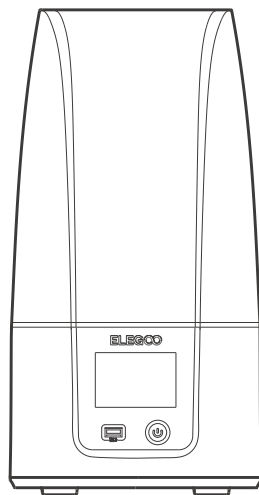




MARS 4

3D Printer

User Manual



Thank you for purchasing ELEGOO brand products.

After receiving the product, please confirm whether the equipment is intact and the accessories are complete. If there is any damage or missing, please timely contact us at 3dp@elegoo.com. (To ensure the performance of each product, each product will undergo strict printing tests before leaving the factory. There may be some slight scratches when you receive the product, which is normal, please rest assured to use.)

ELEGOO

Notice:

- Please keep the 3D printer and its accessories out of the reach of children.
- Please fill the resin tank no less than 1/3 of its volume, but do not exceed the MAX line position.
- Please place the printer in a dry environment and protect it from rain and moisture.
- If you run into an emergency during use, please turn off the power supply of the 3D printer first.
- Please use the printer indoors and avoid direct sunlight and a dusty environment.
- Please keep the original packaging box for 30 days for return/exchange (only ELEGOO original packaging boxes are accepted).
- Please use 95% (or higher) ethyl alcohol or isopropyl alcohol to wash your model unless you are using water washable resin.
- If the printing fails, you need to clean the excess cured resin in the resin tank and change the resin, otherwise, it may cause damage to your printer.
- When operating the 3D printer, please wear a mask and gloves to avoid direct skin contact with the photopolymer resin.
- When you use the 3D printer for the first time, please level the build platform according to the leveling tutorial before printing.
- If the release film in the resin tank is whitened, scratched, or has no elasticity, the printing failure rate is high, please replace the release film in time.
- If you have any problems with the printer, please contact us at 3dp@elegoo.com. Please do not disassemble or modify ELEGOO 3D printers by yourself, otherwise, the warranty will expire.

3D Printer Tech Specs

System: EL3D-3.0.1
Operation: 3.5-inch Touch Screen
Slicer Software: Chitu Box & Voxeldance Tango
Connectivity: USB Interface

Printing Parameter

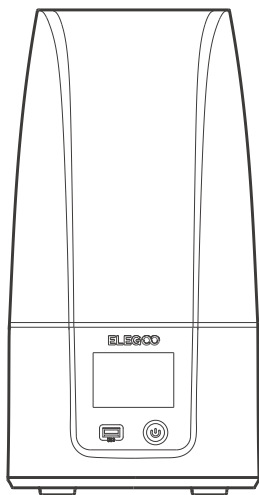
Technology: MSLA Stereolithography
Light Source: COB (wavelength 405nm)
XY Resolution: 18*18um (8520*4320)
Z-axis Accuracy: 0.02mm
Layer Thickness: 0.01-0.2mm
Printing Speed: MAX 70mm/H
Power Requirements: 100-240V 50/60 Hz 24V 3A

Printing Specification

Dimension: 227mm(L)*227mm(W)*438.5mm(H)
Build Volume: 153.36mm (L)*77.76mm (W)*175mm (H)
Package Size: 605mm(L)*270mm(W)*285mm(H)
Gross Weight: 7.3kg
Net Weight: 5.5KG

Hardware Specification

Packing List



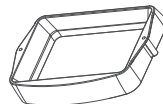
MARS 4 3D Printer



USB Air Purifier



Build Platform



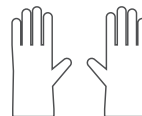
Resin Tank



U Disk



Mask



Gloves



Funnel



Backup Screws



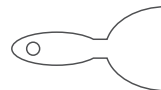
User Manual



Adapter

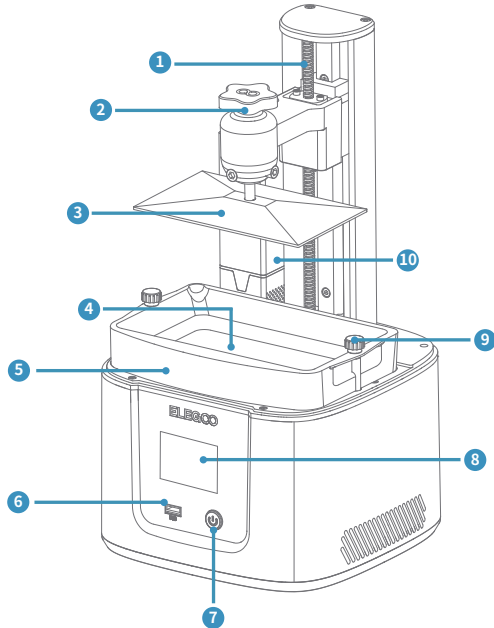


Tool Kit



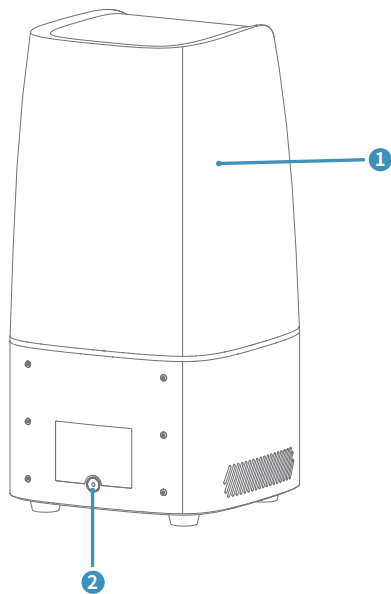
Scraper

Printer Introduction



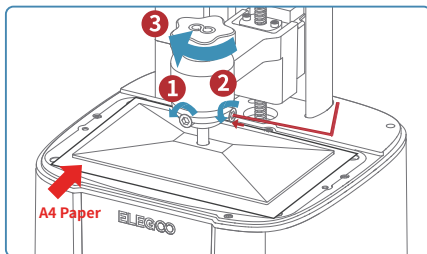
- | | | | | |
|-----------------|--------------|----------------|----------------------|----------------|
| ① Z Axis | ② Screw Knob | ③ Build Plate | ④ LCD Display Screen | ⑤ Resin Tank |
| ⑥ USB Interface | ⑦ Switch | ⑧ Touch Screen | ⑨ Screw Knob | ⑩ Air Purifier |

Printer Introduction



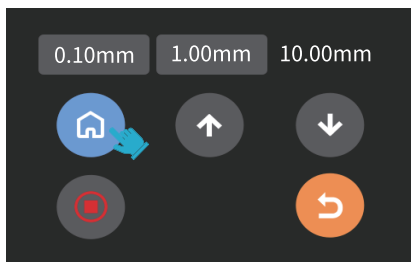
- ① Anti-UV Cover ② DC Socket

Leveling

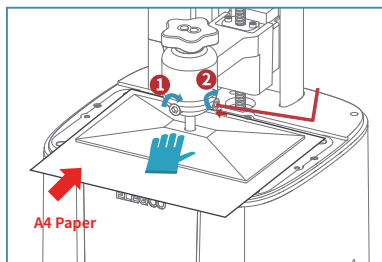


(Picture 1)

1. Remove the resin tank, lock the screw knob (❸) of the build plate, and then loosen the 2 fixing screws (❶ ❷) of the build plate until the build plate can move freely. (See Picture 1)



(Picture 2)

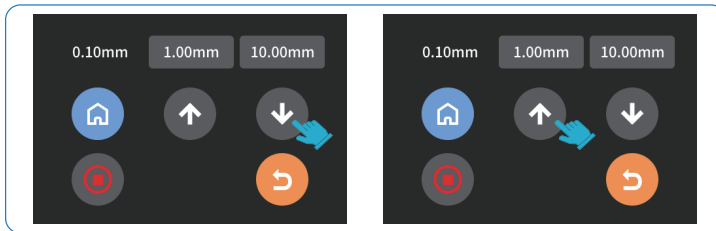


(Picture 3)

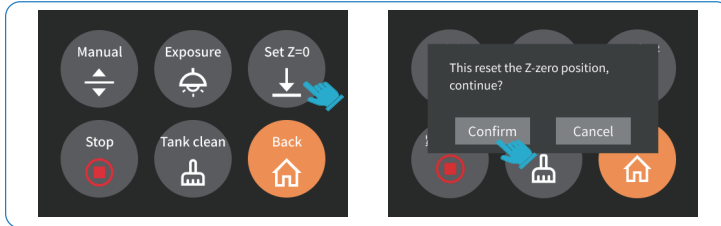
2. Place a leveling card between the build plate and the LCD screen, then click "Move Z axis to zero" (See Picture 2). After the printer stops moving, press the top of the build plate with one hand, and lock the fixing screws (❶ ❷) with the other hand. (See Picture 3)

Leveling

3. Pull the leveling card. If you find there is a slight resistance during this process, you can go directly to step 5. (Note: If there is no resistance when pulling out the leveling card, please click the Z-axis "down" button (in steps of 0.1mm) until there is a slight resistance to pull the leveling card. If there is too much resistance or the leveling card cannot move, please click the Z-axis "up" button (in steps of 0.1mm) until there is slight resistance to pull the leveling card.) (See Picture 4)



(Picture 4)

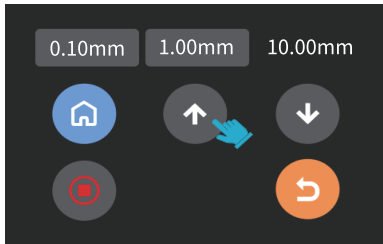


(Picture 5)

4. After completing the above operations, back to the previous menu, and click "Set Z=0", then a confirmation pop-up window will appear in the interface, click "Confirm" to complete the setting. At this time, the current Z-axis position is reset to the new initial height of the first printing layer.

(See Picture 5)

Leveling



(Picture 6)

5. Click back to the "Manual" page, and click the Z-axis "up" button to raise the Z-axis by a certain distance. (about 100mm)

(See Picture 6)



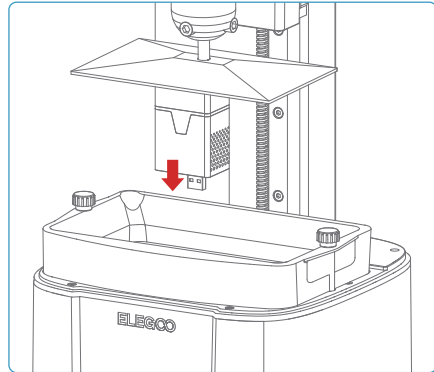
(Picture 7)

6. Take away the leveling card, and click the "Tool" - "Exposure" - "Next" buttons to test the LCD screen and LED light source. If the LCD can display "ELEGOO TECHNOLOGY www.elegoo.com", then the 3D printer works perfectly. At this time, the leveling is completed, install the resin tank and ready for printing. (See Picture 7)

Test Printing

1. Model Printing

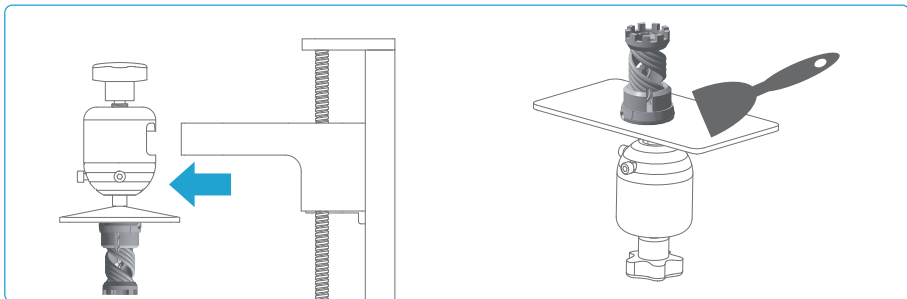
Plug the USB air purifier into the USB port (See Picture 8), then slowly add resin to the resin tank (do not exceed the MAX line height). Cover the printer and then insert the U disk into the printer and select the pre-sliced test model for printing.



(Picture 8)

2. Model Processing

After the printing is completed, wait until the resin on the build plate stops dripping, then loosen the screw knob of the build plate to remove it and remove the model with a scraper. You can use ELEGOO's cleaning and curing machine to post-process the model. (See Picture 9)



(Picture 9)

Software Installation and Setup

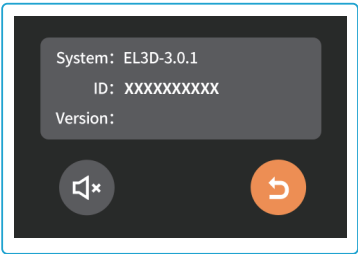
The printer can install and use Chitu Box and Voxeldance Tango slicing software in the USB flash drive, here we take Voxeldance Tango as an example.

1. Install Voxeldance Tango

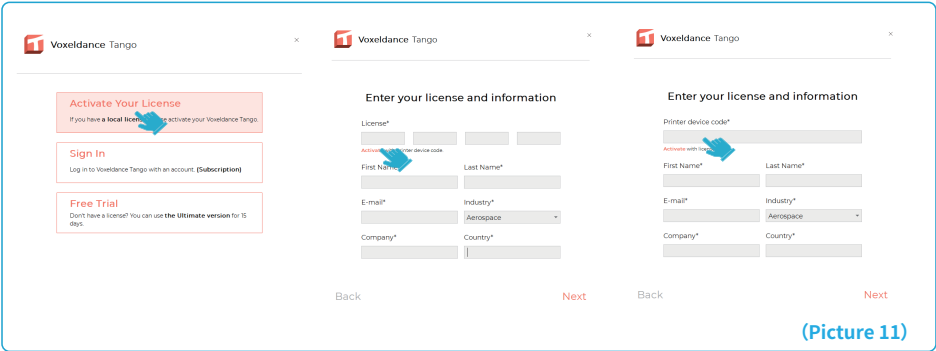
Select the right version of slicing software on the USB flash drive and install it on your computer.

2. How to Use Voxeldance Tango

2.1 Once the installation is complete, run the Voxeldance Tango software, select "Activate your license" - "Activate with printer hardware code" (See Picture11); Press "Settings" - "System" on the machine to view the machine "ID" (See Picture 10), and fill in the 10-digit "ID" into the "Printer Hardware Code" column of the software, and fill in other relevant information to complete the software activation.



(Picture 10)



(Picture 11)

2.2 Click File-Open File, and then open your own 3D model file (stl. format), You can control and change the viewing angle, size, and position of the model by left-clicking on the model, and use the options on the upper menu.

Software Installation and Setup

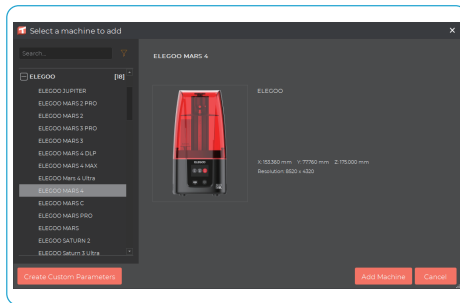
Elegoo Voxeldance Tango

Other operations:

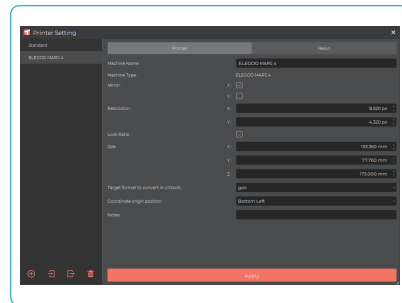
- 1) Click on the model, left-click and long-press the center point of the model, and drag the model to the position you want.
- 2) Scroll the mouse wheel to zoom in or zoom out the model.
- 3) Long press the right mouse button and rotate to see different perspectives of the model.

3. Voxeldance Tango Setting

3.1 Click "Parameter Settings" and choose ELEGOO MARS 4 as your default printer.
(See [Picture 12](#))



(Picture 12)



(Picture 13)

3.2 Build Volume

You don't need to change the default parameters ([See Picture 13](#)), and X indicates the maximum print size in the X-axis direction, and so on.

Software Installation and Setup

3.3 Resin Parameter (See Picture 14)

Resin Density: 1.1g/ml

Resin Cost: You can input the real price of the resin you purchased, and the slicing software can calculate the resin costs for each model you print.

3.4 Parameters (See Picture 14)

Layer Height: The thickness of each printed layer, the recommended height is 0.05mm, but you can set it from 0.01-0.2mm. The higher thickness you set, the longer time it will take for exposure of each layer.

Bottom Layer Count: The setting number of initial printing layers. If the number of bottom layers is n, the exposure time of the first n layers is the exposure time of the bottom layer, the default setting is 2.

Exposure Time: The exposure time for normal printing layers. The default exposure time is 2.5 seconds, and the thicker the printing layer setting is, the longer time it will take.

Transition Layers: The number of transition layers after the bottom layer to make it stickier between layers. Except for the exposure time, other parameters of the transition layer are the same as the normal layer.

Bottom Exposure Time: The setting of bottom layer exposure time. Properly increasing the bottom layer exposure time can help to increase the stickiness between the printing model and the build platform; the default setting is 32 seconds. The longer the setting time, the stickier the bottom layer will be on the build platform.

Wait After Lift: After printing platform is lifted, the time difference between the printing platform starts to stationary and starts to return, the default setting is 0 seconds.

Wait Before Cure: After the build platform moves to the printing surface, the time difference between the build platform starting to stationary and starting to exposure, the default setting is 0.5 seconds.

Wait After Cure: The time difference between the end of the exposure and the start of the build platform to leave the printing surface, the default setting is 0 seconds.

Software Installation and Setup

Bottom Wait After Lift: When printing the bottom layer, the time difference between the build platform starting stationary and starting to return to the printing surface after lifting, the default setting is 0 seconds.

Bottom Wait Before Cure: When printing the bottom layer, after the build platform moves to the printing surface, the time difference between the build platform starting stationary and the start of exposure, the default setting is 0.5 seconds.

Bottom Wait After Cure: When printing the bottom layer, the time difference between the end of the print exposure and the start of the build platform to leave the printing surface, the default setting is 0 seconds.

Bottom Lift Distance: During the bottom printing process, the distance that the build platform leaves the printing surface each time, the default setting is 2+3mm.

Lifting Distance: In the normal layer printing process, the distance that the build platform leaves the printing surface each time, the default setting is 2+3mm.

Bottom Retract Distance: During the bottom printing process, the retract distance of the build platform, do not change if not necessary.

Retract Distance: In the normal layer printing process, the retract distance of the build platform, do not change if not necessary.

Bottom Lift Speed: During the bottom printing process, the moving speed of the build platform away from the printing surface each time, the default setting is 75+230mm/min.

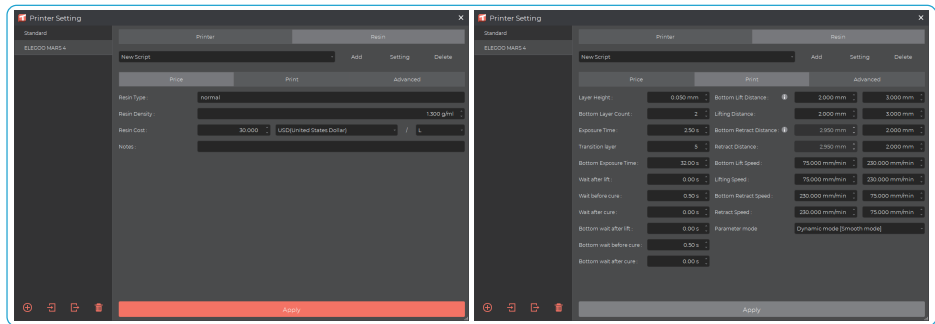
Lifting Speed: In the normal layer printing process, the moving speed of the build platform away from the printing surface each time; the default setting is 75+230mm/min.

Bottom Retract Speed: During the bottom printing process, the moving speed of the build platform is close to the printing surface; the default setting is 230+75mm/min.

Retract Speed: In the normal layer printing, the moving speed of the build platform is close to the printing surface; the default setting is 230+75mm/min.

Parameter Mode: The default static mode allows the printer to print according to the parameters set in the slicing software, or you can choose the high-speed mode or smooth mode, the printer will dynamically adjust the printing parameters according to the complexity of the model to improve the printing quality and printing speed.

Software Installation and Setup

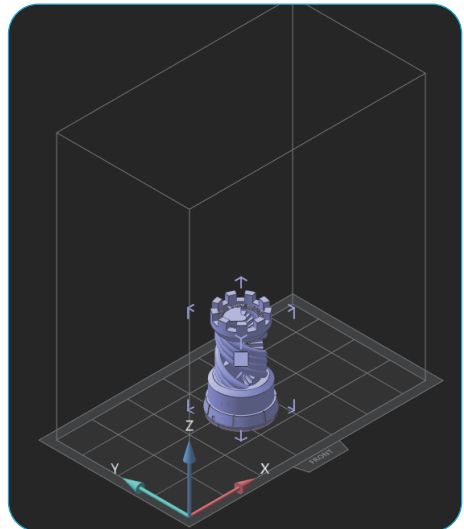
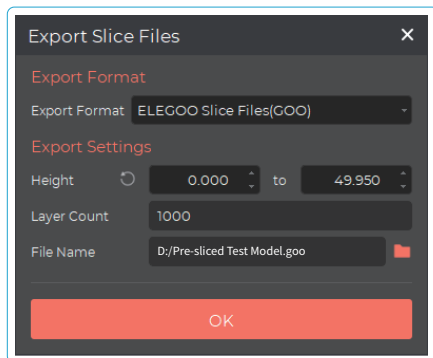


(Picture 14)

4. Save the Model

After setting up all parameters, click "Slice", and once it's done, click "export sliced files to U Disk or SD Card"; then insert the U disk or SD card into your printer, and start printing.

(See Picture 15)



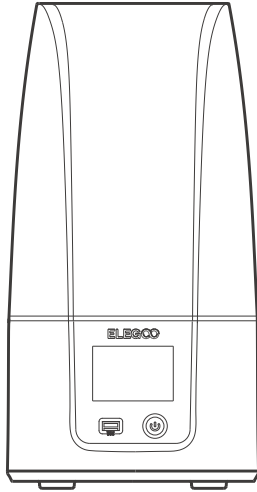
(Picture 15)

Machine Maintenance

- Please do not use sharp or pointy tools to scrape the resin tank to avoid damaging the release liner film.
- Please clean up the resin tank before changing the resin to another color.
- Before and after printing, clean the build plate with paper towels or alcohol to ensure that there are no bumps or burrs on the build plate.
- Before each printing, daily check the exterior of the machine and all mechanical parts for any obvious damage, defects, or abnormalities.
- Try to keep the printing environment at 25-30 degrees Celsius when printing, and ventilate the printing room as much as possible to facilitate heat dissipation of the machine and resin odor volatilization.
- If the Z-axis keeps making friction noise, please add some lubricant to the lead screw. Please check and apply lubricant grease at least every 2-3 months, and increase the frequency of application as the printing frequency increases.
- If you don't use the printer in the next 48 hours, please pour the remaining resin from the resin tank back into the resin bottle and seal it well. If there is any residue, please use a filter to filter it out.
- Check the condition of the release film before each printing, and observe whether the release film is loose, whether there are scratches or severe whitening on the surface, and if so, replace it in time. The release film is a vulnerable part, please replace it at least once every 1-2 months, and increase the replacement frequency as the printing frequency increases.
- Please be careful when removing the printing platform to prevent damaging the LCD screen. The service life of the screen is about 2000+ hours and will decrease with increasing printing frequency. Do a good job of daily screen cleaning, and unplug the machine in time after printing. If there is a screen exposure problem or service life has seriously affected the print quality, please replace the screen in time.

Warranty Statement

1. From the date of purchase, ELEGOO printer is entitled to 1-year free warranty service, except for consumables of the LCD screen and the release film.
2. The LCD screen enjoys a 6-month free warranty service.
3. The free warranty does NOT include problems caused by self-disassembly and improper use, wear and tear of the machine housing, etc.



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