

SAFETY INSTRUCTION



visible laser radiation

This equipment uses 4 types of laser products. Please avoid direct eye/skin contact with the lasers light source to prevent injury.



If you do not follow the operating instructions or specifications, the laser may cause personal injury or equipment damage.

1. Conventional Security

Please read all safety instructions carefully and make sure you understand them before operating the laser engraving machine. Users should strictly follow all safety precautions below and ensure that the machine is properly installed.



Please observe the following operating Instructions:

Please check the machine for any signs of damaged or defect before each use. Do not operate damaged or defective equipment in any way.

Keep the workspace clean, flat, and well ventilated.

Do not disassemble or change the structure of the device in any way or form. Do not modify or disassemble the operating system of this product without prior permission.

Keep the processing area clean. Always clean the processing area of residue and debris after each use to prevent fires or damage to the machine or its components.

The operating environment temperature of the equipment is 0-35°C, and the storage temperature is 0-45°C. It is strictly prohibited to operate the equipment in sub-zero temperature.

2. Laser Safety

The laser operates behind a protective screen/enclosure for safety purposes. Do not operate the machine without these screens/ enclosure for safety reasons. PHECDA has a safety detection switch. When the machine tilts or is moved, the laser will be turned off to prevent the laser from causing harm or injury. When using the machine be sure to wear the safety glasses that come with the machine to protect your eyes.



Please follow the following safety guidelines:

Do not operate the machine if any parts are missing. The absence of any part of the machine may cause laser exposure which can result in damage or injury.

Do not engrave or cut materials containing PVC or vinyl. The engraving or cutting process of these materials will generate corrosive smoke, which is harmful to human body and may damage the laser head. Damage caused by engraving or cutting such materials is not covered by the warranty.

Do not engrave or cut any unknown materials. The gasification and melting of many materials, including but not limited to PVC and polycarbonate, will release harmful fumes.

Never run the machine unattended. Please pay close attention to whether the machine works properly when running.

3. Fire Safety



Do not leave equipment unattended while it is working.
A fire can occur if the machine is set up incorrectly, left unattended for long periods, or if mechanical or electrical faults occur.



Please keep away from flammable and explosive items.
Do not stack materials (especially organic materials such as paper) around the machine. They may cause flames to spread and increase the risk of material igniting.

When the machine is running, no matter when cutting or engraving, the beam emitted by the laser heats up the surface of the material to a very high temperature which can and will release fumes/gas and can cause the material to burn, this can cause damage to both machine and surrounding area. Experience shows the flame is most likely to be produced when cutting using low speed highlight power.



Please read the following warnings and recommendations carefully

When operating the machine, ensure that the space is well ventilated so that the smoke generated can be removed in time. Do not pile combustible sundries or alcohol, gasoline and other flammable liquids around the machine, so as to avoid the risk of fire caused by the cutting flame igniting sundries.

Never run the machine unattended.

Clean the machine regularly. The powder and debris generated in the process of cutting and carving are highly combustible substances. Clean the debris and powder regularly to ensure the safe operation of the machine.

4. Electrical Safety



Please read the following warnings and recommendations carefully:

When the machine is powered on do not disassemble any parts of the machine, to avoid short circuit and damage to the machine and or personal injury through electrocution with the power supply.

5. Warning Signs

⚠ DANGER

Avoid exposure of eyes or skin to direct and scattered laser light.



LASER 4

Warm tip

After receiving the product, please confirm the equipment is in good condition and the accessories are complete. If there is any damage or missing items, contact Elegoo after-sales service immediately. (In order to ensure the service performance of each product, ELEGOO will strictly test the engraving before delivery of each product. There may be some slight scratches on the products you receive, which is a normal phenomenon, please feel free to use it)

Common Problem

1.How to focus PHECDA?

First, put down the fixed focus scale on the right side of the laser, and loosen the two hand screws;

Slide the laser up and down, so that the fixed focus scale contacts the surface of the carved object, if it can be carved into flexible or easily deformed items, pay attention to the fixed focus scale do not over press resulting in inaccurate focus length;

Finally, lock the hand screw and pull back the fixed focus ruler.

2.I can't connect the machine to my PC by using a USB cable. What should I do?

The computer may not have successfully installed the CH340 driver, Installation files can be found on the accompanying TF card.

Click Install and restart the computer after successful installation;

The serial port of the computer is occupied. If multiple computer connection software or 3D printer slicing software are opened at the same time, the serial port is very likely to be occupied. You may need to close other software.

3.Why does the laser not move when the machine runs after assembly?

Check the connection of each motor wire is installed correctly, remove the motor wire and reconnect it.

Check the installation of the conveyor belt to ensure it is installed correctly and adjusted to the appropriate tightness;

4.How long and how should the machine be maintained?

PHECDA adopts high-quality V-wheel and synchronous belt transmission structure. The tightness of V-wheel and synchronous belt needs to be checked regularly, and adjusted according to the tightness. The specific maintenance methods are as follows.

Maintenance Period:

V-wheel and synchronous belt are generally checked and maintained between 15 and 30 days after use

If you use the device frequently and for a long time, you are advised to perform a maintenance check every 15 days.

If your service frequency is low and the service time is short, you are advised to perform a maintenance check every 30 days.

Maintenance Mode:

Rotate the V wheel by hand. If the wheel is overhanging or can be easily rotated, it means that the V wheel is too loose. It is necessary to use an open wrench to adjust the eccentric spacer on one side of the pulley to make the pulley close to the V-groove printing without shaking;

Gently pull the synchronization belt by hand (too tight will lead to engraving deformation, otherwise it will lose synchronization, the synchronization belt only needs to be slightly elastic;