06	**Settings**	Printer's printing value adjustment.
07	**General**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

Settings:



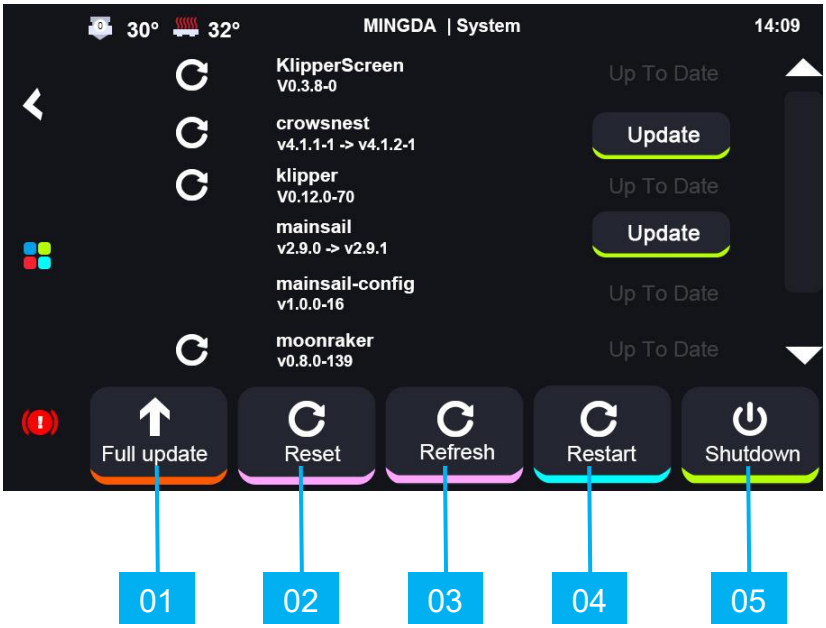
	Secondry interface	Explain
01	**Leveling**	Auto-leveling
02	**Z Calibrate**	Calibrate Z offset
03	**Fan**	Cooling fan adjustment
04	**Leds**	Turn on/off Light
05	**Save config**	To save your configuration
06	**KlipperScreen**	Includes some basic settings such as time, language, screen timeout, notification sound toggle, and automatic shutdown after printing completion.
07	**Network**	To connect Wi-Fi
08	**Print Mode**	Select Copy Mirror or Autonomous Mode

General:



	Secondry interface	Explain
01	**Manual**	Manual
02	**Troubleshooting**	Troubleshooting
03	**Cautions**	Cautions
04	**Maintenance**	Maintenance
05	**Calibration**	Contains some basic test models, which can be selected to test the corresponding functions.
06	**XY Offset**	Calibrate XY axis
07	**Z Offset**	Calibrate Z axis
08	**System**	Check next page

System:

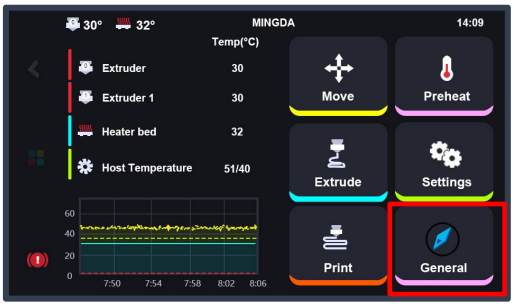


	Secondry interface	Explain
01	**Full update**	Update all content available for update on the current page
02	**Reset**	Reset to Factory Defaults
03	**Refresh**	Refresh the current page to check for updates, in conjunction with the use of 'Full update'.
04	**Restart**	Restart the printer
05	**Shutdown**	Turn off the printer, click Shutdown-Printer

Extruder Offset Calibration

XY Axis Offset Calibration

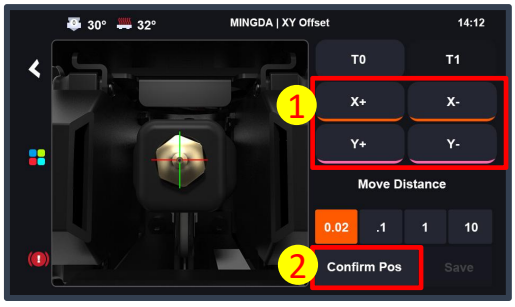
Tips:
Wipe the nozzle clean before calibration to avoid any interference during the process.



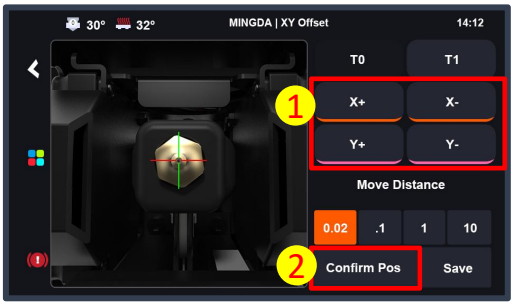
Click the "**General**" button.

Click the "**XY Offset**" button.

Click the "**Start**" button, and the left extruder will move to the calibration camera's position.



Fine-tune the XY axis to align the nozzle center of the left extruder with the origin of the XY axis. Click "**Confirm Pos**" to confirm the position of the left extruder. Meanwhile, the right extruder will move to the calibration camera's position.



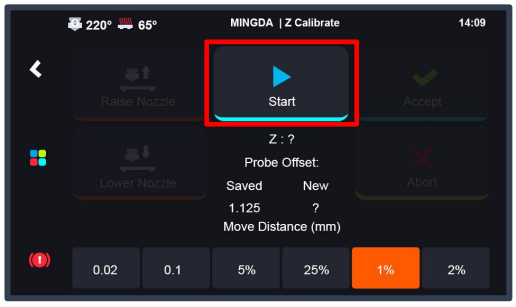
Fine-tune the XY axis to align the nozzle center of the right extruder with the origin of the XY axis. Click "**Confirm Pos**" again to confirm the position of the right extruder.

Click the "**Save**" button to save the XY offset of the right extruder relative to the left extruder.

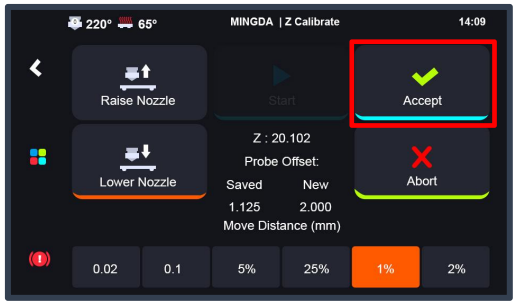
Z Axis Offset Calibration

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

Click the "Z Offset" button.



Click the "Start" button to begin the automatic calibration. Initially, the left extruder will move to the top of the Z axis calibration sensor and slowly descend to trigger the switch. It will then automatically switch to the right extruder, repeating the same motion as the left extruder.



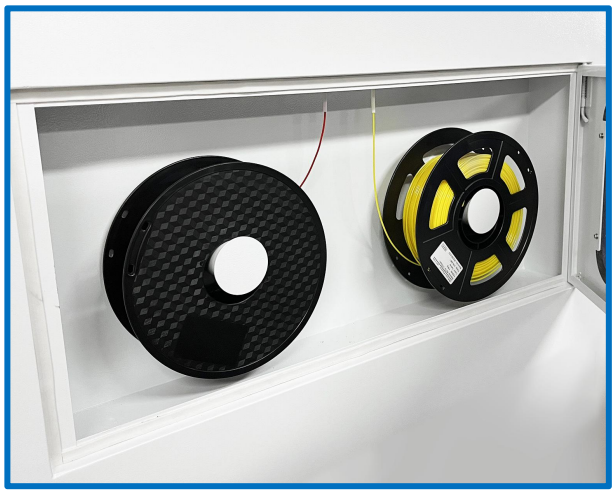
After the automatic calibration is complete, click the "Accept" button to save the Z-axis offset value.

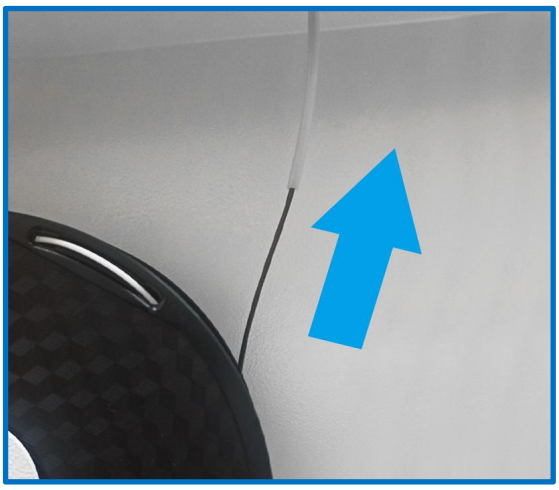
Safety Reminder: To ensure that the nozzle correctly lands on the sensor, please calibrate the XY axis before calibrating the Z axis. While the extruder is moving downward, pay close attention to its movement. If there is excessive deviation or signs of extreme extrusion pressure, click the return button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

Install the filament

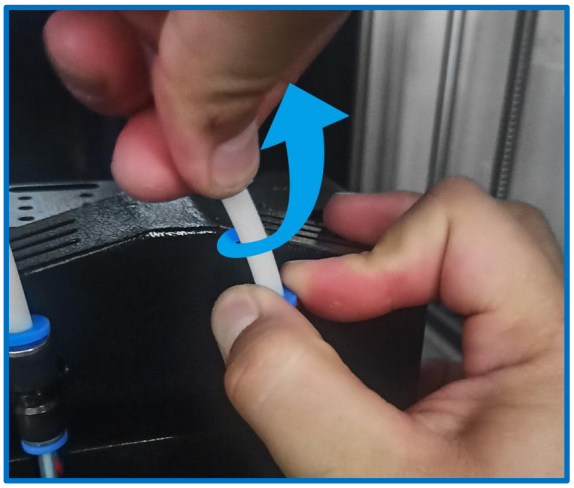
(Take PLA filament as an example)

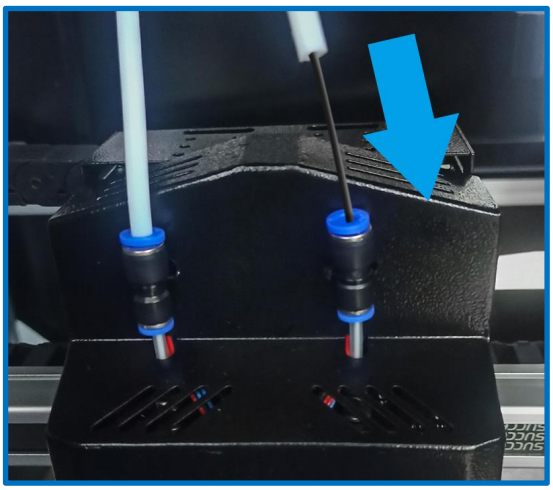
1. Hang two volumes of PLA Filament on the scraping pole in the left and right Filament box, and insert the Filament from the inlet port until the Filament are exposed to the printed head along the guide pipe.



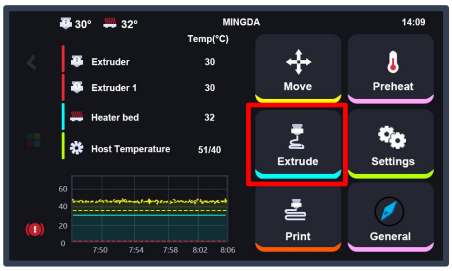


2. Press the gas joint , pull out the guide tube, pull the handle of the inlet port, insert the Filament into the squeeze machine into the material mouth.

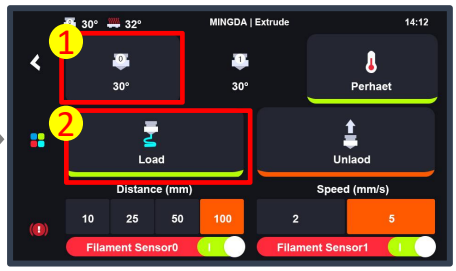




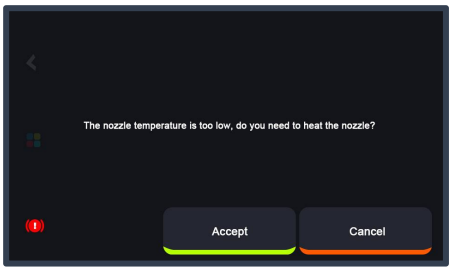
3. Load Filament for the Left and Right Extruders



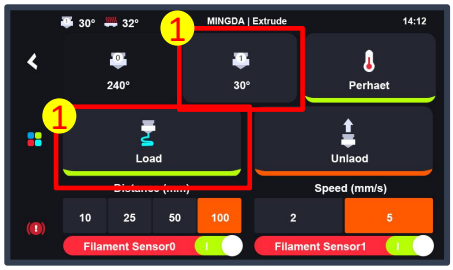
Click the "Extrude" button



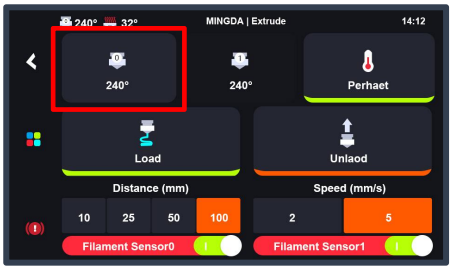
Select the first extruder “T0”, Click '100mm', click on the feed speed '5mm/s', then click 'load' to inport the filament.



Sequentially load filament for the left and right extruders. If the temperature is too low, a prompt will appear indicating the need for heating. Click "Accept," wait for the nozzle temperature to reach 240°C, and then click the "Load" button to feed the filament.

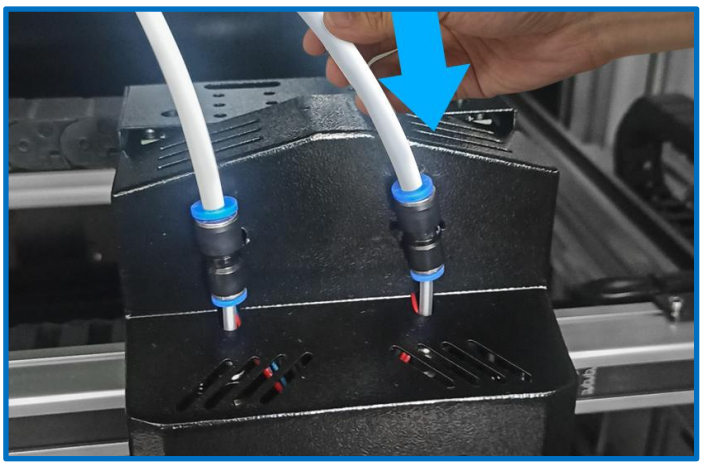


Switch to the second extruder ”T1”, Repeat the steps of the first extruder.



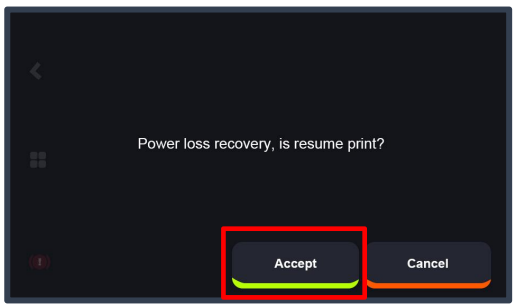
After the completion of loading filament for "T1," it is necessary to click on the "T0" icon again. Failure to do so may result in collisions during subsequent movement commands for the extruder.

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



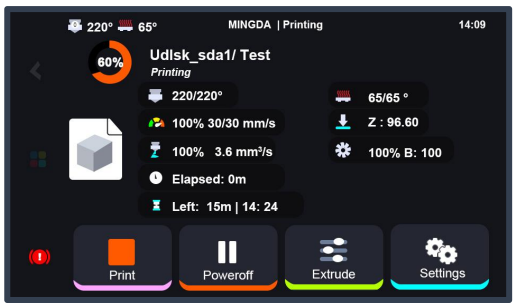
Resume printing after power failure

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 is restored, the printer will prompt whether to resume printing.

After clicking 'Confirm,' the printer will begin the preheating process on the Picture 2 , continuing until the specified temperature is reached.



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

Slicing Software Installation and Usage

Note: Copy the data from the USB drive to your computer for backup.

Our company's slicing software is designed to work seamlessly with our machines to meet customer requirements.

Installation:

Open the provided USB drive and navigate to software -> slicer.

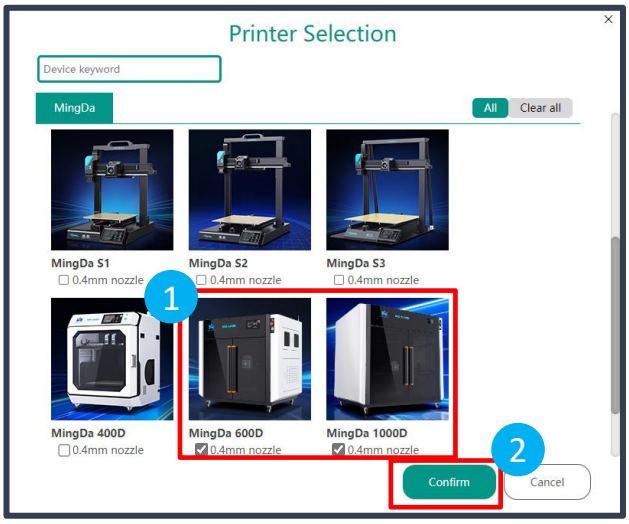
Double-click on MingDa_OrcaSlicer_Windows_Installer_x.x.x.exe to launch the application installer.

Choose your preferred language and follow the on-screen prompts during the installation process.

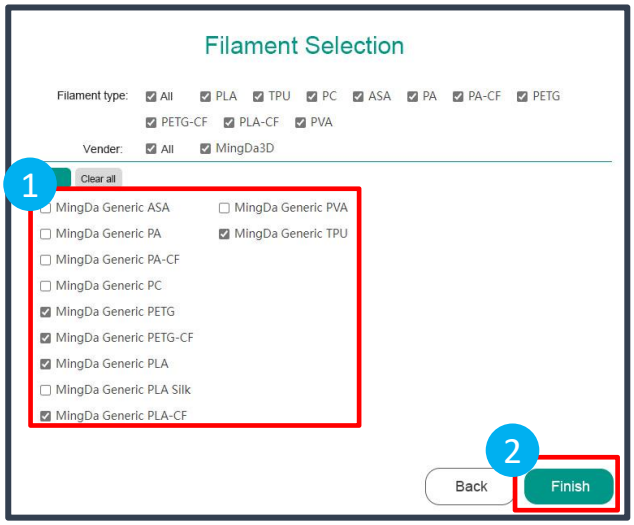
Wait for the installation to complete.

Configuration:

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



Choose the MD-600D &MD-1000D model and click "Confirm."

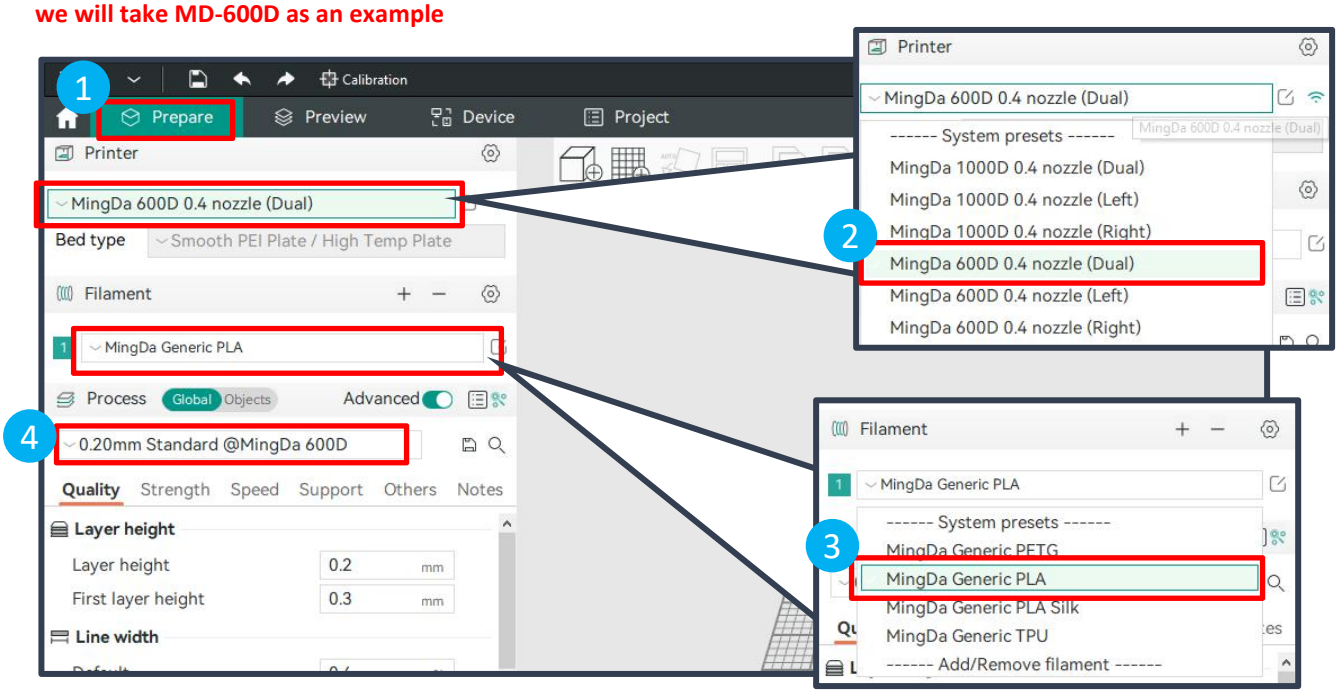


Select the desired filament type.

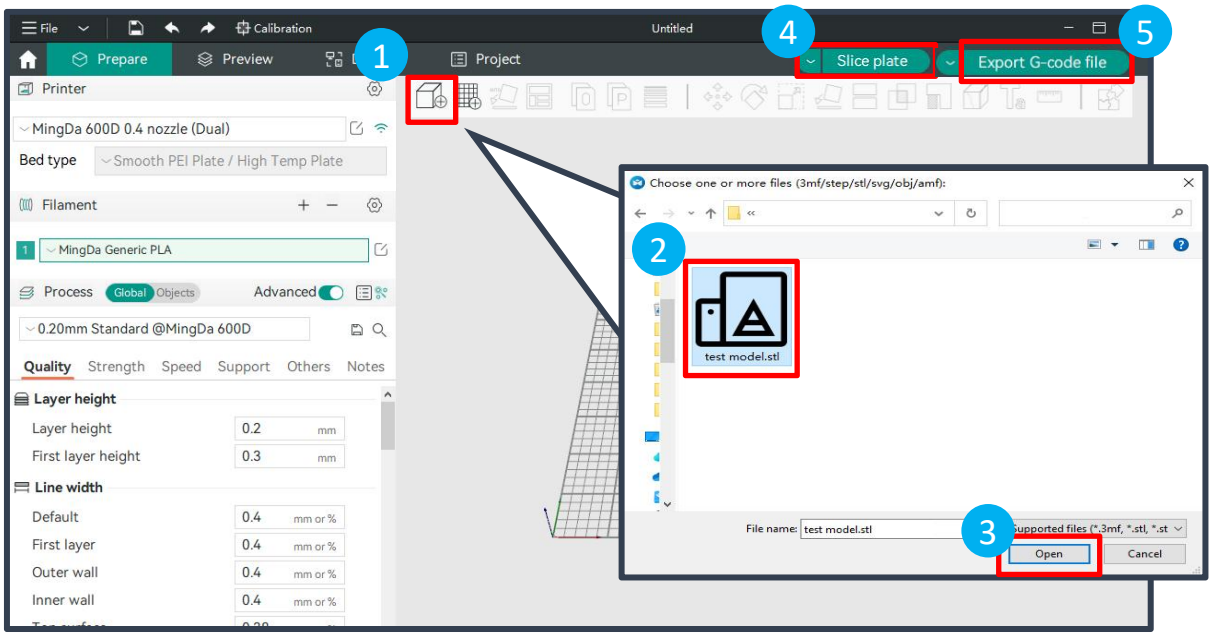
Usage

Click the "Prepare" button.

we will take MD-600D as an example



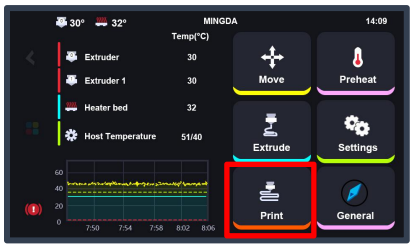
Choose the printer model and select the print material settings.



Load the STL model, adjust the print parameters. Once you confirm everything is correct, click the "Slice plate" button to slice the model.
Finally, click "Export G-code file" to save the file.

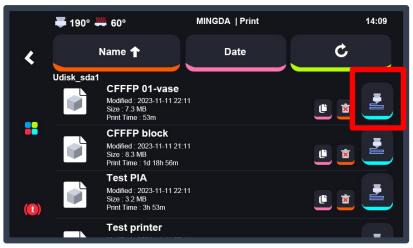
Printing

Local Printing



Insert the U-disk, then click the "Print" button.

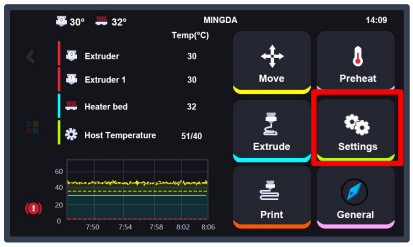
Find the folder and Click the arrow on the right



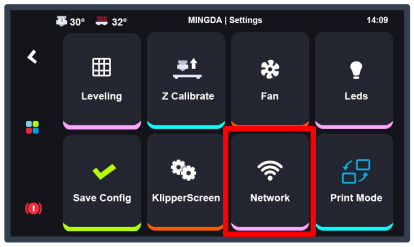
Select the test gcode which was preset in the U-disk.

LAN Printing

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

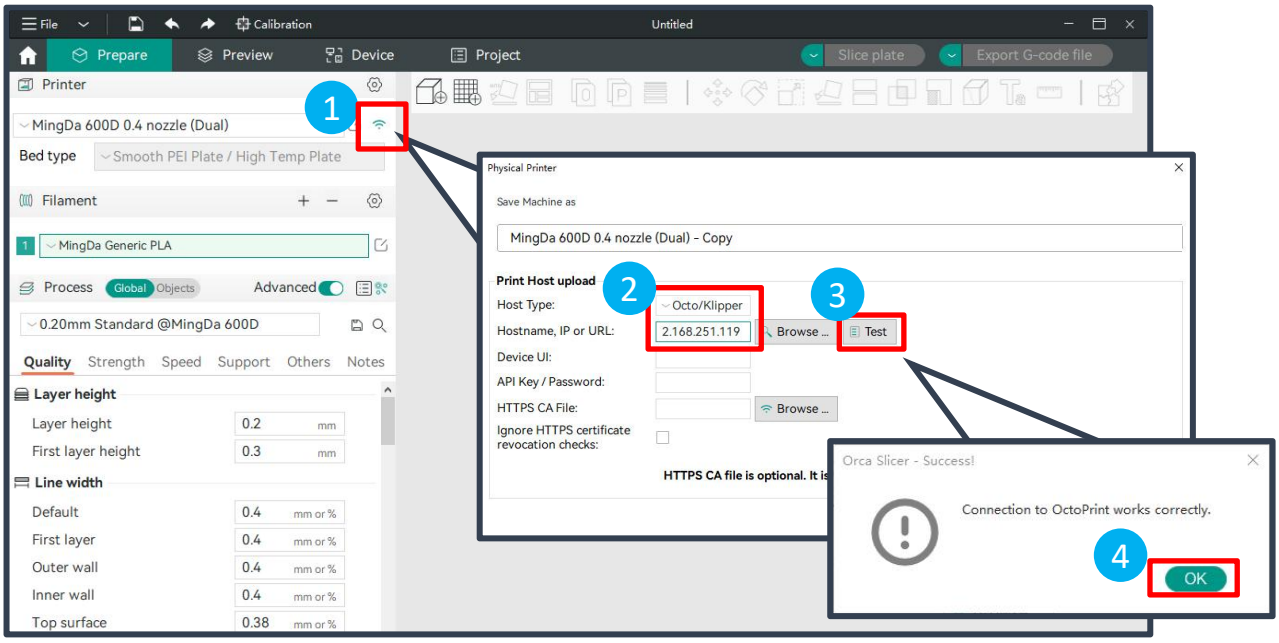


Click "Settings" to enter the settings page.



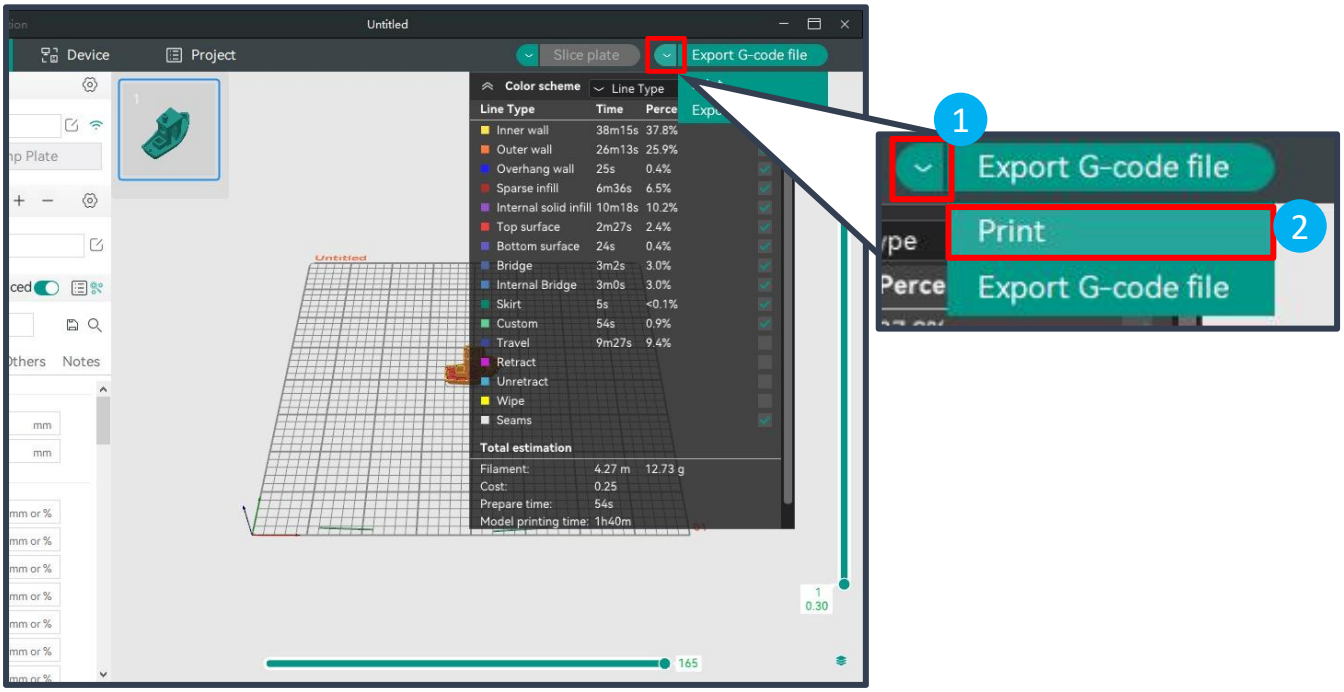
Click "Network" to enter the network page.

Check the printer's IP address.

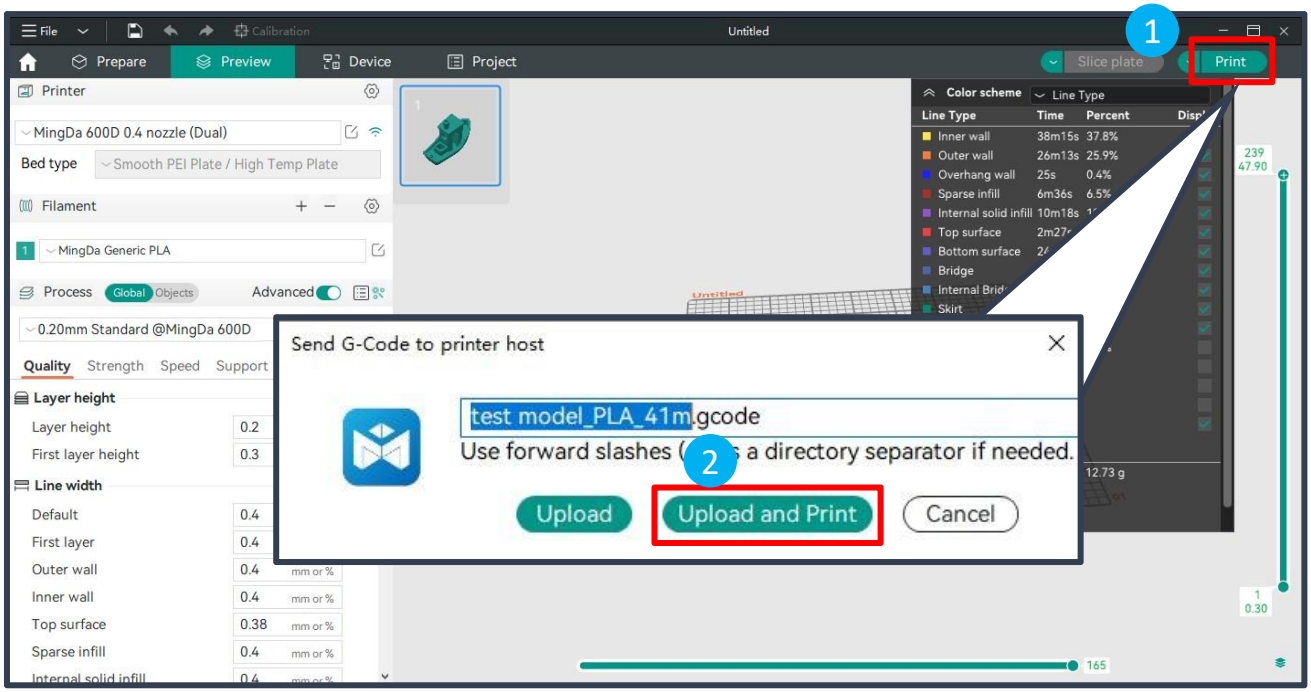


In Mingda OrcaSlicer, click the WiFi icon, select Host type as Octo/Klipper, enter the printer's IP address, and press Enter. Click the "Test" button to verify the successful connection.

File Transfer:



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

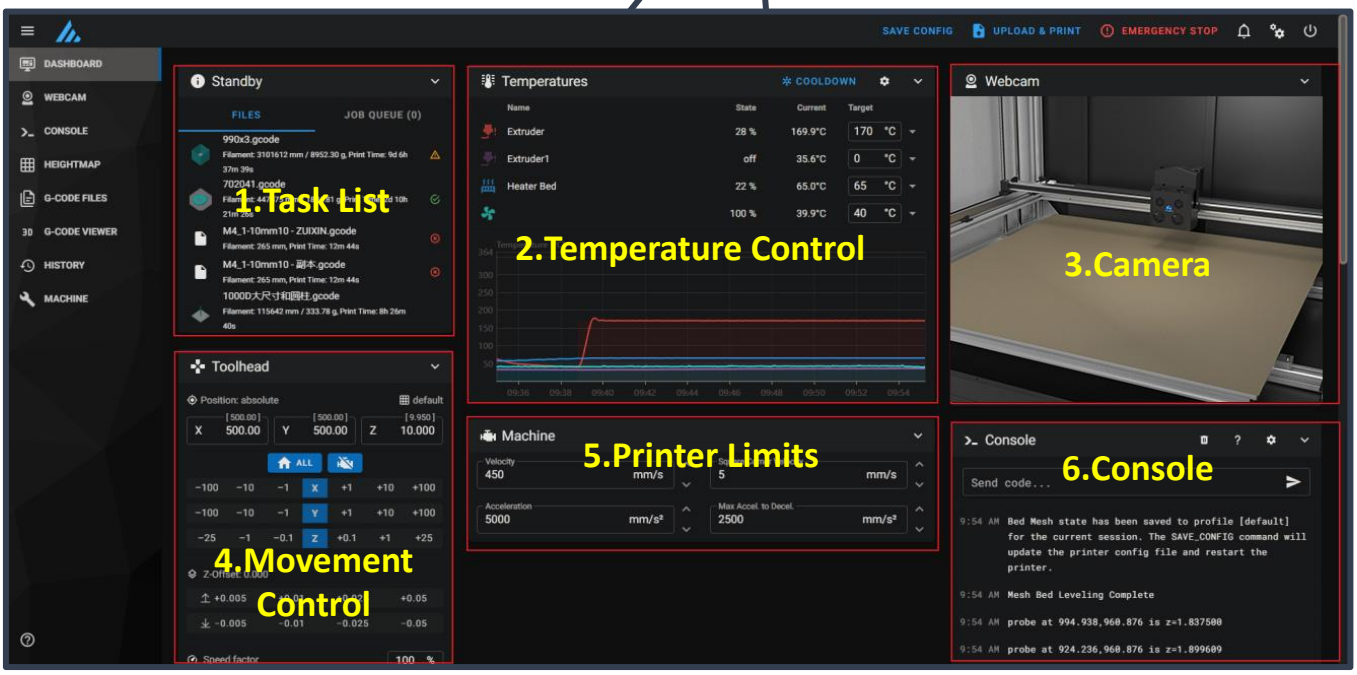


Click "Print" and choose "Upload and Print."

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.

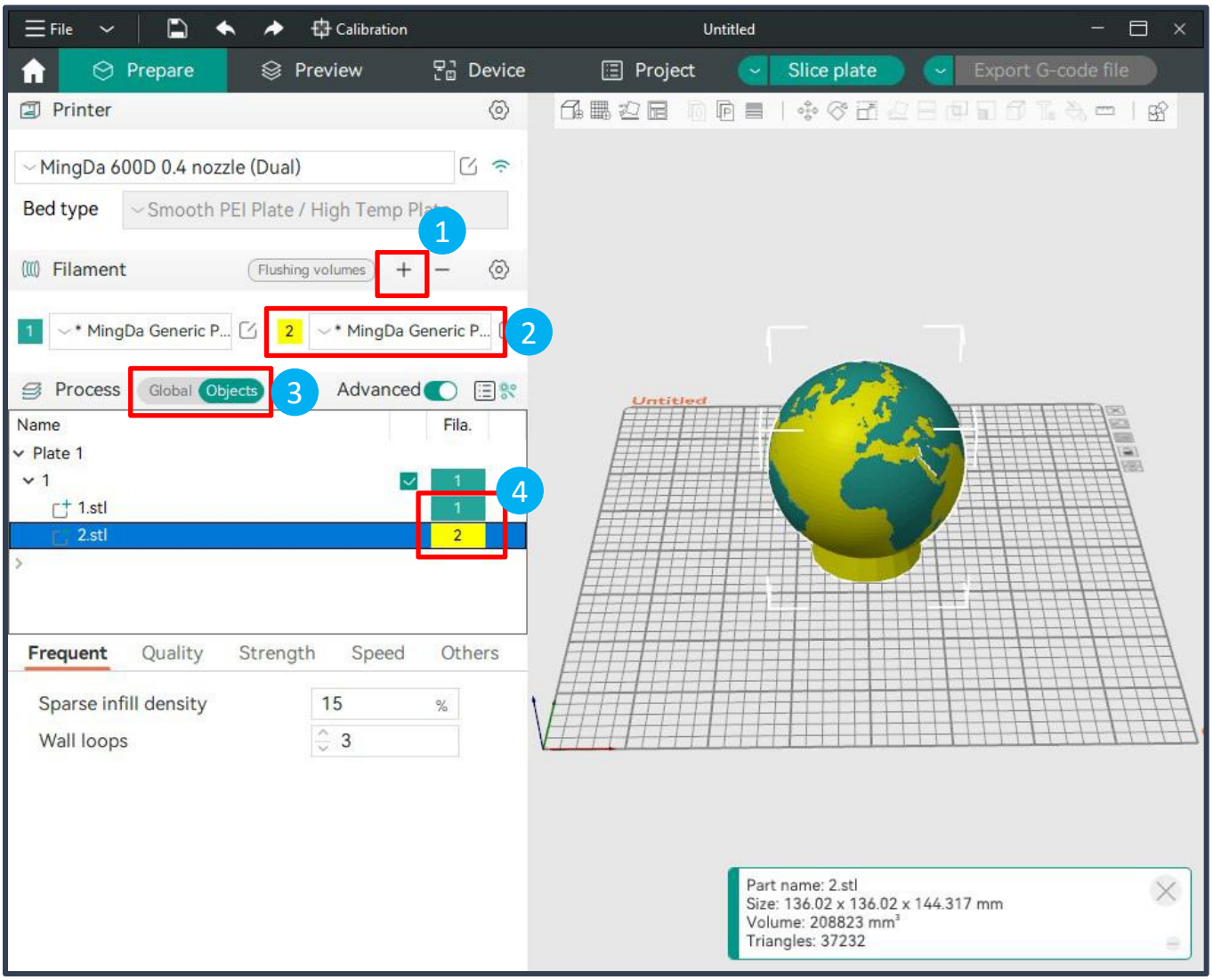
Print Mode

Print Two Colors

we will take MD-600D as an example

Printing size: 600 * 600 * 600mm

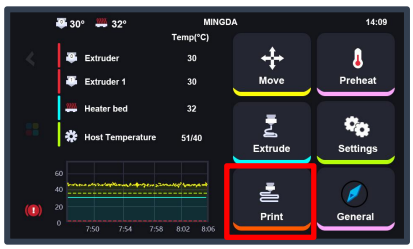
Selecting the [MingDa 600D 0.4 nozzle (Dual)]



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.

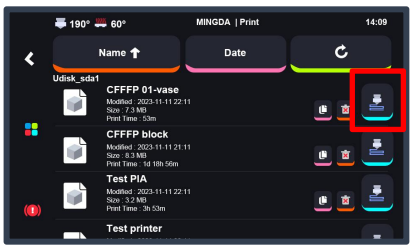
In the printer interface:

Note: When printing dual-color models, the printer will automatically switch to Auto-park Mode.



By default, it is in "Auto-park Mode"; select "Print."

Insert the U-disk.

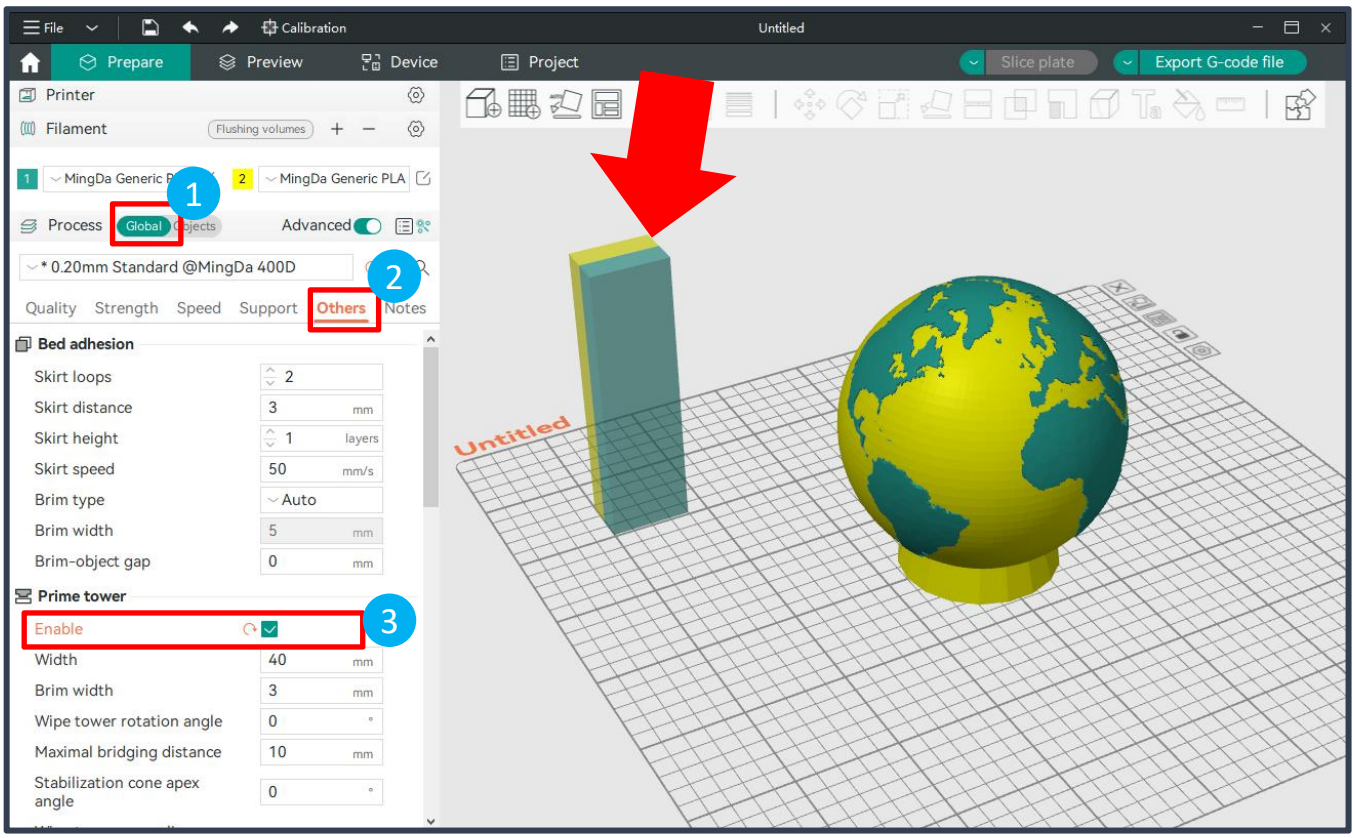


Choose the print file for printing.

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.

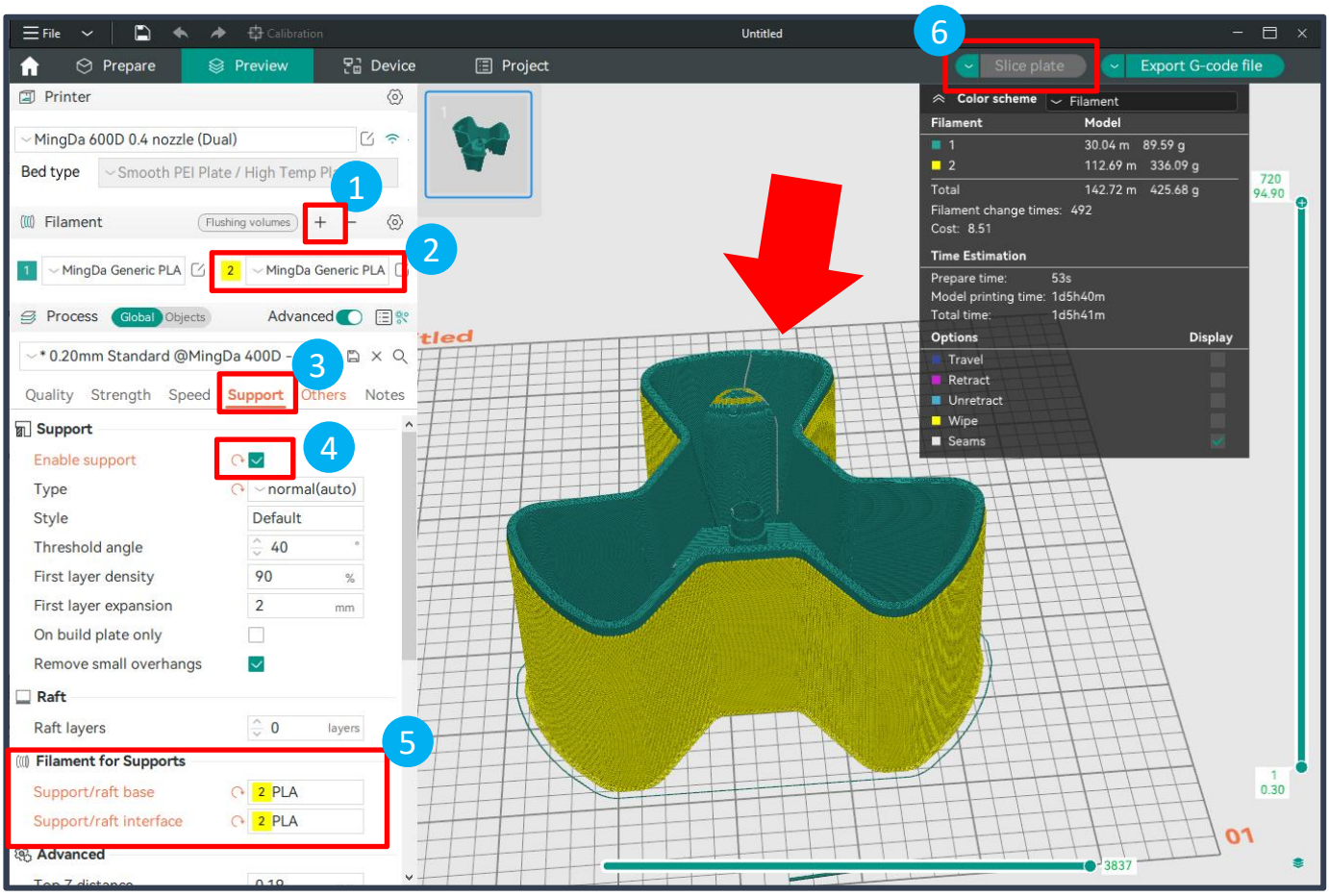
Note: The printing position of the Prime tower cannot coincide with the model

Printing Support

we will take MD-600D as an example

Printing size: 600 * 600 * 600mm

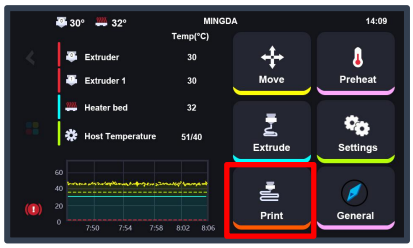
Selecting the [MingDa 600D 0.4 nozzle (Dual)]



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.

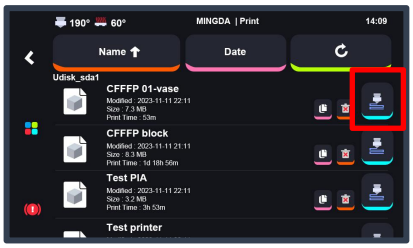
In the printer interface:

Note: When printing models with supports, the printer will automatically switch to Auto-park Mode.



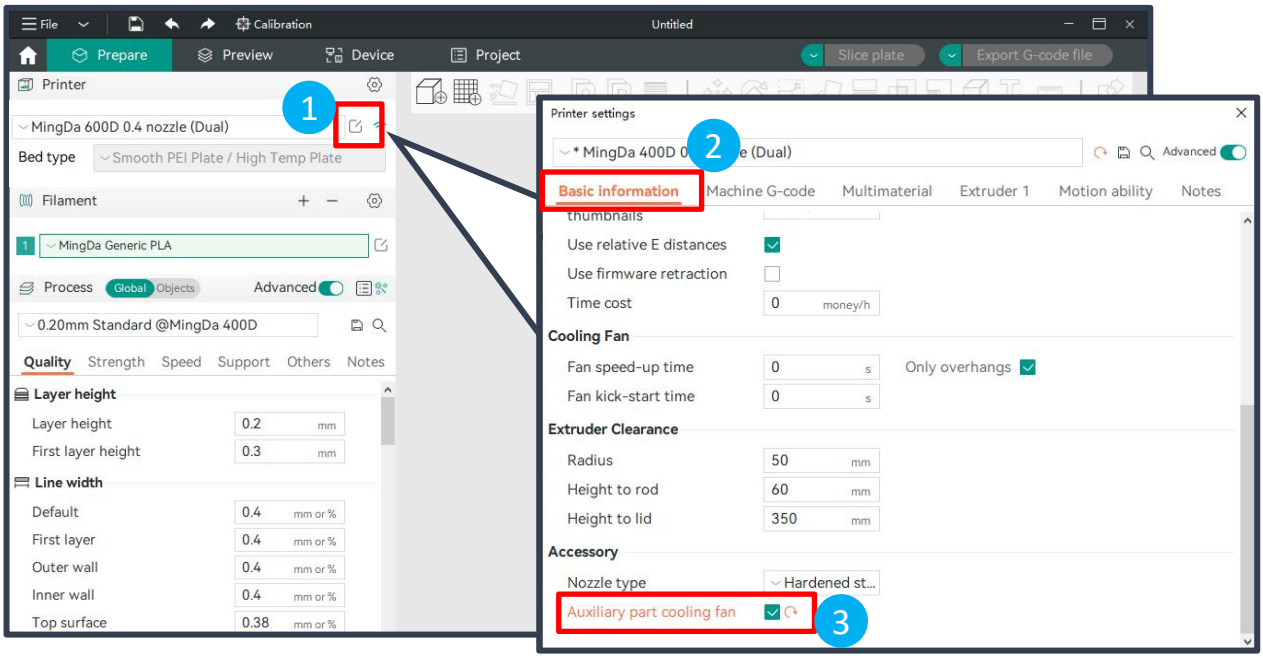
By default, it is in "Auto-park Mode"; select "Print."

Insert the U-disk.

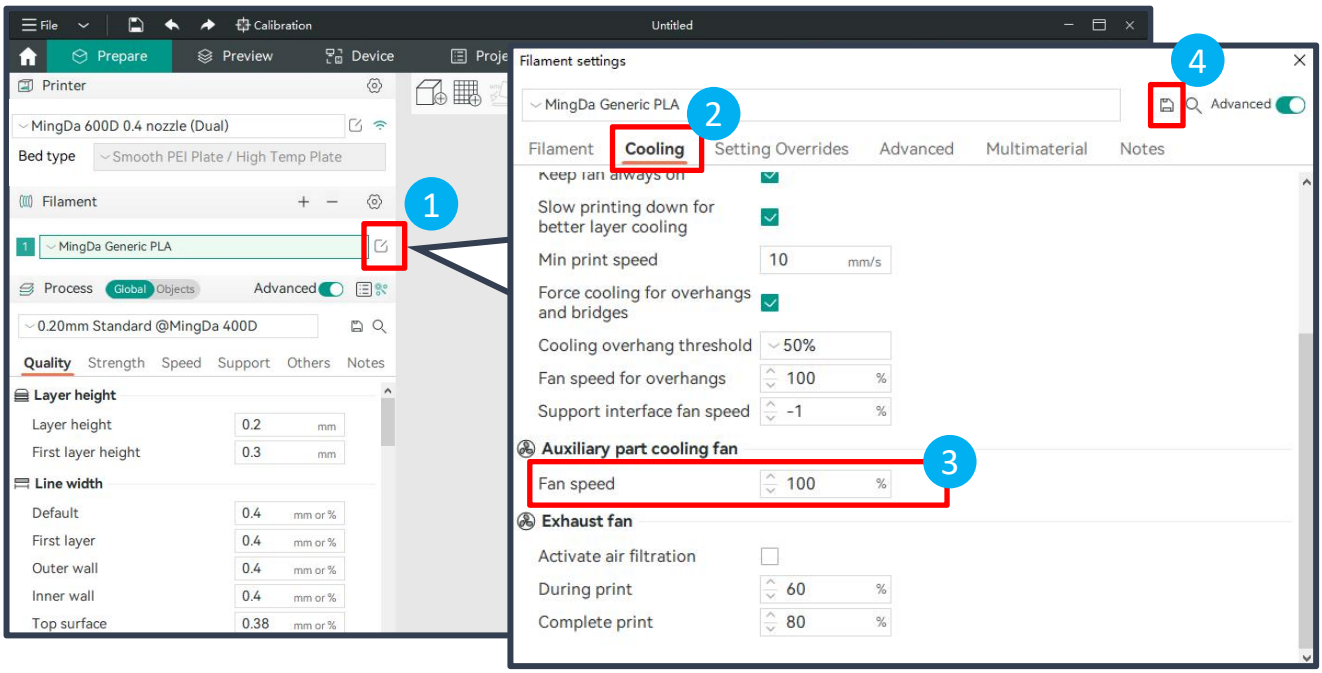


Choose the print file for printing.

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.

4. 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.

5. 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.

6. After sales service and support

Customer Support

Working Computer Specifications

Operation system: MicrosoftWindowsXP、MicrosoftWindowsVista or MicrosoftWindows7

Processor minimum value : 2.4 GHz, faster processor could shorten the processing time

RAM minimum value: 1GB （WindowsVista or Windows7 is 2 GB）Recommendation： 2 GB (WindowsVista or Windows7 is 3 GB)

Hardware installation: 90 MB monitor graphics resolution minimum value: 1024x768

Recommendation: 1280x1024 (can use the wide-screen)

Necessary video card: In line with OpenGL accelerated graphics card Recommendation: OpenGL hardware support to recommend 128 MB graphics card memory

MINGDA Limited Warranty Statement

Besides limited warranty, within the maximum range allowed by law. MINGDA or any authorized dealer have not made any other statements or implied guarantee, including marketability and special-purpose applicability of implied warranties. MINGDA has not supplied, undertake or provide, authorized to assume responsibility for it or any other guarantee, including any authorized dealer or other express or implied warranties to the independent third party.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
-Reorient or relocate the receiving antenna.
-Increase the separation between the equipment and receiver.
-Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
-Consult the dealer or an experienced radio/TV technician for help.

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

MINGDA

Shenzhen MINGDA Technology Co., Ltd

Tel: 0086-13530306290

Email: support@3dmingda.com

www.3dmingda.com

Address: No. 20, Dahe Industrial Zone, Longhua District,

Shenzhen, 518110, Guangdong Province, China.