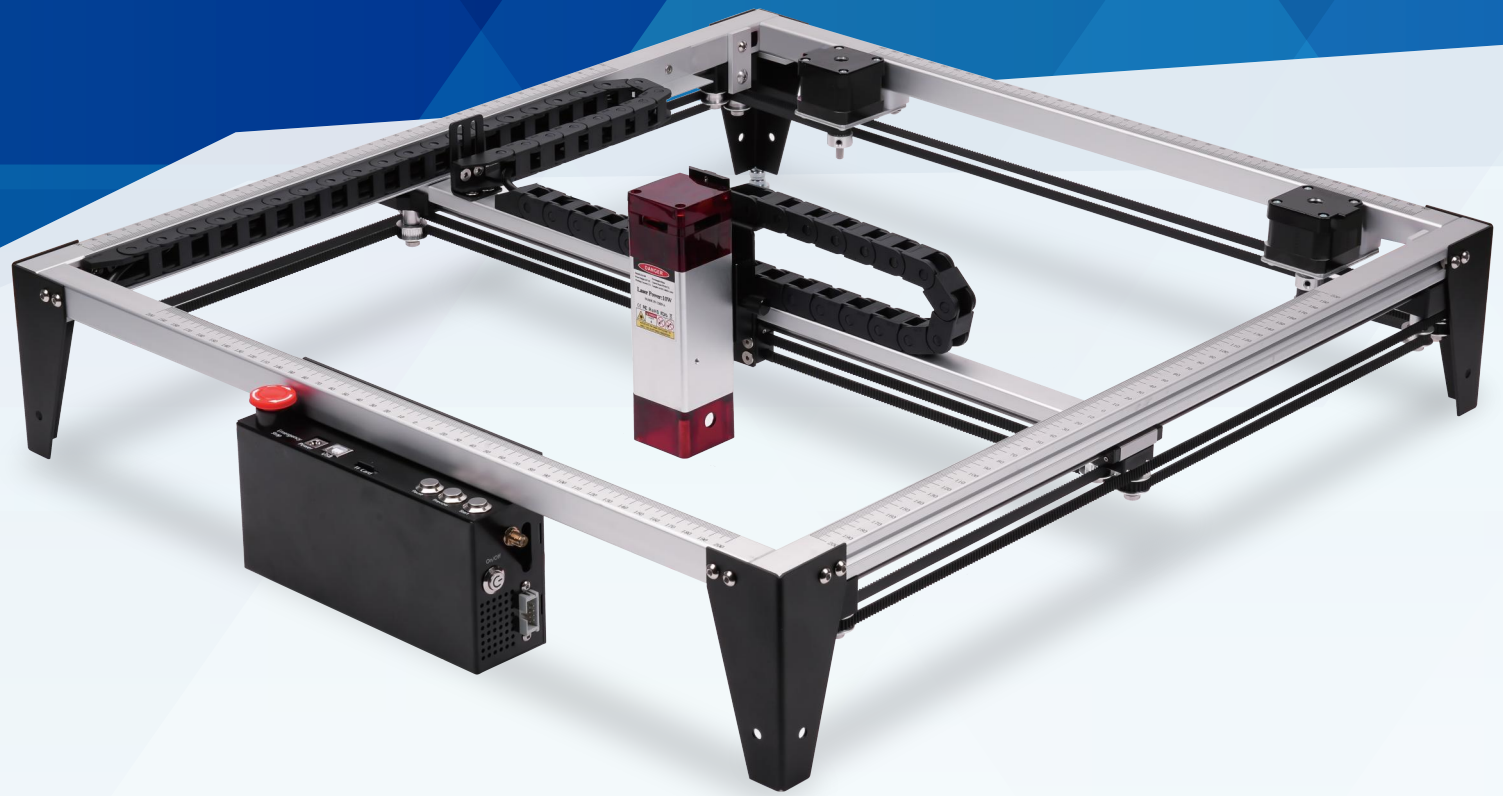
USER MANUAL

4040 PRO Laser Engraver



Concents

Safety Precautions

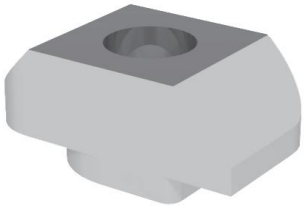
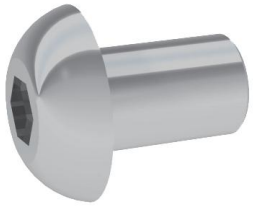
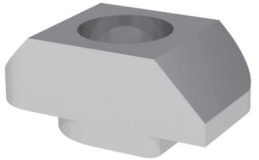
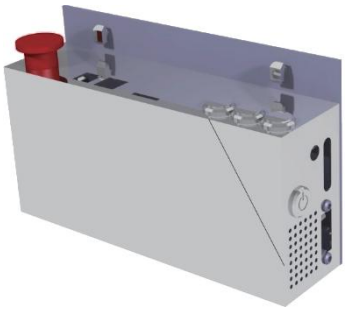
Please be careful when using your machine. This machine is an electrical device with moving parts and dangerous areas.

1. The 4040-pro engraves and cuts materials by the means of a high-energy diode laser beam.The hazards associated with a high-energy diode laser beam include the possibility of fires, generation of hazardous and/or irritating toxic fumes, but more importantly damage to eyes and skin.
2. Laser engravers are divided into several internationally valid classes based on their performance and the risk of injury. The 4040-pro falls into the Class IV (Class 4 IEC standard focus on the American FDA classification).The high energy laser beam can cause severe eye damage, including blindness and serious skin burns.Improper use of the controls and modification of the safety features may cause serious eye injury and burns.
    - DO NOT look directly into the laser beam.
    - DO NOT aim the laser beam at reflective surfaces.
    - DO NOT operate the laser without PPE protection for all persons nearby in the proximity of the 4040-PRO.
    - DO NOT allow unsupervised access to the 4040-PRO to children.
    - DO NOT allow access near the 4040-PRO to pets.
    - DO NOT modify or disable any safety features of the laser system.
    - DO NOT touch the high energy laser beam.
3. We strongly recommend placing the machine in a well-ventilated room, and at the same time, the door of the room has a sealing effect, and the windows have curtains, to effectively avoid looking directly at the laser beam and some smoke and steam , Particles, and other highly toxic substances.
4. The high-energy diode laser beam can produce extremely high temperatures and significant amounts of heat as the substrate material is burned away while engraving and cutting. Some materials are prone to catch fire during cutting operations creating flame, fumes, and smoke.Please pay attention to the working status of the machine.during operation to ensure that any flare ups/ flame is properly contained and extinguished.

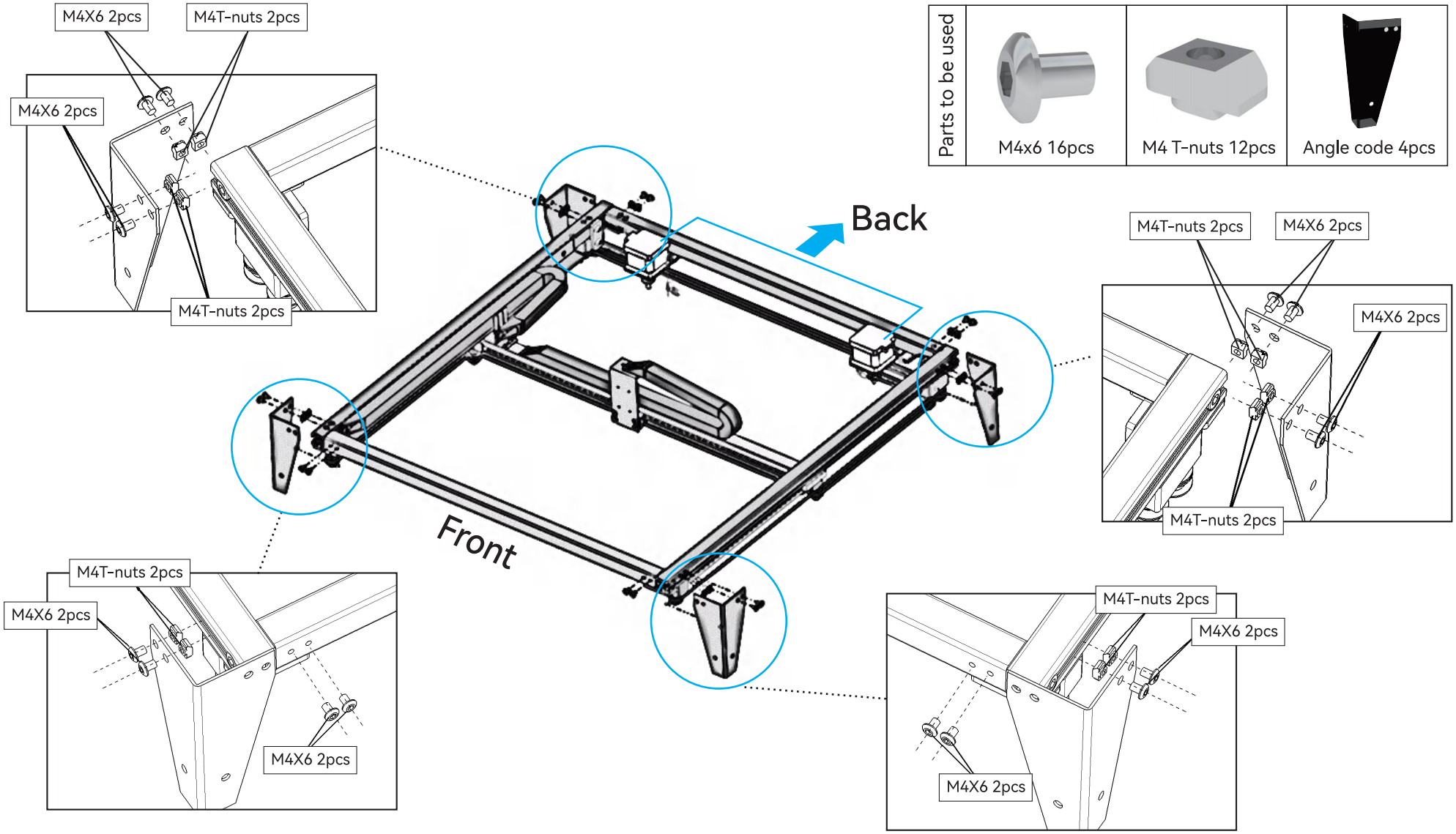
Specifications

Machine Model	4040-PRO Laser Engraver
Working Area	400 x 400 mm (15.75 x 15.75 in)
Max Engraving Speed	30000 mm/min
Power Adapter Input Voltage (AC)	(AC) 110-240 V, 50-60 Hz
Power Adapter Output Voltage (DC)	24V
Power Max Consumption	60W
Packaging Size	620 x 590 x 130mm
Packaging Weight	4.7KG/10.36LB
Laser Module（5.5W）/（10W）	
Laser Technology	Single Diode Laser with FAC
Wavelength	445 - 450 nm
Max Power Input	5.5W：24V 2.5A/10W：24V 1.5A
Optical Power Output	5.5W（5500mW）/10W(10000mW)
Focus Type	Fixed Focus
Dot Size at Optimal Focus	0.07 x 0.07 mm
Laser Class	FDA Class IV, or Class 4 IEC standard
Applicable Material（5.5W）	Engraving: Plywood, Basswood, Acrylic, Hardwood, Pinewood, Kraft paper,Ceramics, Stainless steel, Aluminum alloy,etc. Cutting: 6mm Basswood, 3mm Acrylic,2mm Bamboo, Kraft paper, etc.
Applicable Material（10W）	Engraving : Plywood, Basswood, Hardwood, Pinewood, Acrylic, Kraft paper, Stainless steel, Aluminum alloy, Ceramics, etc. Cutting: 10mm Basswood, 12mm Pinewood,6mm Acrylic, 4mm Bamboo, Kraft paper, etc.
Software	LaserGRBL(free), LightBurn(paid)
Operating System	LaserGRBL: Windows Lightburn: Windows, macOS, Linux
Input Image Format	JPG, PNG, BMP, GIF, SVG, AI, etc.
Connection Type	USB cable, Micro SD Card, Wi-Fi

Packing list

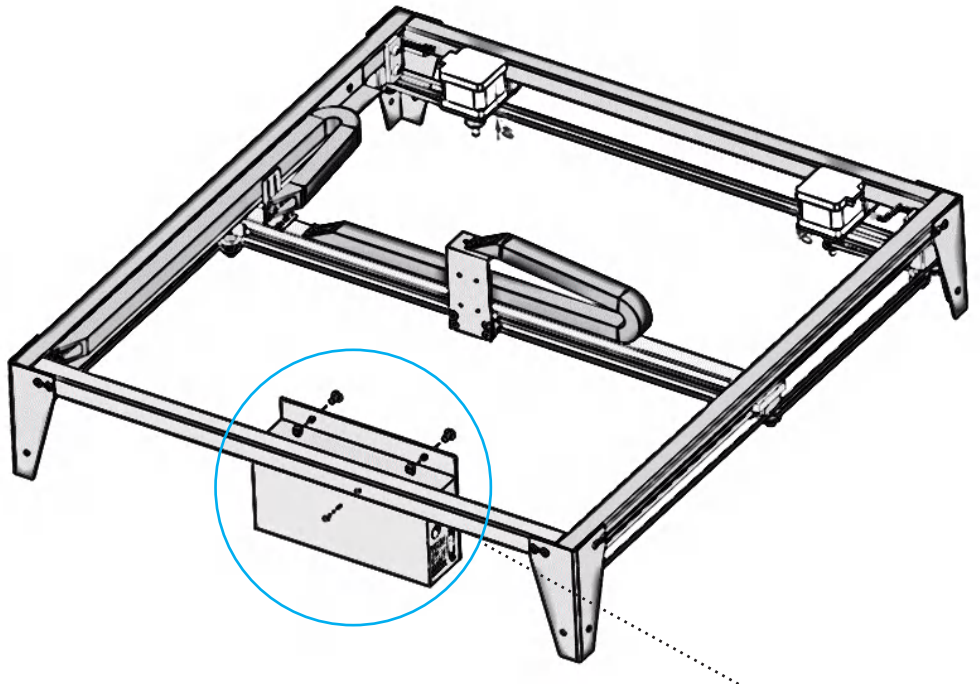
 1.Machine frame 1 kit	 2.Power supply (24v5A)	 3.Laser package 1 set	 4. Wrench 3*1 pc	 5.Wrench 2.5* 1 pc
 6.M4X6 hvexagon socket round head screws 16pcs	 7.M4 T-nuts for angle brackets 12pcs	 8.M5X8 hexagon socket round head nuts 2pcs	 9.M5 T-type nuts 2pcs	 10.Angle brackets 4pcs
 11.Electric Control Box	 12.Data Cable 1pc	 13.WIFI Antenna 1pc	 14.User Manual 1pc	

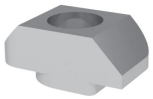
Corner Installation

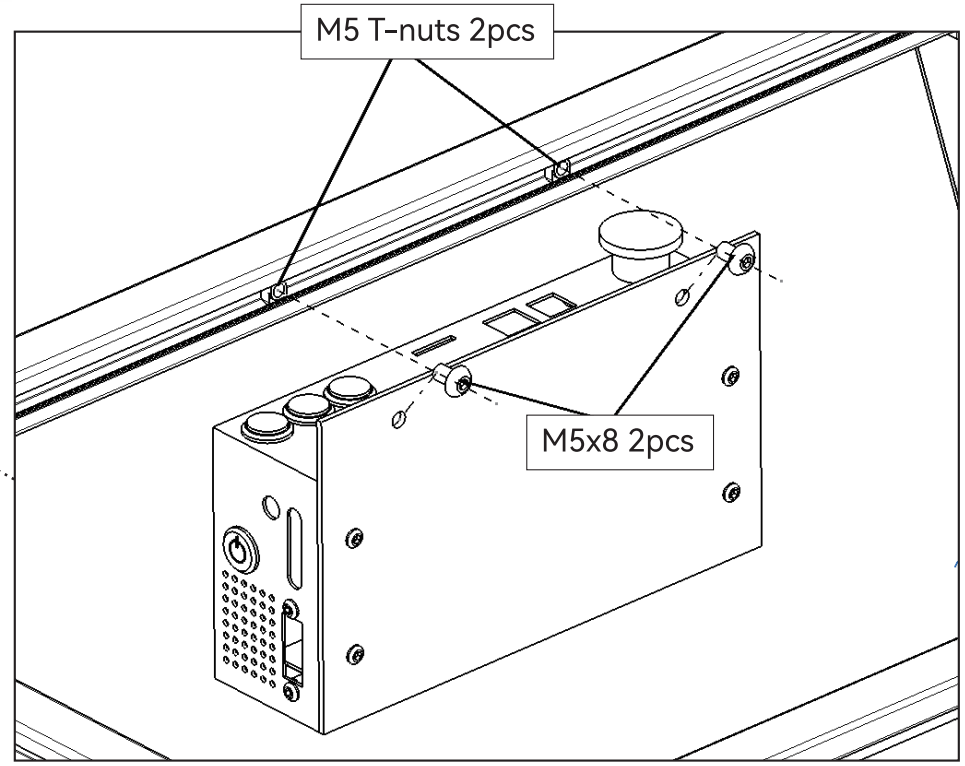


Tip: Screw the screws into position as shown in the figure. You can first put on the screws and T-nuts, as shown in the detail picture (be careful not to tighten them too tightly), then put them into the profile slots, and then tighten the screws. The T-nuts will automatically lock.

Control Box Installation



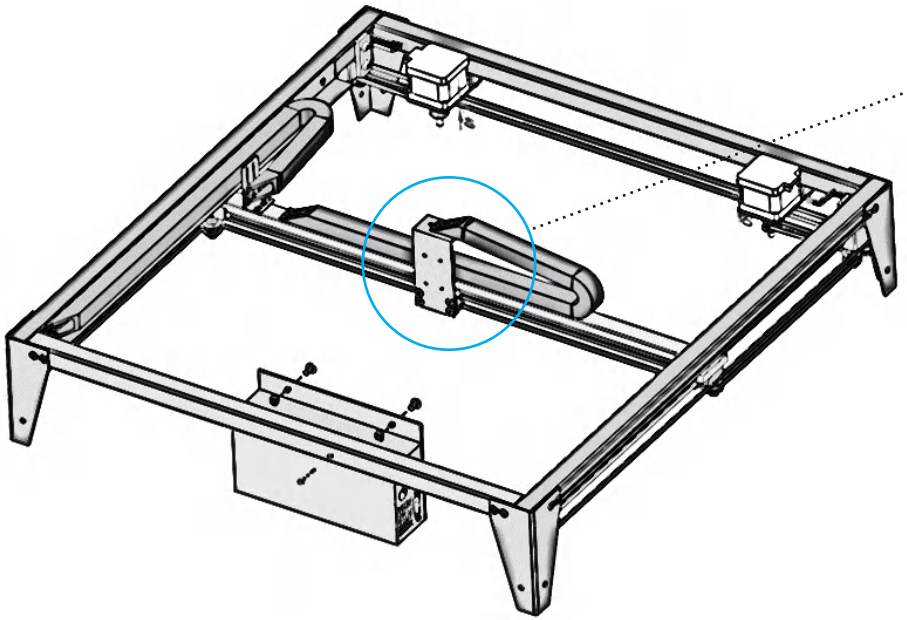
Parts to be used		
		
	M5x8 2pcs	M5 T-nuts 2pcs

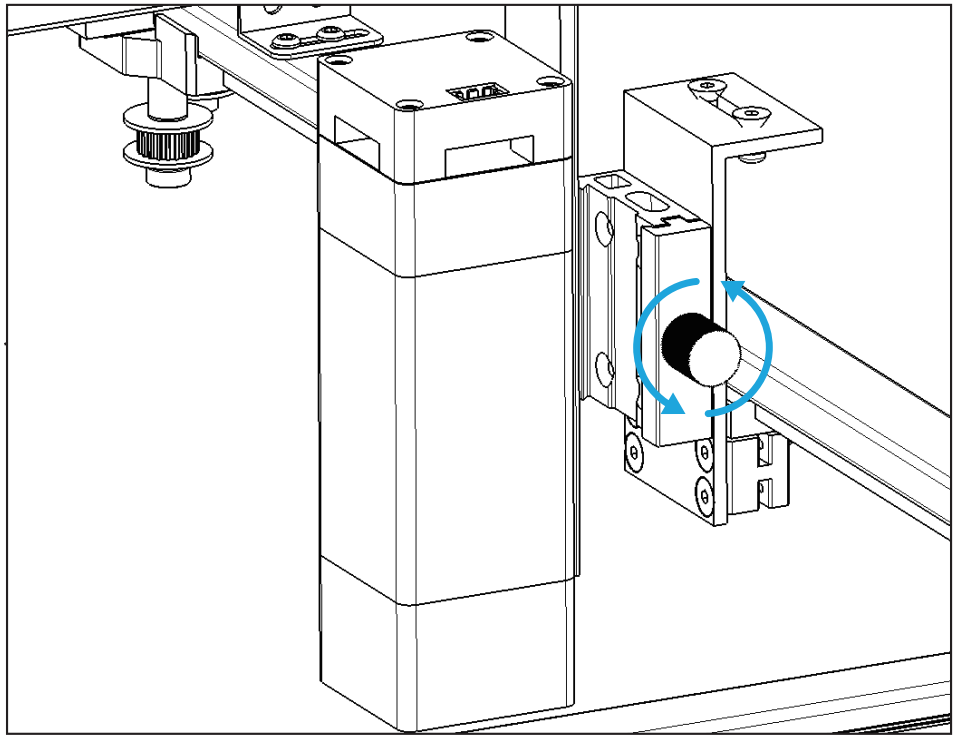


Tip： Just screw the screws into position as shown in the figure,put the T-nut into the profile slot, and then align the control box with the empty space, and then tighten the screws,the T-nut will automatically lock.

Laser Installation

Parts to be used	
	Laser package (including slide rail, focus piece) 1 set





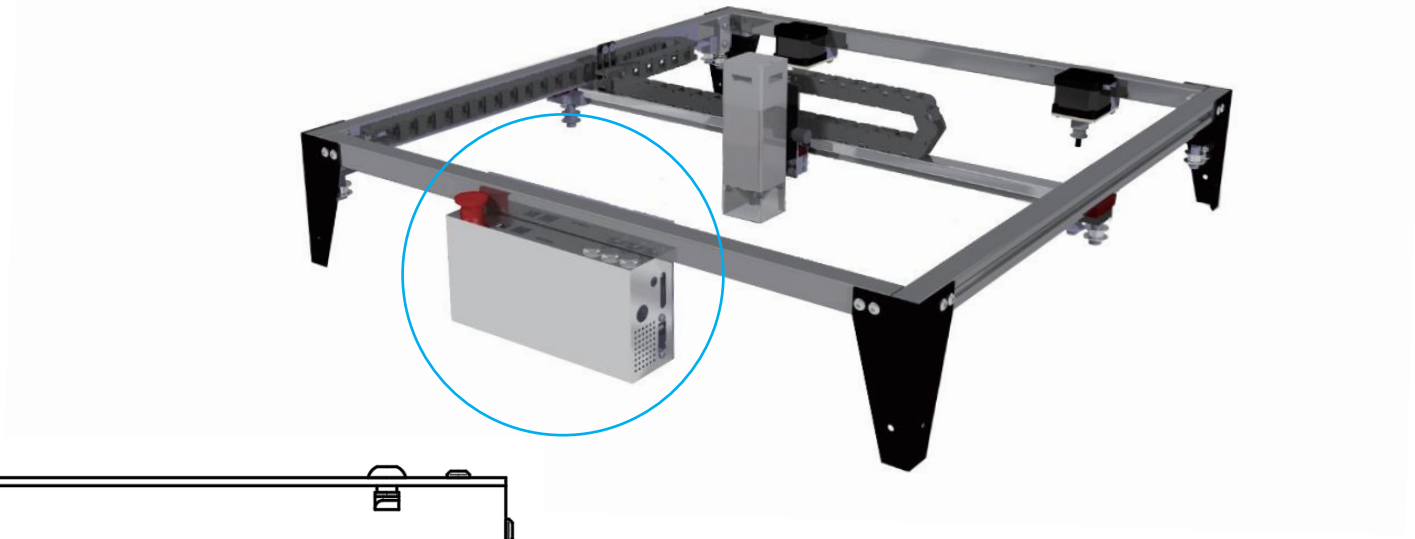
Tip: Loosen the mounting module knob as shown, align the slide rail with the mounting block, and then tighten it. Height adjustment: Loosen the clamping block and adjust the laser to a height that is just enough to place the blade on the processing plane (about 1mm).

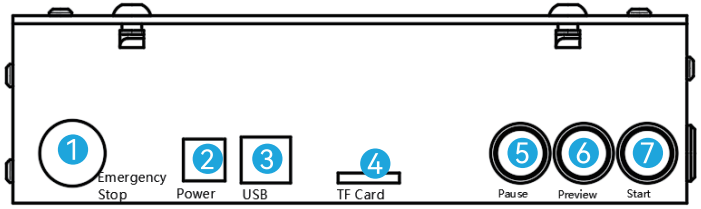
Focus Setting Method

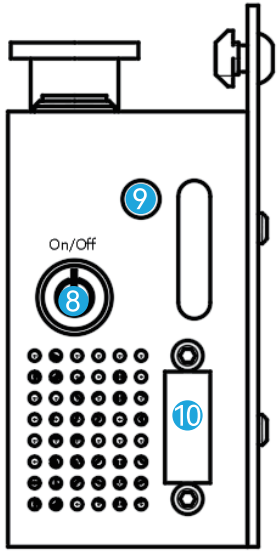
5.5W Laser Module

10W Laser Module

Electric Control Box Button Description







1. **Emergency Stop Switch:** Press to power off the whole machine, and it can be reset after rotation.
2. **Power Interface:** Connect to 24V DC power supply.
3. **Data Line Interface:** For online operation.
4. **TF Card Slot:** For inserting TF card.
5. **Pause/Resume:** Pause/resume work.
6. **Preview and Offline Work:** Preview the file named run.nc in the TF card, and start engraving automatically after previewing (Note: Preview requires time for buffering, and the buffering time is related to the file size).
7. **Start:** Start engraving the previewed file.
8. **Antenna interface:** Used to connect the antenna when the wifi control signal is weak.
9. **Switch:** After pressing, the red light will light up for normal power-on state.
10. **Offline Screen:**Offline screen reserved interface.

FAQ

- Q1:What laser engraving software can I use?
  A1:Windows systems can use laserGRBL (free) and lightburn (paid), while Mac computers can use lightburn.

- Q2:What should I do if the machine does not respond after connecting to the computer?
  A2:First, install the driver in the flash drive, and then try changing other USB ports on the computer.

- Q3:Which materials cannot be engraved?
  A3:Cannot directly engrave transparent materials, metal needs to have an oxide layer before engraving

- Q4:The flash drive is empty. Where should I download the files in it?
  A4:The flash drive may not be able to read the data due to a computer driver problem. You can download it from the LUNYEE official Google Drive. Please send us an email and we will send you the download link.

- Q5:What to do if the laser light is weak?
  A5:International transportation may cause damage to the internal chip. After receiving the goods, the test showed obvious light weakness. Contact customer service to replace the laser immediately.

- Q6:Does the laser module require maintenance?
  A6:If you are engraving wood, plastic, etc., the burning black solid powder will block the laser head. Use a cotton swab dipped in alcohol to gently wipe it. Do not use force.

- Q7:The laser engraved image is very blurry and dark. How can I adjust it?
  A7:You can adjust the laser power to a lower level and the engraving speed to a higher level in the software.

FAQ

- Q8:How long is the life of a laser module? How to extend the life of a laser module?
  A8:Laser diodes are consumables. Under a stable working environment, the working life of the laser can reach 8,000 hours. The life cycle is mainly determined by processing technology, design technology and working environment. Paying attention to four points during use can extend the service life of the laser:
  1). Anti-static measures must be taken during the transportation, installation and use of the laser;
  2). The laser needs to be used with a stable drive circuit. Excessive high or low voltage or surges may cause damage. The lasers in this store are recommended to be used with our drive circuit;
  3). The laser must be fully cooled when working;
  4). Avoid continuous operation of the laser for too long. It is recommended to heat the laser after working for 3-5 hours before use.

- Q9:How long is the warranty period?
  A9:We provide a one-year warranty. If you have any questions during this period, please send us videos or pictures. After we detect the problem, we will send you new parts for replacement.