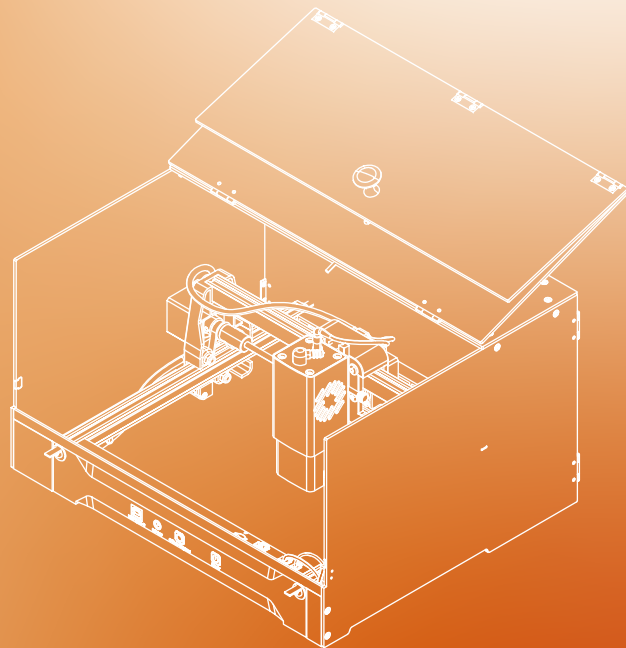


BlazeX

M3 ***User Manual***



PLEASE READ THIS INSTRUCTION MANUAL CAREFULLY BEFORE USE
PLEASE USE THE LASER ENGRAVING MACHINE CORRECTLY AND SAFELY

CONTENTS

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BlazeX

Warning

To assure continued compliance, any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

FCC Statement

This equipment 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 limit 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.

FCC Radiation Exposure Statement:

The equipment complies with FCC Radiation exposure limits set for uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator and your body.

Thank you for purchasing the laser engraving machine. In order to better use and maintain this equipment, please read this manual carefully and follow the steps in the manual.

Important Statement!

All losses caused by improper use or failure to follow the steps in the manual shall be borne by the individual. The final right of interpretation of manual belongs to our company, which also reserves the right to modify all information, data and technical details, etc. in this manual.

Safety Precautions

- Before operating the equipment, users must carefully read the manual and strictly follow the operating procedures.
- Laser processing may be risky, and users should carefully consider whether the object being processed is suitable for laser operation.
- The processing object and emissions should comply with local laws and regulations.
- The laser radiation may cause the following situations:
 - ① Ignition of surrounding flammable materials;
 - ② During laser processing, other radiation and toxic and harmful gases may be generated due to different processing objects;
 - ③ Direct exposure to laser radiation can cause human harm. Firefighting equipment must be equipped in the use site. It is prohibited to stack flammable and explosive items around the workbench and equipment. At the same time, it must be well ventilated.
- The environment where the equipment is located should be dry, free of pollution vibration, strong electricity, strong magnetism and other interference and influence. The working environment temperature is 5~30°C, and the working environment humidity is 30~65% rh (no condensation)
- Equipment operating voltage: AC100~240V.
- The engraving machine and other related equipment must be safely grounded before they can be turned on and operated.
- When the equipment is turned on, it is necessary to be on duty throughout the process. All power supplies must be cut off before leaving to prevent abnormal conditions. If any abnormal conditions occur, please turn off the power immediately!
- It is strictly forbidden to place any irrelevant total reflection or diffractive objects in the equipment to prevent the laser from reflecting on the human body or flammable items.
- The equipment should be kept away from electrical equipment that is sensitive to electromagnetic interference, which may cause electromagnetic interference to it.
- There is high voltage or other potential dangers inside the laser equipment, and non-professionals are strictly prohibited from disassembling it.

Warning:

When you purchase only the bare device, the device level is: Class IV laser device. Please wear laser protective glasses during use!!

When you purchase a device with a cover, the device level is: Class I laser device, which can prevent you from being harmed.

Notice!

1. After the laser is turned on, it is strictly forbidden to aim at people, animals and flammable objects to avoid skin burns and fire.
2. The brightness of the laser is harmful to the eyes. Please do not look directly at the laser.
3. Keep your hands away from the machine when it is working to avoid injury.
4. Turn off the power of the machine when it is not in use to avoid misoperation by a third party.

Maintenance and Care

The laser module is a consumable. It is recommended to turn off the machine power for 10 minutes after 4 hours of engraving and 1 hour of cutting.



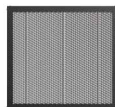
List of Machine and Accessories



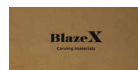
M3 Laser Engraving Machine



Enclosure



Honeycomb Laser Bed



Engraving Materials



Protective Goggles



Power Cord



Data Cable



USB & TF Card



Tool Kit



Brush



Marker

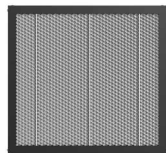
Note: If the product you purchase does not include this enclosure and honeycomb panel, then the enclosure and honeycomb panel will not be standard equipment.



Air Purifier



Air Assist



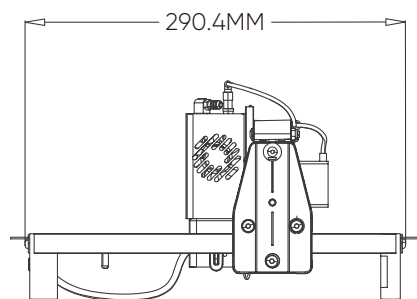
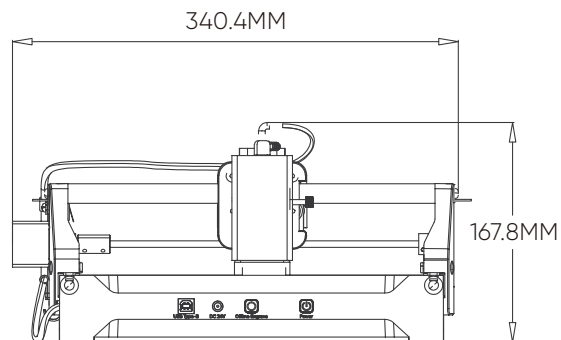
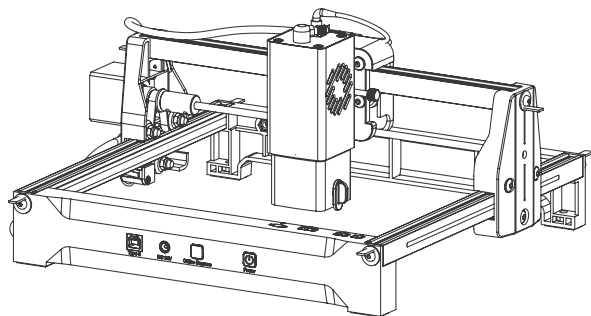
Honeycomb Laser Bed

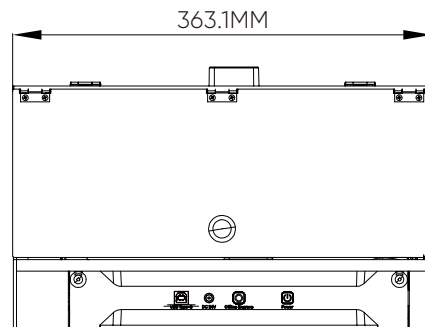
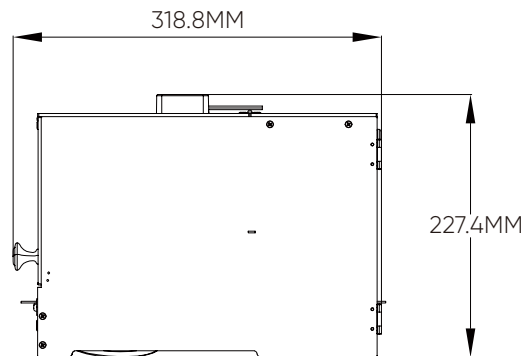
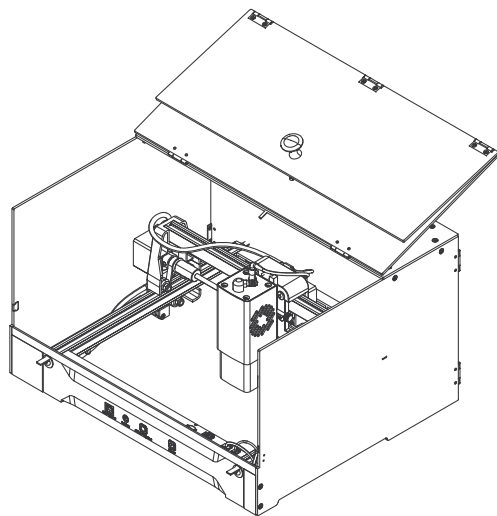


Rotary Roller and Riser Kit



1064nm 1W Infrared Laser Head

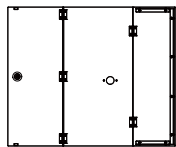




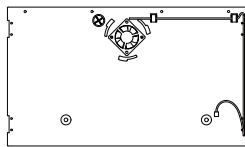
Product Model	M3
Laser Wavelength	455nm/1064nm
Engraving Speed	7000mm/min
Laser Life	>10000h(at 27℃ ambient temperature)
Engraving Area	150x200mm
Engraving Height	<60mm
Power	<60W
Data Transmission	USB wired transmission, WiFi wireless transmission
Cooling Mode	Air-cooled
Input Voltage	455nm 3W/5W : DC24V 2A 455nm 10W: DC24V 2.5A 1064nm 1W: DC24V 2A
Systems	CutLabX (windowsOS、 macOS、 Android、 iOS) LightBurn(windowsOS、 macOS)/ LaserGRBL(windowsOS)

This section describes the steps for installing the Light Shield. Please skip this section if you did not purchase a kit that includes this accessory.

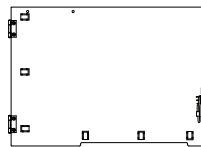
Parts List



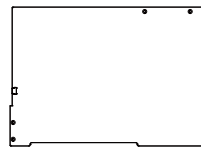
Top panel and front panel module



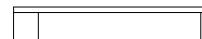
Rear side panel module



Right side panel module



Left side panel module



Front bracket module

Wrench List



Phillips Screwdriver 1PCS



2.5mm hex wrench 1PCS



3mm hex wrench 1PCS

Screw Parts



M3*6 Phillips screws 14PCS



M3*3.5 Phillips self-tapping screws 10PCS



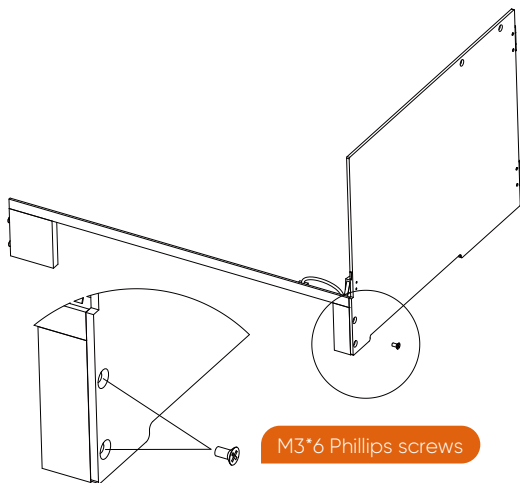
M3*10 hex screws 2PCS



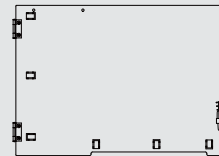
M5*22 hex screws 3PCS

Installation Step 1

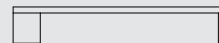
Install the right side panel module to the right of the front bracket module. Secure the connection with two M3*6 Phillips screws using a Phillips Screwdriver.



Parts List



Right side panel module



Front bracket module



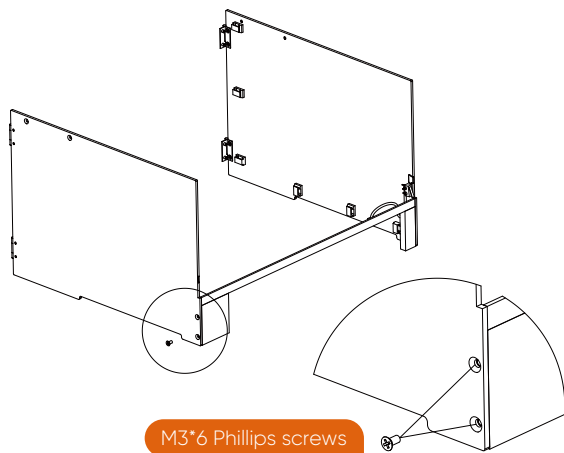
Phillips Screwdriver



M3*6 Phillips screws 2PCS

Installation Step 2

Install the "left side panel module" on the left side of the "front bracket module" and secure it with two M3*6 screws using a Phillips screwdriver.



Parts List



Left side panel module



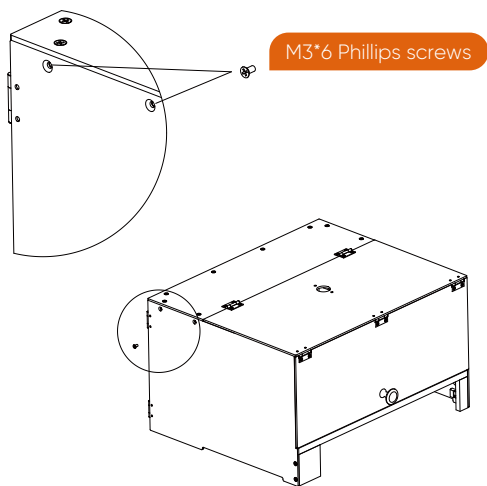
Phillips Screwdriver



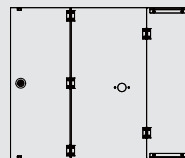
M3*6 Phillips screws 2PCS

Installation Step 3

Install the "top plate and front plate module" together with the "left side plate module" using two M3*6 Phillips screws and a Phillips Screwdriver to secure them together.



Parts List



Top panel and front panel module



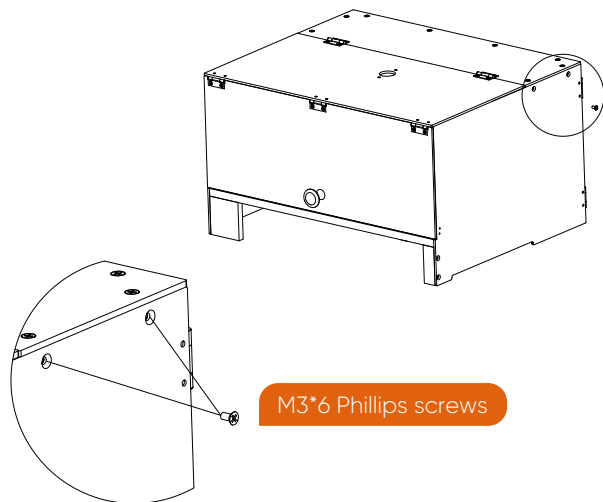
Phillips Screwdriver



M3*6 Phillips screws 2PCS

Installation Step 4

Install the "top plate and front plate module" and "right side plate module," and secure the connection with two M3*6 Phillips screws and a Phillips Screwdriver.



Parts List



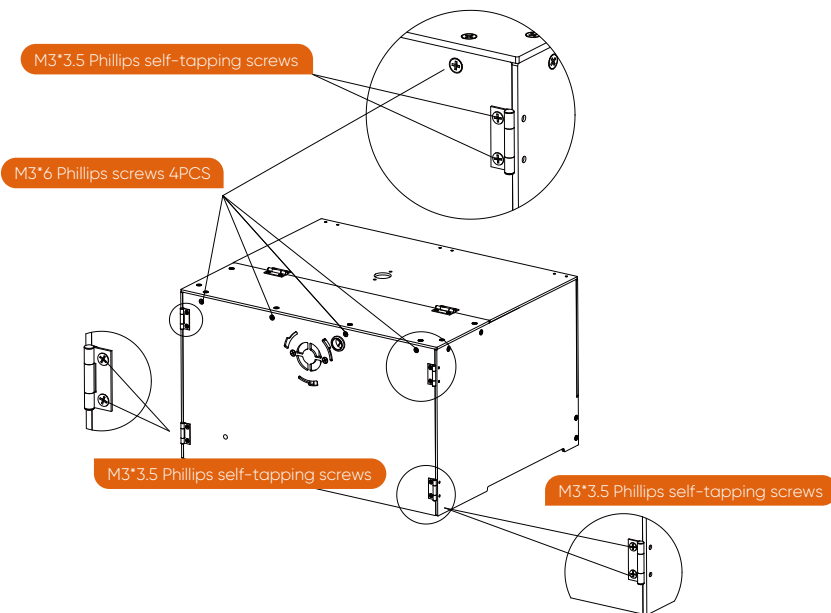
Phillips Screwdriver



M3*6 Phillips screws 2PCS

Installation Step 5

Install the "rear side panel module." First, use a Phillips Screwdriver to secure the 8 M3*3.5 Phillips self-tapping screws in their corresponding positions. Next, use a Phillips Screwdriver to secure the four M3*6 Phillips screws in their corresponding positions.



Parts List



Phillips Screwdriver



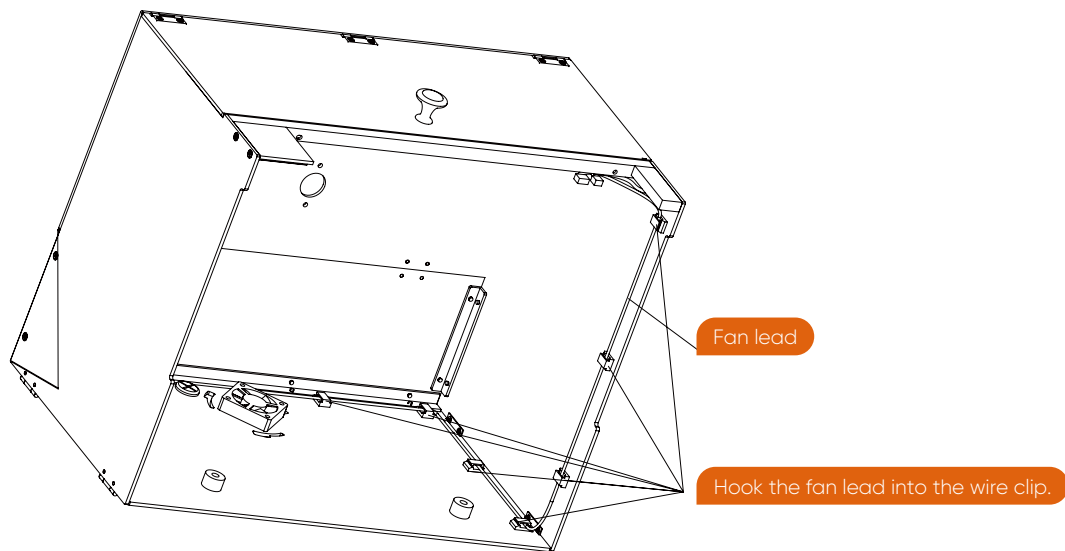
M3*6 Phillips screws 4PCS



M3*3.5 Phillips self-tapping screws 8PCS

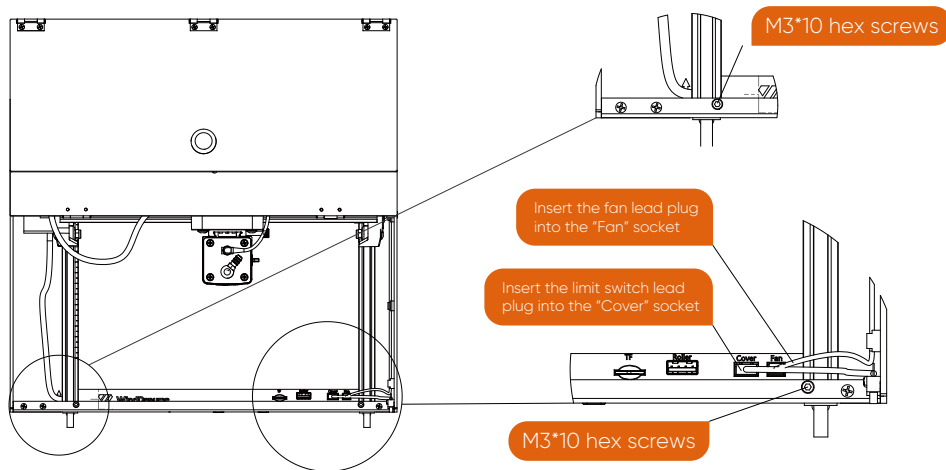
Installation Step 6

Hook the fan lead into the wire clip.



Installation Step 7

Install the light shield on the machine, use a 2.5mm hex wrench to secure the two M3*10 hex screws on the front bracket module, then insert the fan lead into the "Fan" socket and the limit switch lead into the "Cover" socket, as shown in the figure.



Note: When assembling the hexagon socket screws, first secure the two screws and then tighten them.

Parts List



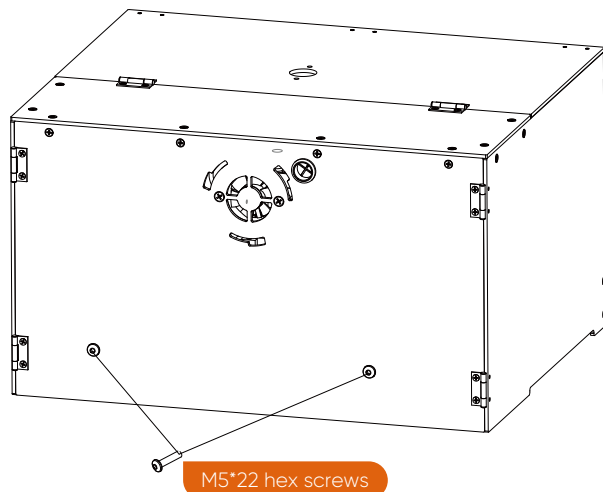
2.5mm hex wrench



M3*10 hex screws 2PCS

Installation Step 8

Use a 3mm Allen wrench to secure the "rear side panel module" to the machine with two M5*22 hexagon socket screws.



Parts List



3mm hex wrench



M5*22 hex screws 2PCS

Note: The protective cover must be closed during use to protect your eyes and skin from injury.

Great job! Congratulations on completing the installation of the protective cover.

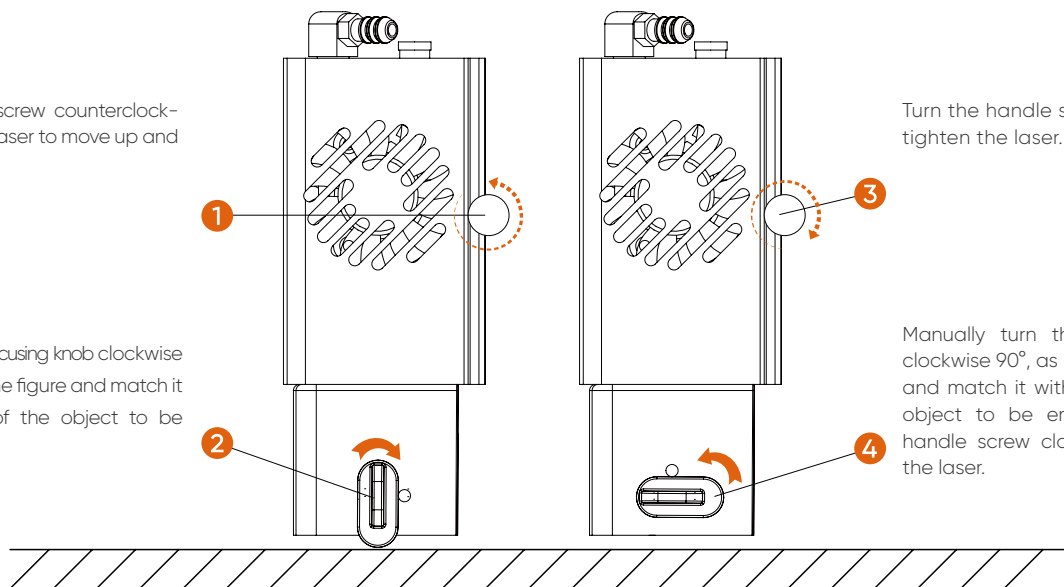
Focusing method for 455nm laser

Turn the handle screw counterclockwise to allow the laser to move up and down.

Manually turn the focusing knob clockwise 90°, as shown in the figure and match it with the plane of the object to be engraved.

Turn the handle screw clockwise to tighten the laser.

Manually turn the focusing knob clockwise 90°, as shown in the figure and match it with the plane of the object to be engraved. Turn the handle screw clockwise to tighten the laser.

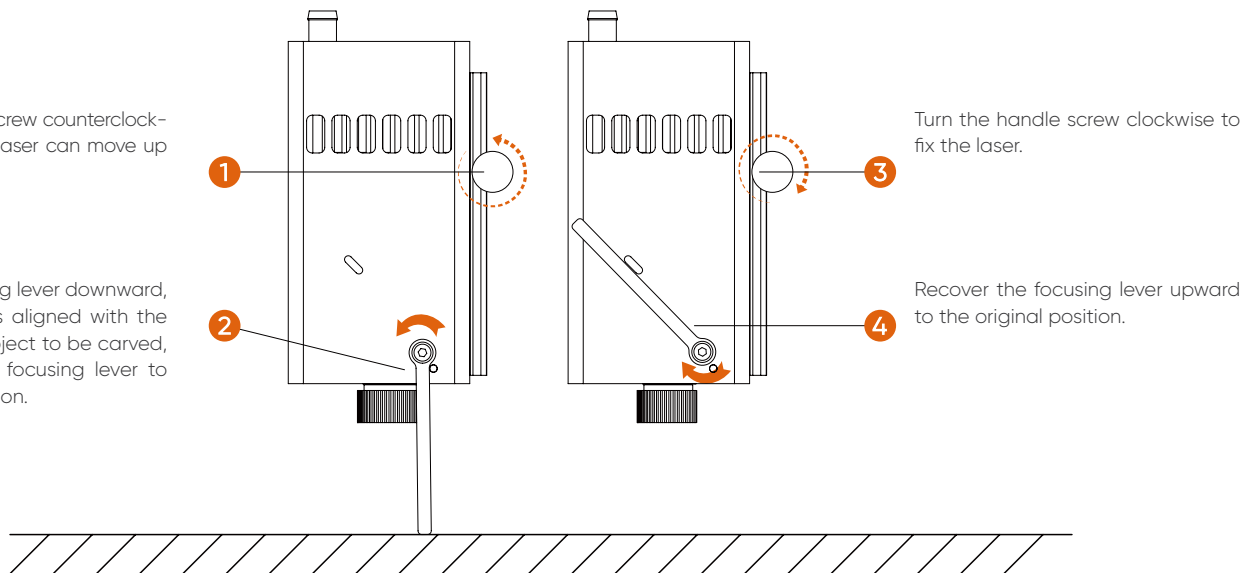


Plane of the object to be carved

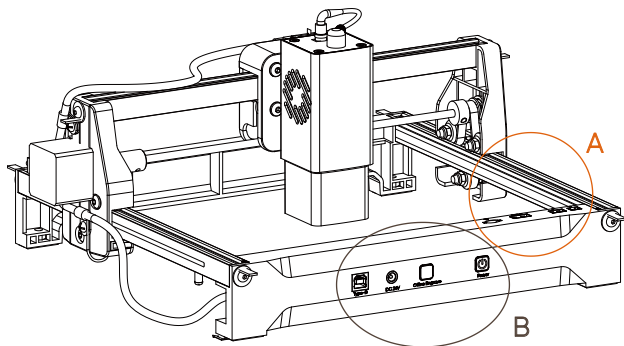
Focusing method for 1064nm laser

Turn the handle screw counterclockwise so that the laser can move up and down.

Open the focusing lever downward, the laser head is aligned with the surface of the object to be carved, then restore the focusing lever to the original position.



Plane of the object to be carved



Functional Description

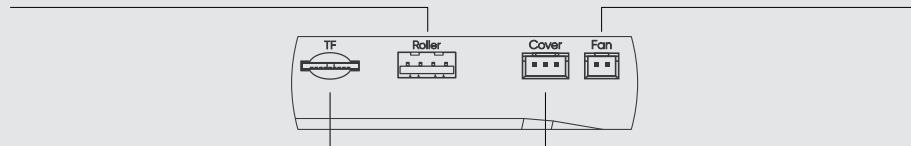
A

For use with roller modules.

Roller

Fan

For connection of the protective housing extraction fan.

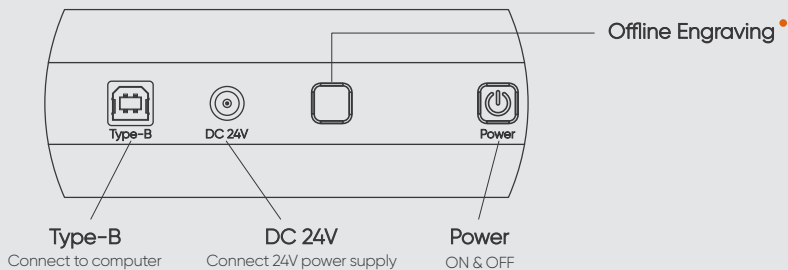


For storing engraving content (TF card needs to be inserted when using a cellphone or offline engraving).

TF

Cover

For connection to protective housing interlock switch.



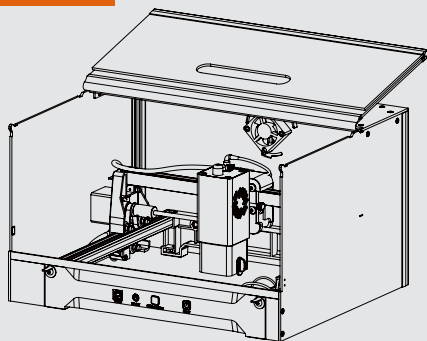
Offline Engraving

1. Generate the engraving or cutting file (gcode) through LightBurn software and save it to the root directory of TF card, save the name as: 001.nc.
2. Insert the TF card into the machine before powering on, then use the matching power adapter and power cord to connect to the controller panel, and finally turn on the power switch on the right side of the control panel.
3. Press the "Offline Engraving" button:
 - a. Press the button and the machine will automatically reset and preview.
 - b. Press and hold the button for more than 3S to enter the engraving.
 - c. Short press again to pause
 - d. Short press again to continue
 - e. Press and hold again for more than 3S to cancel the engraving.

Function Description

When the light shield is opened, the laser module will immediately stop laser output.

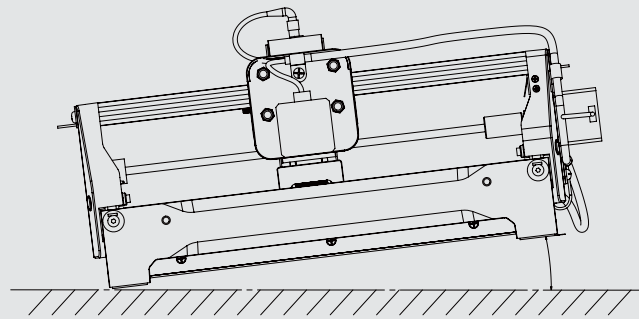
Uncovered protection



Function Description

The host is tilted with the horizontal plane, and keeps 1S, the machine stops running immediately, and the laser module stops the laser output. After entering the protection state, the machine must be restored to restore the normal function.

Tilt to stop





First Time LightBurn Connection
Instructional Video



How to use MD19 Rotary Module in LightBurn



First time to connect CutLabX
using video



How to use MD19 rotary module in CutLabX



How to connect to the machine
using a cell phone (default WiFi)



How to connect to the machine using your cell
phone (configure your home network)

The following files are available on your TF card, or you can download them directly from:

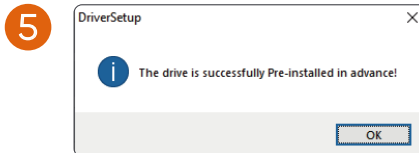
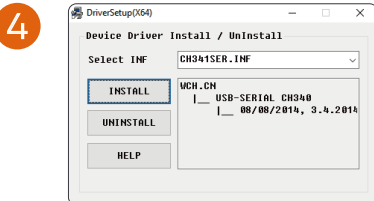
<https://www.cutlabx.com/>

1. Driver installation on Windows

1  M3_01_Windows

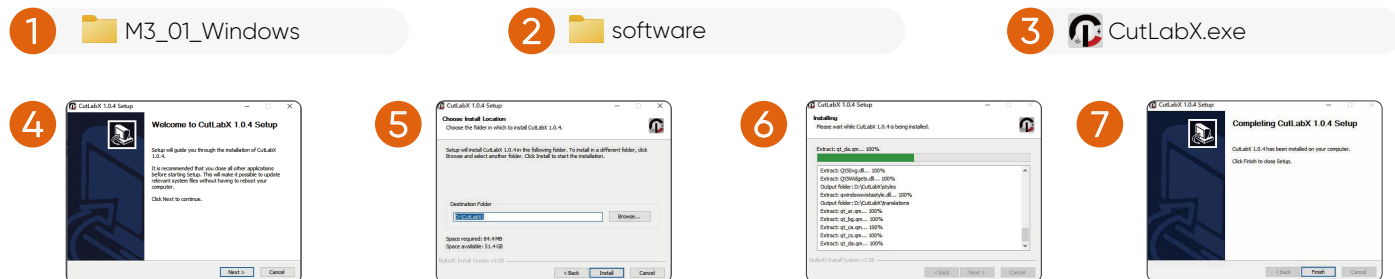
2  driver

3  CH341SER(v3.7)_win11.EXE

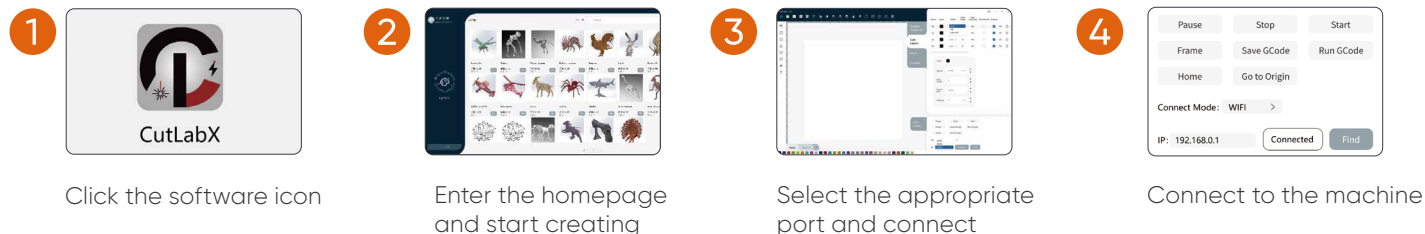


2. Path to Install Software:

Click the TF card data file M3_01_Windows→software→CutLabX.exe and follow the prompts to complete the installation.



3. Online Operation:

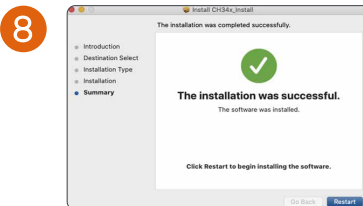
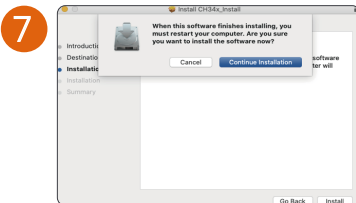
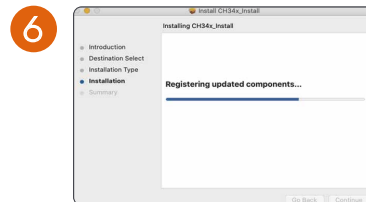
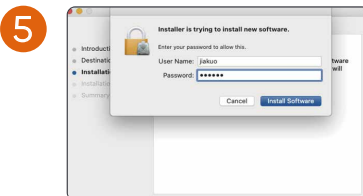
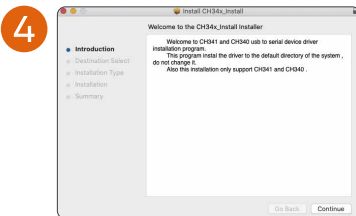


1. Path to Install Driver:

1 M3_02_MAC

2 driver

3 CH34xVCPDriver.pkg

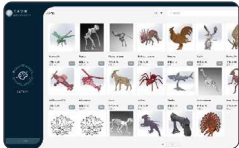
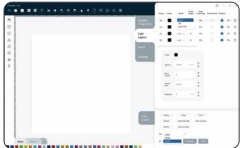
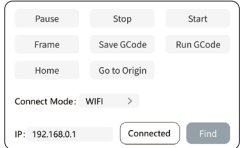


2.Path to Install Software

Please visit the following webpage to download the software:

<https://apps.apple.com/cn/app/cutlabx/id6468648065?platform=mac>

3. Online Operation:

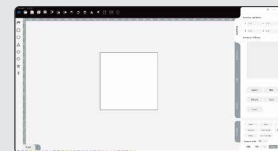
-  Click the software icon
-  Enter the homepage and start creating
-  Select the appropriate port and connect
-  Connect to the machine

Tip: When the machine is connected to the MAC, you must select the name of the COM: Wchusbserial.

1. Turn on the power of the machine and turn it on.

2. Connect to BlazeX M3 with a USB cable.

3. Open the CutLabX software to enter the creation page.



4. Automatic machine connection (if it does not connect automatically, you need to try another COM port).



Tip: When the machine is connected to the MAC, you must select the name of the COM: Wchusbserial.

Cutlabx APP

APP download URL: <https://www.cutlabx.com>



App Store



Google Store



Android

" Note "

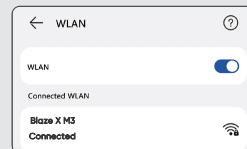
1. For Android system, open the browser to scan the QR code to download;
2. Corresponding authorization should be granted after successful installation.

1. Instructions for connecting the phone to the machine: Default Wi-Fi

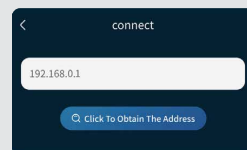
Note: After the mobile phone successfully connects to the machine, the phone has no network.

1. Turn on the power of the machine and turn it on.

2. Turn on the WLAN on the mobile phone, find the Wi-Fi signal named Blaze X M3, and the password is 12345678.



3. After the Wi-Fi connection is successful, open CutLabX APP, click the link mark in the upper right corner, enter 192.168.0.1 in the IP address, and click "Connect" to complete the connection.



2. Instructions for connecting the phone to the machine: Home network Wi-Fi

1. Turn on the power of the machine and turn it on.

2. Connect the M3 with the USB cable.

3. Open the CutLabX software to enter the authoring page.

4. Automatic machine connection (if it does not connect automatically, you need to try another COM).

5. Click the Set-Up Wi-Fi button, enter the Wi-Fi name and password of your home network, and restart the machine.

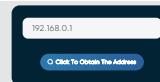


IP 192.168.0.1
VLAN XXXXXX
Password XXXXXX
OK Cancel Refresh

6. Turn on Wi-Fi on your phone, find the home network Wi-Fi name, and enter the password.

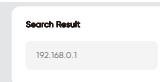
7. After the Wi-Fi connection is successful, open CutLabX APP,click the link mark in the upper right corner.

8. "Click Get address".



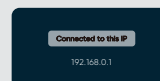
192.168.0.1
Click To Obtain The Address

9. Click on the IP address you obtained, and then click "Connect".



Search Result
192.168.0.1

10. The connected IP address is displayed, indicating a successful connection.



Connected to this IP
192.168.0.1

455nm 10W Engraving Material Parameters

Material	Power	Speed	Interval(mm)
Kraft Paper	50%	5000mm/min	0.10
Plywood	60%	5000mm/min	0.10
Solid Wood	70%	6000mm/min	0.10
Bamboo	70%	5000mm/min	0.10
Cork	30%	5000mm/min	0.10
Acrylic (Blackened)	30%	5000mm/min	0.10
Glass (Blackened)	30%	5000mm/min	0.10
Leather Blackened White	30%	5000mm/min	0.10
Silicone	50%	5000mm/min	0.10
Pebble	30%	5000mm/min	0.10
Ceramic (Blackened)	90%	6000mm/min	0.10
Aluminum (Blackened)	30%	5000mm/min	0.10
Stainless Steel	100%	5000mm/min	0.10
White Felt (Blackened)	50%	5000mm/min	0.10

455nm 10W Cutting Material Parameters

Material	Power	Speed	Cutting Times
Plywood 3mm	100%	500mm/min	1 time
Plywood 5mm	100%	250mm/min	1 time
Plywood 8mm	100%	120mm/min	1 time
Plywood 10mm	100%	200mm/min	5 time
Solid Wood 5mm	100%	200mm/min	1 time
Solid Wood 12mm	100%	70mm/min	1 time
Black Acrylic 10mm	100%	100mm/min	5 time
Black Acrylic 15mm	100%	100mm/min	9 time
Felt (Blackened) 3.5mm	100%	100mm/min	9 time
Leather 1mm	100%	2000mm/min	1 time
Medium MDF 4.3mm	100%	200mm/min	3 time

455nm 5W Engraving Material Parameters

Material	Power	Speed	Interval(mm)
Kraft Paper	80%	5000mm/min	0.12
Plywood	80%	5000mm/min	0.10
Solid Wood	80%	6000mm/min	0.10
Bamboo	80%	5000mm/min	0.10
Cork	50%	5000mm/min	0.10
Acrylic (Blackened)	30%	5000mm/min	0.10
Glass(Blackened)	40%	5000mm/min	0.10
Leather ^{Blackened} _{White}	40%	5000mm/min	0.10
Silicone	70%	5000mm/min	0.10
Pebble	40%	5000mm/min	0.10
Ceramic(Blackened)	100%	3000mm/min	0.10
Aluminum(Blackened)	40%	5000mm/min	0.10
Stainless Steel	100%	2000mm/min	0.10
White Felt(Blackened)	70%	5000mm/min	0.10

455nm 5W Cutting Material Parameters

Material	Power	Speed	Cutting Times
Plywood 3mm	100%	250mm/min	1 time
Plywood 5mm	100%	120mm/min	1 time
Plywood 8mm	100%	200mm/min	6 time
Plywood 10mm	100%	100mm/min	1 time
Solid Wood 5mm	100%	100mm/min	3 time
Solid Wood 12mm	100%	100mm/min	4 time
Black Acrylic 10mm	100%	100mm/min	12 time
Black Acrylic 15mm	100%	100mm/min	15 time
Felt (Blackened) 3.5mm	100%	100mm/min	20 time
Leather 1mm	100%	1000mm/min	1 time
Medium MDF 4.3mm	100%	200mm/min	6 time

455nm 3W Engraving Material Parameters

[Not recommended for cutting]

Material	Power	Speed	Interval(mm)
Kraft Paper	100%	3000mm/min	0.12
Plywood	100%	3000mm/min	0.10
Solid Wood	100%	3000mm/min	0.10
Bamboo	100%	3000mm/min	0.10
Cork	100%	4000mm/min	0.10
Acrylic (Blackened)	100%	5000mm/min	0.10
Glass(Blackened)	100%	5000mm/min	0.10
Leather Blackened White	100%	5000mm/min	0.10
Silicone	100%	3000mm/min	0.10
Pebble	100%	5000mm/min	0.10
Ceramic(Blackened)	100%	1500mm/min	0.10
Aluminum(Blackened)	100%	5000mm/min	0.10
Stainless Steel	100%	600mm/min	0.10
White Felt(Blackened)	100%	2500mm/min	0.10

1064nm 1W Engraving Material Parameters

[Not recommended for cutting]

Material	Power	Speed	Interval(mm)
Kraft Paper	100%	300mm/min	0.05
Acrylic(Blackened)	40%	7000mm/min	0.05
Glass(Blackened)	30%	7000mm/min	0.05
Leather(Blackened)	100%	5000mm/min	0.05
Silicone	100%	2000mm/min	0.05
Pebble	100%	3000mm/min	0.05
Ceramic	100%	3000mm/min	0.05
Aluminum Plate	50%	7000mm/min	0.05
Stainless Steel	70%	7000mm/min	0.05
White Felt(Blackened)	100%	1000mm/min	0.05
Black Acrylic	100%	6000mm/min	0.05
Copper Plate	80%	7000mm/min	0.05
Cork	100%	300mm/min	0.05

Scan the QR code to quickly access instructional videos on how to use the machine.



Why can't the pattern be engraved at all (or engraved very lightly)?

Imported images should be clear and the color should not be too light; Before engraving, please make sure that the focus is correct and the power, speed and time are set appropriately.

Why can't I start engraving when I press the button on the main unit during offline engraving?

Make sure there are engraving files in the root directory of the TF card and the TF card is inserted. Please note:

- The machine reads the engraving file with the name 001.nc in the root directory of the TF card by default, It is recommended to delete other irrelevant files in the root directory.
- The file can be generated by LightBurn, CutLabX software, the compatible format is NC, if GCode is generated by default, please manually modify the file suffix to NC.

Why can't I connect to the computer after the machine is turned on?

- Reinstall the driver, the driver shows installed, which means the driver is normal.

When the driver display is pre-installed, you need to check if it is the original wiring or not connected to the machine. Please use other ports on the computer

- Is the port selection correct? Some computers are connected with 2 ports.

Please ignore COM1 and select another COM port. (MAC port numbers must begin with Wchusbserial to work properly)

- Disable other software that occupies the COM port. When connecting with Lasergrbl, you cannot connect with LaserGRBL if CutLabX is running. You must close CutLabX for LaserGRBL to work properly.

- If you purchase the whole machine with the shield accessory, you need to close the shield in order to use it normally, this way is to protect you and your family's safety, please use the equipment as required, otherwise it will not be able to connect.

Note: In Lightburn, the machine can store the information of more than one machine, please select the appropriate configuration information according to the model.

Why can't I use the phone after the machine is turned on?

Please follow the instructions to use the phone. If the connection is abnormal due to the incompatibility of the newly released cell phone or system upgrade.

Please provide a screenshot of the phone configuration and contact our customer service to get technical support as soon as possible.

Why is the machine not responding when turned on?

a.Check that the power plug at the machine end is in place.

b.Check the electrical status of the power outlet.

c.Check that the power switch and light shield on the machine are turned off.

What non-transparent materials can the M3 Laser Engraver engrave or cut?

455nm laser.Can engrave paper, woodchips, plastic, leather, fabric, cardboard, leather, stone, ceramic, stainless steel, coated metal, and most other non-transparent materials materials

455nm laser: 5W laser power can cut 3-5mm plywood, 5-7mm pine board.

10W laser power can cut 5-7mm plywood, 7-10mm pine board.

1064nm laser: Can engrave all metal materials, plastic, leather and other materials.

1064nm laser:noncuttable.

Can you engrave on reflective/transparent materials such as ceramics/glass?

Yes, but before engraving, you need to apply anti-reflective material on the surface of the material (e.g.laser color paper,black marker) to ensure the engraving effect and prevent the reflected light from damaging the laser module.

What software is supported by the M3 Laser Engraver?

LightBurn (paid)-real-time/offline 30-day trial CutLabX(free)- real time/offline/ mobile

Real-time engraving, pay attention to the computer does not crash,and do not enter standby mode (do not lock the screen),so as not to affect the engraving.

Dear Makers:

Thank you for entrusting your creativity to a BlazeX laser engraver.

Welcome to join the BlazeX Facebook user group to share your creations and get creative inspiration!

You can also find tutorial videos on our official YouTube channel to help you quickly get started with the machine.

If you encounter any problems during use, please feel free to contact us.

The BlazeX after-sales team will always provide you with after-sales support!



info@blazexlaser.com



+1(347)4402918



BlazeX Creators Group

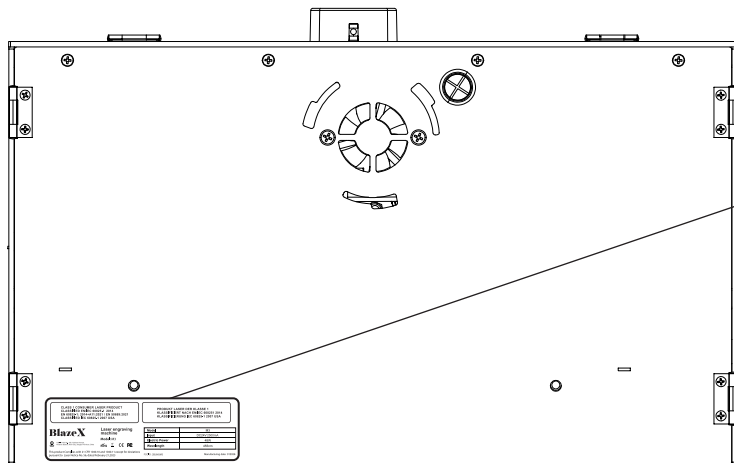


BlazeX Laser



BlazeX

V01-20251231



CLASS 1 CONSUMER LASER PRODUCT
CLASSIFIED EN/IEC 60825-1 2014
EN 60825-1: 2014+A11:2021 / EN 50689:2021
CLASSIFIED IEC 60825-1 2007 USA

PRODUKT LASER DER KLASSE 1
KLASSIFIZIERT NACH EN/IEC 608251 2014
KLASSIFIZIERUNG IEC 60825-1 2007 USA

BlazeX



108241101, No. 105, 11888th Avenue,
Huahe District, Wuxi City, Jiangsu Province, China

Laser engraving
machine

Model: M3



This product Complies with 21 CFR 1040.10 and 1040.11 except for deviations
pursuant to Laser Notice No. 56, dated February 21, 2023

FCC ID: 2BUMJM3

Manufacturing date: 012026

Model	M3
Input	DC24V/2500mA
Electric Power	48W
Wavelength	455nm

BlazeX