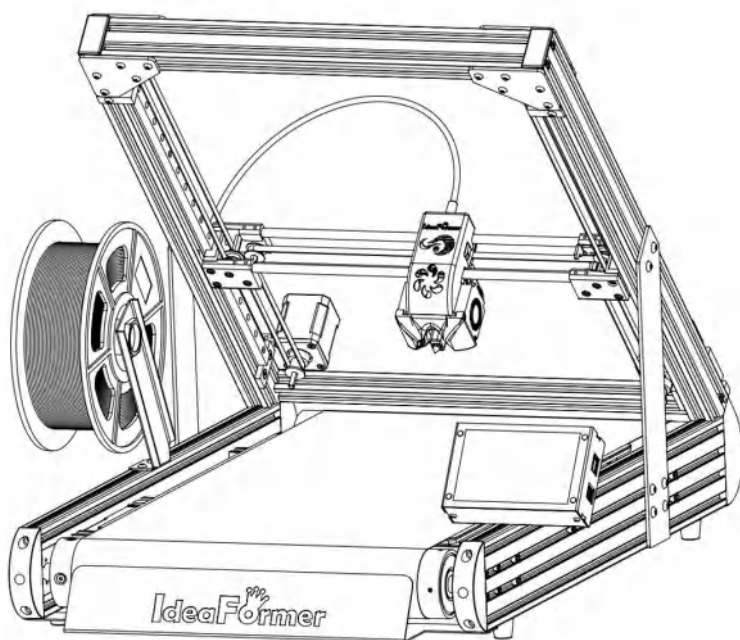




IDEAFORMER IR3V2

USER MANUAL



www.ideaformer-3d.com

STRIVE TO CREATE EXCELLENT QUALITY

Video Tutorial

<https://www.youtube.com/@ideaformer2353>



Content

A	Notes	1
B	Product Introduction	3
C	Parts List	5
D	Product Assembly	6
E	Usage Steps	12
F	Function Descriptions	22

Warning:

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

NOTE:

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.

FCC Statement:

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.

The equipment complies with FCC Radiation exposure limit set forth for uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator and your body.

User Precautions:

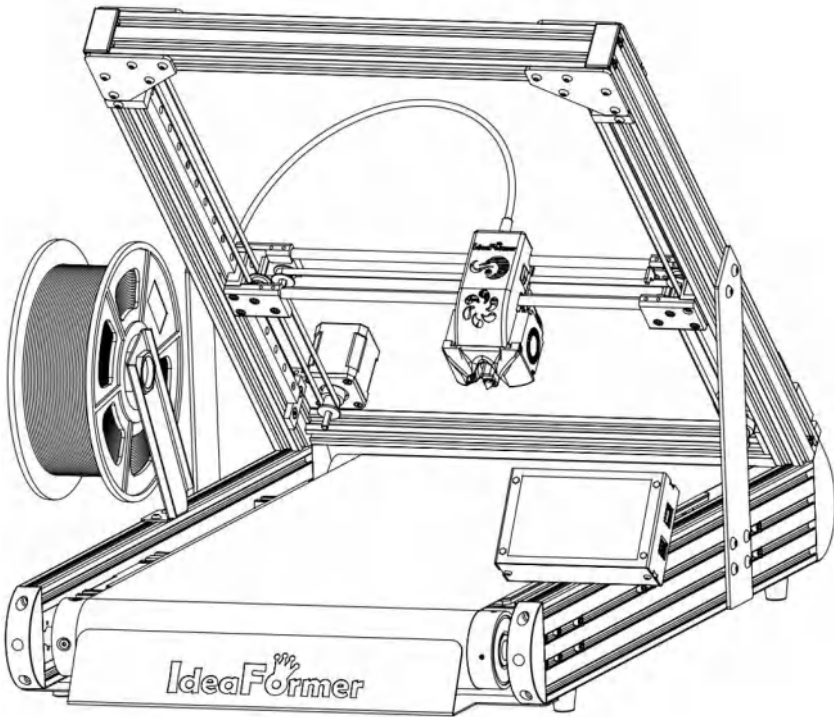
- 1.To ensure device safety, please use the power adapter included with the printer.
- 2.Please place the printer in a well-ventilated, shady, and dust-free environment to ensure its stable operation.
- 3.When plugging or unplugging the power cord, please ensure your hands are dry. If the printer is not in use for a long time, please unplug the cord.
- 4.Do not modify the device's power plug to prevent risks such as electric shock or fire.Ensure the compatibility and safety of the power plug with the power source.
- 5.Please use the printer only as described in the user manual to avoid accidental personal injury and property damage.
- 6.The printer contains high-speed moving parts. Please be alert during operation. Be mindful of personal safety and avoid contact with high-speed moving parts.
- 7.The printer generates high temperatures during operation. Please do not touch the hotbed or nozzle directly to prevent burns. Please ensure that no contact with high-temperature components during operation and maintenance.
- 8.Add lubricant to the printer's guide rails as needed to ensure smooth movement.Regular maintenance ensures stable printer operation.
- 9.If the printer is not used for a long time, please remove consumables and regularly clean the printer with a dry cloth to keep the hotbed clean. This prevents consumables from expiring and maintains the printer's good condition.
- 10.In case of an emergency, please turn off the printer's power directly to ensure the safety of individuals and the device.
- 11.Children should not use or touch the printer unsupervised to avoid personal injury and potential safety risks.



Product Introduction

1

Product Overview



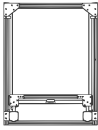
- ① Infinite z-axis
- ② Metal conveyor belt
- ③ Automatic leveling
- ④ high-speed printing

2

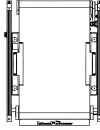
Product Parameter

Printing technology:	FDM
Print size:	250×250×∞mm (X*Y*Z)
Product size:	700×436×506mm
Package size:	770*510*320mm
Print accuracy:	±0.1mm
Layer thickness:	0.1-0.4mm
Nozzle diameter:	0.4mm
Printing speed:	300mm/s
Filament materials:	PLA,Silk PLA,Wood PLA,PETG etc.
Slicing software:	Ideamaker
Input format:	STL,OBJ etc.
Output format:	gcode
Printing method:	USB flash disk, Web
Body structure:	All metal structure
Operating system::	Windows,Linus,Mac
Input voltage:	110/220VAC,50/60Hz
Rated power:	400W
Nozzle temperature:	Max 290c
Heat bed temperature:	Max 90c
Packed weight:	22KG
Machine weight:	17.5KG

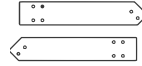
Parts List



XY
Frame&Print



Conveyor belt
platform



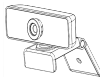
Fixed plates



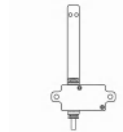
Filament
holder



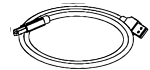
Screen
Controller



Camera



Filament
motion sensor



Type-C cable



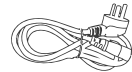
Micro SD



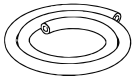
USB flash
drive



Filament



Power Cable



Teflon

M4*6
M4*8
M5*18
M5*20

Screws



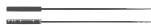
Nozzle



Diagonal pliers



Tweezers



Needle



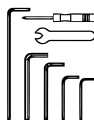
Cable tie



Instruction
Manual



T-nut



Wrenches



Triangle Ruler

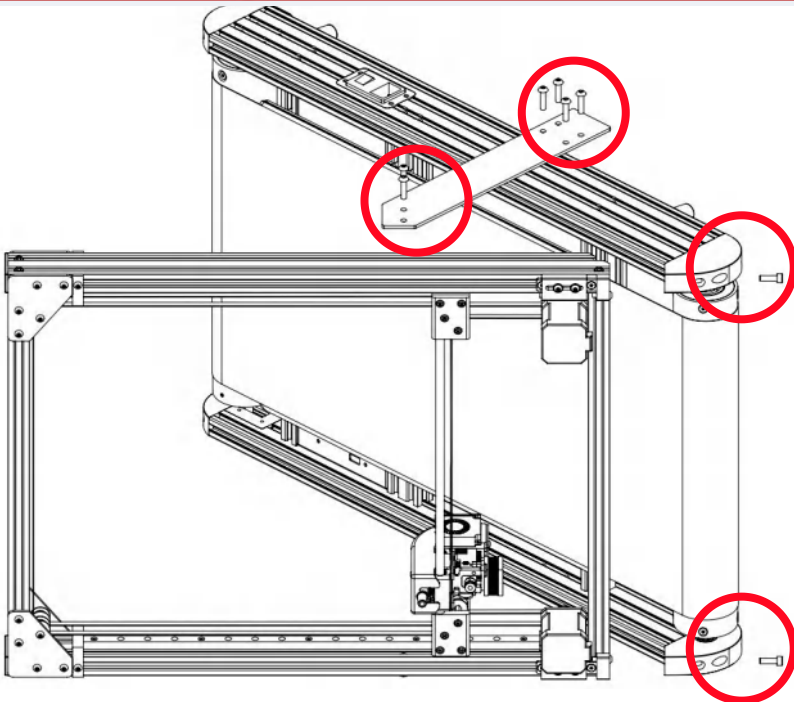
Product Assembly

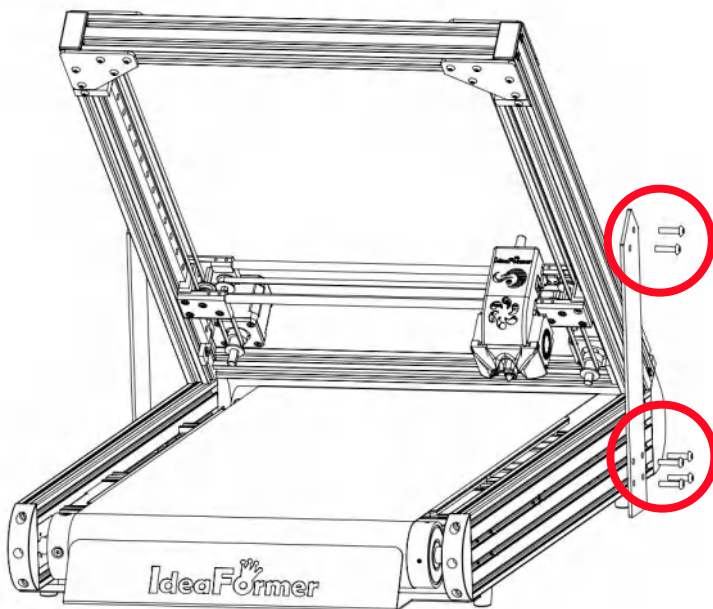
1

Install the XY-axis Frame

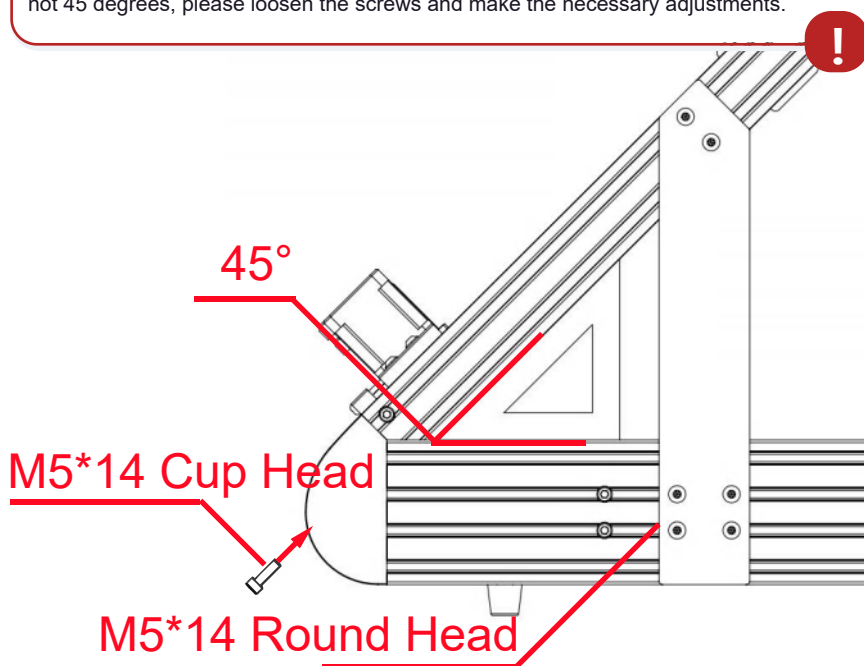
1. Place both the conveyor belt platform and the XY-axis frame sideways, and secure them with two M5*14 cup head hexagon socket screws.
2. Then use M5*14 round head socket cap screws to install the fixed plate on one side onto the aluminum profile.
3. After standing the machine upright, install the fixed plate on the other side.
4. After installation, measure the 45° angle. If the error is large, you need to loosen the screws and recalibrate. Tighten the screws again after proper calibration.

XY-axis Frame, Conveyor Belt Platform, Fixed Plates × 2, Triangle Plate, M5*14 Round Head Socket Cap Screws × 12, M5*14 Cup Head Socket Cap Screws × 2



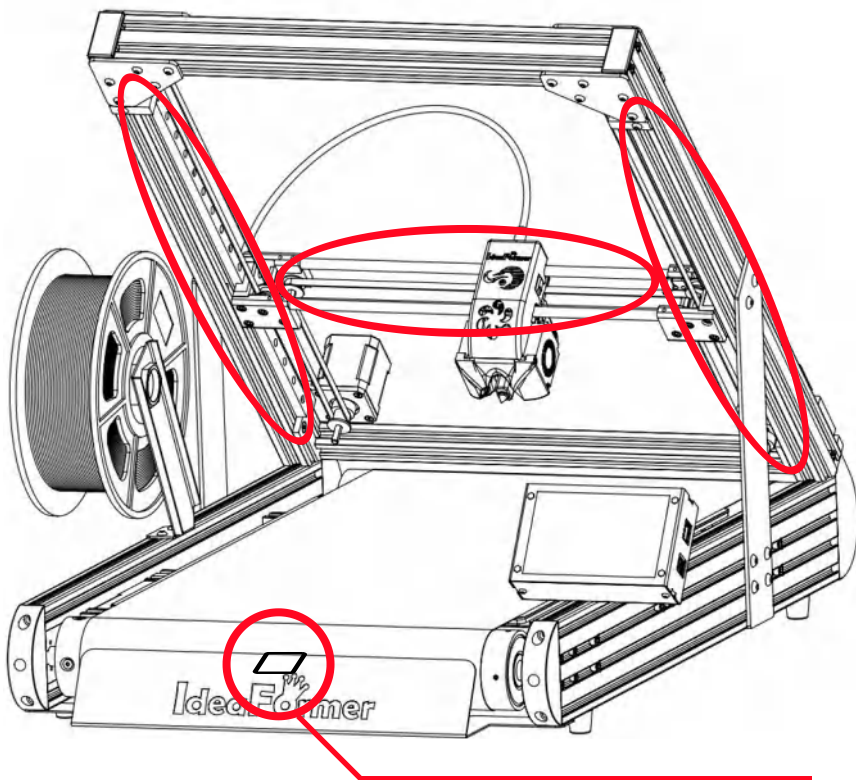


To measure if the frame's angle is 45 degrees, use a triangle ruler. If the measurement is not 45 degrees, please loosen the screws and make the necessary adjustments.



Check if the XY-axis movement is smooth.

To enhance the stable operation of printers, it is recommended to regularly check the smoothness of XY-axis movement and apply an appropriate amount of lubricant, as well as promptly clean dust and impurities from the tracks, ensuring continued efficient and precise performance. Smooth movement not only significantly reduces the occurrence of layer shift and mis-touching but also effectively protects the steel belt from wear, thereby extending the service life of both the steel belt and the print head. For devices that are used frequently, regular lubrication is an indispensable maintenance measure.



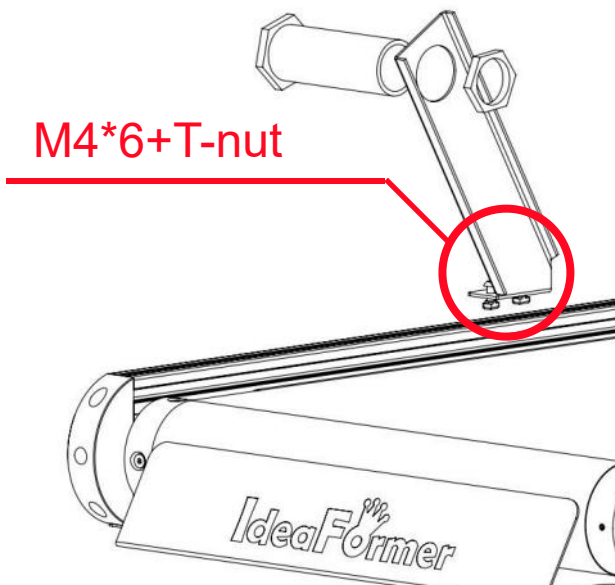
Remove the clips from the baffle.

2

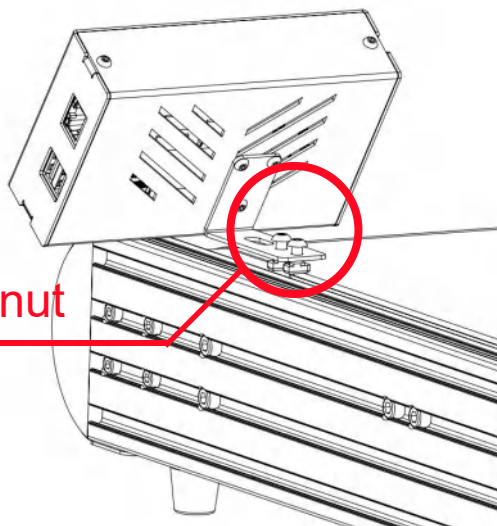
Install Screen&Filament Holder

Screen, Filament Holder, M4*6 x4, T-nuts x4

M4*6+T-nut



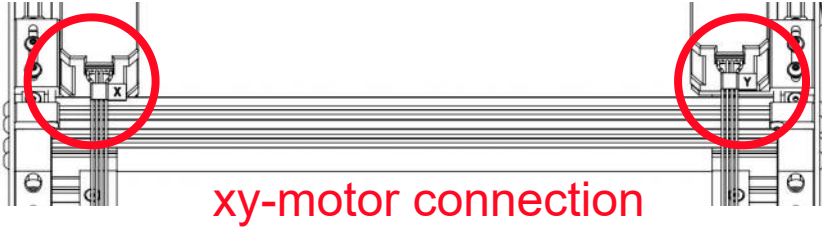
M4*6+T-nut



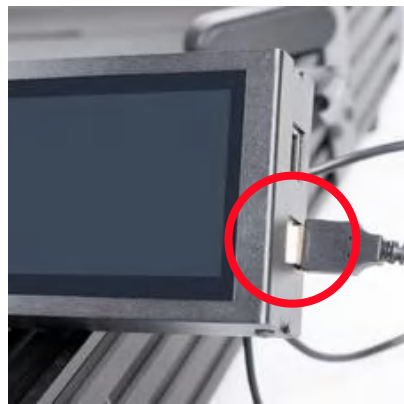
3

Wire Connection

Connect the screen, the X and Y motors, the filament motion sensor, the print head and power cable.



screen



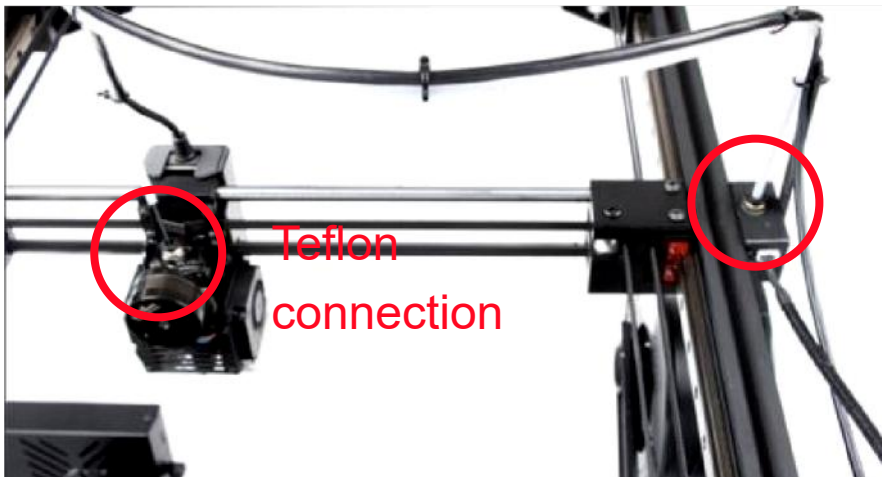
camera



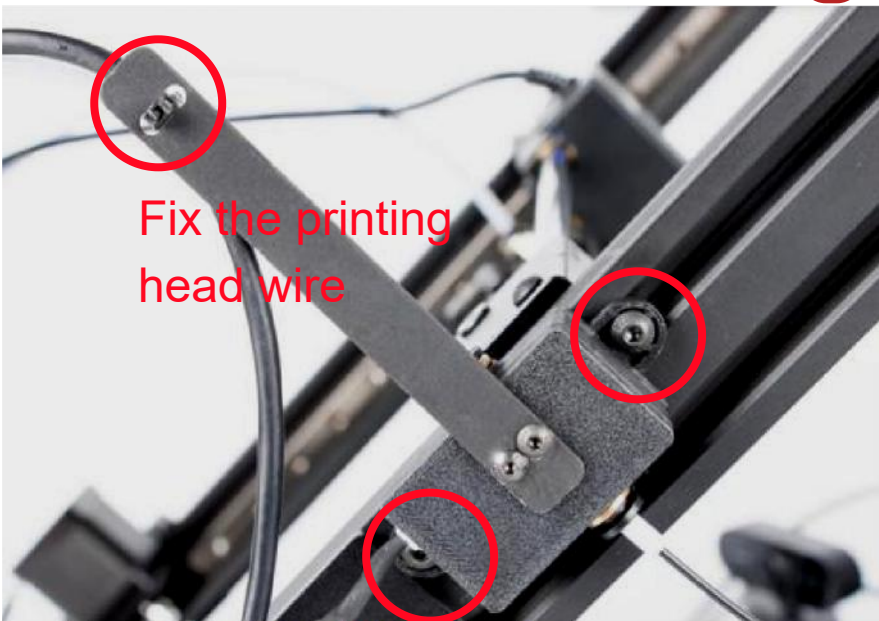
printing head



sensor



Securely tie the print head cable and Teflon tubing with ties and fasten them to the bracket. Otherwise, there's a risk of them getting tangled with the motor, leading to layer shifting during printing, and in severe cases, potentially damaging the printer.



Usage Steps

After completing the assembly, Power on and wait for main interface. The process consists of five steps:

1. Autoleveling.
2. Connect to WiFi.
3. Preheat and load filament.
4. Install the software and upload the file.
5. Start printing and demoulding.

1

Autoleveling

Autoleveling is a must! Skipping this step can damage your printer's steel belt. So, right after you turn on your printer, make sure to start the autoleveling.



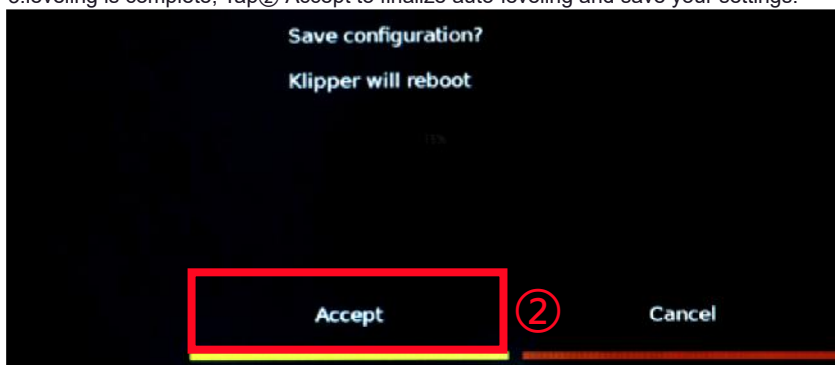
1. To start the auto-leveling process, tap ① the 'Auto-Leveling' button on the screen.



2. The print head is now calibrating. It will touch six points on the heated bed for leveling. Please wait patiently while the calibration finishes.



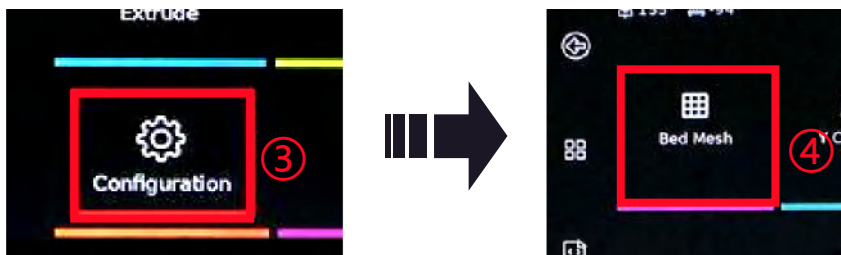
3.leveling is complete, Tap② Accept to finalize auto-leveling and save your settings.



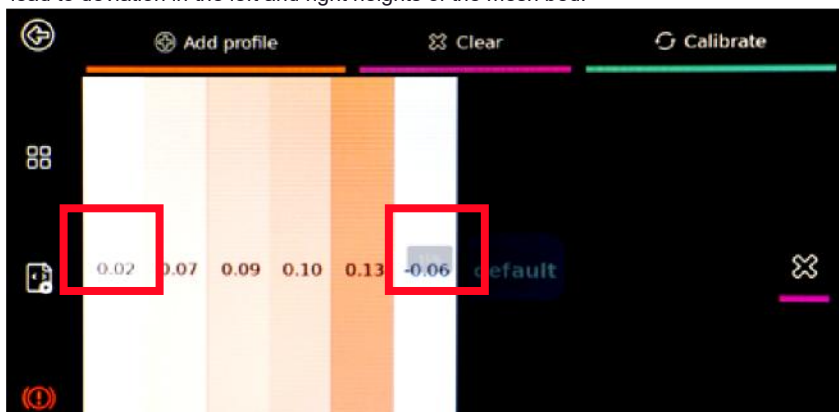
You don't need to perform auto leveling every time you turn on the printer. It's only necessary when the model fails to adhere properly, or when you replace the XY motors or belts.



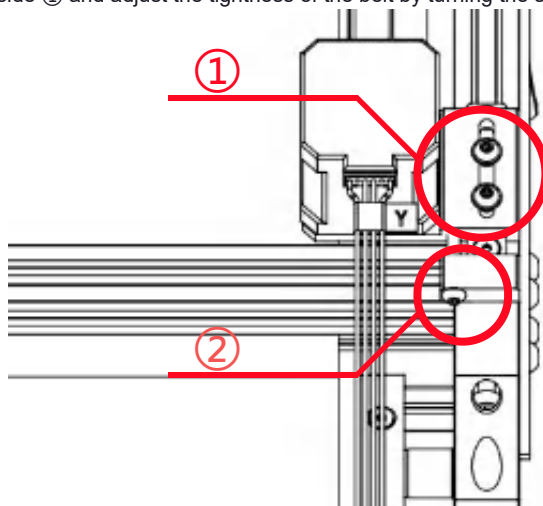
4. Tap ③ configuration,④Bed Mesh to check the bed data.



5.If the difference in data between the leftmost and rightmost points is within ± 0.2 , then it can be considered normal, and this step is generally verified during the printer's manufacturing. If it is not within the normal range, you need to adjust the tightness of the motor belt according to the mesh bed data, because uneven tightness of the belt may lead to deviation in the left and right heights of the mesh bed.



If the data difference between the leftmost and rightmost points exceeds ± 0.2 , loosen the two screws inside ① and adjust the tightness of the belt by turning the screw inside ②.



Normally, the belt tension has been adjusted before shipment, and you should not need to make any adjustments. However, if the belt becomes loose due to transportation, you may need to adjust it based on the bed mesh data. If you need assistance, please contact our technical professionals.



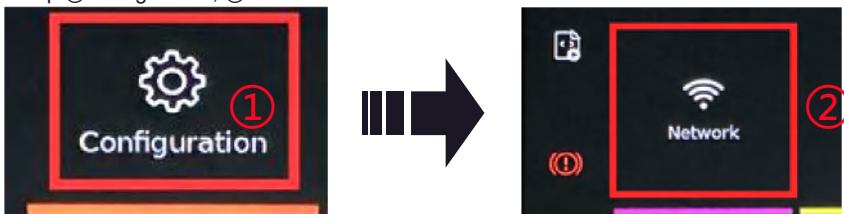
2

Connect to WIFI & Get IP

By using the IP address, you can upload sliced files and control your printer remotely, whether from a computer or a mobile device.



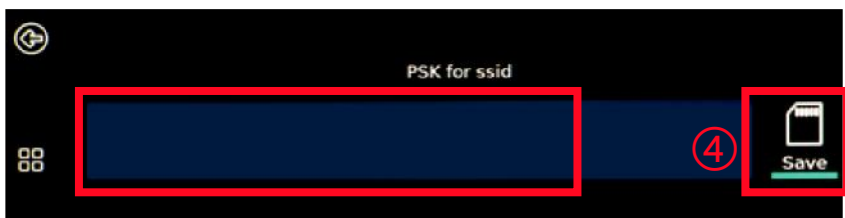
1. Tap ① Configuration, ② Network to enter the Wi-Fi connection interface.



2. Select ③ the Wi-Fi you want to join.



3. Enter ④ your password and save.



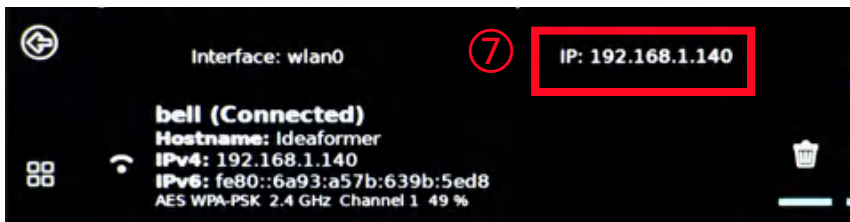
4. Connection successful. ⑤ Return.



5. Tap the blue button ⑥ to toggle the Wi-Fi, and you will obtain the IP address.



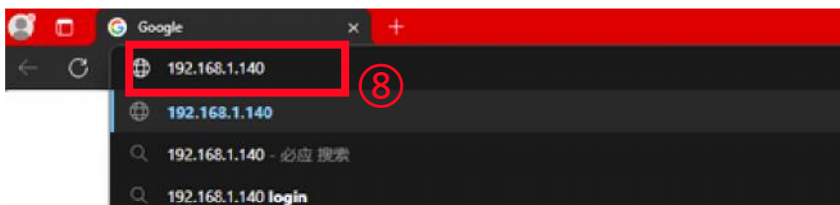
6. Record the printer's IP address ⑦.



If the IP address doesn't show up, try reconnecting to the network.



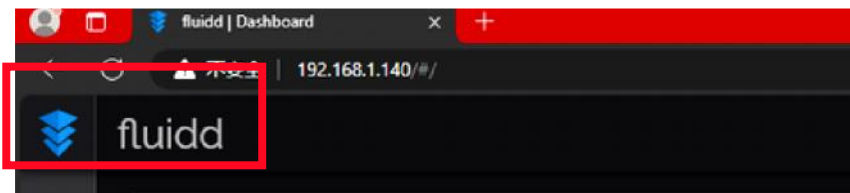
7. Open a web browser and type in the IP address ⑩. Enter.



Please note: 192.168.1.140 is just an example IP address for a printer. You should enter the IP address of your own printer.



8. Once you successfully access the IP address, you can then operate and manage your printer accordingly.



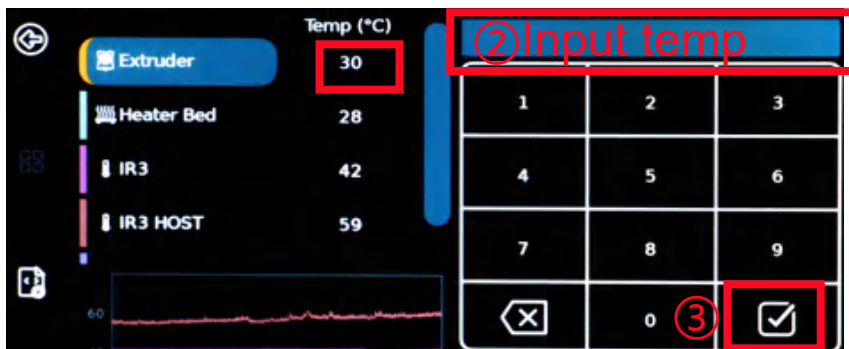
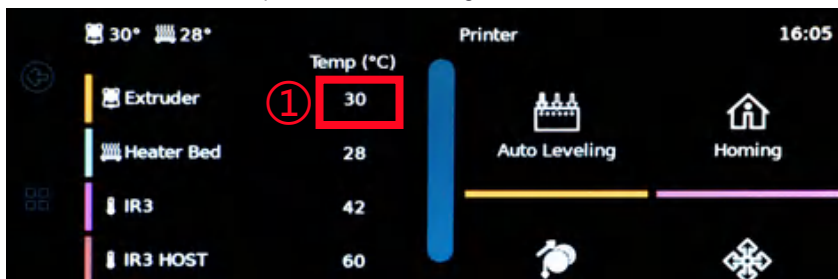
3

Preheat and Load Filament

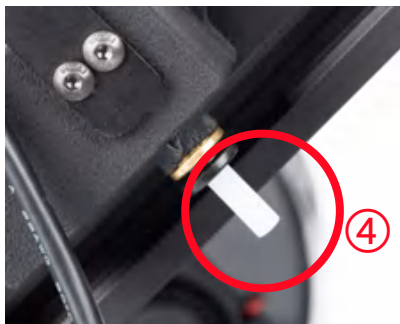
The purpose of this step is to load the filament, ensuring it is properly loaded in the printer. A test extrusion will then be performed to check if the filament passes smoothly through the nozzle, minimizing the risk of printing faults.



1.First, preheating. ① Tap on the temperature number, ② enter the heating temperature based on the filament, ③ tap "✓" to initiate heating.



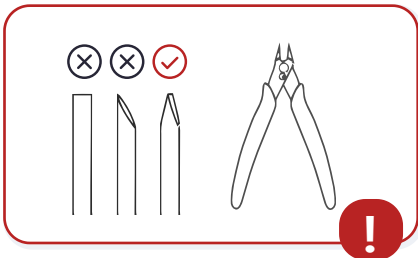
2.To insert the filament, ④ insert the filament into the side-mounted filament sensor, pushing it all the way in until you feel resistance.



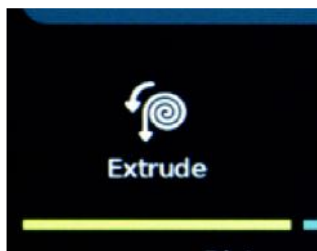
To successfully complete the loading, the end of the filament should be trimmed to the shape as shown in the figure.



3. Open the side wrench of the print head, manually insert the filament into the nozzle position, and then try to extrude it.



4. Tap on "Extrude" ⑤ on the main screen, then tap "Extrude" ⑥ to see if the nozzle is extruding properly. If it extrudes normally, that means the filament installation is complete.



Please wait until the temperature reaches the target temperature. Once the filament is successfully extruded, make sure to reinsert the teflon tube, as failure to do so will affect normal printing.



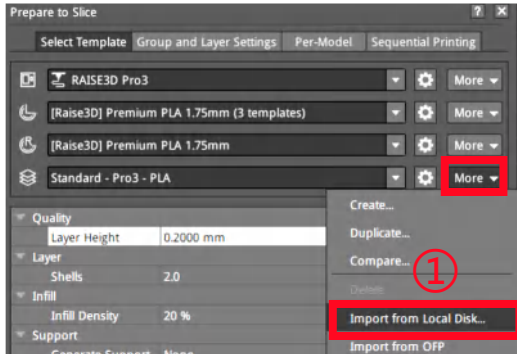
4

Software Setup & File Upload

USB flash drive contains the installation package of ideamaker and the printer configuration file. After installing the software, follow the steps to import the printer configuration file.



1. After installation is complete, open the software and click finish the configuration wizard. In the prepare to slice window, select ① Import from local disk.



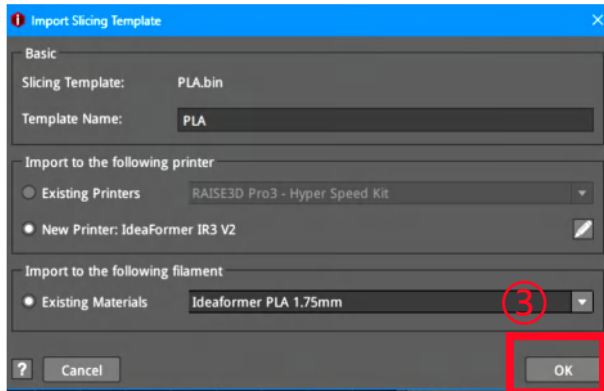
2. Select ② PLA or PETG from the USB flash drive. Click ③ OK.

① install_ideaMaker

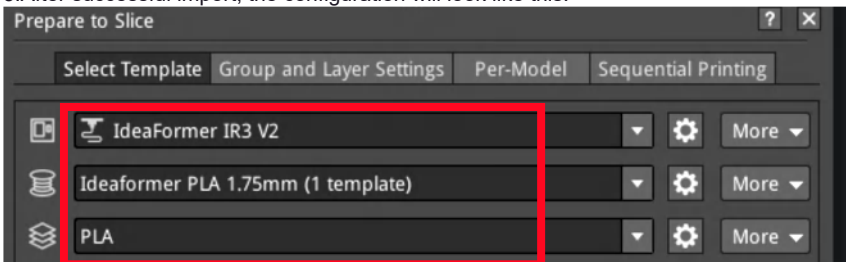
② PLA.bin

PETG.bin

②



3. After successful import, the configuration will look like this.



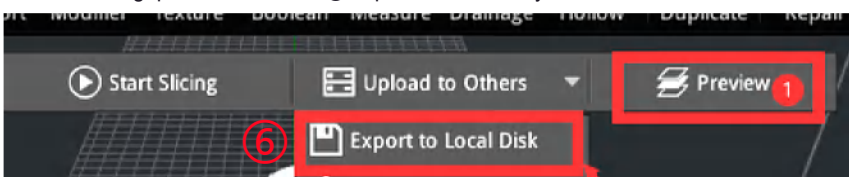
4.import models④.



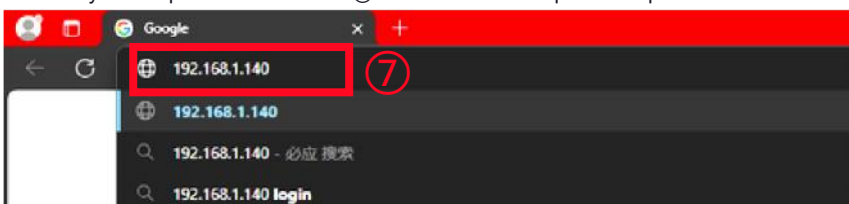
5.Start slicing⑤.



6. After slicing, preview and then ⑥ export the file locally.



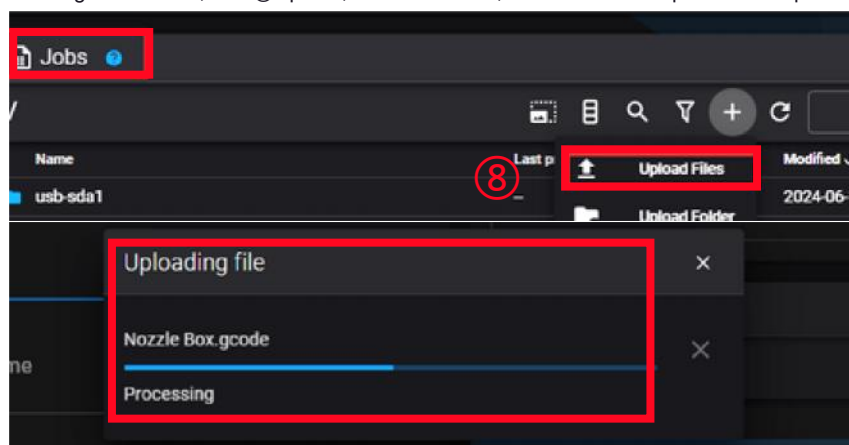
7.Enter your 3D printer's IP address⑦ in the browser to upload the print file.



The file size limit for uploading is 490MB, and files exceeding this limit will fail to upload successfully. In such cases, the files need to be copied to a USB flash drive and then printed from the printer.



8.Navigate to "Jobs", click⑧Upload,select sliced file, and wait for the upload to complete.



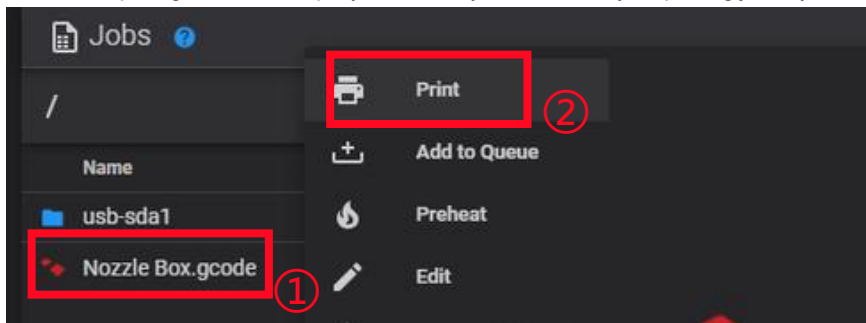
5

Start Printing&Demoulding

During printing, avoid uploading files to prevent issues. Max file size is 490MB; larger files must be copied to USB for printing.



1.After completing the above steps, you are ready to embark on your printing journey.



2.After printing, wait for the heated bed to cool down before demoulding.It is recommended to use the Z-axis to move forward and push the model off the steel belt. Perform a homing, then follow these steps:



It's important not to use excessive force when removing the model as it may cause unnecessary damage to the steel belt.



To ensure a seamless experience, we offer multiple ways to reach us for any questions or issues you may encounter.

Firstly, you can directly contact our customer service team, where our professional agents will promptly respond to your inquiries and provide assistance.

Furthermore, we highly recommend joining our Facebook community. By actively participating in our groups, you can share your printing experiences, tips, and tricks with users from all over the world. Don't hesitate to ask any questions or express your concerns; our administrators and fellow enthusiasts will do their best to help. Here, you'll find like-minded individuals, exploring the endless possibilities of printing technology together. We believe that through interaction and exchange with others, you'll gain a deeper understanding of your equipment and uncover hidden features and joys.

Lastly, you can also visit the Klipper official website to learn more about the detailed functions of KlipperScreen and Fluid.

Function Descriptions

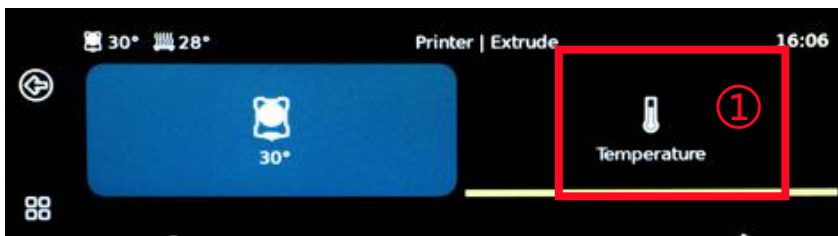
1

Filament Motion Sensor

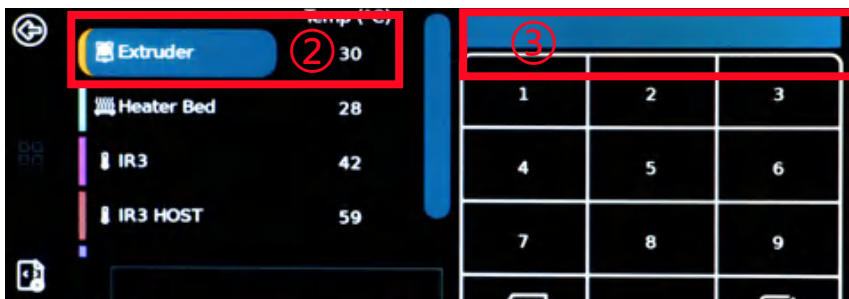
The filament motion sensor is designed to detect conditions such as filament exhaustion or clogging, enabling the printer to pause operation when necessary to prevent print failures. After pausing, please follow these steps.



1. Select Temperature Settings: Tap ① the "temperature" .

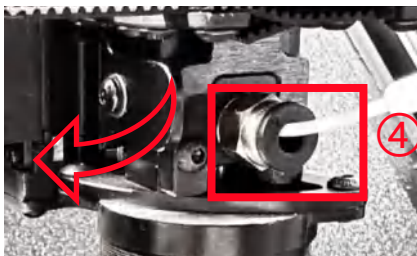


2. To set the heating temperature, be sure to first ② select the extruder, and then ③ enter the corresponding heating temperature for preheating.

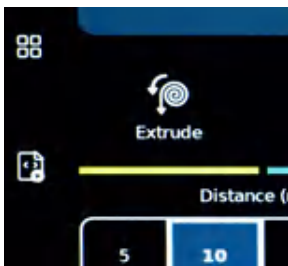


3. Wait for the consumable material to heat up to the preset target temperature.

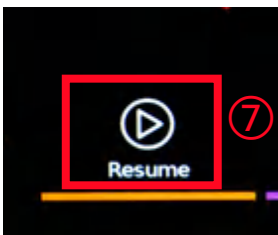
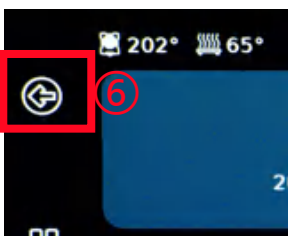
4. If there is old filament present, after the heating is complete, pull out the old filament.



5. Insert the new filament, pushing it all the way to the end. Then, tap on "Extrude" ⑤ to attempt extruding the new filament to check if it flows smoothly.



6. ⑥ Return, and then ⑦ resume the printing process.



If the print job paused due to a clog rather than a depleted filament, please follow these steps:

Heat the nozzle by waiting for the extruder to reach the target temperature, as per the previous steps.

Once heating is complete, attempt to extrude the filament to check if it flows smoothly.

If the filament does not extrude smoothly, increase the extruder temperature by 10 degrees and retry extrusion.

If the filament still does not extrude smoothly after increasing the temperature, it may be necessary to replace the nozzle or check if the print head is clogged.

To remove the filament, heat it up and pull it out. Then, unscrew the nozzle carefully and use tweezers to handle the nozzle, taking care to avoid burns.

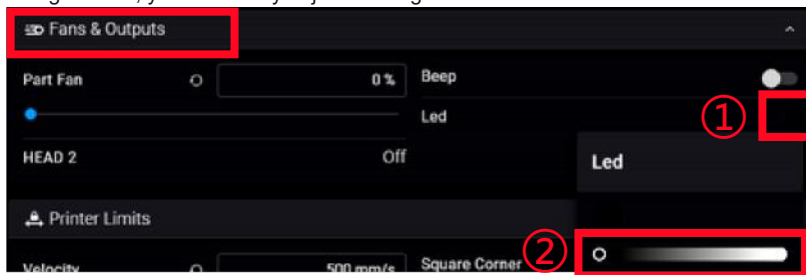


2

Camera&Led

Once the camera is successfully connected, you can monitor the status of the printer through its IP address. If the lighting is insufficient at night, you can choose to turn on the LED lights to enhance visibility.

Click on ① the black circle, and you will see ② a slider bar for adjusting brightness. By sliding this bar, you can easily adjust the brightness

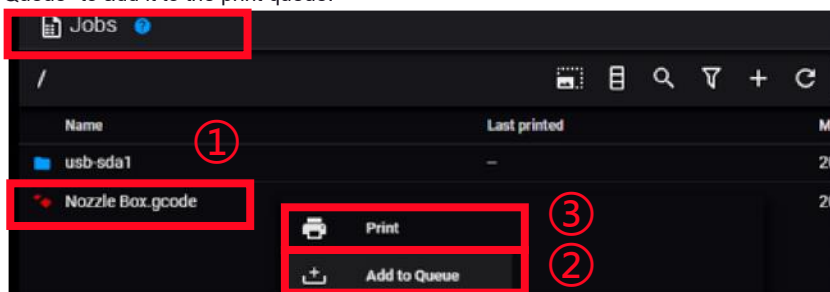


3

Queue printing

A queue printing feature sequences multiple print jobs based on user preferences, enabling seamless batch printing of multiple models in a single session for improved efficiency and convenience.

1.Navigate to the "Jobs" section, click on ① the desired model, then click on ② "Add to Queue" to add it to the print queue.



2.The printer will automatically shift to the next model in the queue after the current job is done, continuing the process until all models are printed without further manual intervention.

3.After the current model finishes, the printer automatically starts the next in queue. For repeats, simply add the model multiple times to the queue. The printer will print each model according to its repeat count in the queue.

Important Note: When canceling a print job, remember to delete the remaining models in the queue, as the printer will continue to print them otherwise. This step is crucial.

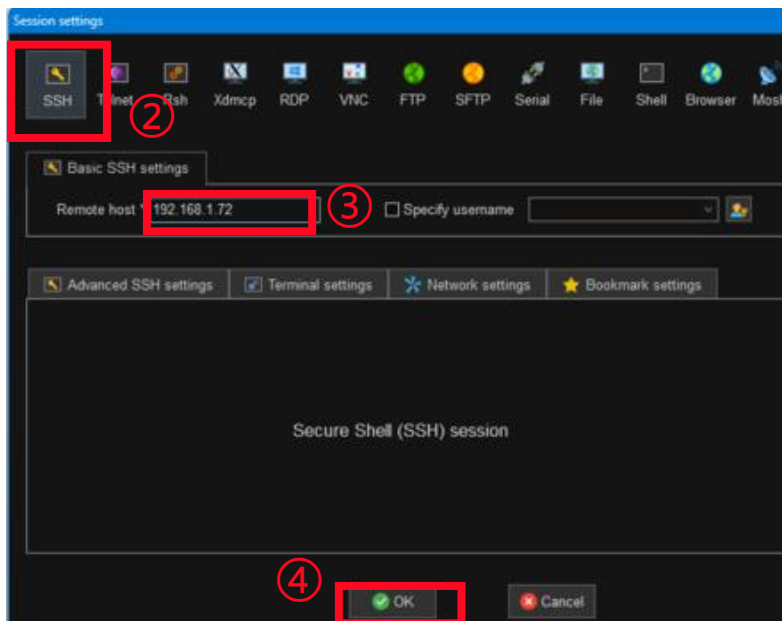
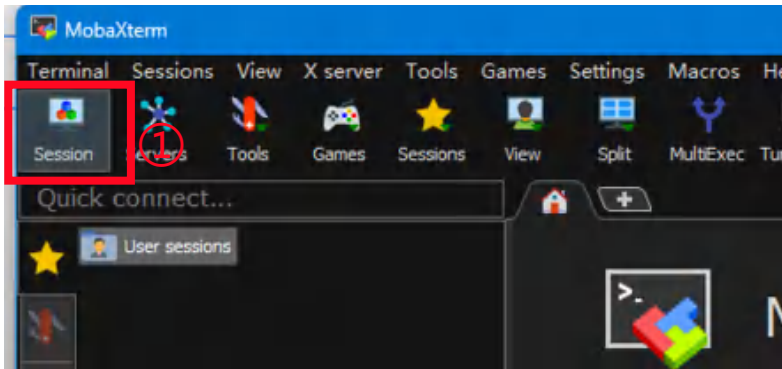


4

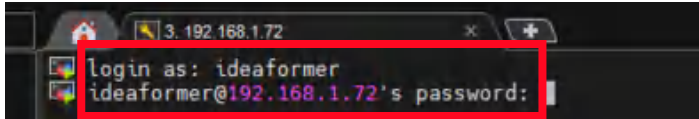
Remote control

Remote control of printers through software such as Obico and OctoEverywhere.

1.To connect to a server via SSH using MobaXterm, first download and open the MobaXterm software. Then, click on the "Session" tab located at the top left corner of the interface. From the dropdown menu, select "SSH". Next, input the IP address of the server you wish to connect to.

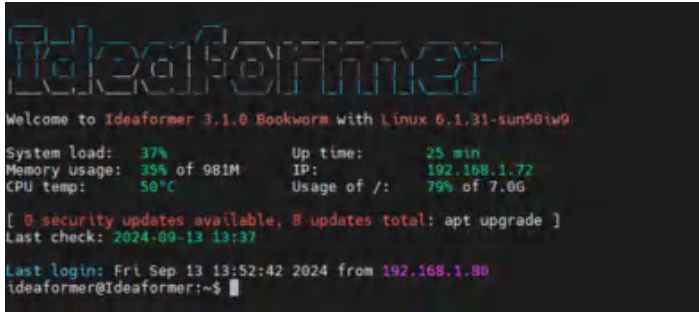


2. For the username, type "ideaformer" and for the password, type "1234"

A terminal window with a dark background. At the top, it shows the IP address 3.192.168.1.72. Below that, the prompt is 'login as: ideaformer'. The user has entered 'ideaformer@192.168.1.72's password:' and the password has been accepted, indicated by a series of asterisks.

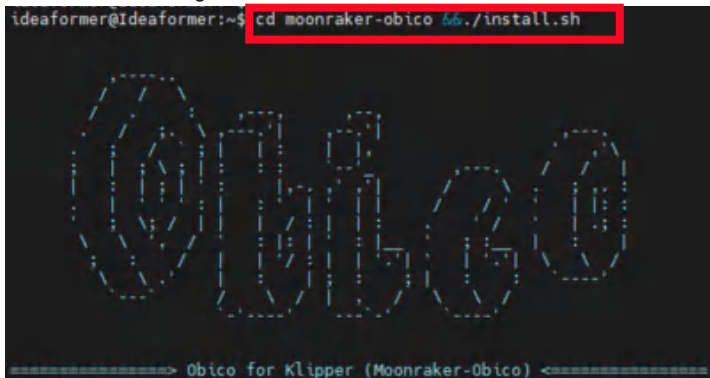
```
3.192.168.1.72
login as: ideaformer
ideaformer@192.168.1.72's password: *
```

3. Successfully accessed the printer.

A terminal window showing the 'Ideaformer' logo in a stylized, blocky font. Below the logo, it says 'Welcome to Ideaformer 3.1.0 Bookworm with Linux 6.1.31-sun50iw9'. It then displays system statistics: System load: 37%, Memory usage: 35% of 981M, CPU temp: 50°C, Up time: 25 min, IP: 192.168.1.72, Usage of /: 79% of 7.0G. It also shows security updates and the last login time.

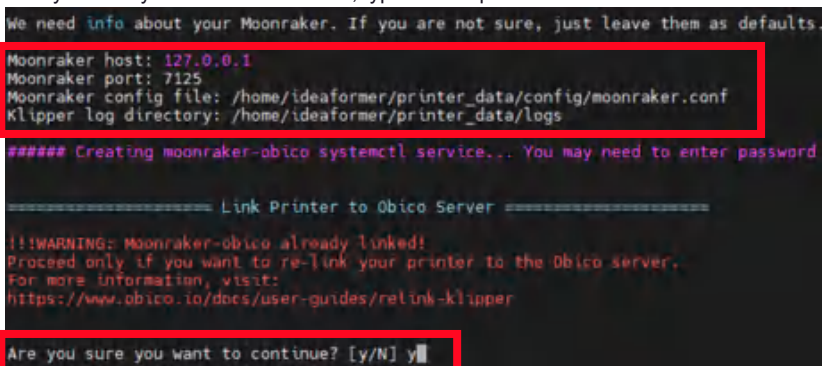
```
Ideaformer
Welcome to Ideaformer 3.1.0 Bookworm with Linux 6.1.31-sun50iw9
System load: 37%      Up time: 25 min
Memory usage: 35% of 981M  IP: 192.168.1.72
CPU temp: 50°C      Usage of /: 79% of 7.0G
[ 0 security updates available, 8 updates total: apt upgrade ]
Last check: 2024-09-13 13:37
Last login: Fri Sep 13 13:52:42 2024 from 192.168.1.80
ideaformer@Ideaformer:~$
```

4. enter the following command: cd moonraker-obico &&./install.sh

A terminal window showing the command 'cd moonraker-obico &&./install.sh' being executed. Below the command, a large, stylized 'Obico' logo is displayed in a dashed, blocky font. The prompt is 'Obico for Klipper (Moonraker-Obico)'.

```
ideaformer@Ideaformer:~$ cd moonraker-obico &&./install.sh
Obico for Klipper (Moonraker-Obico)
```

5. After seeing 'moonraker host: 127.0.0.1', press Enter four times. Then, when prompted 'Are you sure you want to continue?', type 'Y' and press Enter to confirm.

A terminal window showing the configuration of the moonraker-obico service. It displays the moonraker host, port, config file, and log directory. It then prompts the user to confirm if they want to continue. The user has entered 'Y' to confirm.

```
We need info about your Moonraker. If you are not sure, just leave them as defaults.
Moonraker host: 127.0.0.1
Moonraker port: 7125
Moonraker config file: /home/ideaformer/printer_data/config/moonraker.conf
Klipper log directory: /home/ideaformer/printer_data/logs

##### Creating moonraker-obico systemctl service... You may need to enter password

===== Link Printer to Obico Server =====

!!!WARNING: Moonraker-obico already linked!
Proceed only if you want to re-link your printer to the Obico server.
For more information, visit:
https://www.obico.io/docs/user-guides/relink-klipper

Are you sure you want to continue? [y/N] y
```

6. After seeing 'Scanning the local network', please open the Obico mobile app.

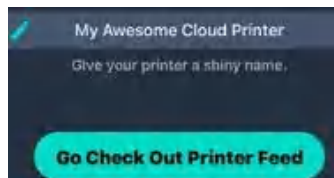
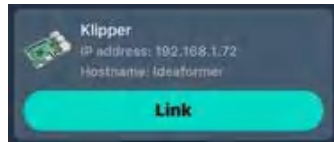
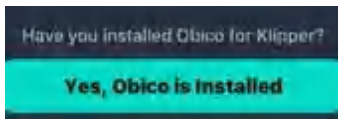
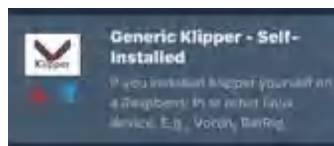
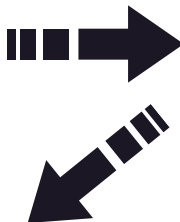
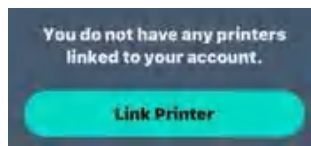
```
If you need help, head to https://www.obico.io/docs/user-guides/klipper-setup
Your printer is now discoverable by the Obico app on the same network.
If you can't find the printer in the app, switch to manual linking and enter: nenxa
If you are using a Obico app version older than 2.0, press 'Enter' to switch to using 6-d
Scanning the local network / -
```



Note: Both the mobile device and the printer must be connected to the same Wi-Fi network, otherwise the app will not be able to discover the printer.



7. Register and log in, then follow the steps in the image to bind the printer.



8. Then, you will be able to control the printer.



After-sales Service

QQ group:193844205

Email:tech-1@bell-ideaformer.com

Facebook group: Ideaformer IR3,IR3 V1,IR3 V2 conveyor belt 3D printer

Skype group: <https://join.skype.com/NMHILjGLDO4u>

Skype support :.cid.2907007ac179b00b

Parts	Warranty Period
Hotend, Conveyor belt, Accessories, Tools, Filament, SD card	No warranty
Electronic Components, Printer Frame, Extruder, Timing Belt, Linear Rail, Motor (Except artificially damaged parts)	Six months

Company Profile

Zhuhai Bell Technology Co., Ltd., founded in May 2016, is a youthful, innovative high-tech company focusing on scientific research, printers, related accessories, and consumables. We also sell electronics, hardware, and plastic products, engaging in both domestic and international trade.

With a comprehensive quality management system, skilled technical team, and independent IP technology, our brand (IdeaFormer) is well-known worldwide.

Our products are exported to over 30 countries, including Europe, the US, and Asia. We value credibility, contract adherence, quality assurance, and win-win cooperation, earning customer trust and industry recognition.

Warning:

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

NOTE:

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.

FCC Statement:

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.

The equipment complies with FCC Radiation exposure limit set forth for uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator and your body.

珠海贝尔科技有限公司

Zhuhai Bell Technology co., Ltd



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Skype group: <https://join.skype.com/NMHILjGLDO4u>

Skype support :.cid.2907007ac179b00b