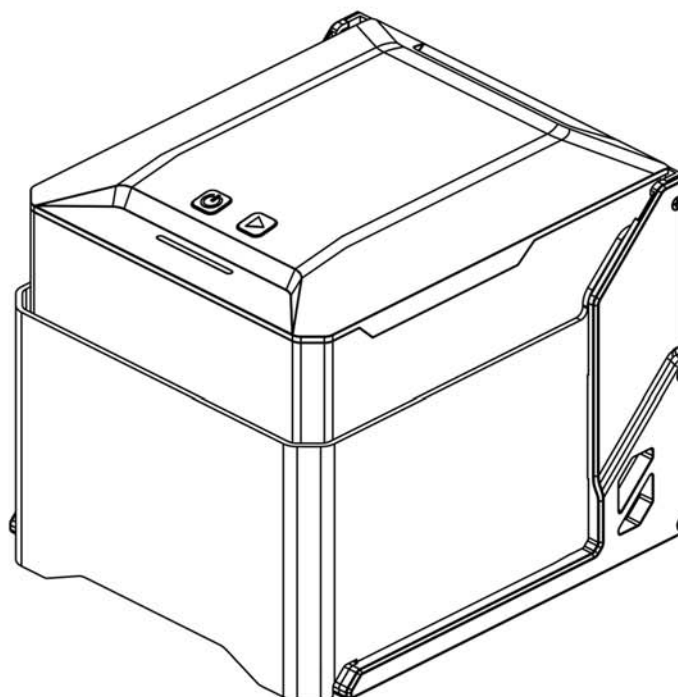# WAINLUX.PRO

K10
User Manual

Please read this instruction manual carefully before use.
Please use the laser engraving machine correctly and safely.

Thank you for choosing WAINLUX laser engraver

Please read the user manual carefully before using and keep it for further reference.
For warranty and any technical support, kindly contact with our service team at:

Support@wainlux.com

Safety Instructions

Thank you for purchasing WAINLUX laser engraving machine. For a better use and maintain of this equipment, please read the manual carefully and follow the steps in the manual.

CAUTION

All risks caused by improper use or failure to follow the steps in the manual are borne by the individual. The final interpretation right of the manual belongs to the company, and has the right to modify all materials, data, technical details, etc. in this manual.

WARNNING

★Before operating the equipment, please read the user manual carefully and strictly abide by the operating procedures.

★Laser processing may have risks, users should carefully consider whether the object to be processed is suitable for laser operation.

★Processing objects and discharges should comply with local laws and regulations.

① Ignite the surrounding combustibles;

② During laser processing, other radiation and toxic and harmful gases may be produced due to different processing objects;

③ Direct irradiation of laser radiation will cause human injury. The place of use must be equipped with fire-fighting equipment. It is forbidden to pile up flammable and explosive materials on and around the workbench, and at the same time, it must be well ventilated.

*The environment where the equipment is located should be dry, free from pollution, vibration, strong electricity, strong magnetism and other interference and influence. The working environment temperature is 5-30℃, and the working environment humidity is 35-65%RH.

★Equipment working voltage: AC100-240V.

*The engraving machine and other associated equipment must be safely grounded before it can be turned on for operation.

★When the equipment is turned on, it needs to be on duty all the time. All power must be cut off before leaving to prevent abnormal situations. If any abnormal situation occurs, please cut off the power immediately!

*It is strictly forbidden to place any irrelevant total reflection or diffuse reflection objects in the device to prevent the laser from reflecting onto the human body or flammable objects.

*The device should be far away from electrical equipment sensitive to electromagnetic interference, which may cause electromagnetic interference.

* There is high voltage or other potential dangers inside the laser equipment, non-professionals are strictly forbidden to disassemble.

(V01-231215)

Safety Instructions

Pay attention!

Caution Laser

Do Not Look Directly

No Reaching In

CAUTION
TURN OFF MACHINE WHEN NOT IN USE

1. When the laser is turned on, it is prohibited to aim at humans, animals and flammables to avoid skin burns and fire.

2. The laser brightness is harmful to the eyes. Do not look directly at the laser.
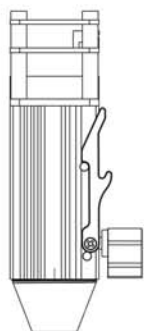
3. Keep hands away from the machine during operation to avoid injury.

4. Turn off the machine when it is not in use to avoid misoperation.

Maintenance

Laser module is consumable. It's recommended to keep the machine power off for 10 minutes after 4-hour engraving and keep the machine power off for 10 minutes after 1-hour cutting.

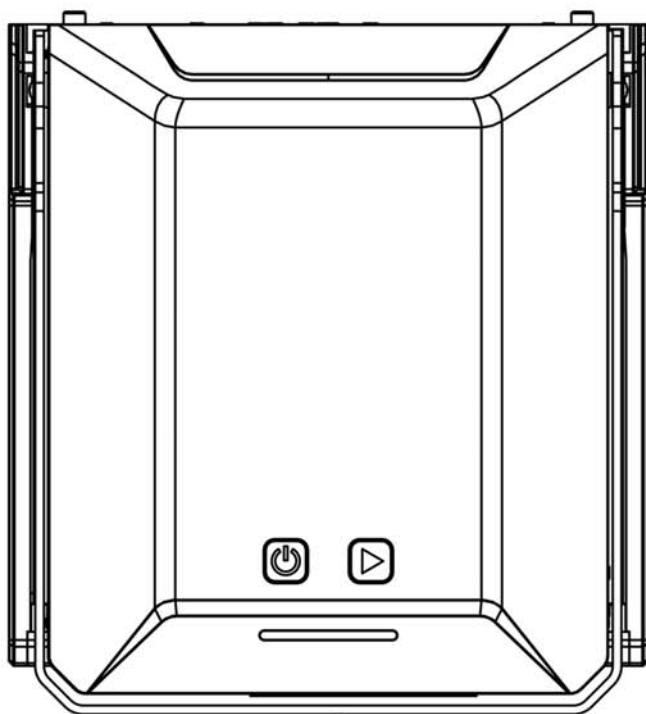# K10 Laser Engraving Machine User Manual

English

Contents

| Product number	K10	K10 Pro
The main material	ABS engineering plastics	
Laser wavelength	455nm	455nm
Engraving speed	3000mm/min	5000mm/min
Laser life at 27℃ ambient temperature	>10000h	>10000h
Focus mode	Knob focus	fixed focus needle focus
Carving area	80*80mm	80*80mm
Engraving precision	0.01mm	0.01mm
sculpture height	<50mm	<40mm
Materials that can be cut	/	1-2mm plywood, 3mm pine board
Total power	<24W	<48W
Input voltage	DC12V 2A	DC12V 4A
Laser level	Level 1	
Engravable materials	paper, wood chips, plastic, leather, cloth, cardboard, leather, stone, ceramics, coated metal, etc.Non-transparent materials	
data transmission	USB to serial port wired transmission, WiFi wireless transmission	
cooling method	air cooling	
support system	CutLabX software platform (windowsOS, macOS, Android, IOS), GRBL software platform (windowsOS, macOS)	
Supported formats	CutLabX software platform-> Image format: JPEG/BMP/JPG/GIF/PLT/PNG/CATLABX, -> Vector format: DXF/PLT/HPGL, GRBL software platform -> NC/BMP/JPG/PNG/DXF and other formats	

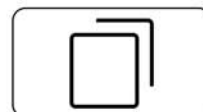**K10 Laser Engraver**

【Standard Parts】

User Manual
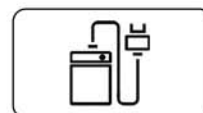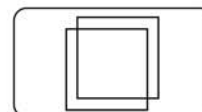
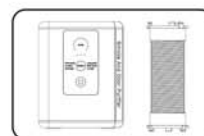Power Supply
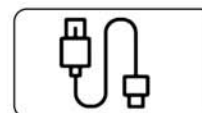
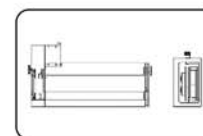Type-C Cable

Maker Pen

Brush

Kraft paper*2

Wood Board*2
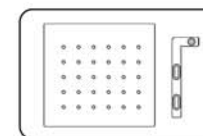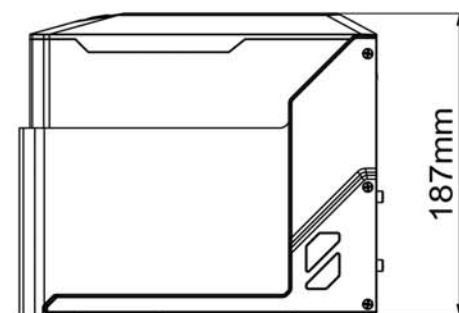
wrench

【Optional accessories】

air purifier

Dual parallel shafts
Rotary axis module

Engraving
positioning module*1
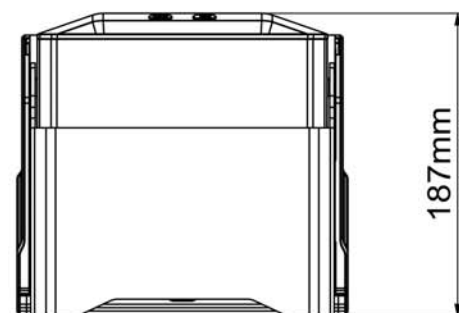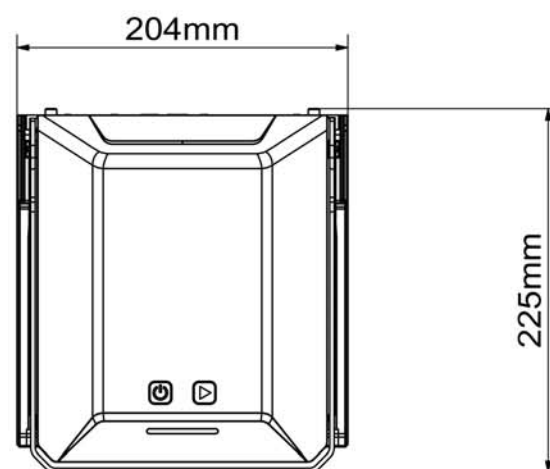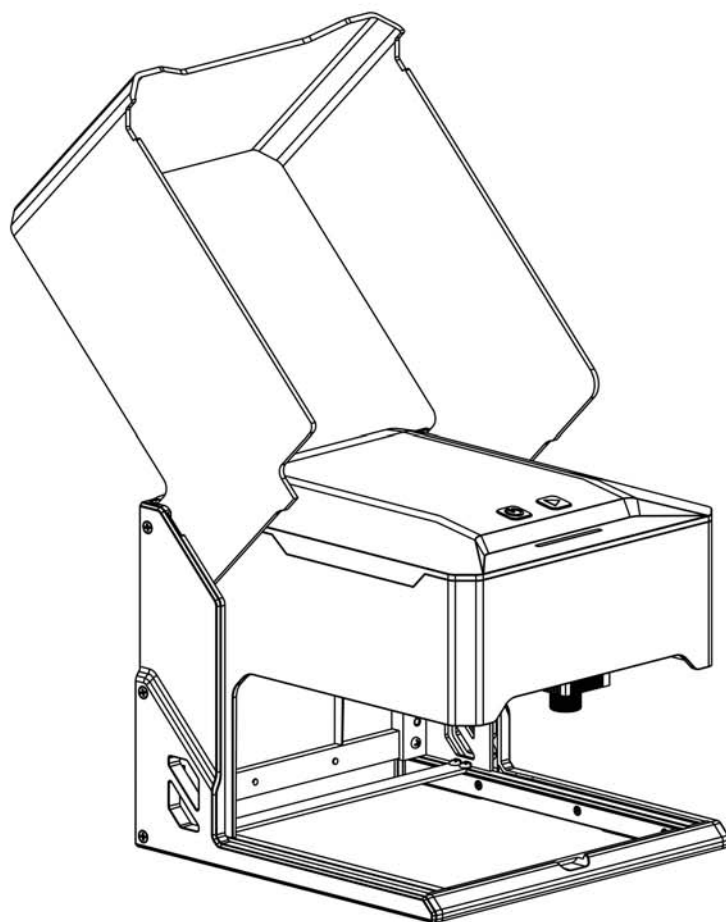
204mm

225mm

187mm

187mm

Function Description

Type-c DC12V Roller TF

Shaft connection socket

TF card slot

DC12V socket

Computer cable socket

Smoke exhaust
connection port

Offline engraving keys

Status Indicator

power on/off key
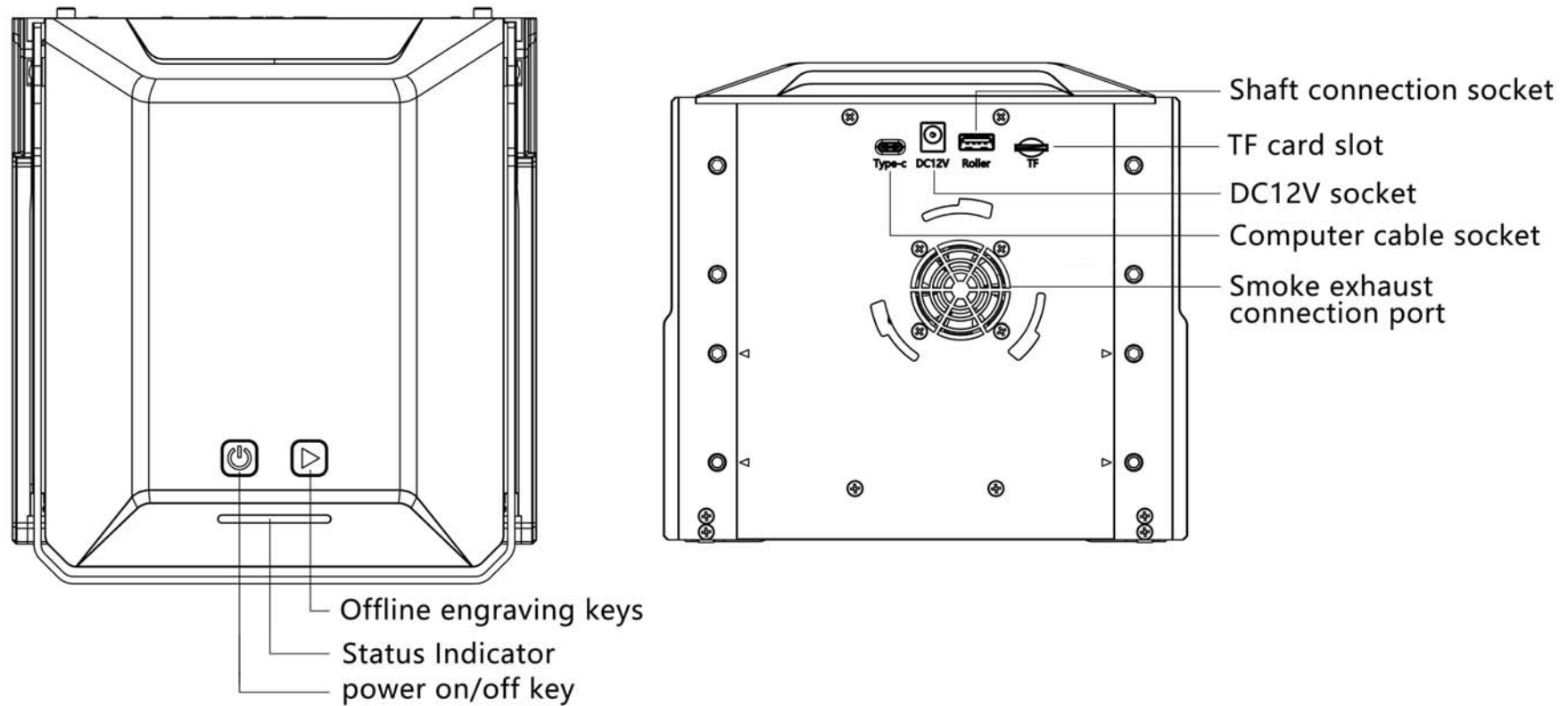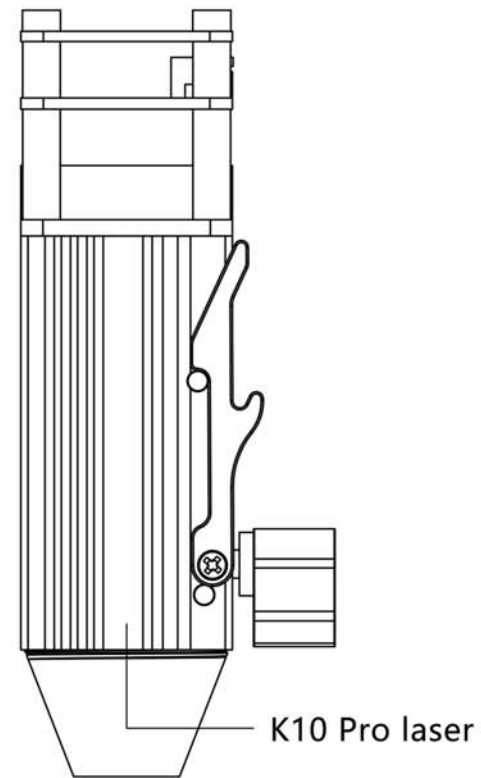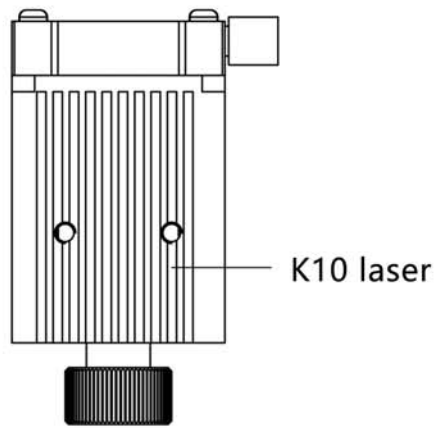
K10 laser

K10 Pro laser

【K10 Pro laser focusing method】

3. Move the focus lever back to its original position.

handle screw

2. First loosen the handle screw and hold the laser up and down.Move to the head of the focusing rod and the surface of the object to be carved match, and then tighten the handle screw.

focus lever

The surface of the object being carved

1. Open the focus lever downwards
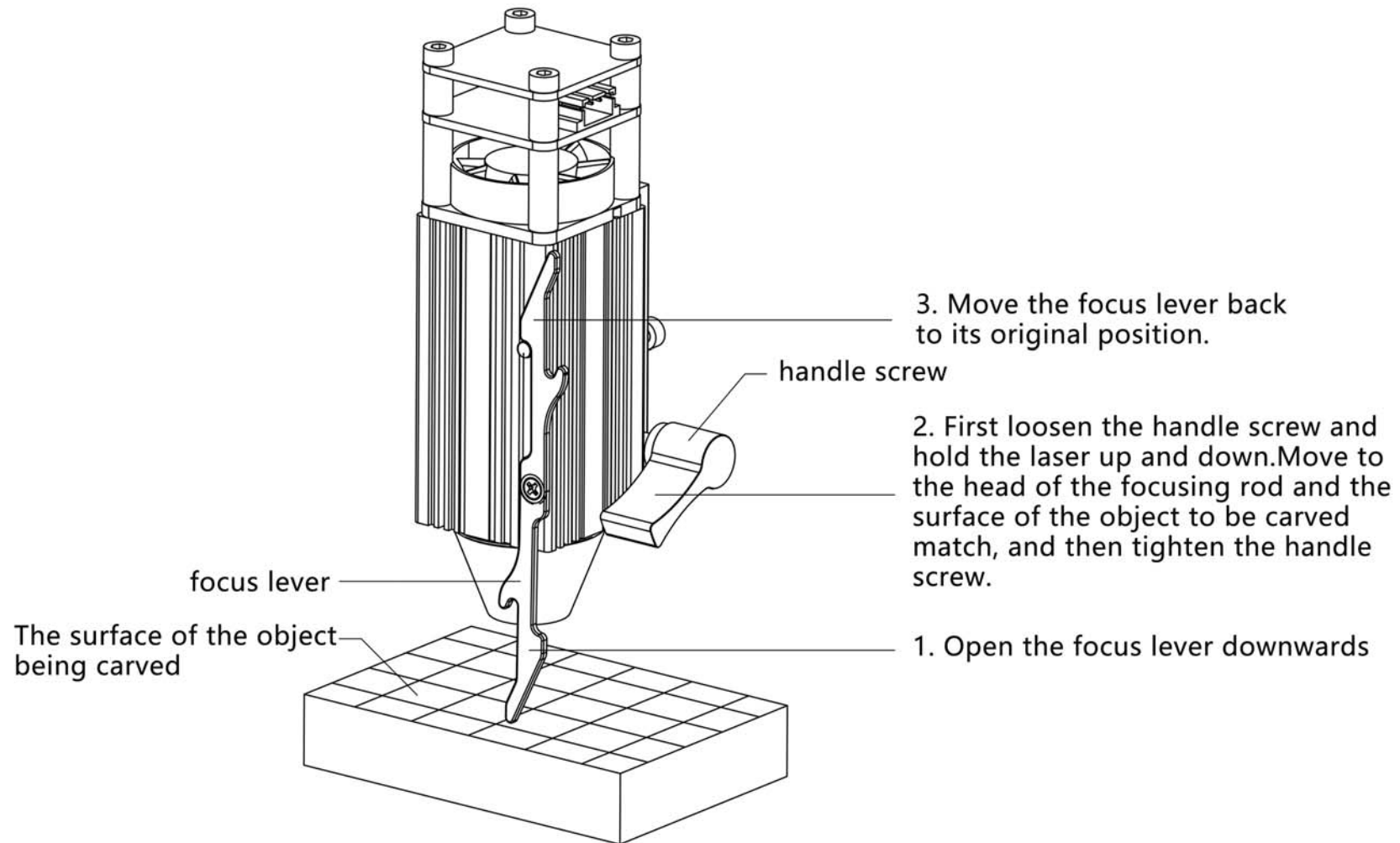
【K10 laser focusing method】
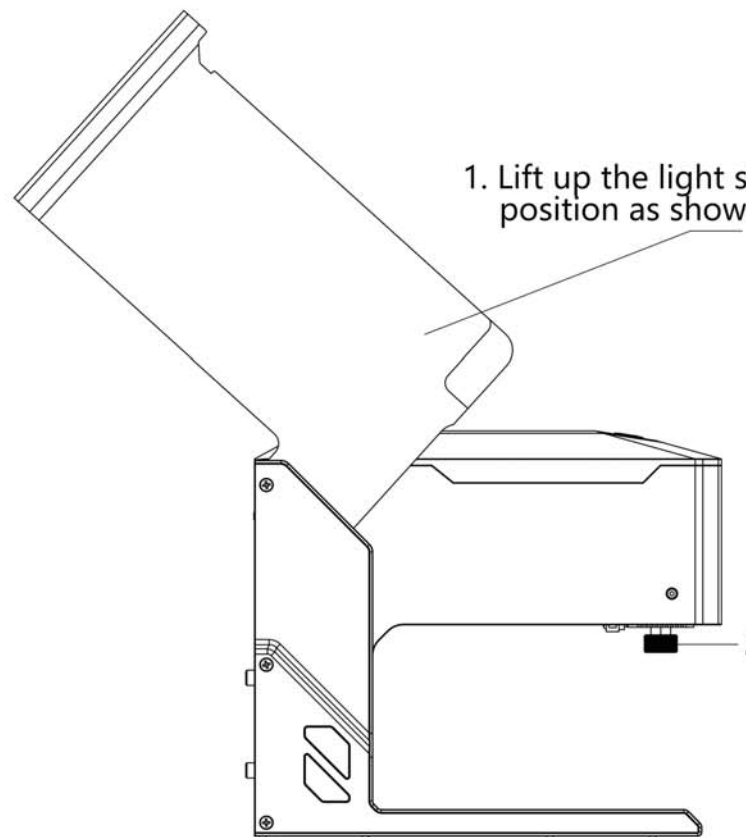
1. Lift up the light shield to the position as shown in the picture

2. According to the surface height of the sculpture Perform manual focus

Focusing method:

1. Rotate the laser knob left and right to focus and make the focus (light spot) Keep it to a minimum The smaller the light spot, the better the accuracy will be,The engraving effect will be better.

2. When engraving objects of different heights, you need to refocus.

3. It is recommended to use kraft paper, black cardboard and other materials that do not astigmatize for focusing.
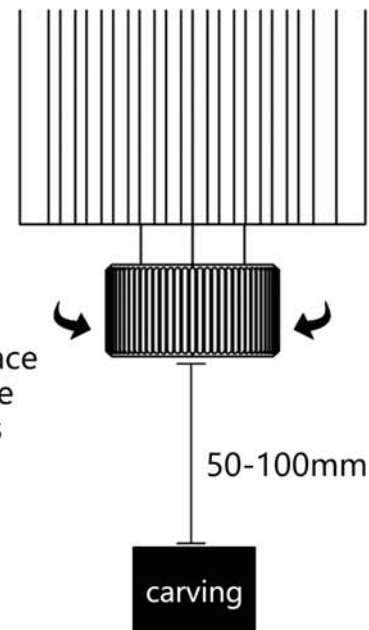
50-100mm

carving

English

【Function Description】
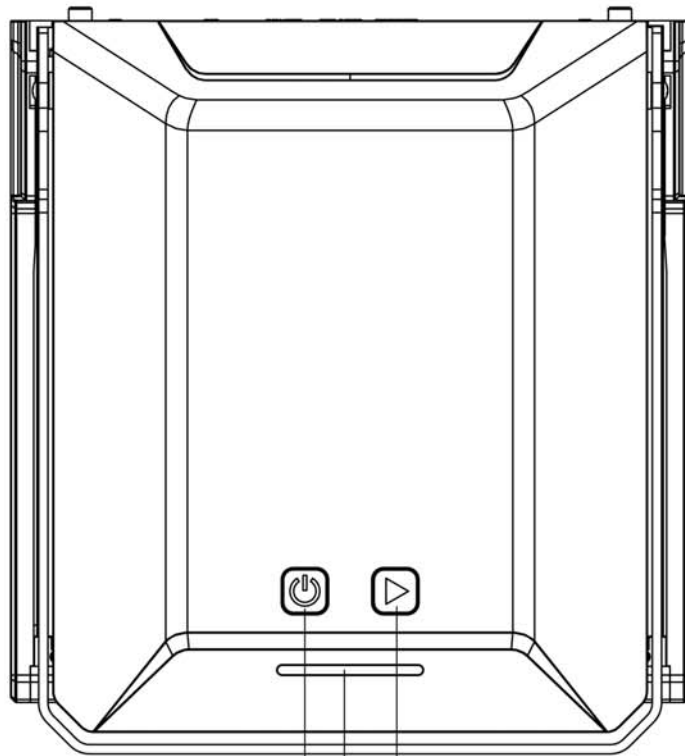
Offline engraving keys:

A. After short pressing and releasing, the machine will automatically reset and preview

B. Press and hold for 3S and release to enter engraving.

C. Short press again to pause

D. Short press again to continue

E. Press and hold again for more than 3S to cancel engraving

Status Indicator:

1. WiFi connection: status flashes, on for 0.2S, off for 0.2S

2. Warning status: flashing, on for 0.5S, off for 0.2S

3. Open the light shield or tilt protection status: flashing, on for 0.5S, off for 0.5S

4. Engraving status: breathing flashing

5. Standby mode: light always on

Offline engraving keys
Status Indicator
power on/off key

【Function Description】
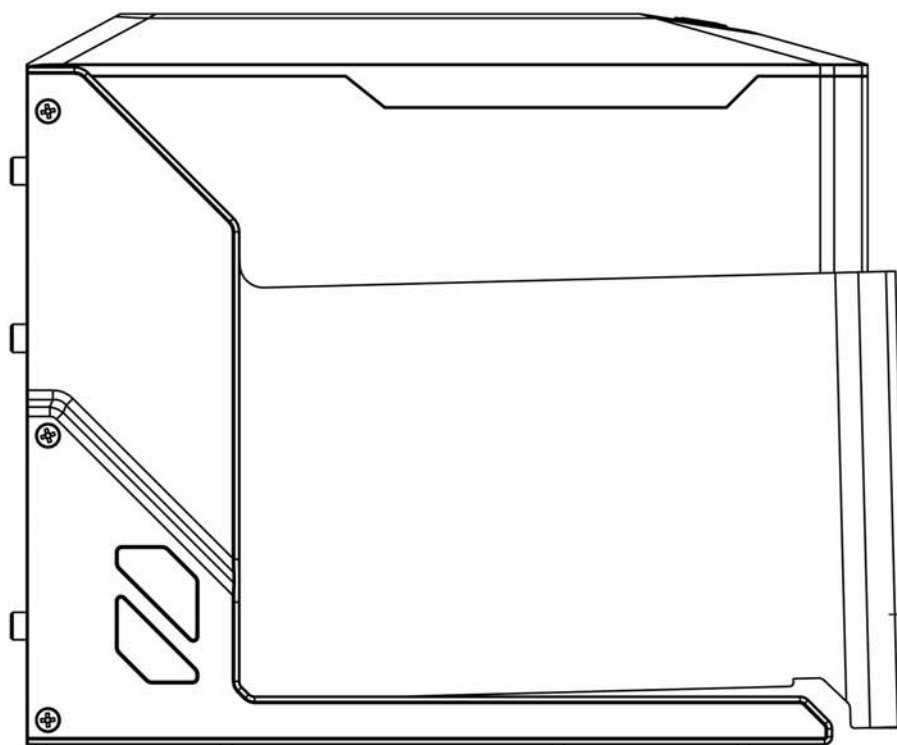
When the light shield is opened, the
laser will stop output power.
Avoid laser damage to the human body.

【Function Description】

The inclination between the host and the horizontal plane is greater than 13°±5°. and keep it for more than 1s, the machine will stop running immediately.
After the laser module output enters the protection state,
The machine must be restarted to restore normal functionality.

Machine tilt protection

13° ±5°

(0,80) (80,80)

(0,0x) (80,0)
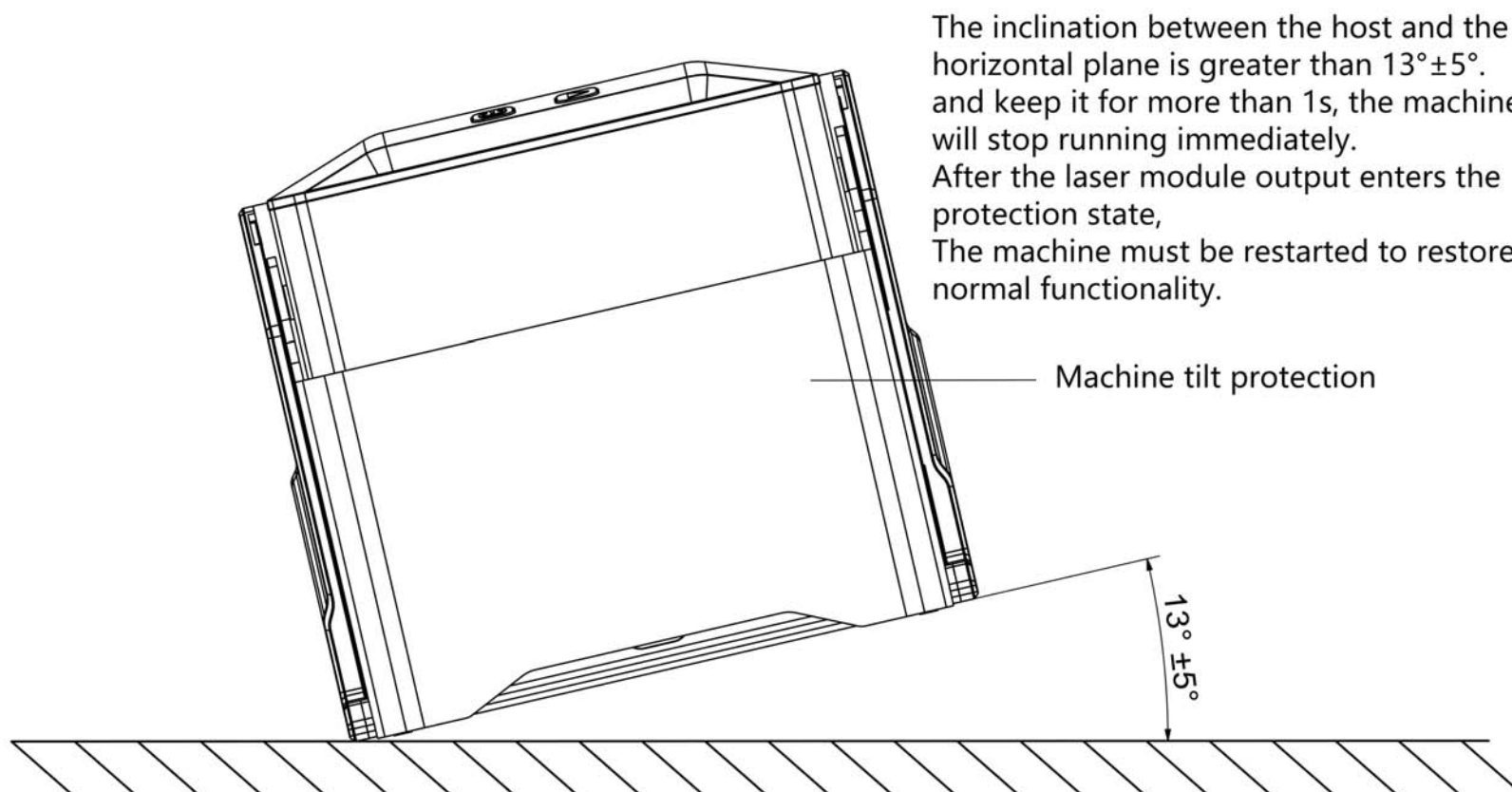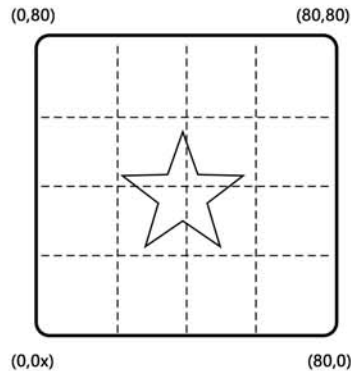
For example, let's say we want to sculpt a star that is centered in the LightBurn workspace as shown on the computer screen, at (40.40),The figure below shows the machine in each of the three boot modes

A problem mode may occur when manually moving the laser module in an absolute coordinate system or user origin. This is because the machine doesn't know it has been moved.
It has no way of knowing its true condition without re-establishing the origin position or homing.

Consider the following sequence of operations when working in absolute coordinates:

1. The origin of the machine is (0,0)
2. The user physically drags the laser to a position near (40, 40), and the machine still feels that it is at (0, 0);
3. The user runs the star program. The machine starts moving up and to the right to reach the "center" and hits the upper right corner.

(+40,+40)

(0.0)

(+60,+60)

(20,20)

?

⚠ important

If the machine crashes, be sure to pull the laser back Center slightly before returning to position.

There are two limit switches on the fuselage, one for X and one for Y. If the limit switch on one of them is pressed, The machine will not move this axis when returning to zero.
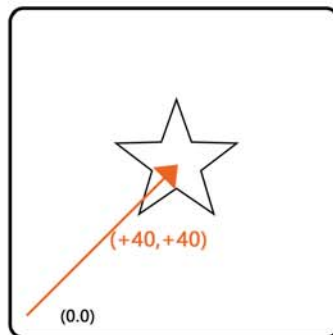
A) Absolute coordinates:

The machine will move to the center, The finished star will be located (40,40)
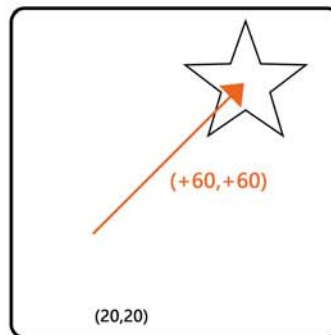
B) User origin:

Assume that the user origin is set at(20,20), then complete The star will be at (60,60)
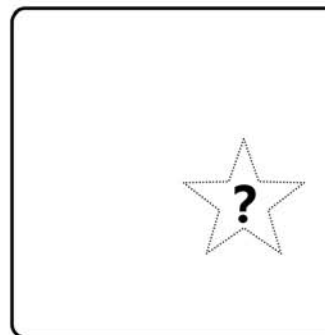
C) Current location:

stars will appear anywhere The laser module is located The moment the program begins.

【Optional accessories: Assembly method of engraving positioning module】

4.0 hexagonal wrench

M5*12 flat head hexagon socket screws

M5*12 flat head hexagon socket screws

L-shaped positioning bar

Engraving positioning module

The corresponding placement of the engraving positioning module
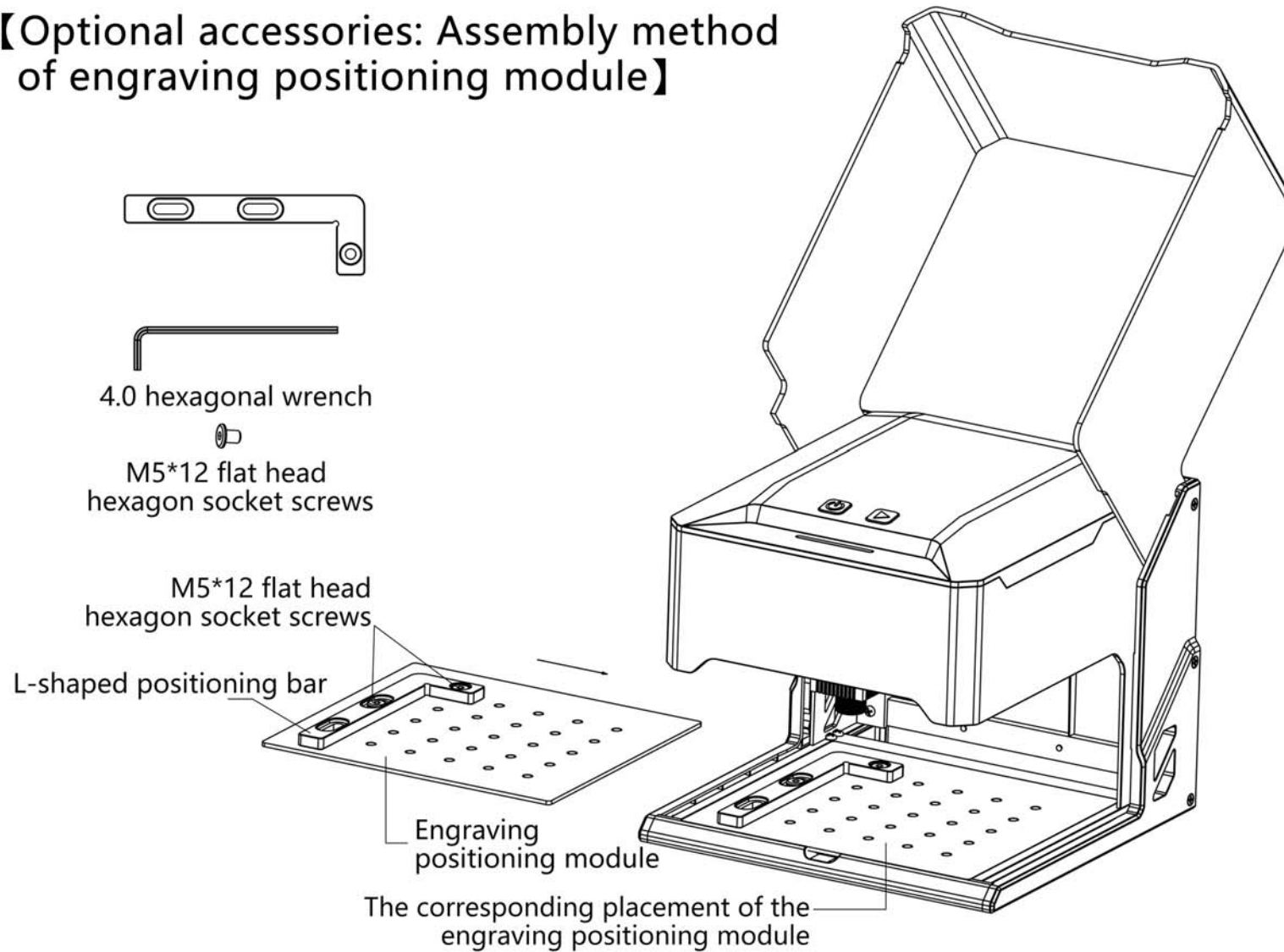
【Optional accessories: MD19 dual parallel
axis rotation module instruction manual】

MD19 dual parallel
axis rotation module

4. Open the light shield
upwards

3. Plug in the cable

1. Use a 3.0 hexagonal wrench
to disassemble and assemble
These 4 screws will be movable
Tripod symbol as shown in the
figure Tighten in position
corresponding to the screw hole.

MD19 double parallel shaft
Rotary module cable

2. Plug in the cable

Movable tripod
module

Tools and accessories used:
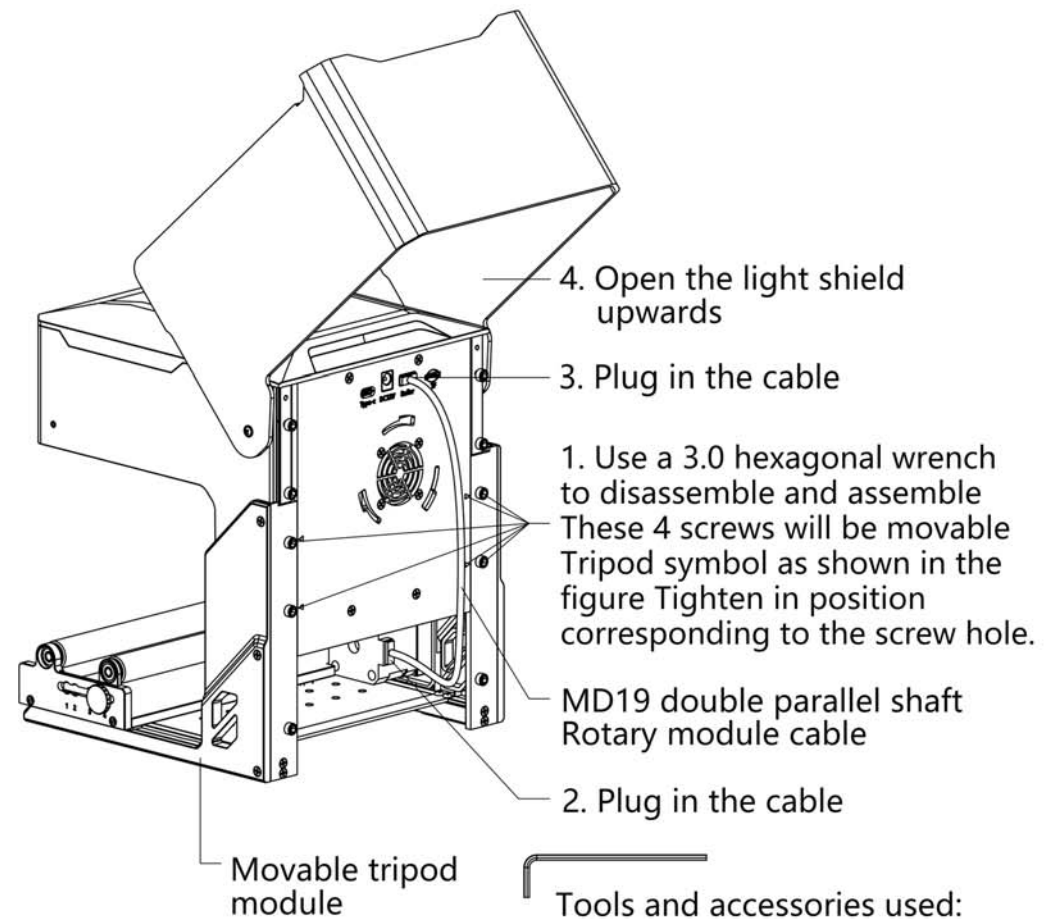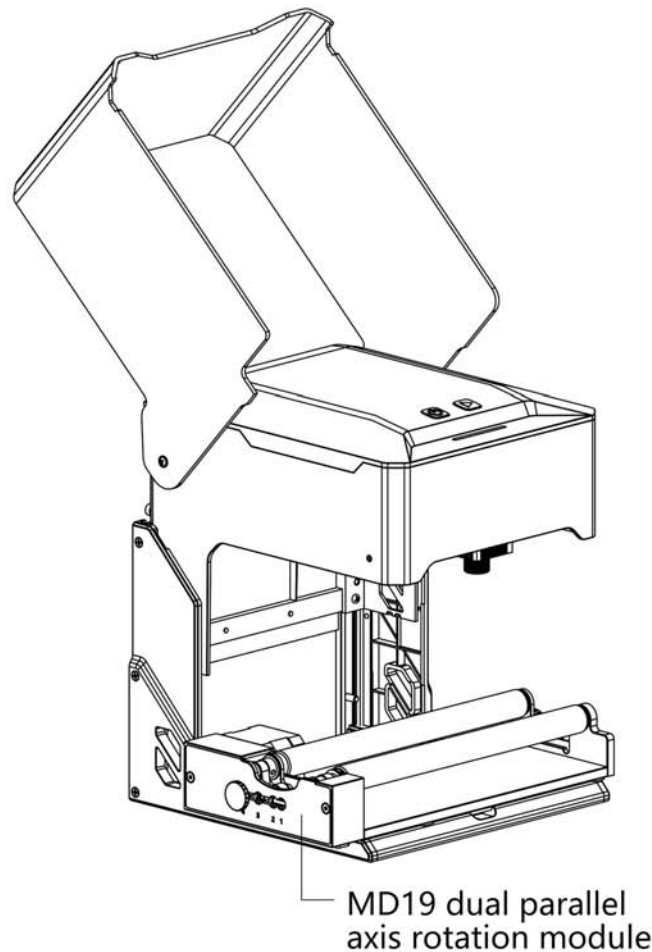
【Optional accessories: MD22 air purifier module instruction manual】

Smoke exhaust pipe connection

Host

MD22-air purifier

Smoke And Odor Purifier

A. Connect the telescopic exhaust pipe to the machine connection
and Connect the MD22-air purifier connector.

B. Turn on the air purifier and adjust the appropriate air volume for use.
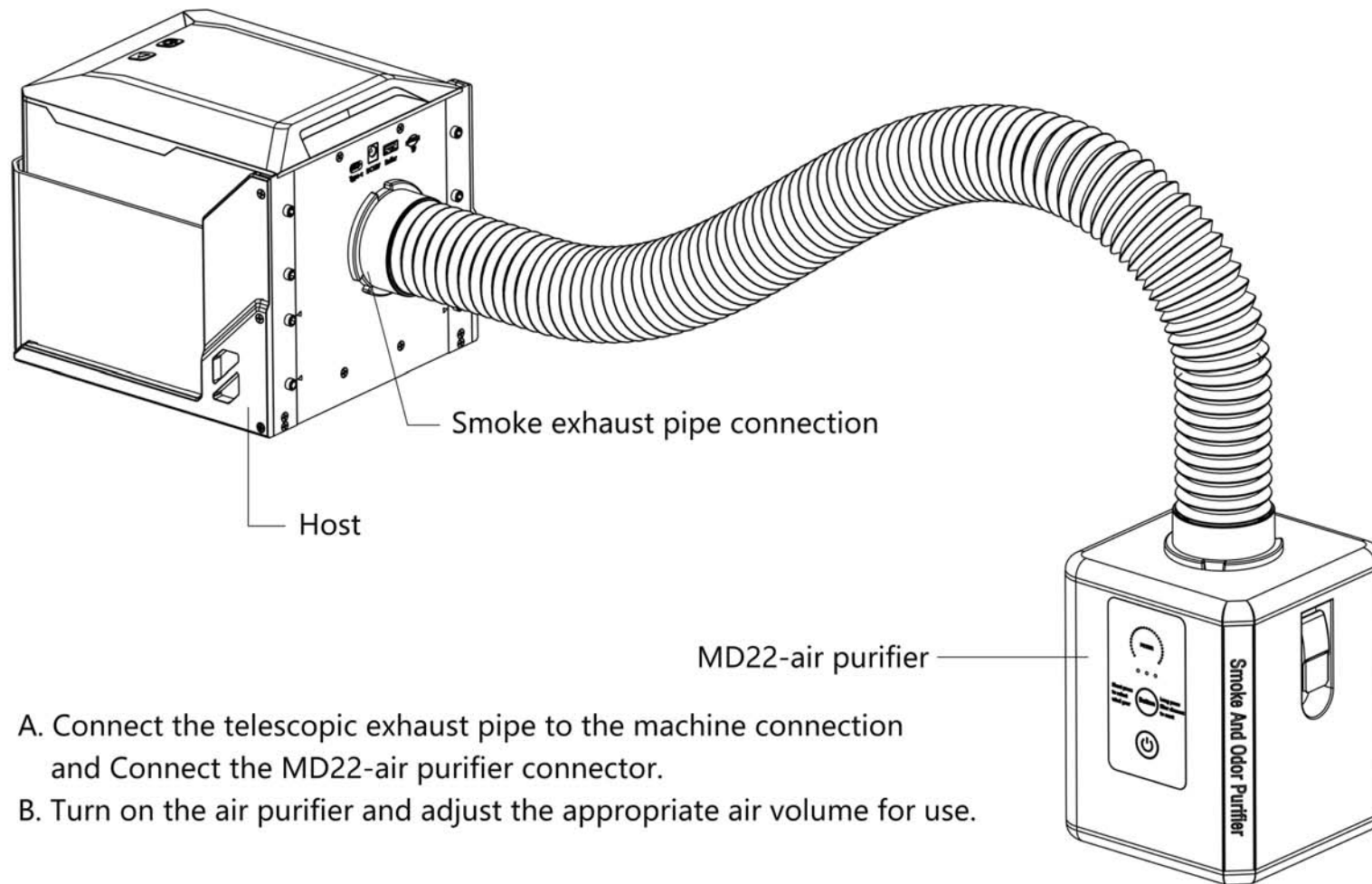
Software can be acquired as follows:

www.dkjxz.com

Driver installation in Windows

📁 TF card	📁 01_Windows
❶	❷
📁 driver	🖳 driver.exe
❸	❹

```
DriverSetup(X64)                    —  □  ×
Device Driver Install / UnInstall
Select INF      CH341SER.INF            ∨
 INSTALL       VCH.CN
               |__ USB-SERIAL CH340
 UNINSTALL        |__ 08/08/2014, 3.4.2014

 HELP
```

❺Click Install

```
DriverSetup                              ×
 ⓘ  The drive is successfully Pre-installed in advance!
                                    OK
```

❻ finish installation
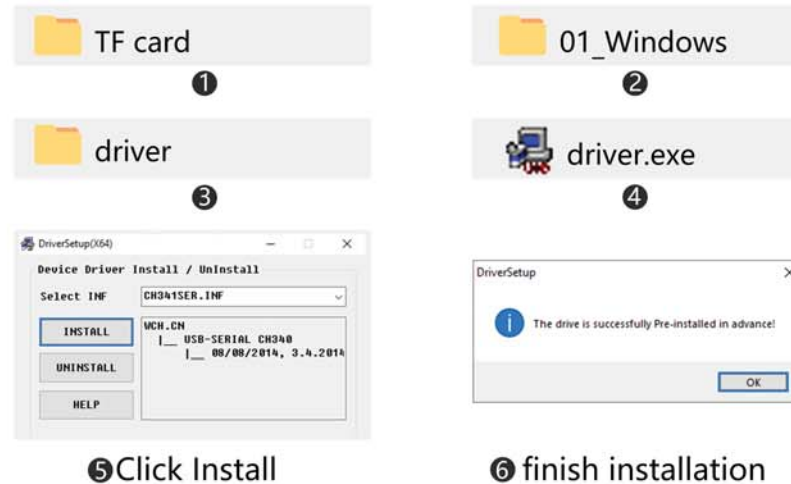
1.Path to Install Driver:
Enter the memory disk and double click the folder /01-windows/driver/driver.exe

15

2.Path to Install Software:

Double-click the TF card data file/Windows/software/ CutLabX/ and follow the prompts to complete the installation.

TF card
❶

01_Windows
❷

software
❸

CutLabX
❹

❺ Double-click CutLabX installation
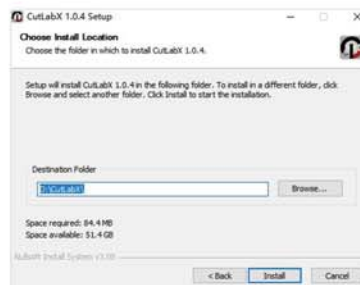
❻ Select the installation location and click "Install"
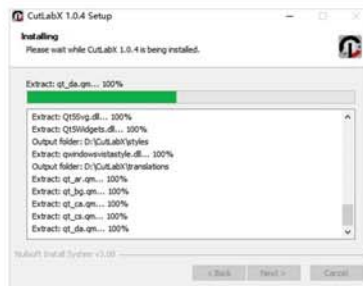
❼ Installation process

❽ The installation is complete

Tip:

CutlabX installation process, such as pop-up antivirus software or housekeeper prompts the risk, please choose to allow the program all operations, CutlabX file is a Win system installation package if it is misjudged as a suspicious file, that is, the successful completion of the software installation!

3.Online Operation:

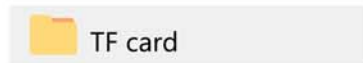Double-click on the software icon - enter the home page, click on the beginning of the creation - select the appropriate com and connect - connected to the machine success!

CutLabX

❶ Double click the software icon

❷ Go to the homepage and click to start creating

❸ Choose the appropriate port and connect

❹ Shows that the connection is successful

16

Mac Driver Installation

📁 TF card

❶

📁 driver

❸

📁 02-MAC

❷

❹ Click to continue

❺ Enter the computer password

❻ Click to continue the installation
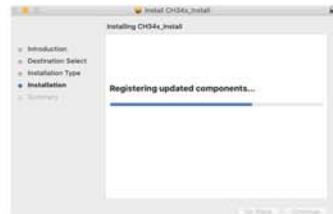
❼ Continue the installation
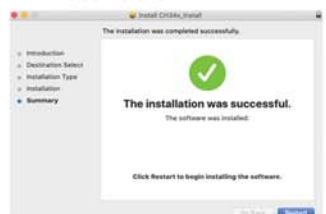
❽ Complete the installation

1.Path to Install Driver:

Path to Install Driver: Enter the USB flash disk and double click the folder: 02_MAC /driver/

Note: The software can be installed after the driver has been installed.

Mac software installation and online Introduction

TF card

❶

software

❸

❺ Double click the software icon

❼ Complete installation

02_MAC

❷

CutLabX

❹
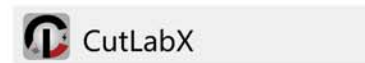
❻ Left click the icon and draginto the Applications folder in the right

2. Path to Install Software:

Enter flash disk and double click the folder: 02_MAC /software/CutLabX/move software icon to the right/ complete installation
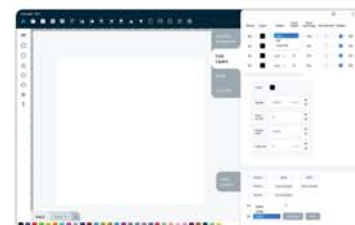
3. Online operation:

Double-click on the software icon - enter the home page, click on the beginning of the creation - select the appropriate com and connect - connected to the machine success!

CutLabX

❶Double click the software icon

❸ Choose the appropriate port and connect

❷Go to the homepage and click to start creating

Pause	Stop	Start
Frame	Save GCode	Run GCode
Home	Go to Origin	

Connect Mode: WIFI >

IP: 192.168.0.1   Connected   Find

❹ Shows that the connection is successful

18
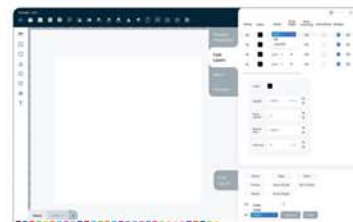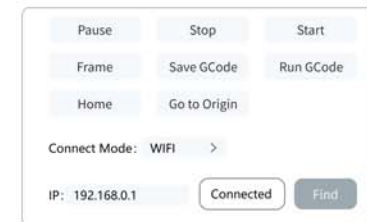
Software Download and Installation:

Method 1: APP download URL: https://www.cutlabx.com

Method 2: Scan the QR code to download.

Web Download

Note: 1. For Android system, open the browser to scan the QR code to download;

       2. Corresponding authority should be permitted after successful installation;

06 Mobile phone/computer connection

Note: After the mobile phone is successfully connected to the machine, the mobile phone will have no network connection.

1. Steps to connect mobile phone to machine: Default WiFi

Power up the machine.

Turn on your phone's WLAN and find the WIFI signal.
The name is WAINLUX_K10 and the password is 12345678.

WLAN

Connected WLAN

WAINLUX_K10
Connected

After the WIFI connection is successful, open the CutLabX APP.
Click the link mark in the upper right corner,
Enter 192.168.0.1 as the IP address,
and click "Connect" to complete the connection.

connect

192.168.0.1

Click To Obtain The Address

(Tip: To use WiFi mode, the machine and mobile phone must be on the same WiFi network.)

Note: After the mobile phone is successfully connected to the machine, the mobile phone can successfully access the Internet.

2. Mobile phone connection machine manual: Home network

Turn on the device and turn it on.

⬇

Connect WAINLUX_K10 with USB cable

⬇

Open the CutLabX software and enter the creation interface

⬇

Automatically identify machines and connect (If it doesn't connect automatically, try a different COM)

⬇

Click the WiFi Settings button.
Click to enter the WIFI name, home network password, and restart the machine

Turn on WIFI on your phone and use the internet to find your Home network WiFi name and enter your password

⬇

After the WIFI connection is successful, open the CutLabX APP.
Click the link tag in the upper right corner

⬇

"Click to get address"

192.168.0.1

🔍 Click To Obtain The Address

⬇
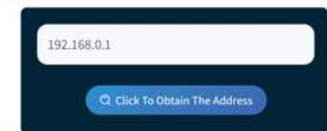
Click on the obtained IP address.
and click Connect.

Search Result

192.168.0.1 ✓

⬇

Display the connected IP address
Indicates successful connection.

Connected to this IP

192.168.0.1

(Tip: To use WiFi mode, the machine and mobile phone must be on the same WiFi network.)

Note: Install the driver according to your computer system (see driver installation instructions).

3. Steps to connect the computer to the machine via USB.

Turn on the device and turn it on.

Connect WAINLUX_K10 machine with USB cable

Open the CutLabX software and enter the creation page

Automatically identify machines and connect
(If it doesn't connect automatically, you may need
to try another COM)

(Tip: When the machine is connected to MAC, you must choose a name starting with: W.ch.....)

FAQ	MAY BE ASKED	SOLUTION	
Machine related issues	What area can the WAINLUX K10 laser engraving machine engrave?	K10	K10 Pro
		80mm*80mm	80mm*80mm
	What type of laser source does this machine use?	Belongs to semiconductor laser	
	What happens if the machine loses power during operation?	When power is cut off during an engraving task, the laser head will remain in place. When the power is turned on again, the machine will initialize and will not continue to perform the original task.	
	Why can't I engrave the pattern at all (or is the engraving very shallow)?	The imported pictures should be clear and the color should not be too light; before engraving, please ensure that the focus is correct and the power, speed and time are set appropriately.	
	What should I do if the pattern engraving is incomplete (or the depth is inconsistent)?	Please ensure that the engraving object is flat, the machine is level, and it has been adjusted properly according to the operating instructions in the instruction manual.	
	How to focus the WAINLUX K10 laser engraving machine?	K10: Place the material on the engraving board, use a piece of kraft paper on the material, rotate the laser knob to fix the focus K10 Pro: Place the material on the engraving board, put the focusing needle down, and then use the side lever to raise it Descending, when the fixed focus needle touches the material, lock the side lever to complete focusing.	

FAQ	MAY BE ASKED	SOLUTION
	Will the work platform be damaged during laser engraving?	During the engraving or cutting process, the laser may penetrate the object and leave marks on the work surface. Objects that cannot be penetrated by the laser must be placed under the engraving object, such as stainless steel plates, aluminum alloy plates, etc.
	When engraving offline, why can't I start engraving when I press the button on the host?	Make sure there are engraving files in the root directory of the TF card and the TF card has been inserted. Notice: A. By default, the machine reads the engraving file with the latest modification date in the root directory of the TF card. It is recommended to delete other irrelevant files in the root directory. b. This file can be processed through LaserGRBL, LightBurn, CutLabX software File generation, the compatible format is NC. If GC is generated by default, please manually modify it. The name is: 001.NC
	Why does the machine not respond after being turned on?	A. Check whether the power plug on the machine is inserted in place. b. Check the electrical status of the electrical outlet. C. Check whether the power switch and light shield on the machine are turned off.

FAQ	MAY BE ASKED	SOLUTION
	Why can't I connect to the computer after turning on the machine?	A. Reinstall the driver. If the driver is displayed as installed, it means the driver is normal. Pre-installed When using the driver display, you need to check whether the wiring is the original one, or whether there is no There is a connection to the machine. Please use a different port on your computer. B. Is the port selection correct? Some computers will have 2 ports when connected. Please ignore com1 and choose another com port. (MAC port The number must start with Wchusbserial to work properly) C. Close other software occupying the com port. When connecting using Lasergrbl , unable to connect when opening CutLabX. You need to turn off Lasergrbl before Can be used normally. Note: In Lightburn, a machine can store multiple machine information, please root Select the appropriate configuration information according to the model.
	Why can't I use my mobile phone after turning on the machine?	A. Please use the phone according to the instructions. b. If the connection is abnormal due to the incompatibility of a newly released mobile phone or a system upgrade, please provide a screenshot of the mobile phone configuration and contact our customer service to obtain technical support as soon as possible.

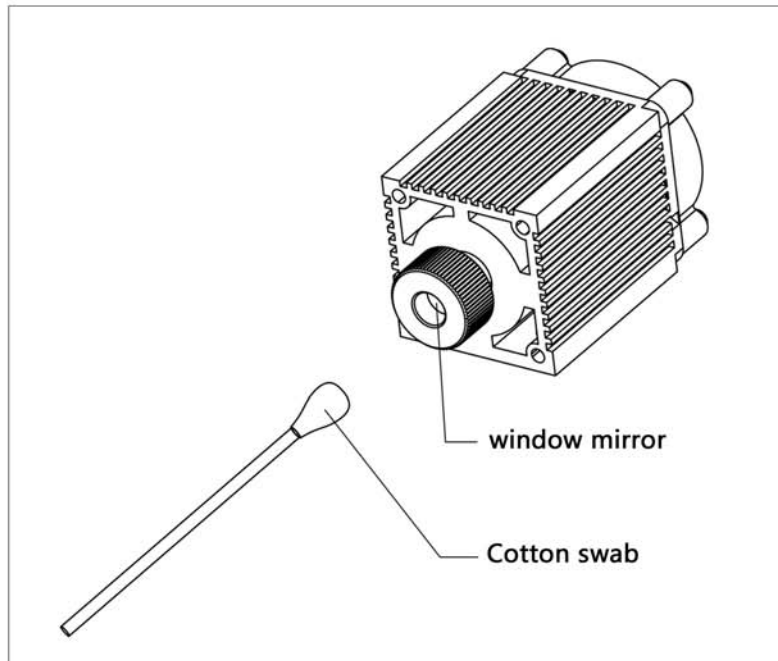| FAQ	MAY BE ASKED	SOLUTION
Engraving/ cutting related questions	What non-transparent materials can the WAINLUX K10 laser engraving machine engrave or cut?	Engraving: cardboard, wood, bamboo, rubber, leather, cloth, acrylic, plastic, etc.; Cutting: cardboard, wood, bamboo, cloth, leather, cloth, acrylic (cannot cut transparent acrylic), plastic, etc.
	Can I engrave on curved materials?	Yes, but the curvature of the material and the area of the engraving graphics and text should not be too large, otherwise slight deformation will occur.
	Can I engrave on reflective/transparent materials such as ceramic/glass?	Yes, but before engraving, you need to apply anti-reflective material (such as laser colored paper, black marker) on the surface of the material to ensure the engraving effect and prevent reflected light from damaging the laser module.
	Why do materials of the same material and different colors have very different processing effects using the same G code file?	Materials of different colors have different optical properties and absorb and reflect laser energy differently. When engraving materials of the same material but different colors, it is recommended to set different power and speed in the software.
	There is a lot of smoke and dust on the cut material. How to deal with it?	Please reduce the laser power appropriately and increase the speed.

English

FAQ	MAY BE ASKED	SOLUTION
	Why can't the material be cut?	1. Make sure the machine and engraving material are parallel to the work surface; 2. Make sure the protective lens of the laser module is clean; 3. Make sure the focus method is correct; 4. Confirm the material thickness again and set it according to the recommended parameters in the random data; 5. Gradually increase the number of cuts, or appropriately reduce the cutting speed.
Software related issues	What software does WAINLUX K10 laser engraving machine support?	LaserGRBL (Free) – Real Time LightBurn (Paid) – Live/Offline 30-day trial CutLabX (Free) – Live/Offline/Mobile When engraving in real time, be careful not to freeze the computer or enter the standby state (do not lock the screen) to avoid affecting the engraving.
	Where can I download these software?	LaserGRBL (https://lasergrbl.com/download/) LightBurn (https://lightburnsoftware.com/pages/trial-version-try-before-you-buy) CutLabX (www.cutlabx.com)

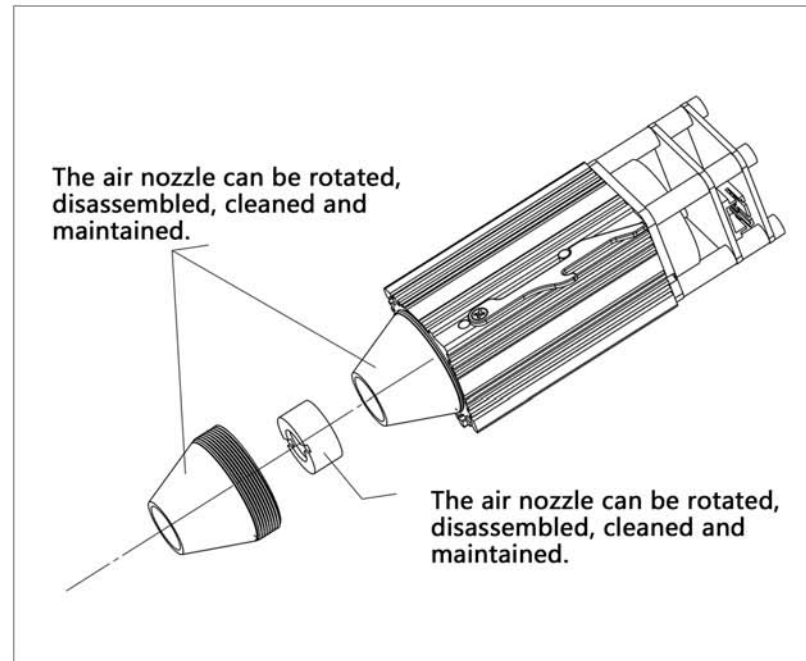| FAQ	MAY BE ASKED	SOLUTION
	What image formats does the software support?	LaserGRBL (bmp/png/jpg/gif/svg) LightBurn (bmp/png/jpg/jpeg/gif/tif/tiff/tga/ai/pdf/sc/dxf/hpgl/plt/rd/svg) CutLabX (AI, PDF, SVG, DXF, PLT, PNG, JPG, GIF, BMP)
	Where can I get tutorials on software?	LaserGRBL (https://lasergrbl.com/usage/) LightBurn (https://lightburnsoftware.github.io/NewDocs/) CutLabX (www.cutlabx.com)

K10 laser maintenance

K10 Pro Laser Maintenance

window mirror

Cotton swab

The air nozzle can be rotated, disassembled, cleaned and maintained.

The air nozzle can be rotated, disassembled, cleaned and maintained.

*You can perform the following operations regularly to keep WAINLUX K10 in good working condition and reduce wear and tear

*Clean the laser module lens: Over time, particles and dust will be deposited on the outer lens of the laser module, which will cause the lens of the laser module to generate heat and reduce the power output.

*If you find that you are having difficulty cutting material that you have previously cut without problems, it is most likely due to dirt or dust deposited on the lens.

K10: Remove the laser from the machine and gently wipe the lens with a cotton swab dipped in some alcohol.

K10 Pro: Remove the laser from the machine, remove the air nozzle, and gently wipe the lens with a cotton swab or lint-free cloth dipped in some alcohol.

WAINLUX

laser engraving machine

Support@wainlux.com
Service@wainlux.com

FCC Requirement

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

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.

Note: 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.

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20cm between the radiator & your body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.