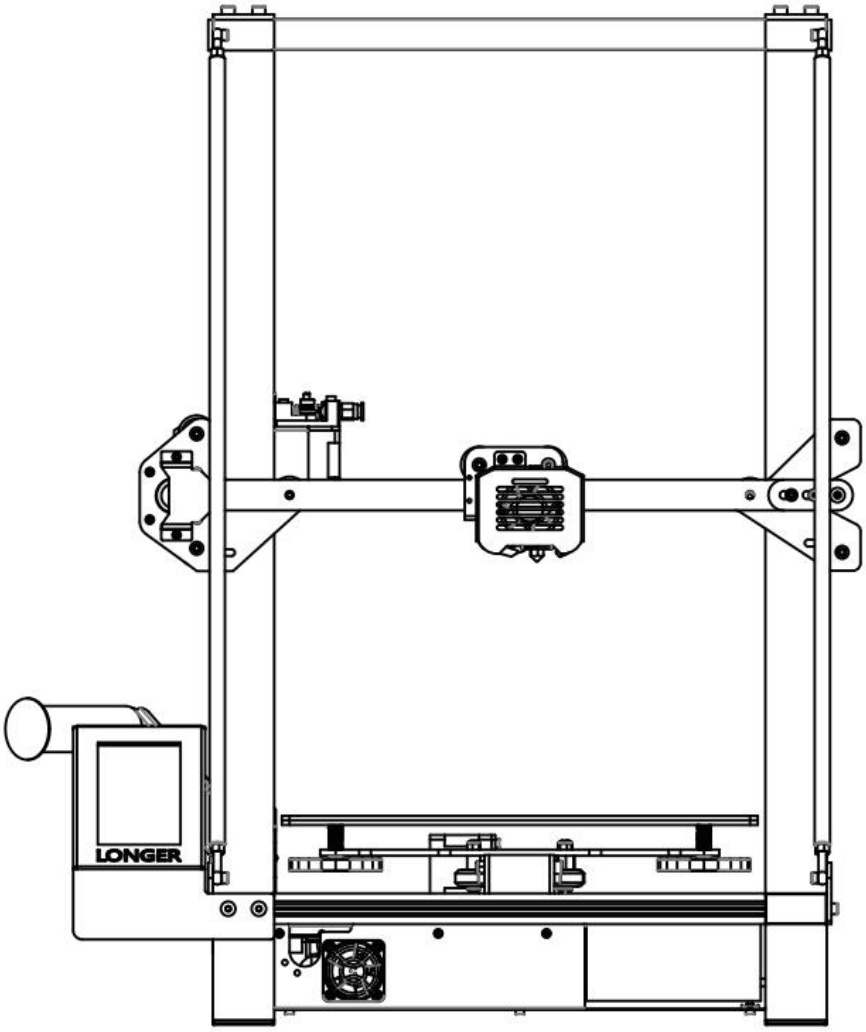


LONGER LK 5 PRO 3D FDM PRINTER

Thank you for choosing our products.
Please read this manual carefully before use.

Please reference more details on digital manual in TF card about the operation of printer and installation of slicing software.

Please join our Facebook Group: Longer 3D Official Group
Email: Support@longer3d.com

If you have any question, please feel free to contact us as above.

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Table of Contents

Safety Precautions 1
A. Product information 3
(1) Model parameter 3
(2) Packing list 4
(3) Nozzle module exploded view 5
(4) Machine assembly 6
B. Machine operation 12
(1) Machine control interface description 12
(2) Home interface 13
(3) Move interface 14
(4) Tune interface 15
(5) Filament interface 16
(6) Leveling interface 17
(7) File interface 17
(8) Print interface 18
C. Installation and use of Cura 4.8 slicing software 19
(1) Software installation 19
(2) Add 3D model into Cura 4.8 20
(3) Slicing parameters 21
(4) Slice and save Gcode files 23
(5) More 23
D. FAQ manual 26
Question1: How to update the firmware? 26
Question2: How to solve a clogged nozzle? 27
Question3: What to do if the hot bed can not be leveled? 28
Question4: How to solve the problem of filament is not adhered to the printing bed? 29
Question5: what to do if the printer can not be printed online? 29
Question6: How to solve the problem of garbled file name? 30

Safety Precautions

1) The temperature of the nozzle parts can reach 250 ˚C during the operation of the machine. To ensure your safety, it is forbidden to touch the model and nozzle directly with your hand while the printer is printing or cooling.

2) During the operation of the machine, it is forbidden to reach into the machine to prevent pinching.

3) The working voltage is 110~220V AC voltage 50HZ AC. The three-pin socket must be grounded. Do not use other power sources to avoid damage to components or fire, electric shock and other accidents.

Note: Before powering on, please check whether the input voltage value of the switching power supply meets the voltage standard of the country or region.

3) When the machine is working continuously for ≥ 96 hours, it should be stopped for 1-3 hours.

4) filaments

The filaments are not used after unpacking or for a long period of time after the print model is completed. The filaments should be taken out of the printer and sealed to prevent the filaments from

being exposed to the air for a long time, causing moisture and affecting the print quality. At the same time, when the filaments are removed The front end of the filament should be fixed on the tray to avoid filaments and affect the next print.

To use this printer, it is recommended to use the supplies provided by the company. At present, the quality of filaments sold in the retail market is uneven, and printing is prone to breakage.

Staggering and clogging the printer nozzle, etc., and irreversible damage to the heating components of the nozzle, the extrusion motor and the extrusion gear. The company will not guarantee the printer due to the use of filaments other than our company.

5) Environmental requirements

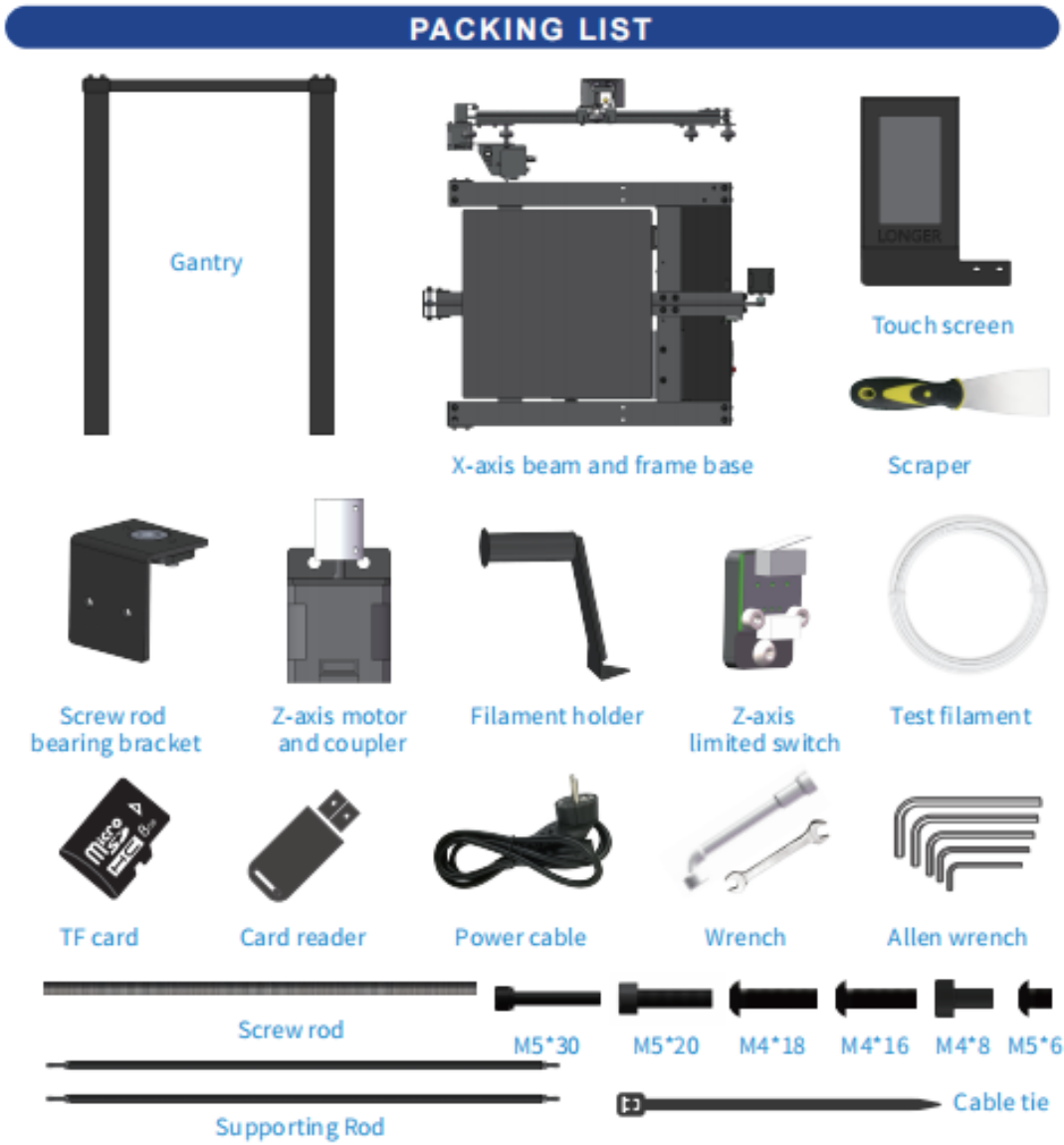
Temperature requirement: 10°C~30°C, humidity requirement: 20%~50%, this 3D printer can work normally within this range; beyond this range, this 3D printer will unable to achieve the best print results.

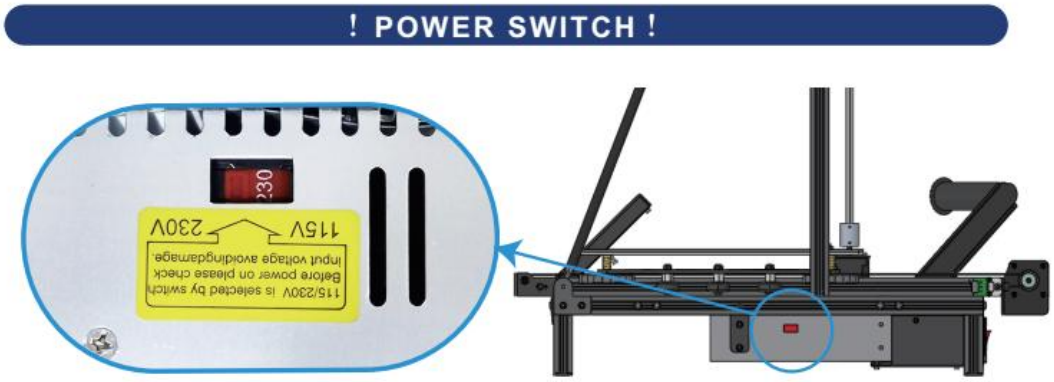
A. Product information

(1) Model parameter

Model	LK5 Pro	Molding	FDM
Printing size	300*300*400 mm	Nozzle diameter	0.4 mm
Printing speed	Up to 120 mm/s	Layer thickness	0.1-0.4 mm
Slicing software	Cura etc.	File format	STL, G-Code, OBJ
Connection method	TF card or USB	Operating system	Windows, MAC, etc.
Nozzle Temp.	Up to 250 ° C	Hot bed Temp.	Up to 100 ° C
Filament diameter	1.75mm	Power supply	Output 24V DC
No. of nozzles	1	Filament color	Multi-color optional
Frame	Aluminum frame	Machine weight	11 Kg
Machine size	580*540*663 mm	Package size	622*588*193 mm
Support filaments	PLA, ABS, wood, copper filaments		
Use environment	Temperature 10-30 ° C, Humidity 20-50%		
Special feature	Inclined rod Lattice glass 4.3 inch large touch screen Blue high temperature Teflon tube		

(2) Packing list

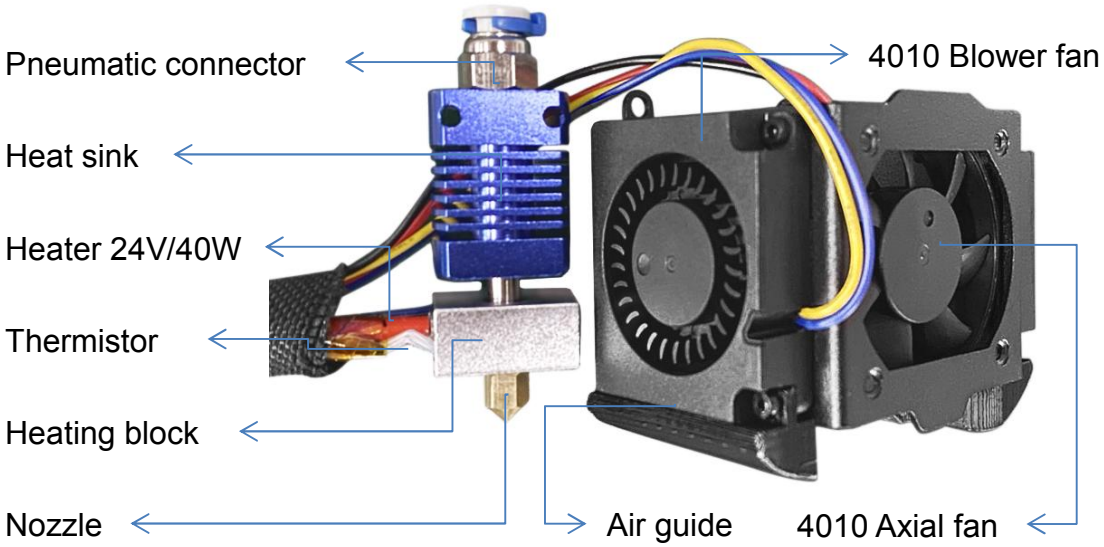




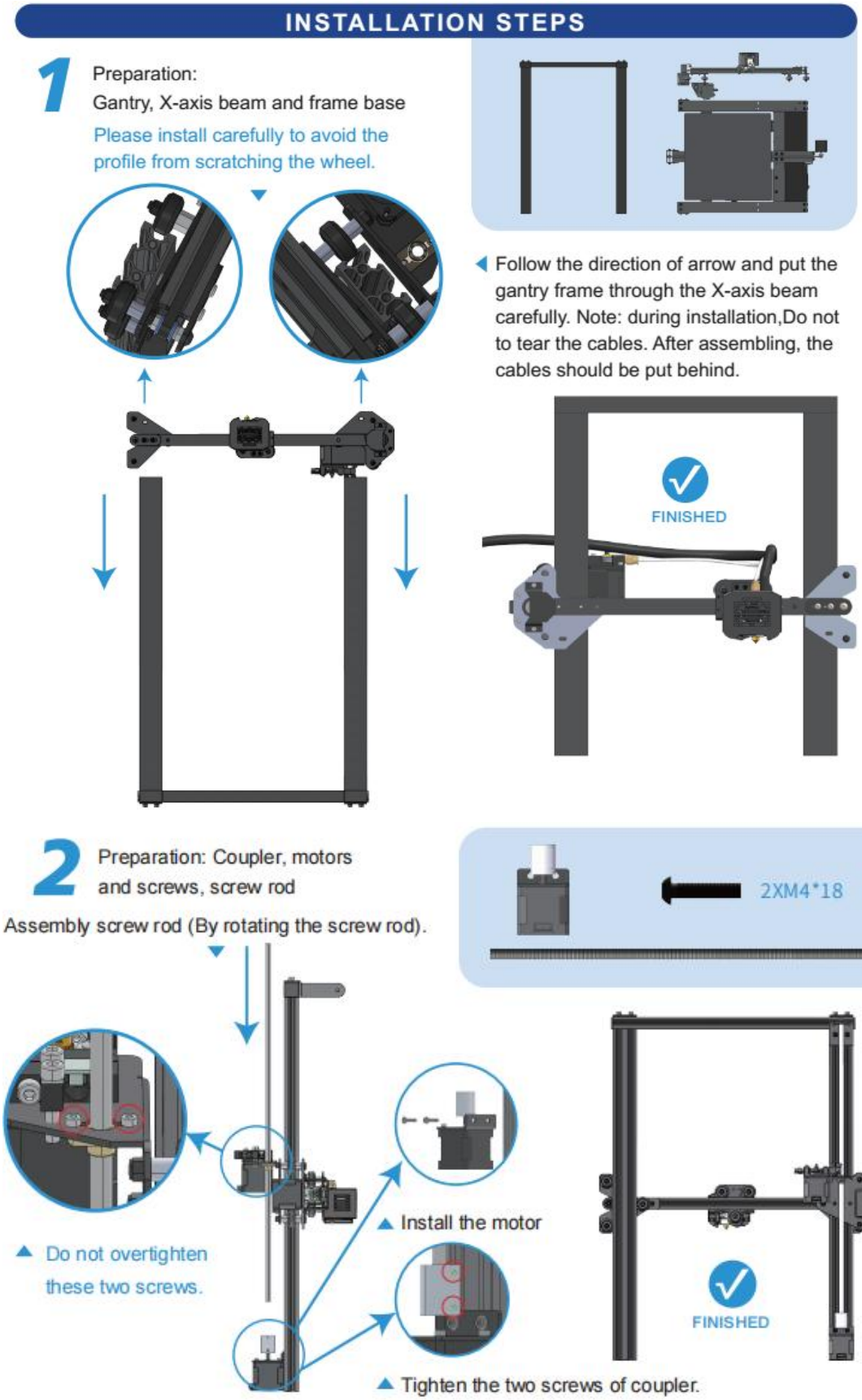
▲ Use the wrench to toggle the switch to the RIGHT local voltage before powered on.
Please check the RIGHT voltage to avoid burning out the printer.

(3) Nozzle module exploded view



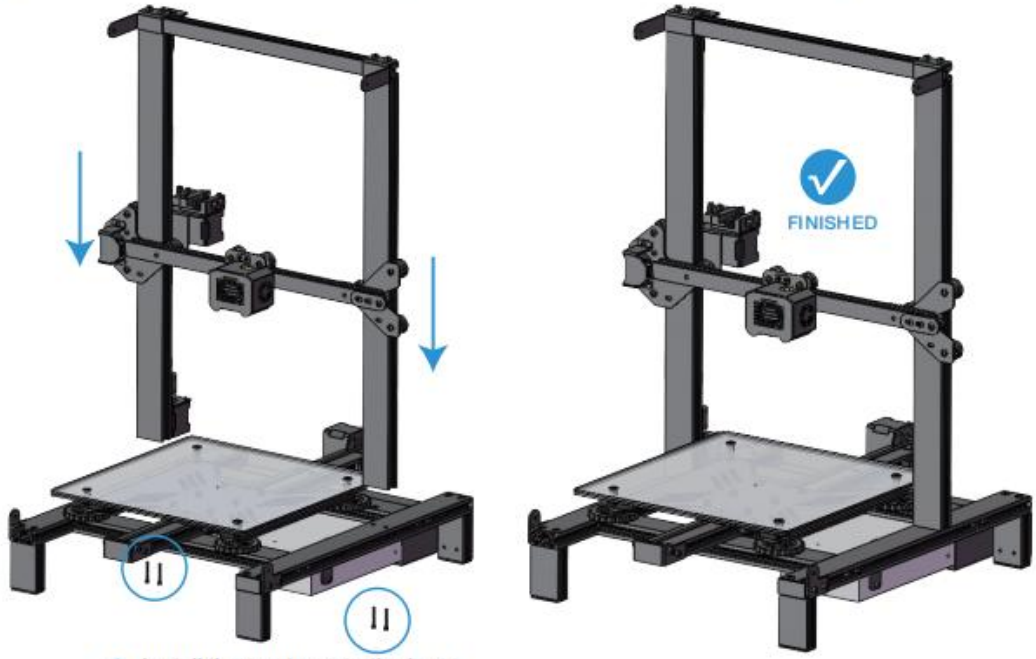


(4) Machine assembly



3 Preparation:Gantry, base, screws

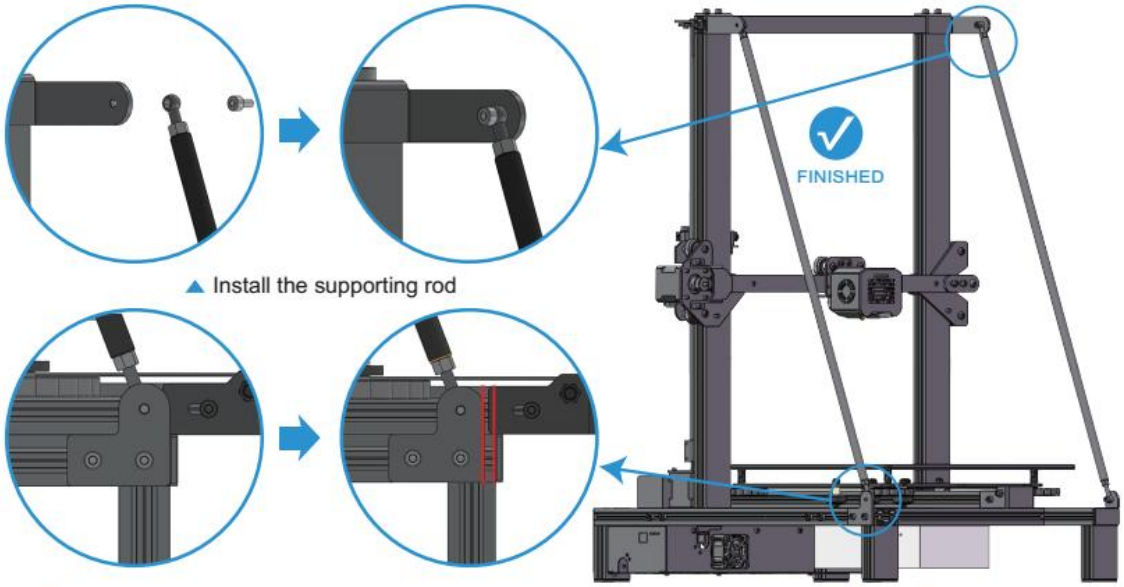




▲ Install the gantry onto the base.

4 Preparation:Supporting rod, screws

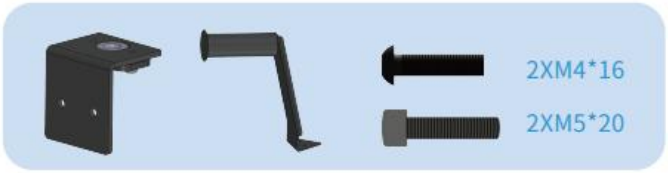


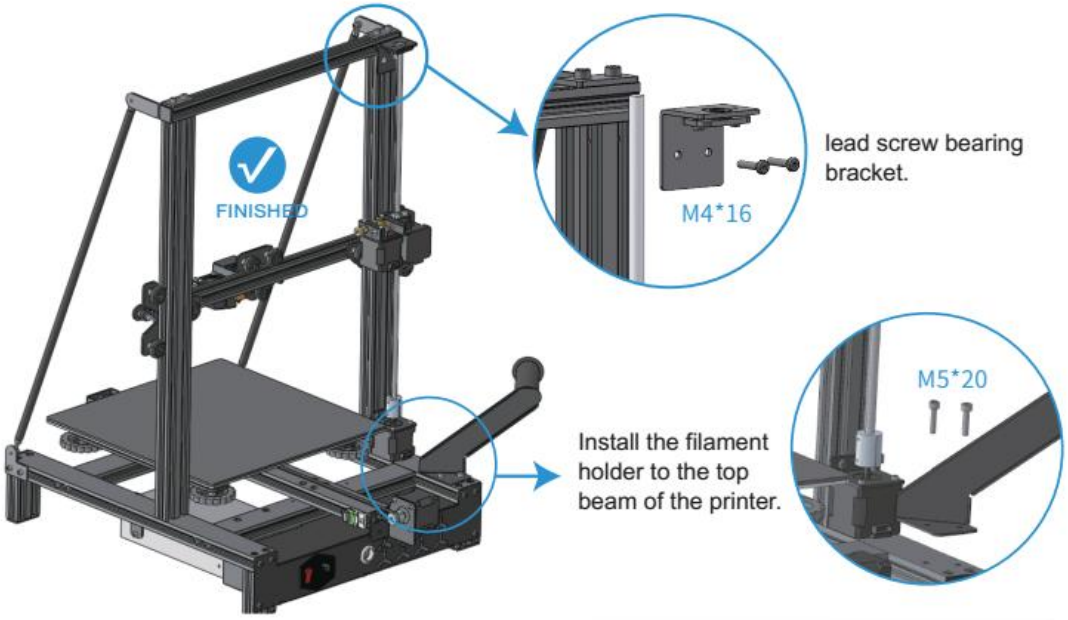


▲ Install the supporting rod

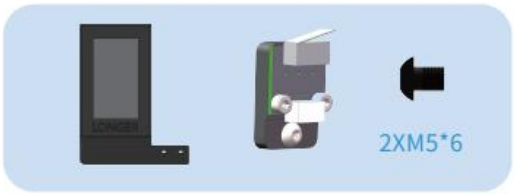
▲ Loosen the screws of the fixing plates of the supporting rods on both sides, and the position of the fixing plates can be adjusted in the front-rear direction until the gantry and the base become stable and vertical.

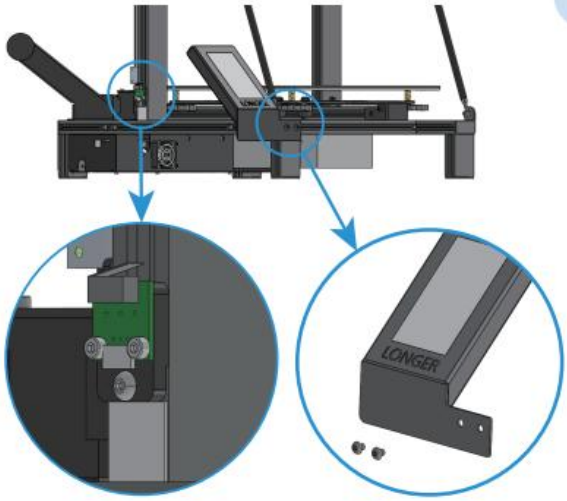
5 Preparation: Limited switch and filament holder, screws





6 Preparation: Touch screen, touch screen back cover, screws





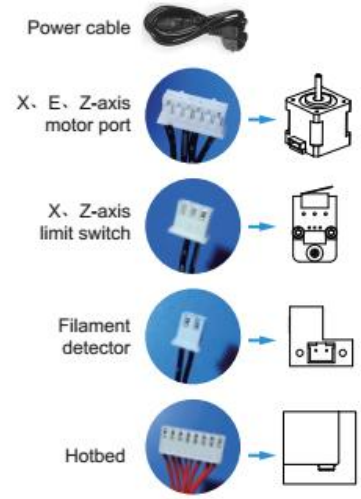
▲ Install the z-axis limit switch. The installation height is flush with the upper edge of the white label.

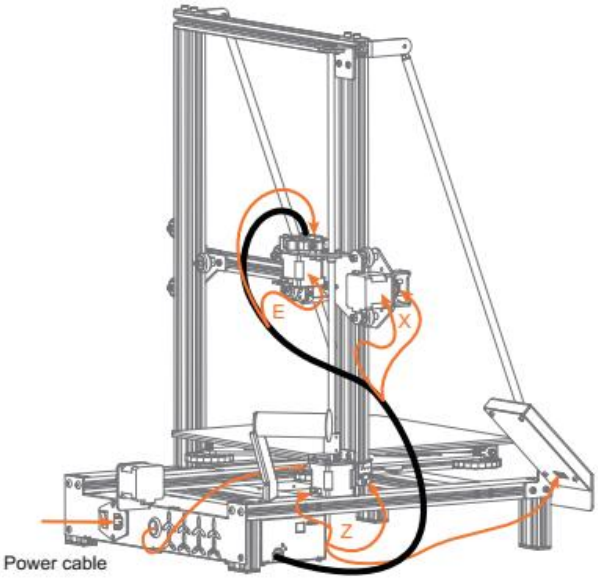
The position of the limit switch is too high or too low, which will cause the hot bed to fail to be leveled normally.

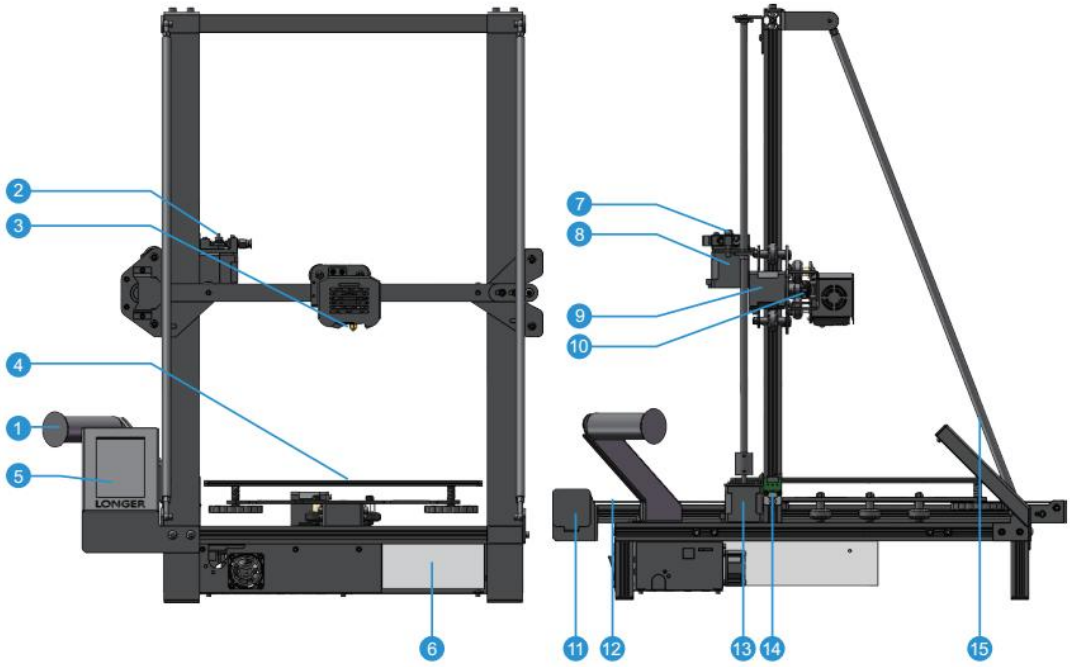


▲ Mount the touch screen to the left on base.

7 Cable Connection:



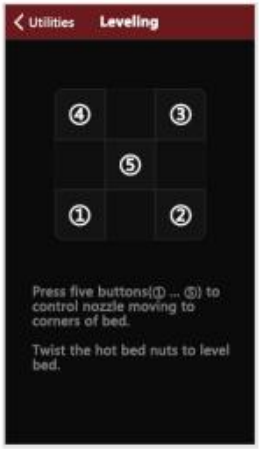


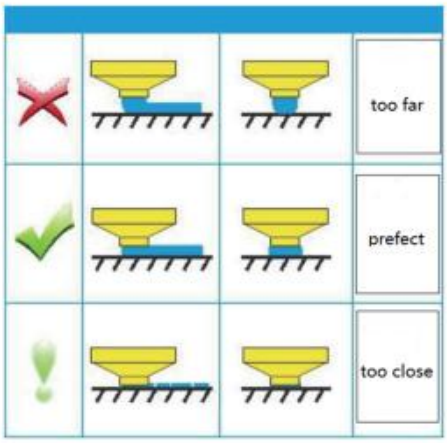


1 Filament holder	5 Touch screen	9 X-axis motor	13 Z-axis motor
2 Extruder	6 Power supply	10 X-axis limited switch	14 Z-axis limited switch
3 Hot end	7 E filament detector	11 Y-axis motor	15 Supporting Rod
4 Hot bed	8 E extrusion motor	12 Y-axis limited switch	

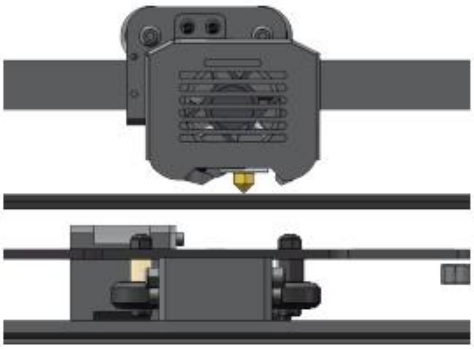
LEVELING

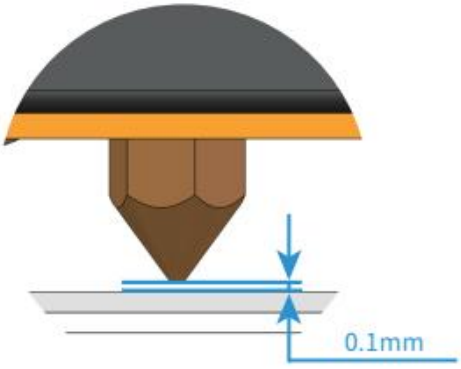
- Please click on the touch screen "More"-> "Leveling", starting from the icon in the lower left corner, click the icons counterclockwise in turn. After each click on the icon, wait for the nozzle to move to the corresponding position and adjust the leveling nut. Try to keep the nozzle and the platform at a proper distance.





- The distance between the nozzle and the platform is controlled to the height of 0.1mm, about the thickness of A4 paper.
  (Put on a A4 paper, feel the slight friction when you pull the paper)





SOFTWARE INSTALLATION AND OPERATION

1.Double click to install the software.

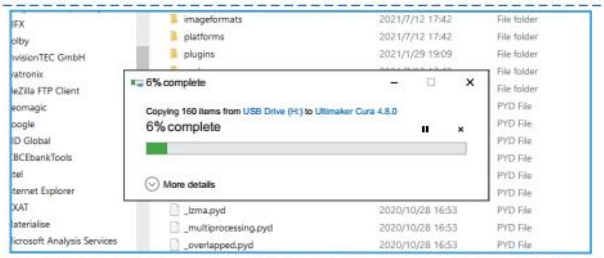
Notes: The software is in the Cura4.8 folder of the microSD card.



Ultimaker_
Cura-4.8.0
-amd64

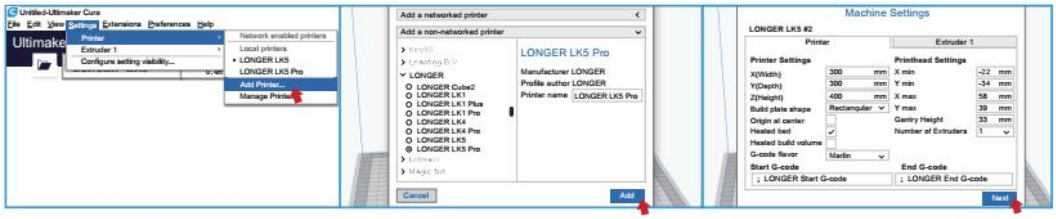


2.Copy the “resources” files in the Cura4.8 folder of the micro SD card, paste and replace the “resource” folder in the installation directory C:\Program Files\Ultimaker Cura 4.8.0



3.Double click to run the software.

4.Select your machine → Next → Finish.



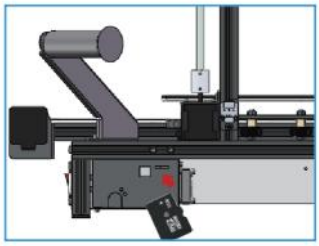
5.Manipulate 3D model in Cura → Slice (Generate G-code) → Save to removable drive (Save the gcode file to storage card).



P.S. Import your own 3D model (such as .stl file).

Note: “Save to removable drive” option will apear when microSD card is inserted.

6.Insert the storage card.



7.Select the file → Open (Printing)



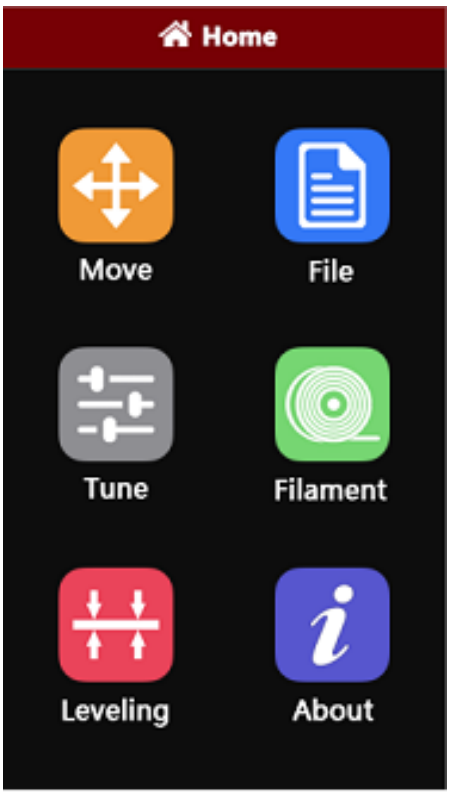
B. Machine operation

(1) Machine control interface description

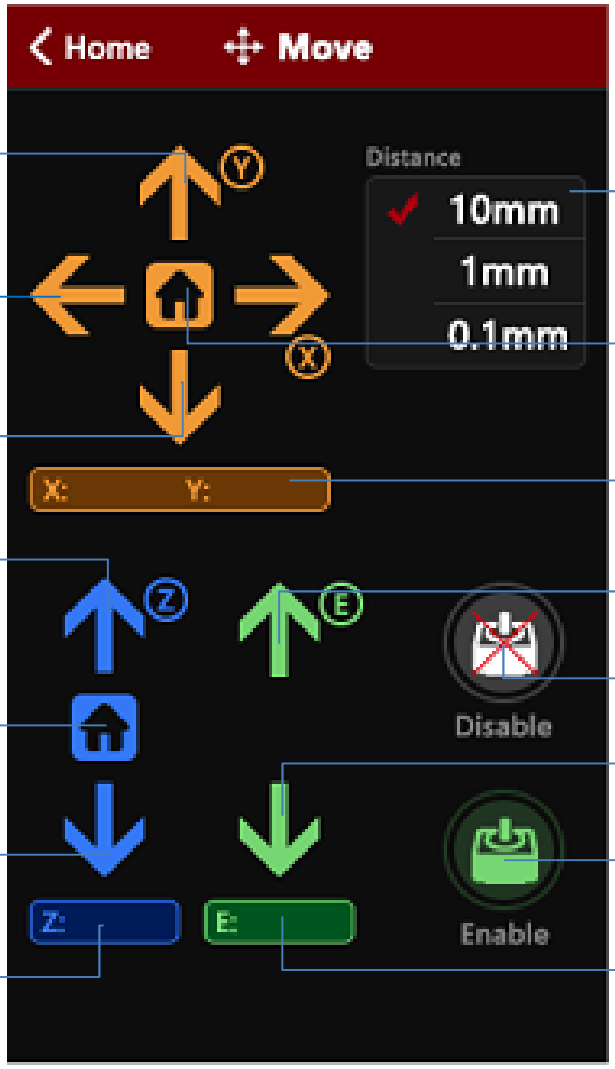
Primary interface	Secondary interface	Function control	Explain	
Home	Move	X,Y	Move and home the X, Y axis	
		Z	Move and home the Z axis	
		E	Load and unload the filaments	
		Distance	Moving distance	
		Disable	Unlock the motor	
		Enable	Lock motor	
	File	File selection and display	Open	Start printing
	Tune	Nozzle Temp.	Increase\decrease	Adjust the nozzle Temp.
			Cool	Stop heating and cool the nozzle
			Step（℃）	Temp. adjust step size
		Heatbed Temp.	Increase\decrease	Adjust the hotbed Temp.
			Cool	Stop heating and cool the hotbed
			Step（℃）	Temp. adjust step size
		Fan speed	Increase\decrease	Adjust fan speed
			Stop fan	The fan stops rotating
			Step	Step speed of the fan speed
		Feed rate	Increase\lower	Adjust print speed
			Restore	Restore default setting
			Step	Print speed step size

Home	Tune	Nozzle flow rate	Increase\decrease	Adjust the nozzle flow
			Restore	Restore default setting
			Step	Nozzle flow step size
	Filament	Nozzle temp	Display the temperature of nozzle	
		Heatbed temp	Display the temperature of hot bed	
		Filament type	Select the filament to preheat nozzle and hot bed	
		Cool	Stop heating and cool the nozzle or hot bed	
		Filament change	Feeding/returning length control	
		Load\Unload	Feeding/returning control	
	Leveling	Leveling the hot bed		
	About	About the firmware version of printer motherboard and touch screen, machine model, used time, etc.		

(2) Home interface



(3) Move interface



Move the Y axis forward

Move the X axis to the left

Move the Y axis backward

Move up the Z axis

Home the Z axis

Move down the Z axis

Dispaly Z aix coordinate

Moving distance per step

Home the X and Y axis

Dispaly X and Y aix coordinate

Load the filament

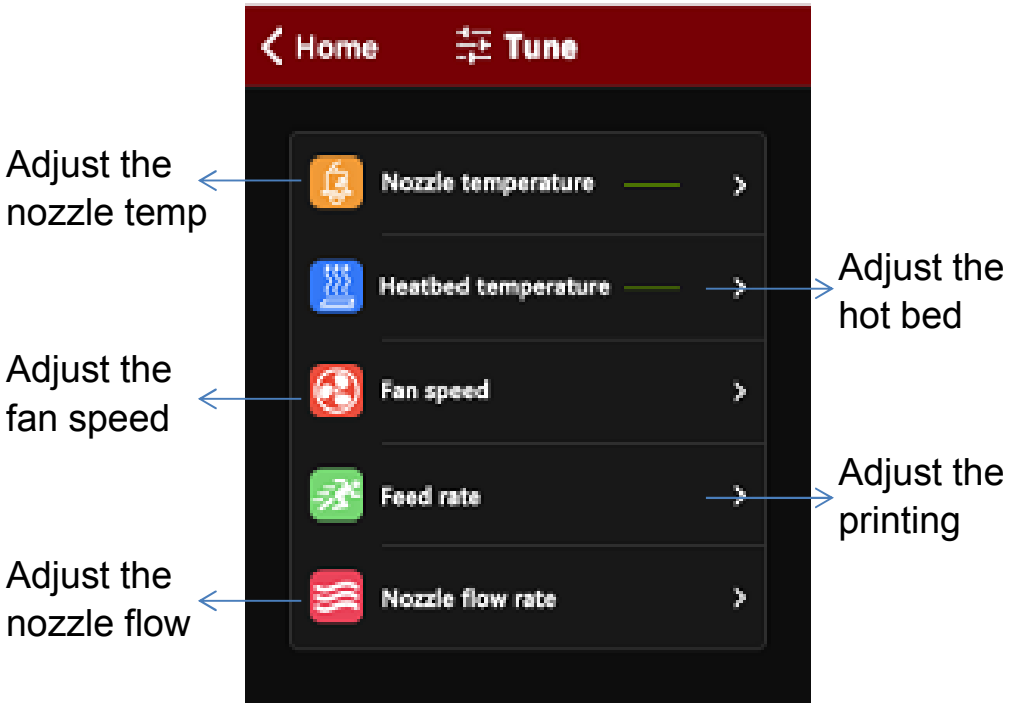
Unlock the motor

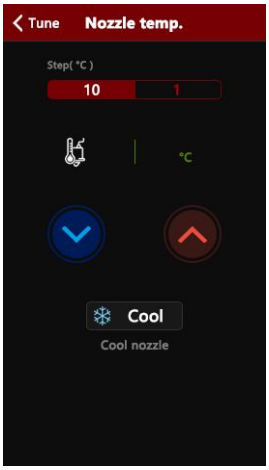
Unload the filament

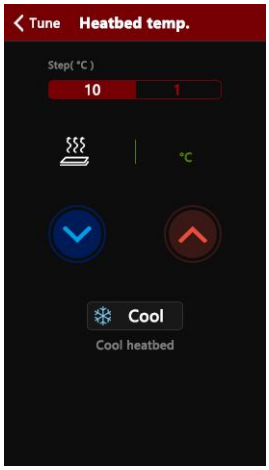
Lock the motor

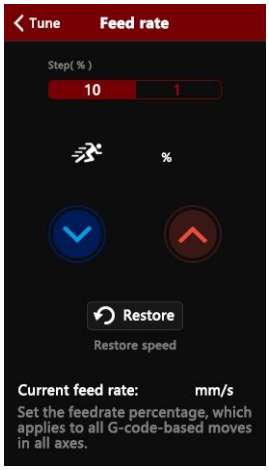
Dispaly E aix coordinate

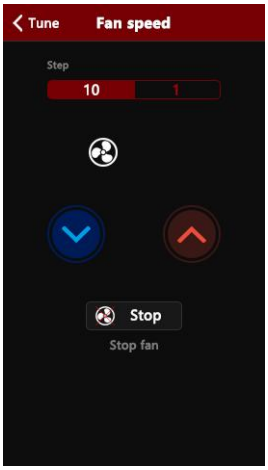
(4) Tune interface

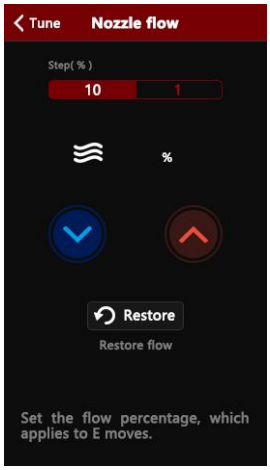




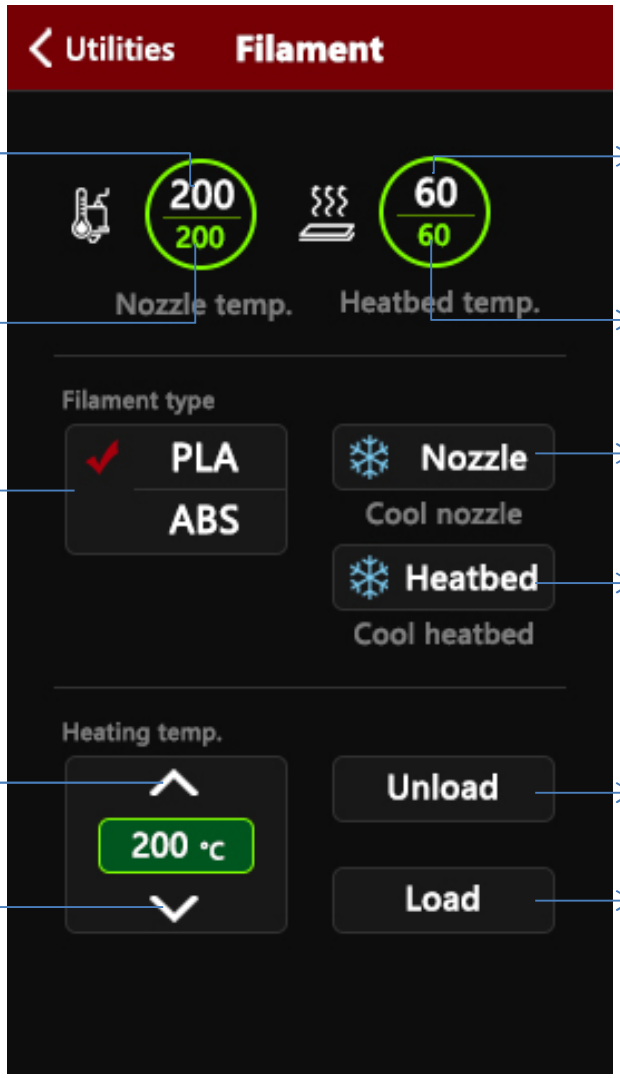








(5) Filament interface



Real-time temp of nozzle

Target temp of nozzle

Select the filament to heat the nozzle and hot bed

Increase the temp of nozzle

Decrease the temp of nozzle

Real-time temp of hot bed

Target temp of hot bed

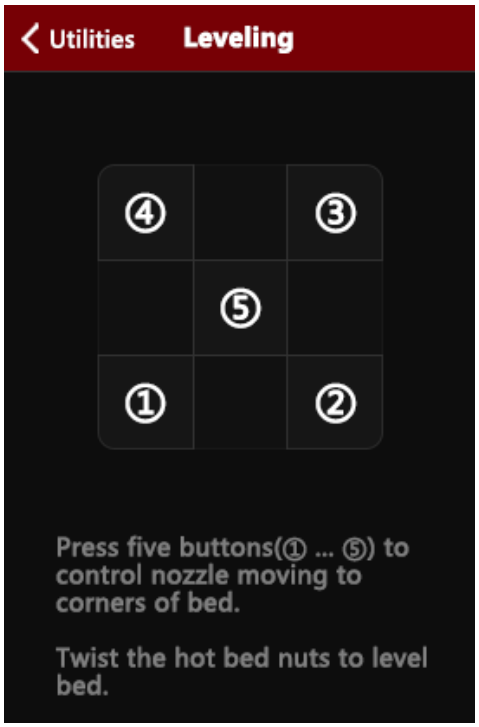
Cool the nozzle

Cool the hot bed

Unload the filament

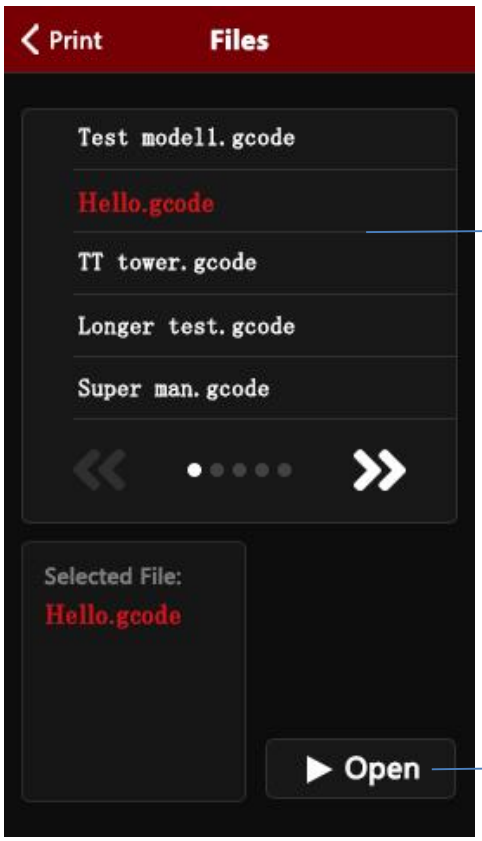
Load the filament

(6) Leveling interface



Click the five points in turn to move the nozzle and then level the hot bed.

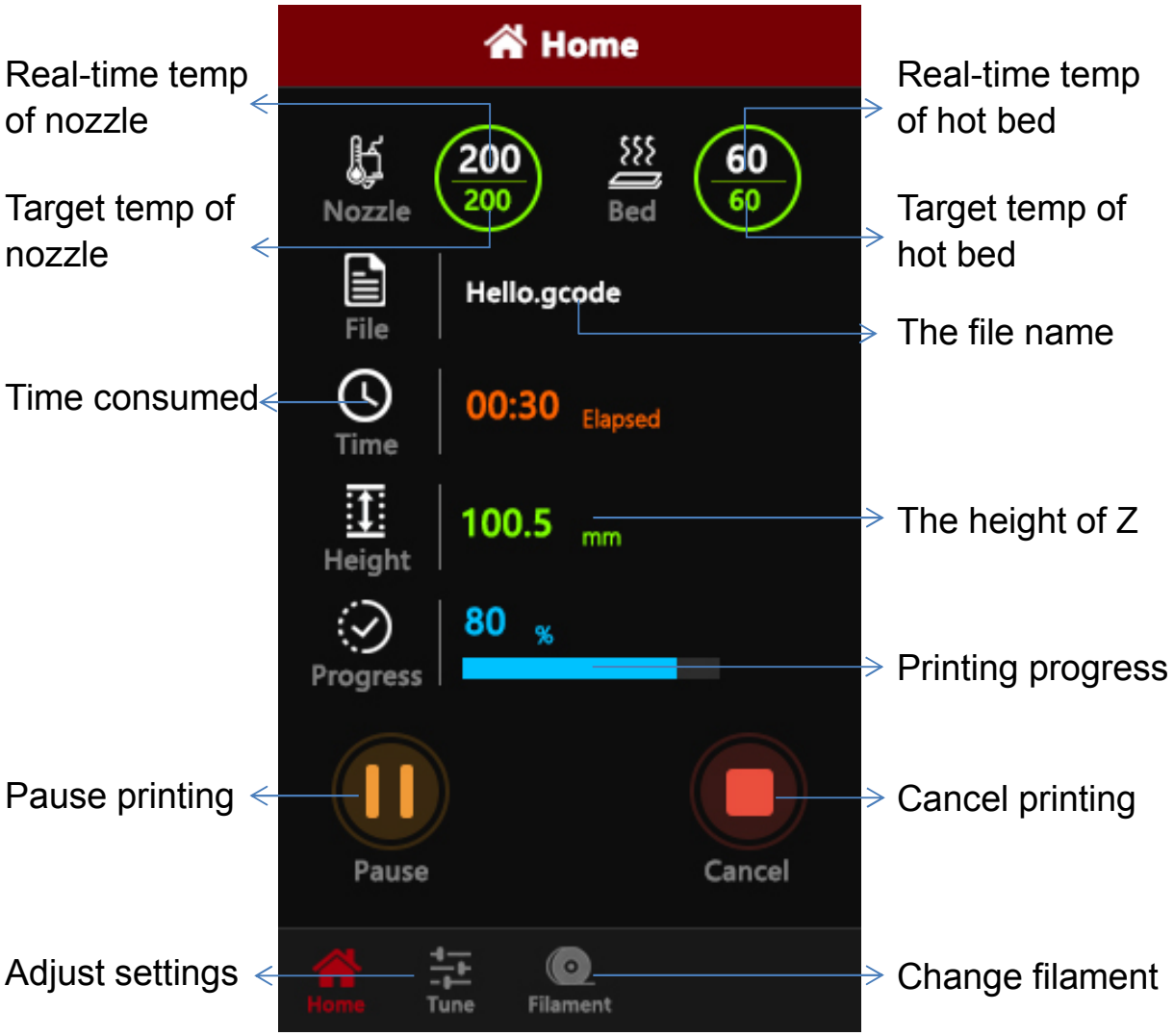
(7) File interface



List of printable files in SD card, and the file name will turn red when it is selected.

Click the Open to print the selected file.

(8) Print interface

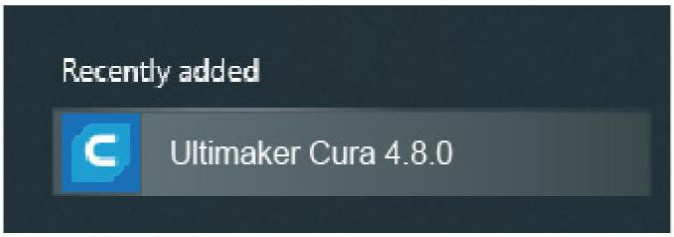


C. Installation and use of Cura 4.8 slicing software

(1) Software installation

The 3D printer reads Gcode files and prints. It is necessary to convert 3D files (such as STL files) into Gcode files for the machine to recognize. Software that converts the 3D file into Gcode files is called slicing software.





The video in the link below takes the installation of Cura4.8 on Mac OS and Windows as an example to demonstrate the process of software installation, adding models, and slicing the model.

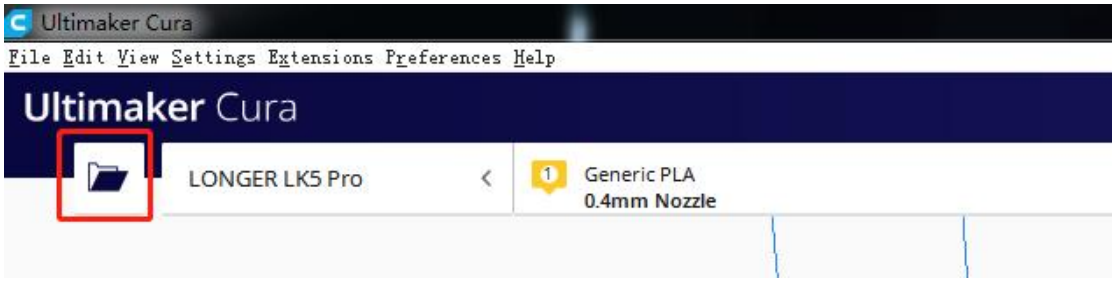
Mac OS:

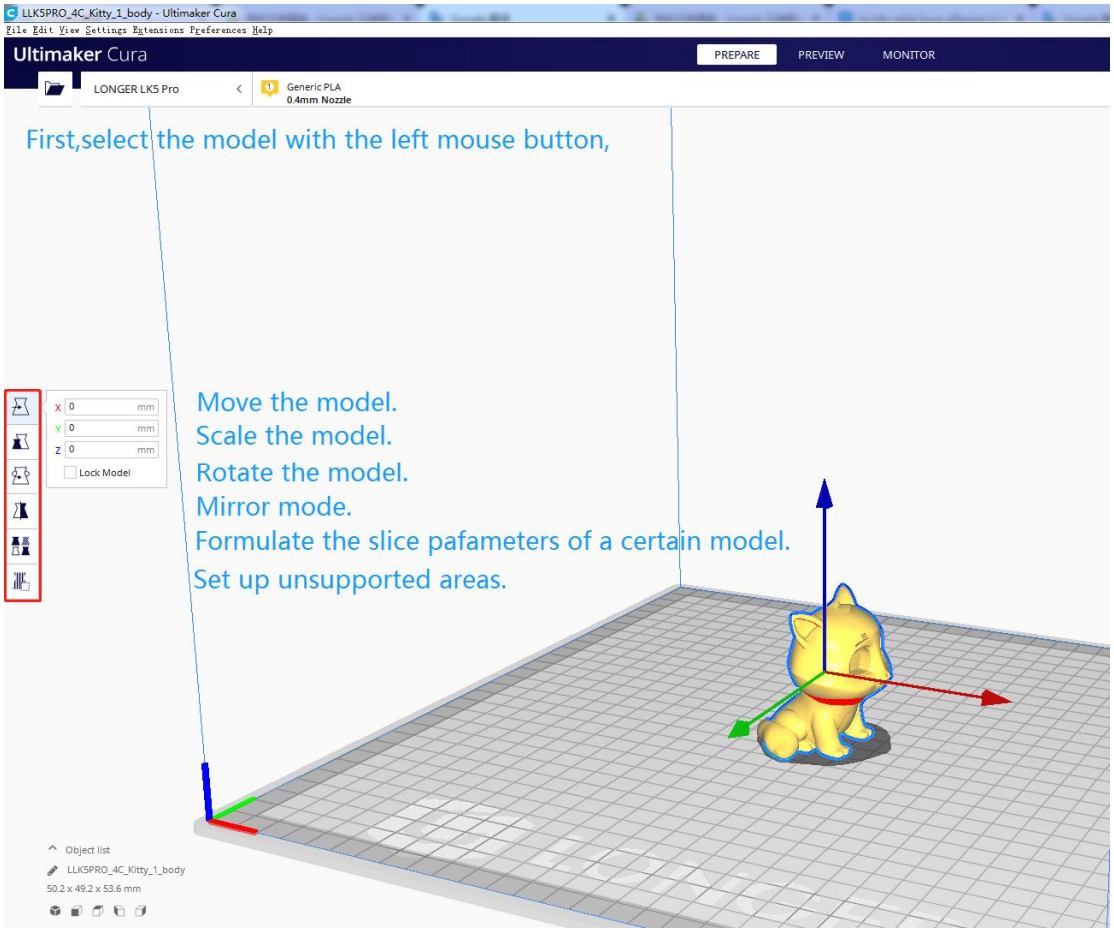
https://www.youtube.com/watch?v=XKqRb434USw&t=96s

Windows: https://www.youtube.com/watch?v=jdLYBYFEBlQ&t=46s

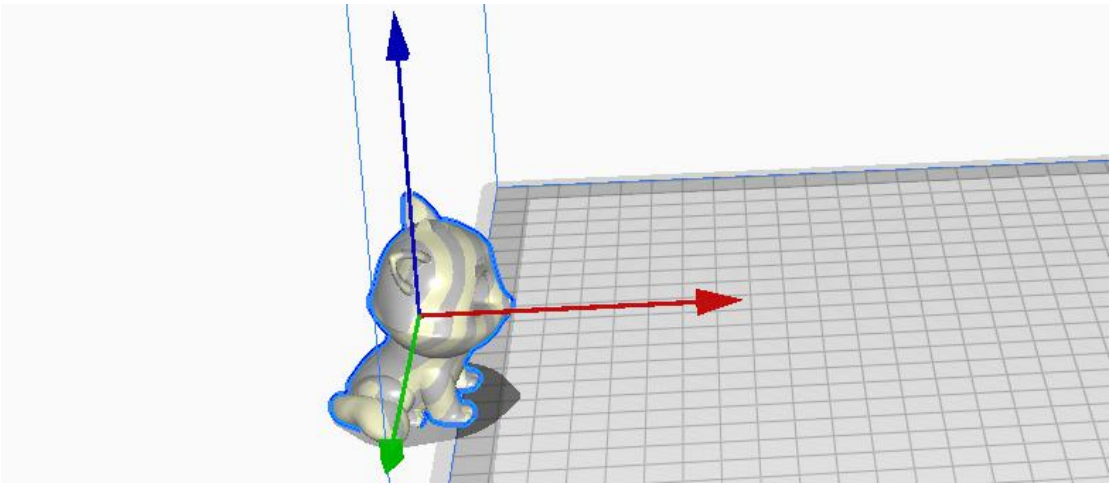
(2) Add 3D model into Cura 4.8

In the Cura software interface, click on the "Open File(s)" to import your own 3D model (such as ".stl" file).





Note: as shown in the figure on the right, the gray color of the model indicates that the model is out of print range.



More Operations:

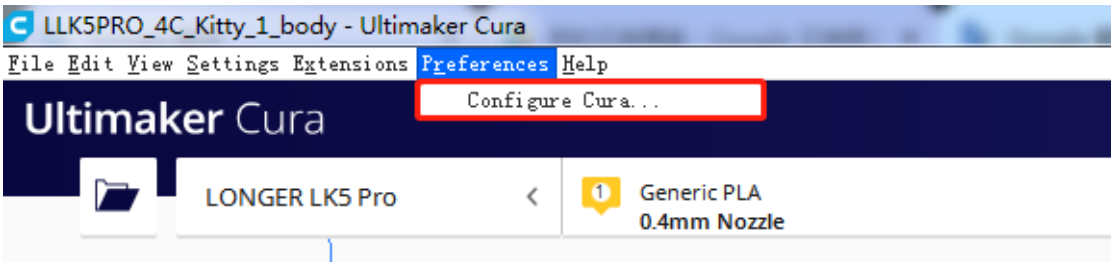
a) Position change: left click on the model, hold on and drag the model to move.

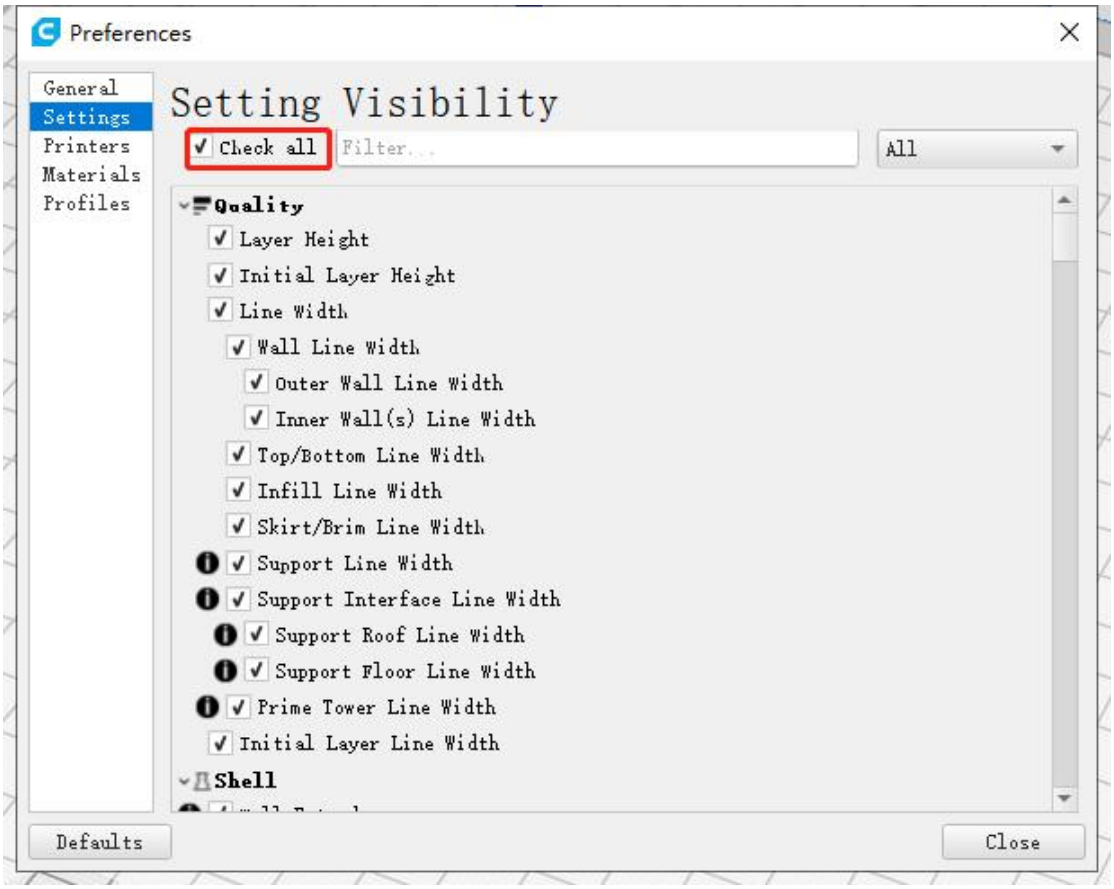
b) Zoom in/out: scroll the mouse wheel.

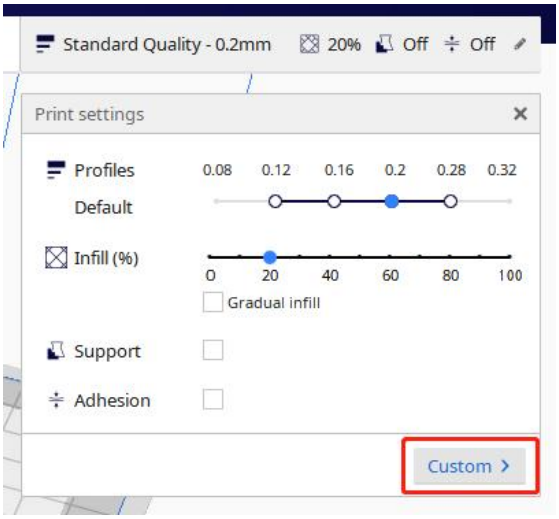
c) Change viewing angle: right-click and move the mouse.

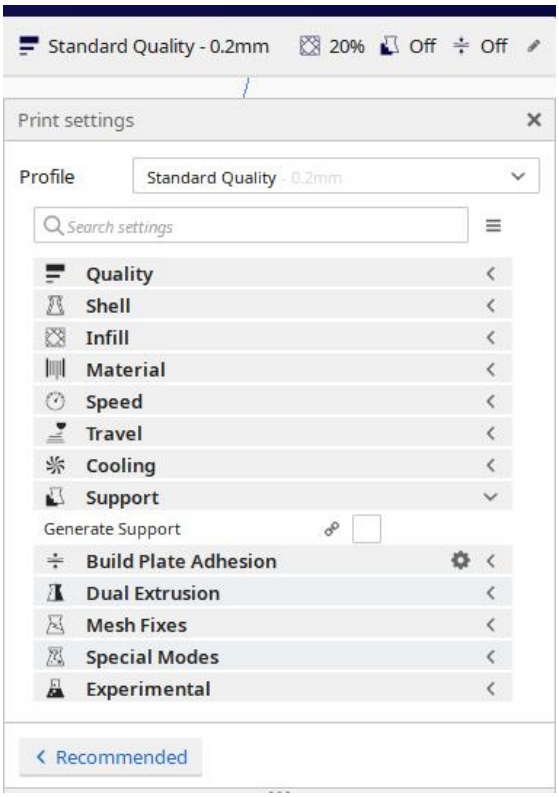
(3) Slicing parameters

Users can customize the printing parameters according to individual needs. We recommend using the default parameters and LONGER filaments to get the best printing results, please refer to page 11 to import the default settings.



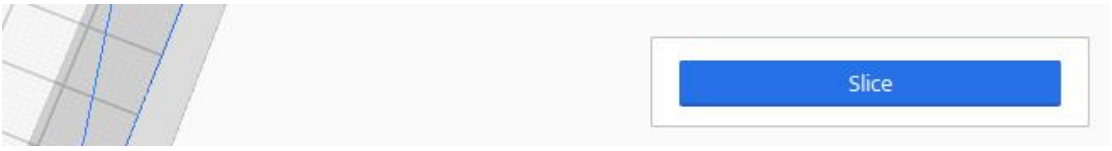

Preferences
General
Settings
Printers
Materials
Profiles
Setting Visibility
Check all
Filter...
All
Quality
Layer Height
Initial Layer Height
Line Width
Wall Line Width
Outer Wall Line Width
Inner Wall(s) Line Width
Top/Bottom Line Width
Infill Line Width
Skirt/Brim Line Width
Support Line Width
Support Interface Line Width
Support Roof Line Width
Support Floor Line Width
Prime Tower Line Width
Initial Layer Line Width
Shell
Defaults
Close


Standard Quality - 0.2mm
20%
Off
Off
Print settings
Profiles
Default
0.08
0.12
0.16
0.2
0.28
0.32
Infill (%)
0
20
40
60
80
100
Gradual infill
Support
Adhesion
Custom


Standard Quality - 0.2mm
20%
Off
Off
Print settings
Profile
Standard Quality
Search settings
Quality
Shell
Infill
Material
Speed
Travel
Cooling
Support
Generate Support
Build Plate Adhesion
Dual Extrusion
Mesh Fixes
Special Modes
Experimental
Recommended

(4) Slice and save Gcode files

Click Slice to generate G-code for printing.



Save to removable drive (Save the gcode file to storage card). And the software will evaluate the time required to print the file and the weight of filament.

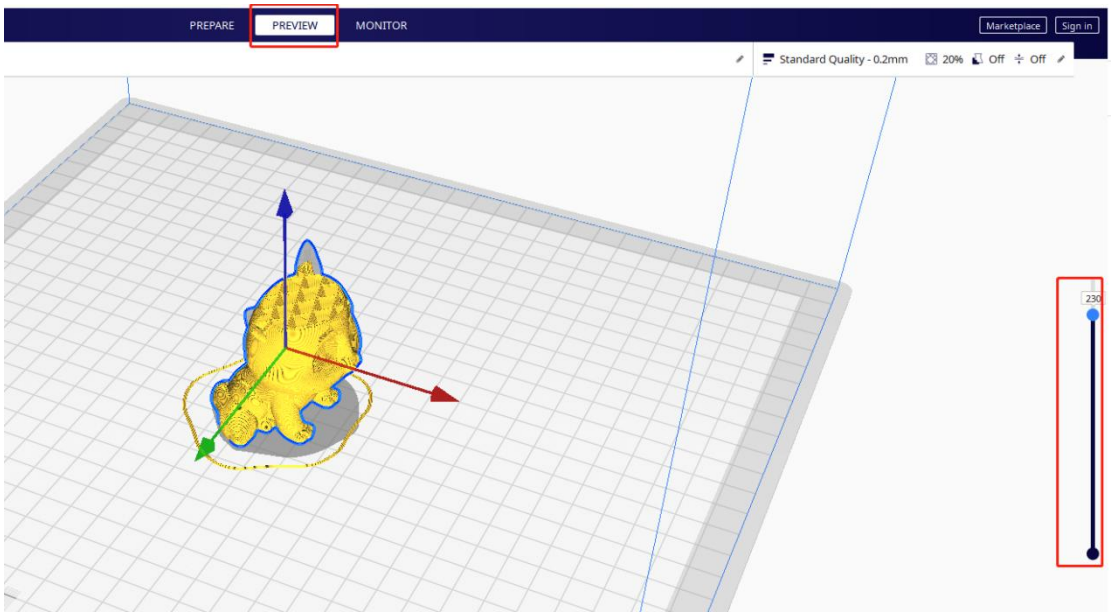


NOTE: “Save to removable drive” option will apear when microSD card is inserted.

(5) More

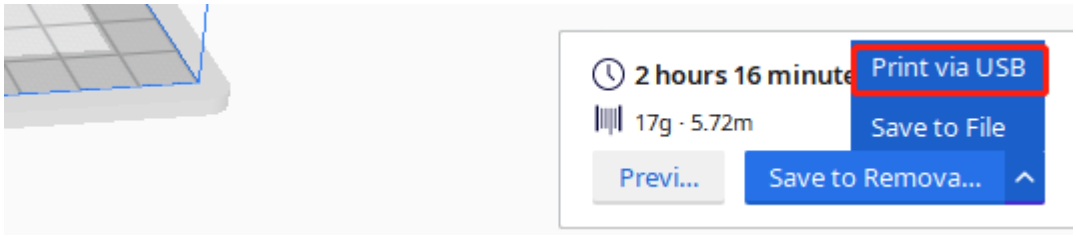
A) Slice and preview

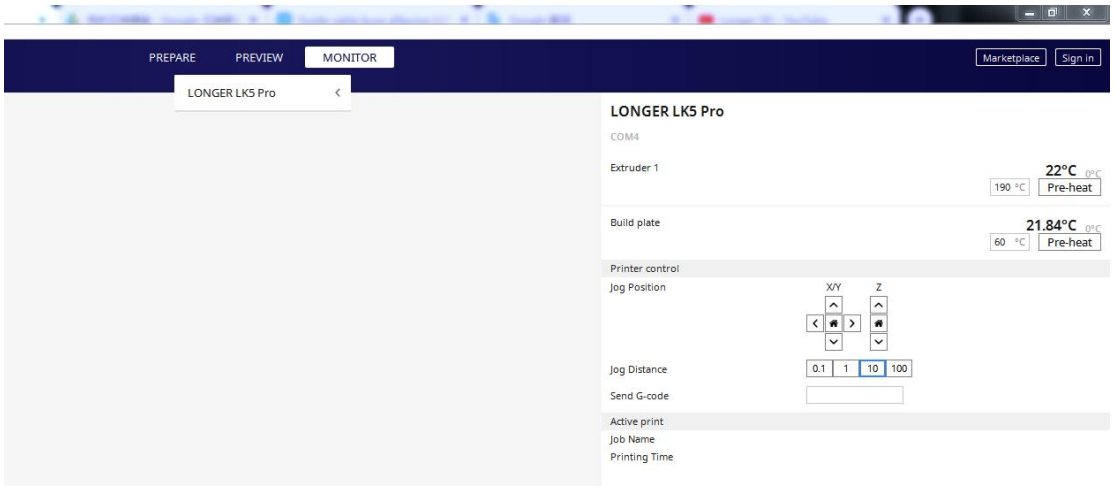
Click the "Slice" button in the lower right corner of the software. After the slicing is finished, click the "preview" button to preview the simulated printing effect in the preview view.



B) Print online

After the parameters have been set up, you can print online via Cura. Click the arrow and select Print via USB to print online. If the printer is not connected properly, the interface will be blank.





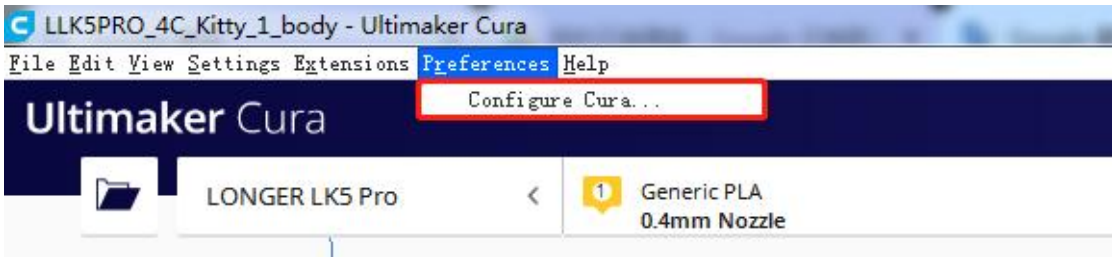
Note:After connecting the data line, Cura will automatically connect to the printer. After waiting for more than ten seconds, the operation panel will be displayed on the right side of the interface. User can control printer through the operation panel. (In the process of printing, do not plug the data line, or it will interrupt the printing).

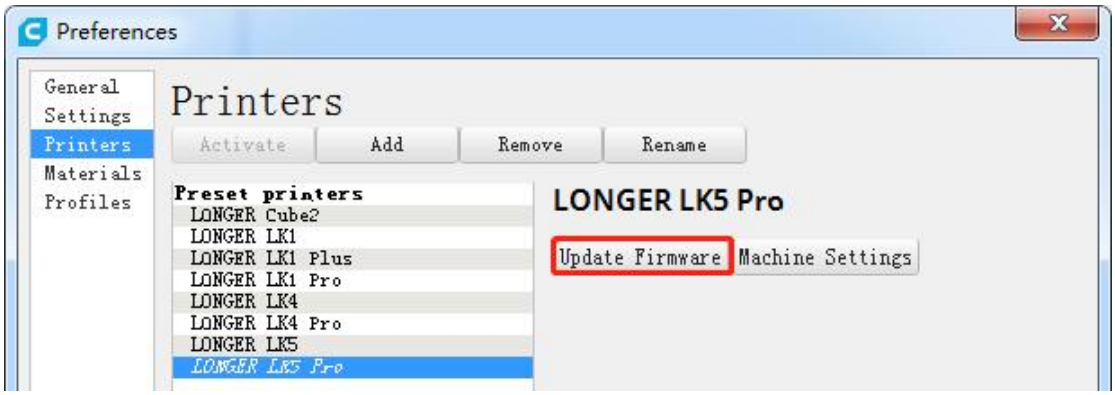
D. FAQ manual

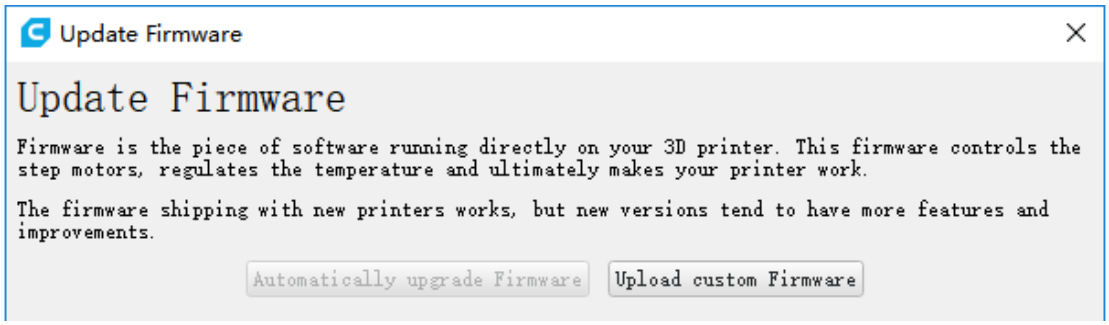
Question1: How to update the firmware?

1) Connect the USB cable to your computer with printer and run the cura4.8.

2) Click Preferences to select Configure Cura, click Printers to choose LONGER LK5 PRO from the list, and click Update Firmware, then select the .hex file to update the firmware.



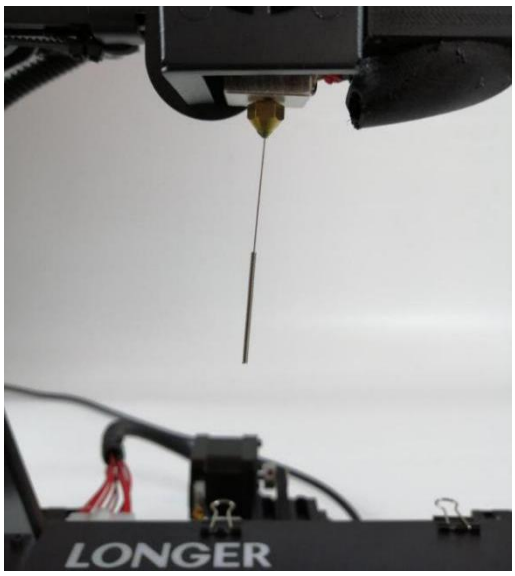




Question2: How to solve a clogged nozzle?

1) First, preheat the nozzle to a high temperature, such as 200℃ for PLA, then push the Teflon tube until it can no longer be moved forward to ensure it is contacted with the nozzle;

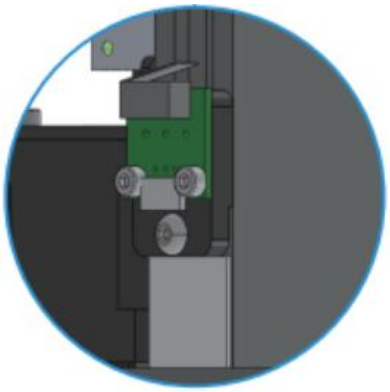
2) Then move up the Z axis and use the 0.4mm needle in the toolbox to insert it from below the nozzle when the nozzle is heated up to a right temperature, and rotate the needle while inserting to clean the dirt in the nozzle again and again;



3) Note:the nozzle will be clogged if the temperature of nozzle is too low or too high, or nozzle is too closed to the bed, or there is dirt in the filament. So please set a right temperature that matches the filament,level the hot bed properly or use the good filament. And be careful to avoid burns when cleaning the clogged nozzle because the nozzle is heated to a high temperature.

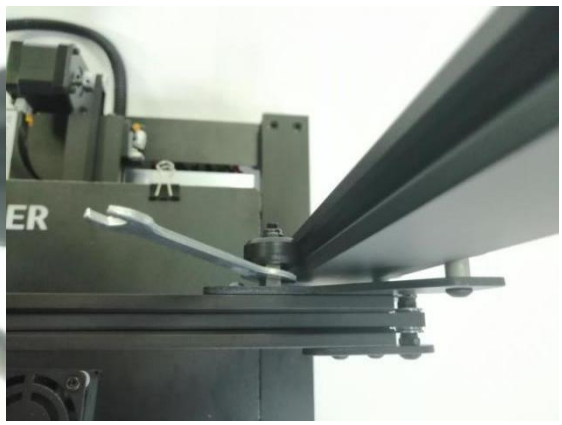
Question3: What to do if the hot bed can not be leveled?

1) First check the installation position of the Z axis limit switch to make sure the installation height is contacted with the top of the label paper, as shown in the following picture. If the position of the limit switch is too high or too lower, which will cause the hot bed can not be leveled normally;



2) If one side of the hot bed can not leveled properly,it may caused by the tilted X-axis beam.Then please level the X-axis beam by adjusting the right side eccentric nut with a wrench.





Question4: How to solve the problem of filament is not adhered to the printing bed?

1) First check whether the hot bed has been properly leveled, if the nozzle is too high from the hot bed, please re-level the hot bed;

2) Then make sure that the hot bed is properly heated to the right temperature to ensure a sufficient adhesion between the filament and the hot bed, such as 80℃ for PLA;

3) In addition, in order to ensure good adhesion between the model and the platform, a raft can be added to the 3d model when sliced in the Cura which can increase adhesion between the model and the platform.

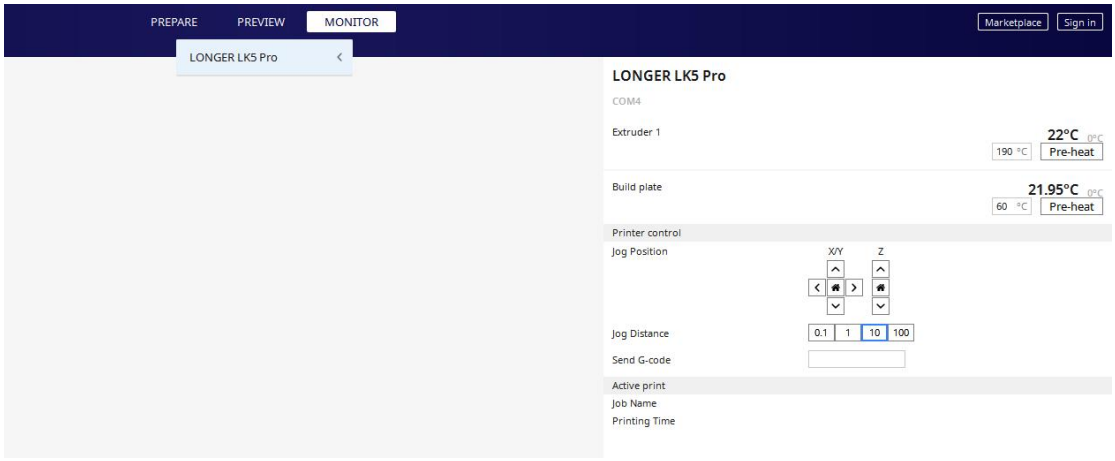
Question5: what to do if the printer can not be printed online?

1) Check the Device Manager for the presence of a CH340 port, please download and install the driver from the bellowed link;

(https://drive.google.com/file/d/1VeoTU4RIrx-EUwmA7G5sweaPux4-1Xl_/view?usp=sharing)

2) Please refer to the video for operation in the link below and restart the software to print online.

https://www.youtube.com/watch?v=KwmKZmtTOPw&t=6s



Question6: How to solve the problem of garbled file name?

The file name should only contain English letters, underscore and space. File name contains special characters could not be recognized by the printer. In order to let the printer better recognize the Gcode file in the SD card, it will be the best to back up all the files in the SD card to the computer, and save all the Gcode files in root directory of the SD card.

Thank you for selecting Longer products! Please feel free to contact us by sending an email to support@longer3d.com if you encounter any problems. Our after-sale engineers would respond within 24 hours and be very pleasured to fix the printer.