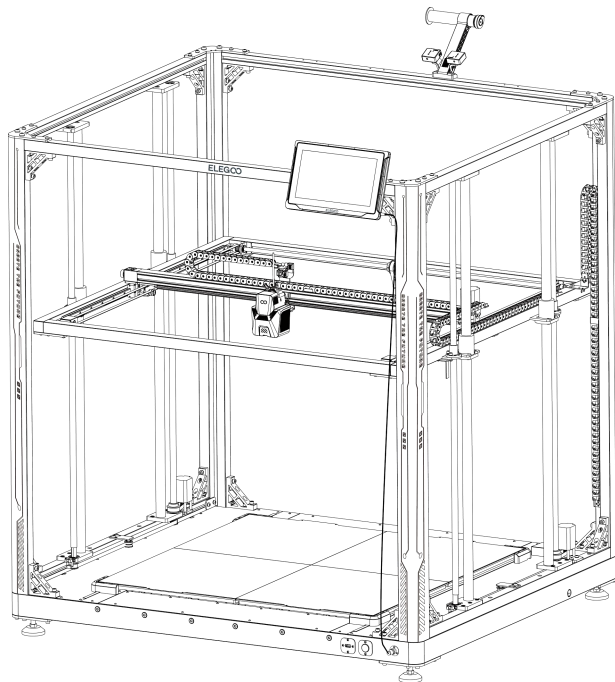
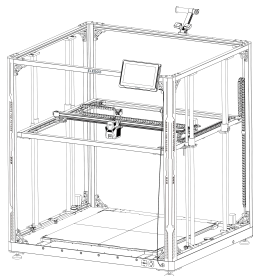


# OrangeStorm Giga 3D Printer

## User Manual



- Please refer to the included USB Drive for a setup and installation instructional video.
- Pictures are only for illustration purposes. Actual production products may vary from images.



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## Thank you for choosing the ELEGOO product!

This User Manual has been provided for your convenience. Please read this instruction manual carefully before using your new printer, as the precautions, information, and tips can help to avoid the risk of incorrect product setup and usage.

For any questions or issues not covered in this manual, please directly contact us at [3dp@elegoo.com](mailto:3dp@elegoo.com).

The ELEGOO team is always ready to provide you with quality service.

To provide you with the best product experience, in addition to this manual, you can find supplemental information for the operation of your new printer via:

1. The USB Drive: The digital files include a copy of this manual and all required software and videos.
2. The ELEGOO official website: [www.elegoo.com](http://www.elegoo.com) for related equipment operation, contact information, etc.

# Cautions

1. Do not place the printer in vibrating or other unstable environments, as the shaking of the machine will affect the print quality.
2. Do not touch the nozzle and heated bed when the printer is working to prevent high-temperature burn and personal injury.
3. After printing, please take advantage of the residual temperature of the nozzle and clean the filaments on the nozzle with the help of tools. Do not touch the nozzle directly with your hands during cleaning to avoid burning.
4. Please do product maintenance frequently, and regularly clean the printer body with a dry cloth to wipe away dust and sticky print material under the situation of power off.
5. The 3D printer contains high speed parts, so be careful not to pinch your hands.
6. The moving parts of the X and Y axes of the machine are composed of linear guide rails, which need to be lubricated regularly to keep the movement smooth.
7. Children must be supervised by adults when using the machine to avoid personal injury.
8. In case of emergency, please cut off the power directly.
9. Before leveling, homing or printing, ensure that the golden PEI sheet is properly placed on the platform. Failure to do so may result in nozzle collisions with the magnetic sheet, causing damage to both the nozzle and the magnetic sheet.
10. It is essential to ground the machine during operation. Devices that are not grounded or improperly grounded inevitably increase the risk of electrical shock.
11. If the machine is not in use for a long period, please turn off the device and unplug the power cord.

# Troubleshooting Guide

A stepper motor of the X/Y/Z axis is not moving or making a noise when returning to home

- ① The stepper motor cable could be loose. Please recheck the wiring connection.
- ② The corresponding limit switch may not be triggering properly, please check whether there is any interference in the movement of the corresponding shafts and ensure the limit switch wiring is not loose.
- ③ Loose timing belt may result in rough motion or abnormal noise in the X/Y axis. It can be resolved by adjusting the tension of the timing belt using the rotary knob.

The nozzle assembly is exhibiting extrusion anomalies

- ① Check that the extruder stepper motor cable is not loose or disconnected.
- ② Check whether the set screw of the extruder gear is firmly engaged to the motor shaft.
- ③ The heat dissipation of the nozzle assembly may not be enough, verify temperatures and check the cooling fan operation.
- ④ For clogged nozzles, try first heating the nozzle to 230°C and pushing the filament by hand to remove a potential clog, or use a fine needle to unclog the nozzle tip while it is heating up.

Model does not adhere to the build platform (PEI sheet) or is showing warping

- ① The key to whether a model can adhere (stick) to the build plate is largely based on the printing of the first layer. When printing the first layer if the distance from nozzle to platform is more than 0.2mm, it will seriously reduce print adhesion and need to re-level the platform.
- ② Try setting the build model first layer option in Cura to [Brim] to improve first layer adhesion, this should also be used to reduce any cases whereby the edges of the printed model are warping or lifting off the build platform.
- ③ When printing large models, it is recommended to apply PVP solid glue or 3D printing platform adhesive spray on the platform to effectively prevent warping.

Model shows signs of layer shift

- ① The travel speed of the printer hot end assembly or print speed is set too fast. Please try to reduce the print speed
- ② The belts of the X/Y axis may be too loose or the synchronizer pulley is not secured tightly. Check these components.
- ③ The current to the drive may be too low.

Severe issues in the printed model of “stringing” or “ringing”

- ① Insufficient retraction distance is causing issues, increase the retraction distance in Cura prior to slicing.
- ② In many cases, if the retraction speed is too slow, you may need to set the retraction speed higher in Cura prior to slicing.
- ③ When slicing your model, check the box for “Z Hop When Retracted” and set the “Z Hop Height” to about 0.25mm.
- ④ Print temperature may be too high, which can cause certain filaments to become sticky and stringy.

If the printing temperature is too high, it can cause the filament to become too fluid and sticky, resulting in poor 3D printing quality. In this case, lowering the printing temperature slightly can help.

# Contents

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|                                             |    |
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| Machine Parameters -----                    | 1  |
| Machine Component Diagrams -----            | 2  |
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# Machine Parameters

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## **Printer Specifications**

Printer Type: FDM (Fused Deposition Modeling)

Build Volume: 800\*800\*1000 (mm<sup>3</sup>)

Print Precision:  $\pm 0.1$ mm

Nozzle Diameter: 0.6mm

Print Speed: 30~300mm/s (default 150mm/s)

## **Operating Temperature Specifications**

Ambient Environment Temperature: 5°C~40°C

Maximum Temperature of Nozzle: 300°C

Maximum Temperature of Heated Bed: 100°C

(Ambient Environment Temperature 25°C)

## **Software Specifications**

Slicer Software: Cura

Input File Format: STL, OBJ

Output File Format: Gcode

Interface: USB Drive, LAN (Network), WiFi

## **Power Supply Specifications**

Input Power: 100-120V/220-240V; 50/60Hz

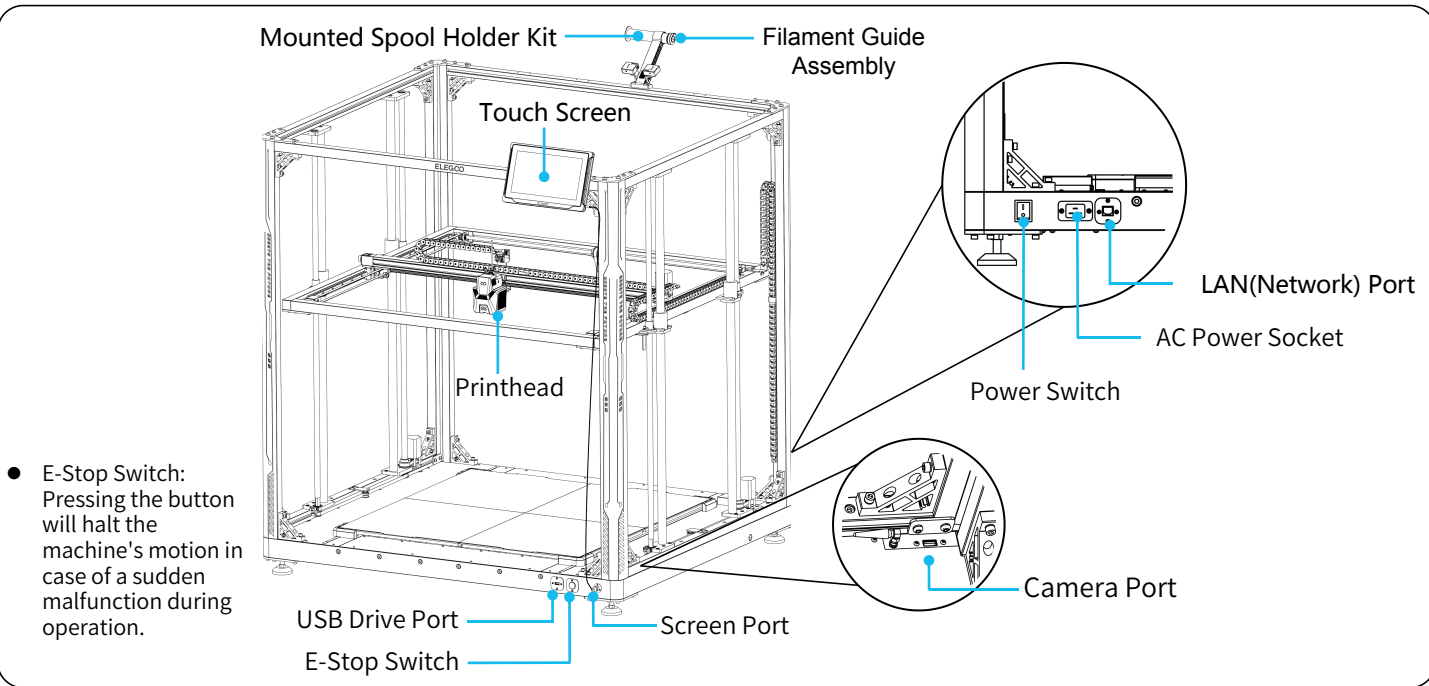
Rated Power: 1530W (Single print head)

## **Physical Specifications**

Machine Size: 1224\*1164\*1425mm

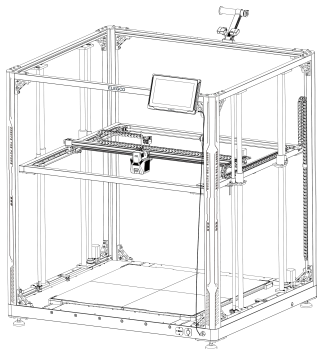
Net Weight: 104kg

# Machine Component Diagram

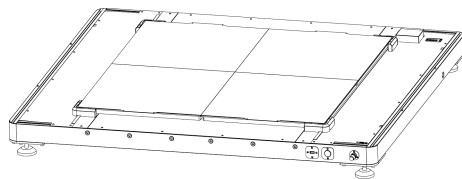


# Packing List

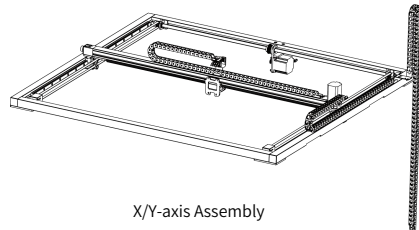
## List 1:



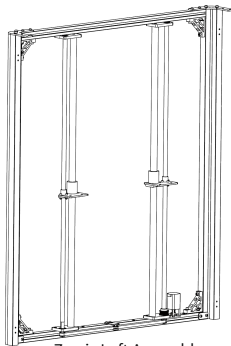
OrangeStorm Giga 3D Printer



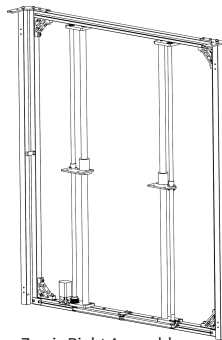
Base Kit



X/Y-axis Assembly



Z-axis Left Assembly



Z-axis Right Assembly



Top Rear  
Profile



Top Front  
Profile

The above accessories shall be subject to actual products, and the pictures are for reference only.

# Packing List

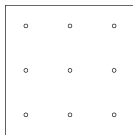
## List 2:



Printhead



Screen



Leveling  
Plate\*2pcs



Spool Holder  
Arm



Spool Holder



Filament Breakage  
Detector\*2pcs



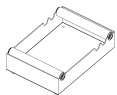
Z-axis Caterpillar  
Cable Tracks Clip



Z-axis End  
Stop\*2pcs



Filament Guide  
Assembly



Detached Spool  
Holder Assembly  
(5KG)



Power Cable



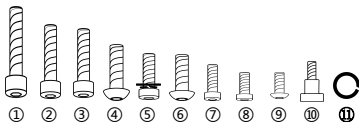
Leveling Card



Grease



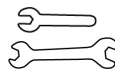
Profile Corner  
Bracket\*8pcs



- |                  |                   |
|------------------|-------------------|
| ① (HM6*45) 8pcs  | ⑦ (HM3*10) 2pcs   |
| ② (HM6*40) 16pcs | ⑧ (HM3*6) 2pcs    |
| ③ (HM6*30) 16pcs | ⑨ (PM3*6) 9pcs    |
| ④ (PM6*28) 8pcs  | ⑩ (HM4*M3*3) 2pcs |
| ⑤ (HWM6*25) 8pcs | ⑪ (SW M6) 8pcs    |
| ⑥ (PM4*25) 4pcs  |                   |



USB Drive



Open-end Wrench



Network Cable



Cable Tie



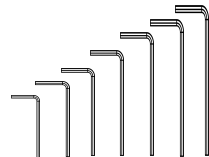
Needle



Nozzle



Screwdriver



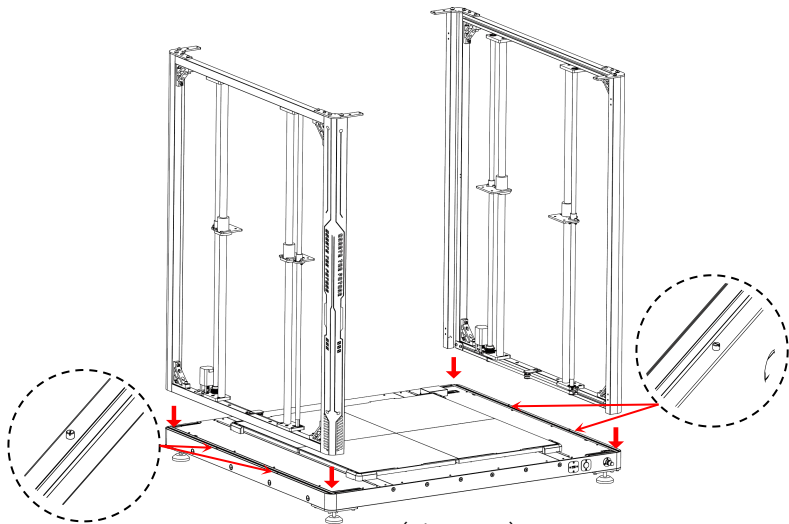
(1.5 / 2.0 / 2.5 / 3.0 / 4.0 / 5.0/6.0)  
Allen Wrench

# Machine Setup & Installation

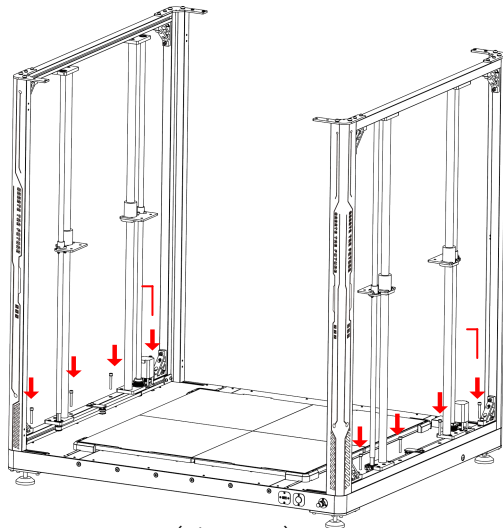
Please refer to the included USB Drive for a setup and installation instructional video.

- ① **Dowel Pin Alignment Installation:** The bottom profiles of the Z-axis Left and Z-axis Right Assemblies have corresponding dowel pin holes, so be sure to align them correctly during installation (Diagram 1)
- ② **Z-axis Left and Z-axis Right Assemblies Installation:** Use (HM6\*45) 8pcs to pass through the corresponding holes of the profiles and then secure them during installation. (Diagram 2)

Note: Do not tighten the assembled screws. Secure and tighten them only after the frame is fully assembled.



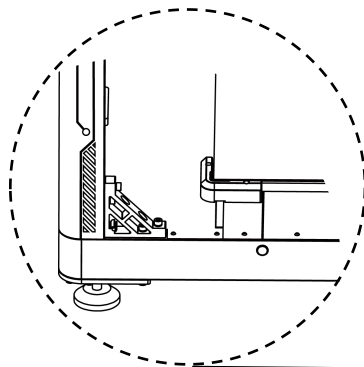
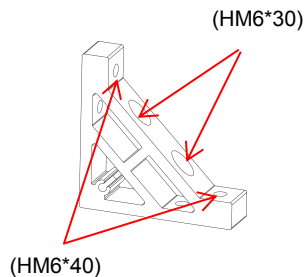
(Diagram 1)



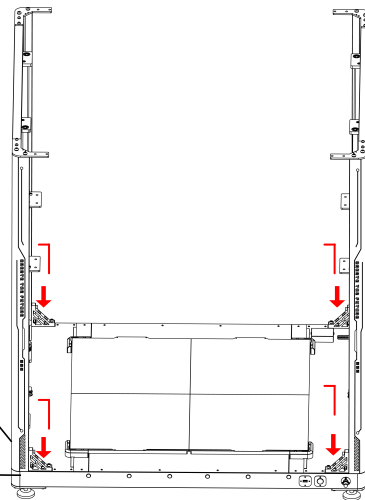
(Diagram 2)

# Machine Setup & Installation

**Profile Corner Bracket Installation:** Four corner brackets are required to be installed at the bottom. Use (HM6\*40) 8pcs and (HM6\*30) 8pcs screws to pass through the corresponding holes of the profiles and secure them during installation. (Diagram 4)



(Diagram 3)

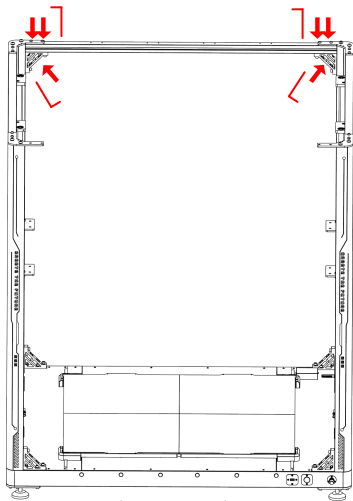


(Diagram 4)

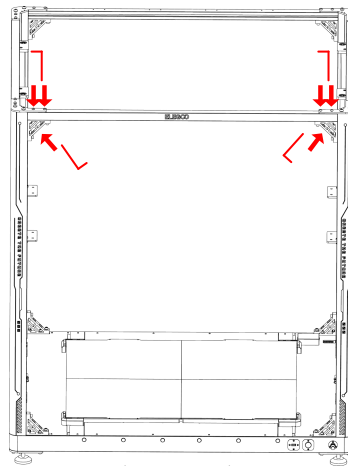
# Machine Setup & Installation

- ① **Top Rear Profile Installation:** Use (PM6\*28) 4pcs & (SW M6) 4pcs to secure the top rear profile. Then, proceed to install the corner brackets on both the left and right sides of the profile. For this, you will use two different sizes of screws: 4 pieces of (HM6\*40) and 4 pieces of (HM6\*30). Insert each screw through the corresponding hole on the profile and tighten them. (Diagram 5)
- ② **Top Front Profile Installation:** Use (PM6\*28) 4pcs & (SW M6) 4pcs to secure the top front profile. Then, proceed to install the corner brackets on both the left and right sides of the profile. For this, you will use two different sizes of screws: 4 pieces of (HM6\*40) and 4 pieces of (HM6\*30). Insert each screw through the corresponding hole on the profile and tighten them. (Diagram 6)

**NOTE:** After completing the construction of the machine frame, it is crucial to systematically check and reinforce all installed corner bracket screws and screws on the profiles.



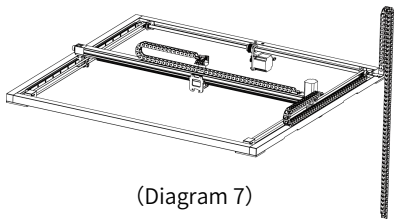
(Diagram 5)



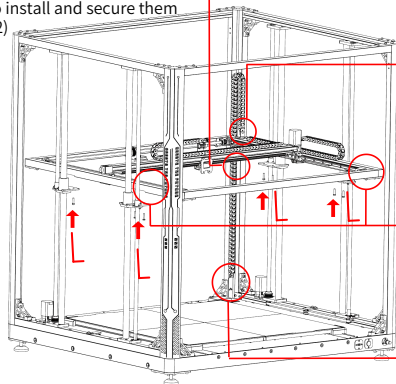
(Diagram 6)

# Machine Setup & Installation

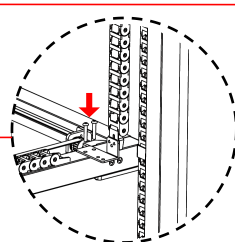
- ① **X/Y-axis Assembly Installation:** Use (HWM6\*25) 8pcs screws to sequentially install the support plates on the left and right sides. Pass the screws through the corresponding holes on the support plates and secure them during installation. (Diagram 8)
- ② **Z-axis Caterpillar Cable Track Installation:** Use (PM4\*25) 2pcs screws to pass through the corresponding holes and secure the caterpillar cable track components onto the X&Y assembly profiles. (Diagram 9)
- ③ **Z-axis Caterpillar Cable Track Clip Installation:** Use (PM3\*6) 2pcs screws to secure the middle position of the caterpillar cable track. (Diagram 10)
- ④ **End fixation of Caterpillar Cable Track:** Use (PM3\*6) 3pcs screws to install and secure them through the corresponding holes on the profiles. (Diagram 11)
- ⑤ **Z-axis Right End-stop Installation:** Use (PM3\*6) 2pcs screws to install and secure them through the corresponding holes on the profiles. (Diagram 12)
- ⑥ **Z-axis Left End-stop Installation:** Use (PM3\*6) 2pcs screws to install and secure them through the corresponding holes on the profiles. (Diagram 12)



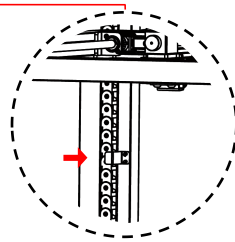
(Diagram 7)



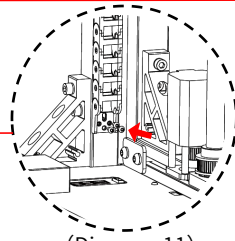
(Diagram 8)



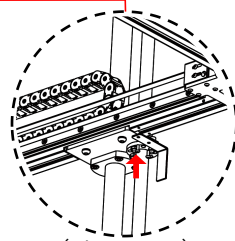
(Diagram 9)



(Diagram 10)



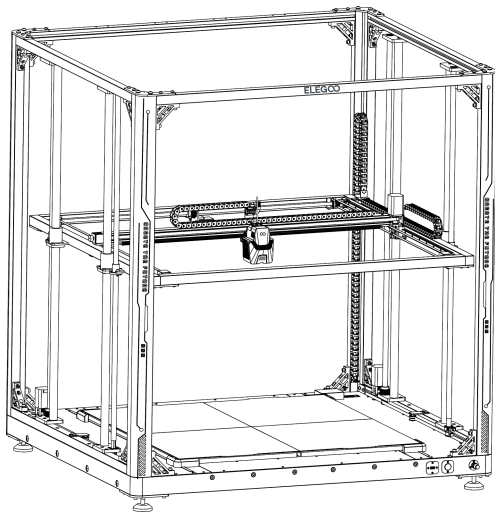
(Diagram 11)



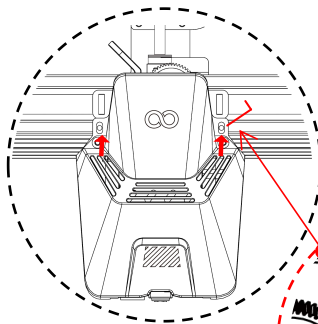
(Diagram 12)

# Machine Setup & Installation

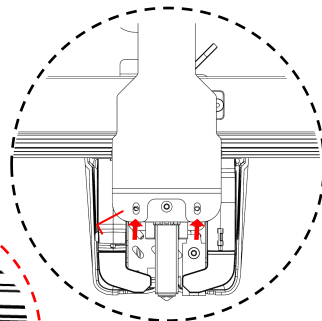
**Printhead Installation:** Use (HM3\*6) 2pcs to secure the front holes of the printhead (Diagram 14) and use (HM3\*10) 2pcs to secure the rear holes of the printhead (Diagram 15).



(Diagram 13)



(Diagram 14)

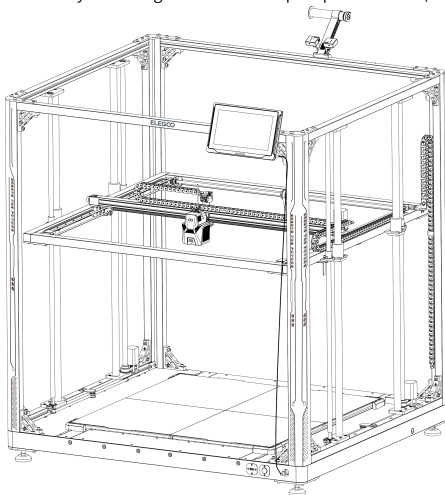


(Diagram 15)

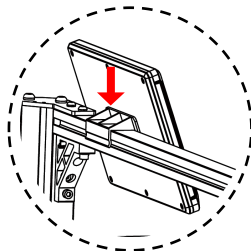
- After aligning the mounting plate, then secure the screws.

# Machine Setup & Installation

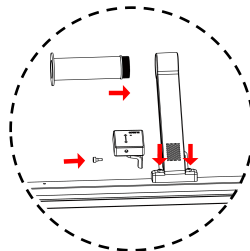
- ① **Screen Installation:** The snap-in fastener can be installed onto the profile when it makes a clicking sound. (Diagram 17)
- ② **Spool Holder Assembly & Filament Detector Installation:** Use (PM4\*25) 2pcs screws to secure the spool holder assembly onto the profile; Use (HM4\*M3\*3) 1pc screw to install the filament detector onto the spool holder assembly. (Diagram 18)
- ③ **Filament Guide Assembly & Filament Detector Installation:** Screw the filament guide assembly onto the filament holder. Once it's locked, adjust the angle of the head of the assembly according to the filament spool position. Use (HM4\*M3\*3) 1pc to install the filament detector on the filament holder. (Diagram 19)



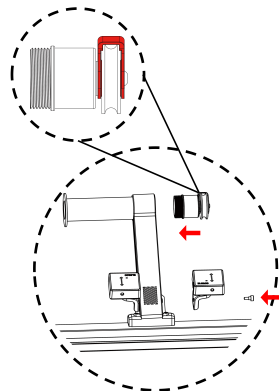
(Diagram 16)



(Diagram 17)



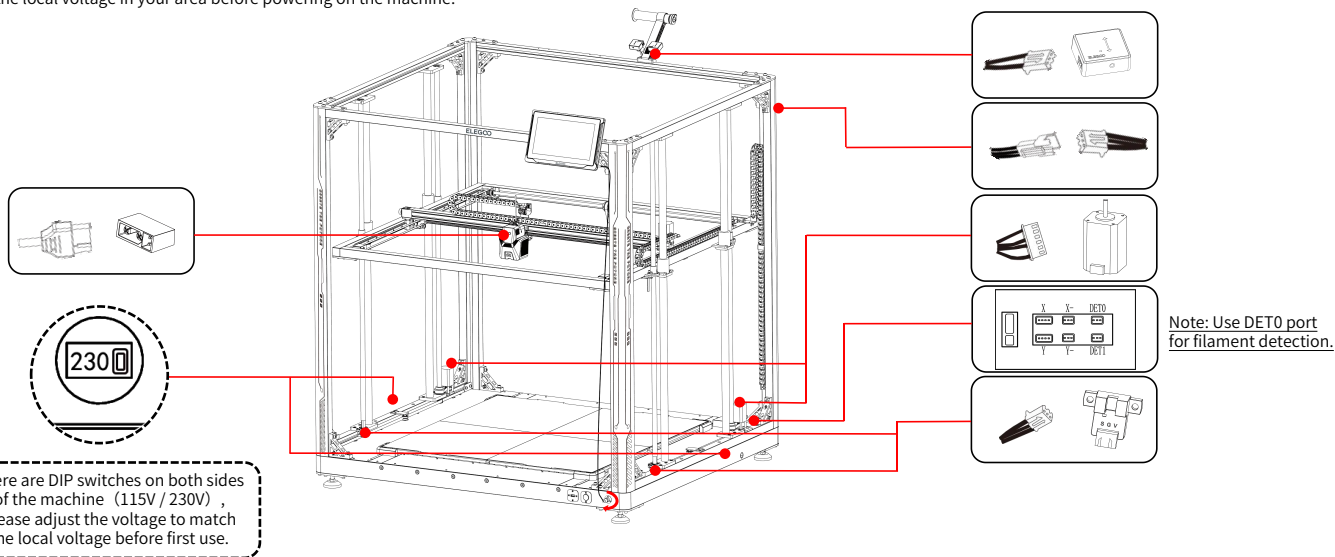
(Diagram 18)



(Diagram 19)

# Machine Setup & Installation

- ① Port Wiring: Connect the corresponding ports according to the instructions. (Diagram 20)
- ② Input Voltage Confirmation: The machine is factory-set to operate on a default power supply voltage of 220V. Before use, please verify that the machine's voltage setting matches the local voltage in your area before powering on the machine.

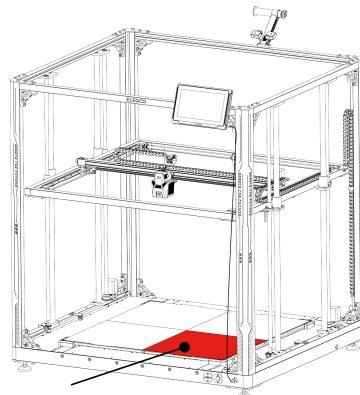
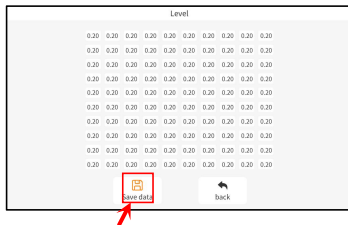
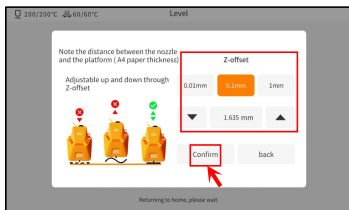


(Diagram 20)

# Leveling Procedure

When first running the machine, the distance between the platform and the nozzle needs to be calibrated in the leveling mode, which is about the thickness of a piece of A4 paper .

- When the printer is powered on, select [Level].
- After the printer's axes return to home and enter the automatic leveling page, the machine will enter the heating state: the nozzle will heat up to 140°C, and the heated bed will heat up to 60°C.
- After reaching the preset temperature, begin the 100-point automatic bed calibration.
- When completed, perform Z-axis compensation setting: Place a leveling card between the printhead and the platform. Adjust the compensation value by clicking, and gently slide the leveling card. When there is resistance while moving the leveling card, the leveling is complete.
- Click the save icon to save. [  ]



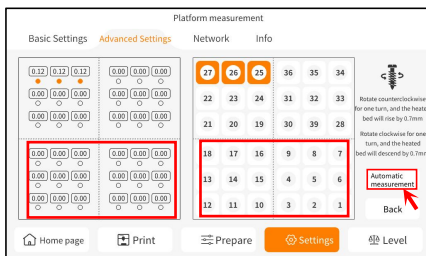
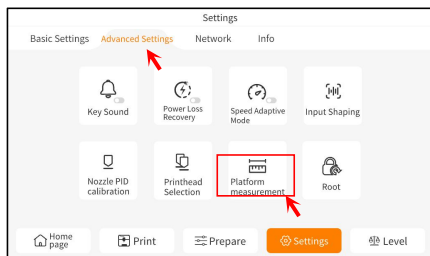
The center screw on this surface serves as the reference point, and its height cannot be adjusted. The other three surfaces are adjusted to a relative height based on this surface.

# Leveling Procedure

If there is a significant height difference between the platforms, you can manually calibrate the platform plate.

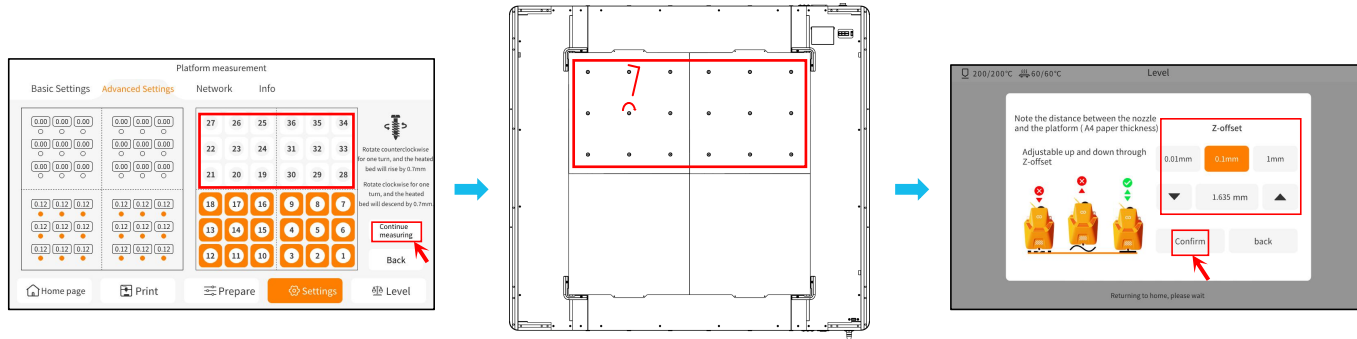
- ① First, replace the two PEI plates in the front section with the leveling plate. The holes on the leveling plate should align with each screw hole on the heated bed plate.
- ② Then navigate to "Settings", "Advanced Settings", and finally choose "Platform Measurement."
- ③ Next, click on "Auto Measurement" and wait for the printhead to measure the data of the 18 points on the platform one by one. (NOTE: Do not perform any other operations during the measurement process)
- ④ Based on the presented 18-point data, manually adjust the screw height for points higher or lower than [0.00]. Then, you can verify the adjusted values by manually selecting the corresponding position number. (Position 5 is the reference point [0.00] and does not require adjusting the screw. Adjust the remaining 35 points using the knob screws to approach the [0.00] data.)

NOTE: Turning the knob screw clockwise by one turn will lower the platform by 0.7mm, otherwise it will raise by 0.7mm.



# Leveling Procedure

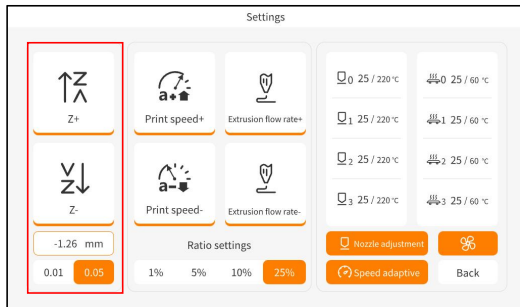
- ⑤ Swap the two leveling plates in the front section with the two PEI plates in the back section.
- ⑥ Click [Continue measuring] and wait for the printhead to sequentially measure the 18-point values on the leveling plates. (NOTE: Do not perform any other operations during the measurement process)
- ⑦ Perform manual adjustment based on the presented numbers and adjust the 18-point values to be close to [0.00].
- ⑧ After manually adjusting the relative height of the four platform plates, place the PEI plate and click on "Level." Wait for the printhead to return to the home, then click on "Auto Leveling" to collect data from 100 points. Once completed, place the leveling card between the nozzle and the platform and set the compensation value. When there is resistance while moving the leveling card, the setup is complete. Click on "Save Data" to exit.



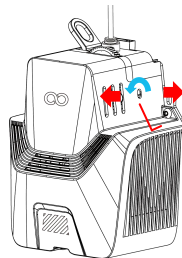
# Model Testing

## Printing Functional Test

- 1) Insert the USB Drive into the printer's USB port.
- 2) Choose [Print] from the main menu and select the desired file.
- 3) When the nozzle and heated bed reach the target temperatures, the X, Y & Z axis will return to home and begin printing.



While adjusting, switch the travel distance to 0.01mm or 0.05mm for fine tuning to prevent the nozzle from potentially dragging excessively along the heated bed (which can cause damage to the build plate) or to keep filament from “hanging” in the air.



**Note:** Filament with different hardness have different requirements for “spring” strength. The spring strength of the extruder can be adjusted with an Allen Wrench (within 2.0mm).

When turning counter-clockwise, extrusion force is increased, while extrusion force is decreased when turned in a clockwise direction.



A. Too Low



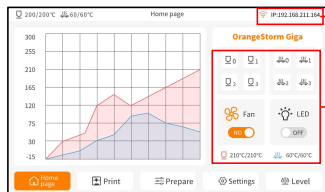
B. Too High



C. Normal

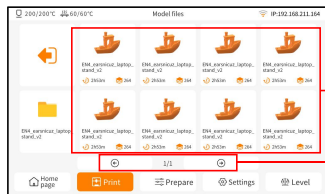
**NOTE:** When printing the test model, please observe the first layer printing and compare against the figure on the above. In cases A and B, the compensation settings are not properly adjusted. You can make compensation adjustments during printing to adjust the distance between the nozzle and the heated bed. In case C, the nozzle and the platform are at the ideal printing distance and can continue printing without any further adjustments.

# Touch Screen Operation Introduction



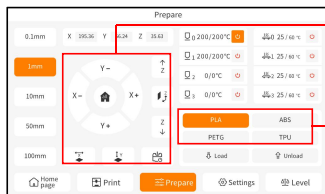
IP Address

Temperature Display



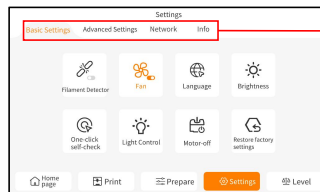
G-code File Display

Left & Right Page Keys



Motor Movement & Return to Home Control

Preset Filament Temp



Settings Option



100-point Leveling Display

Note: Please be aware that the current interface is for reference purposes only. The actual information is subject to the latest firmware on the official website.

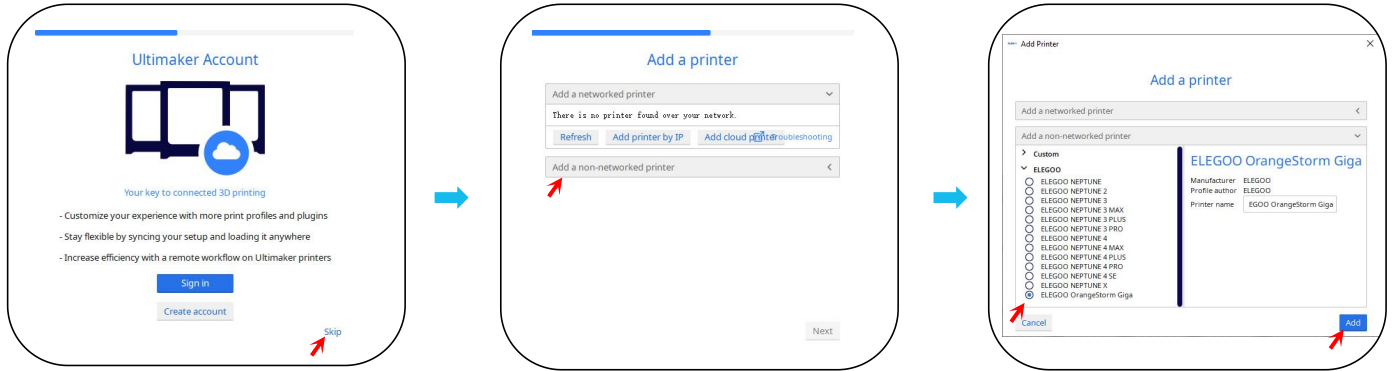
# Software Installation

**TIP:** We recommend copying the entire contents of the included USB Drive to your local computer for easier access to all of its files.

The included “Slicer” Software program is a modified version of the Cura Open Source Slicer software to better cooperate with our machines.

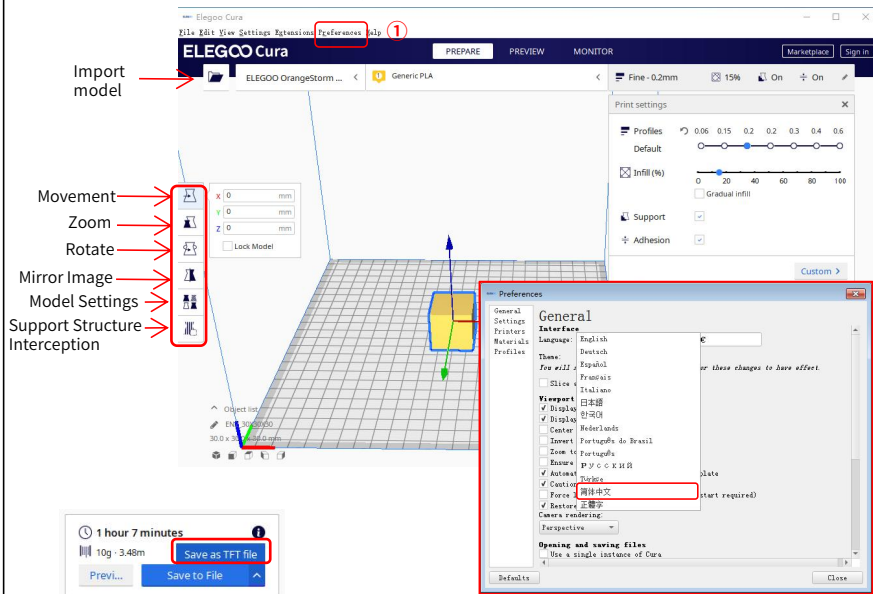
## Software Installation Procedure:

1. Open the attached USB Drive and navigate into the path: \Software and Software Drivers folder \ELEGOO Software folder and “double-click on the ELEGOO-Cura application to begin the installation process.
2. Continue by following the prompts in the installation process specific to your system.
3. Finally, select the corresponding ELEGOO printer model as shown below to complete the settings process.



# Software Installation

## Instructions for Software Usage



Preview Image Function

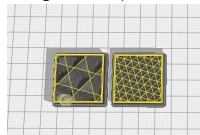
② Language Selection

## Other Software Usage Tips:

1. Use the middle mouse wheel to zoom the viewpoint (in and out) and hold down the middle mouse wheel to move the platform position on the screen.
2. Press and hold the right mouse button while moving your mouse to pivot around your model's viewpoint.
3. Clicking the right mouse button will bring up a pop-up selection options menu.

### Model Settings:

When printing multiple models, you can configure individual slice settings for the specified model.



### Support Structure Interception:

This feature enables you to define an intercept region on your model to inhibit the generation support material.

### Preview Image Function:

G-code files saved in the TFT file format can use the printer's preview capabilities to display a thumbnail image of the model.

### Language Selection:

You can change the language by accessing the Preferences in the top menu bar. Once you have selected the desired language, you will need to restart the slicing software to apply the changes.

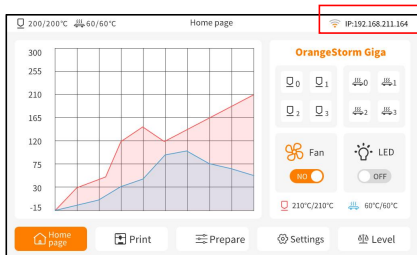
# LAN(Network) Printing

The device supports WiFi and network cable connection. After the connection is successful, check the IP address on the screen, and enter the IP address through the browser to access the machine.

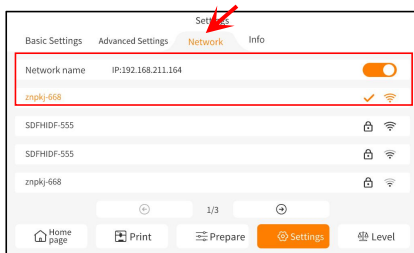
**NOTE:** Your Printer and Your Local Computer can only be connected to the LAN (Network) over the same network segment. You should ensure that the network wiring port on the Printer is connected, otherwise the access will fail.

Using Google Chrome (on your local computer), you can enter the IP address listed on your printer's display screen to access the printer directly (eg. <http://192.168.211.164>).

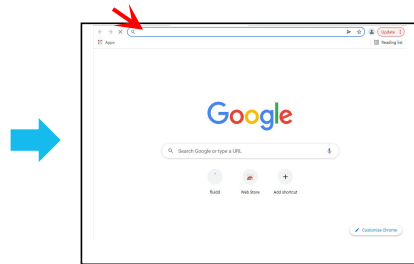
Following entry of this address, press the “Enter” key to access the Printer's network page.



LAN(Network) Interface

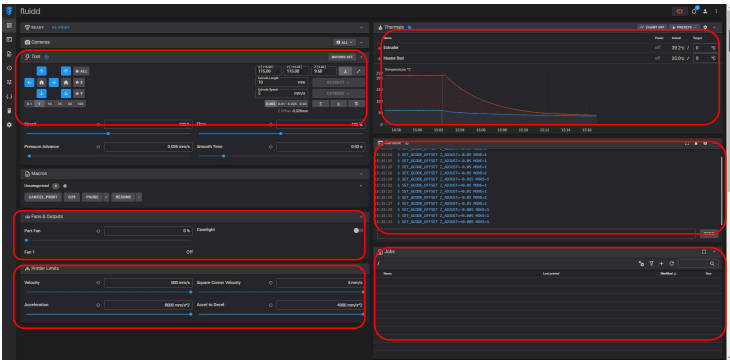


WiFi Connection



# LAN(Network) Printing

- Upon the successful access of the Printer's Network Interface, you will be presented with the following interface.



The screenshot displays the PrusaSlicer LAN interface, which is divided into several functional panels. On the left side, there are three main sections: 'Movement Control' at the top, 'Fan And Output' in the middle, and 'Printer Limit' at the bottom. These sections contain various sliders and buttons for controlling the printer's movement, fan speed, and acceleration. On the right side, there are three panels: 'Temperature Display' at the top, 'Console Display' in the middle, and 'Task List' at the bottom. The 'Temperature Display' panel shows a graph of temperature over time. The 'Console Display' panel shows a list of G-code commands being executed. The 'Task List' panel shows a list of tasks to be printed.

Movement Control

Fan And Output

Printer Limit

Temperature Display

Console Display

Task List

**Movement Control:** Provides the ability to control the movement of the printer's printhead along each axis, and can set compensation following the leveling process.

**Fan and Output:** Provides the ability to control the printhead fan and LED lights (on/off).

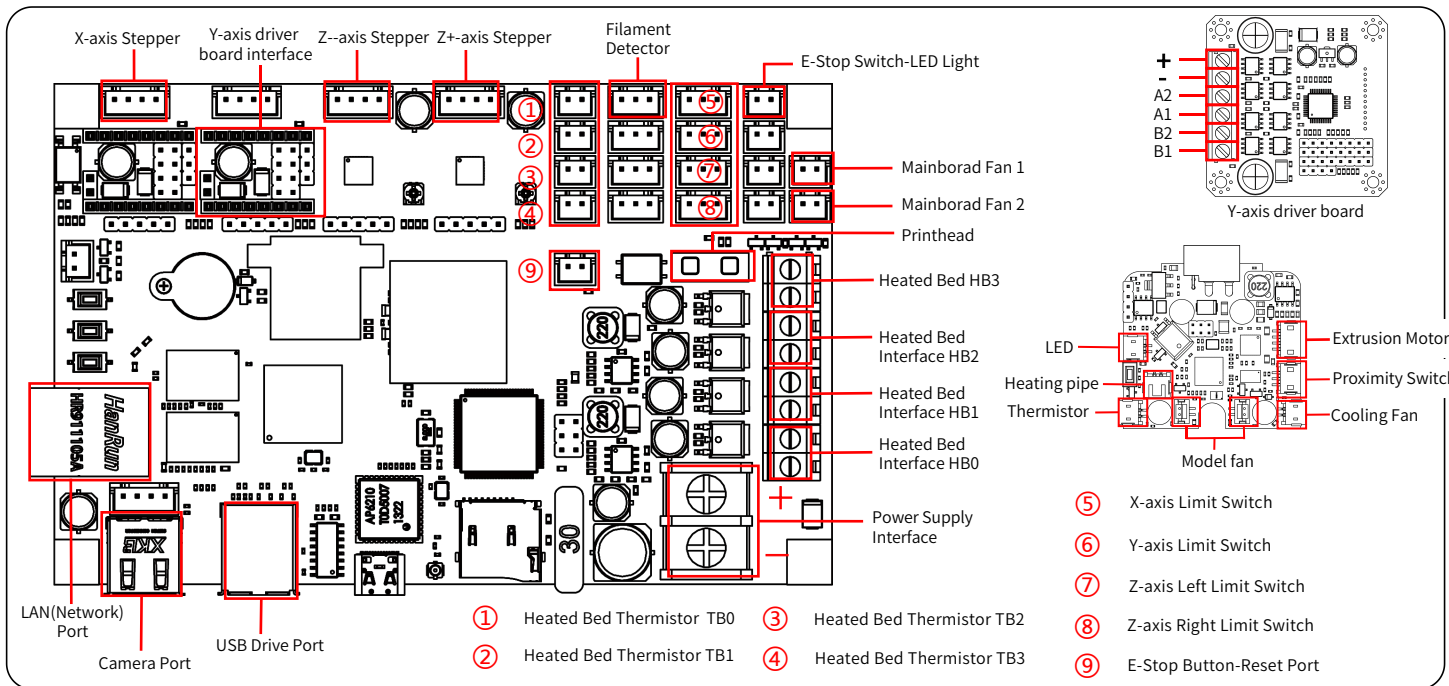
**Printer Limit:** Sets the maximum acceleration control of the printer, normally there's no need to modify.

**Temperature Display:** Displays the Printer's temperature(s) and heating status. This also provides controls for the preheating of the printhead temperature as well as the heated bed temperature.

**Console Display:** Shows G-code commands executed and allows for manual G-code to be sent to printer.

**Task List:** You can drag the G-code file of the ELEGOO Cura slicer to the task list here for printing.

# Mainboard Circuit Wiring Diagram



# After-sales service registration card

Date of purchase: \_\_\_\_\_

Place of purchase: \_\_\_\_\_

Printer: \_\_\_\_\_

S/N: \_\_\_\_\_

Fault description:

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Contact: \_\_\_\_\_

Address: \_\_\_\_\_

Phone number: \_\_\_\_\_



ELEGOO Official webSite: [www.elegoo.com](http://www.elegoo.com)