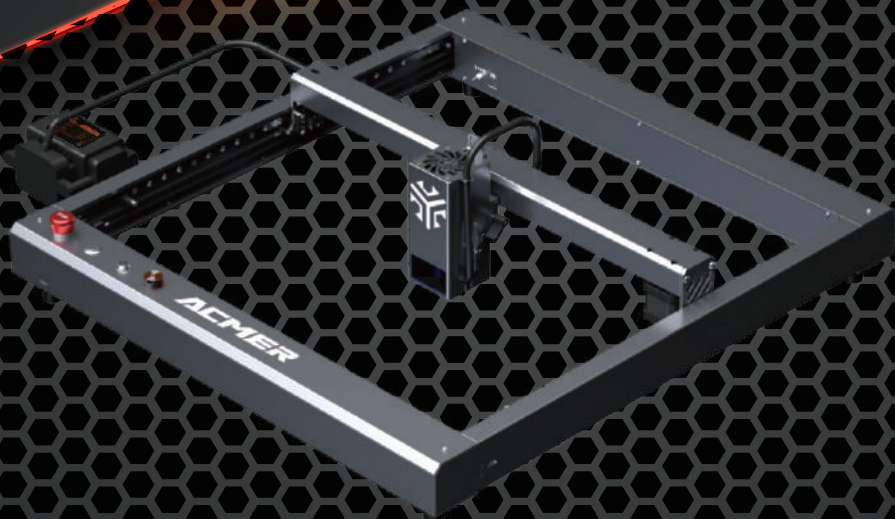




ACMER



L A S E R E N G R A V E R

ACMER P2

MANUAL V 1.1

Acmer Technology Co., Ltd.

Thank you for choosing our product and placing your trust in our brand. We are committed to providing high-quality products and exceptional service to all our customers, and we greatly appreciate your support.

To help you utilize and maintain your product, we offer several support options:

Social Media Channels:

Join our Facebook group and follow our Facebook page by scanning the QR code below



Facebook Group:

<https://www.facebook.com/groups/1614455505653986>



Facebook:

<https://www.facebook.com/profile.php?id=100088576630671>

Online Video Learning:

Learn how to operate the laser engraving machine through our official YouTube channel (@acmerlaser)

Email Support:

Contact our after-sales team directly through the support email: support@acmer3d.com

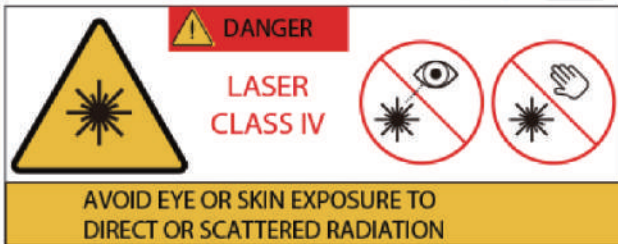
Thank you

1. CONTENTS

| | |
|---|----|
| 1. Contents | 02 |
| 2. Disclaimer and Safety Guidelines | 03 |
| 3. Machine Parameters | 04 |
| 4. Machine Description | 05 |
| 5. Accessories | 06 |
| 6. Installation Steps | 07 |
| 7. Software Tutorials | 11 |
| 8. APP Tutorials | 20 |
| 9. FAQ | 27 |
| 10. After Sale | 30 |

2. Disclaimer and Safety Guidelines

1. Laser engraving machine will produce laser light, it is strictly prohibited to point the laser at any living body.
2. When using the laser engraving machine, the operator and the personnel in its vicinity must wear laser safety glasses, please do not operate the laser without wearing protective glasses (laser goggles)!
3. Minors (especially children over 14 years old) must use the machine under the supervision of an adult throughout!
4. Engraving machine work will produce a lot of smoke, please place the machine in a ventilated environment before work, and ensure that there is no other flammable materials near the engraving machine, it is recommended to place a metal mat under the machine.
5. When the machine is running, please do not touch the laser beam to avoid personal injury.
6. During the engraving and cutting process, please ensure that the machine is within the visual range of the operator.
7. This machine is not recommended for commercial use.

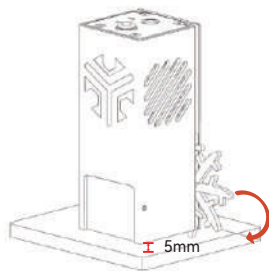


Warm Tip: Please check and clean the lens of the laser module regularly to prevent the laser from being damaged due to the blocked laser beam.

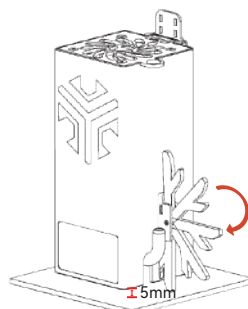
3. Machine Parameters

| | |
|-----------------------|---|
| Machine Size | 600*650*170mm |
| Engraving Size | 420*400mm |
| Machine Weight | 6.5kg |
| Focal Length | 5mm |
| Laser Power | 10W/20W/33W/48W |
| Laser Wavelength | 450±5nm |
| Laser Type | Diode Laser |
| Power Input | DC 24V |
| Communication Method | USB / APP |
| Compatible Software | LaserGRBL / LightBurn / ACMER APP |
| Compatible Systems | MAC, Windows, Android |
| Engraving Material | Wood, Bamboo, Paper, Plastic, Leather, PCB Board, Aluminium Oxide, Non-reflective Coating and Lacquered Metal, Ceramic, Glass |
| Engraving File Format | NC, DXF, BMP, JPG, PNG, etc. |
| Engraving Accuracy | 0.01mm |
| Fuselage Material | Aluminum Profiles |

Focal Length

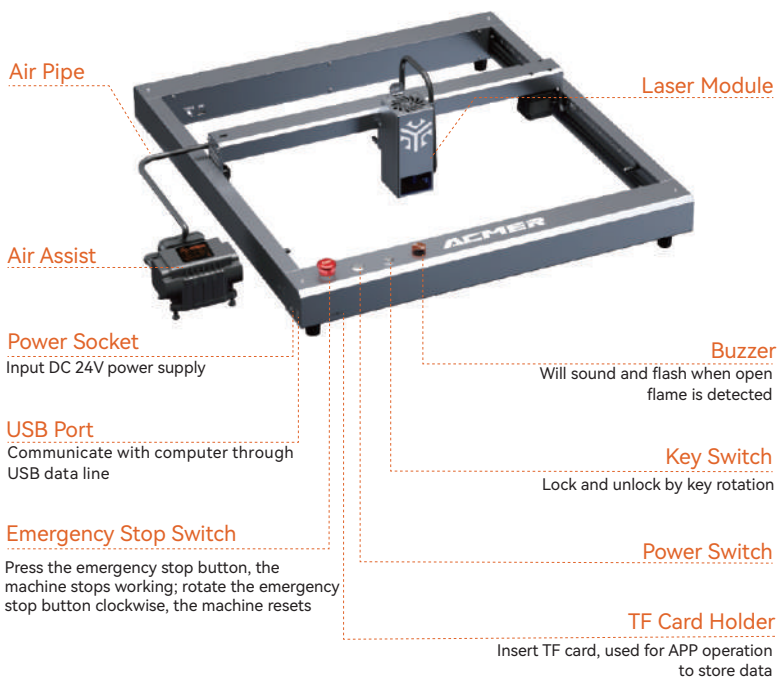


10W


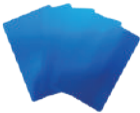


20W/33W/48W

4. Machine Description

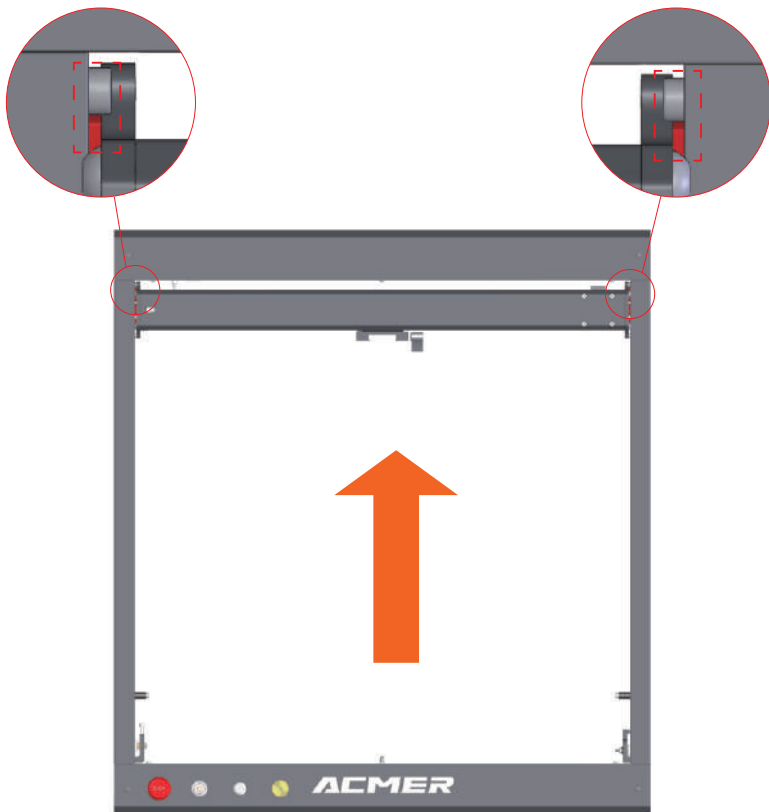


5. Accessories

| | | | |
|---|---|---|--|
|  |  |  |  |
| Laser Module x1 | Air Assist x 1 | Power Adapter | Machine Key x2 |
|  |  |  |  |
| Laser Goggle x1 | Card Reader TF Card x1 | Power Cable x1 | Rotary Axis Wire x1 |
|  |  |  |  |
| USB Cable x1 | Brushes x1 | Wrench x1 | Screwdriver x4 |
|  |  |  |  |
| Plywood x2 (200x200x2mm) | Plywood x2 (200x100x6mm) | Stainless Steel x1 | Acrylic x1 |
|  |  |  | |
| Aluminum Cards x5 | Cork Coaster x1 | Lens x2 (only for 20W/ 33W) | |

6. Installation Steps

6.1 Set the toggle switch to "R", manually move the X-axis to the end of the machine and adjust the X-axis to make sure that both locating blocks touch the post at the same time.



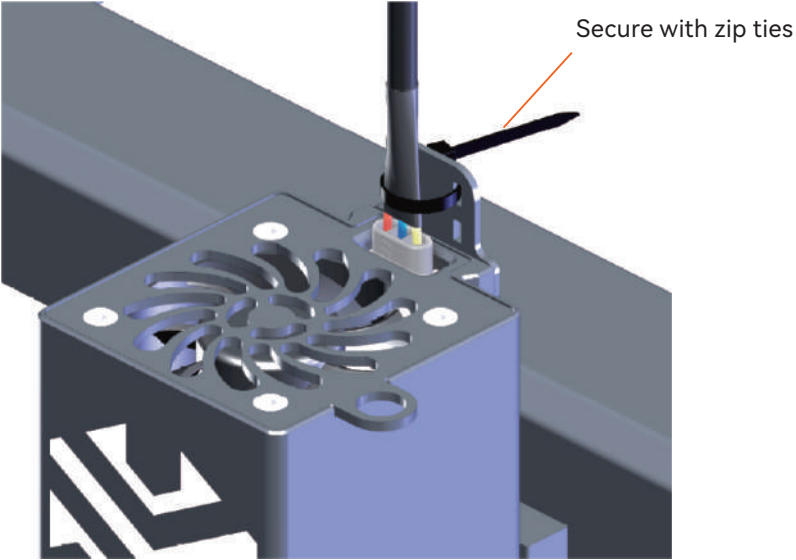
6.2 Use a screwdriver to adjust the belts on both sides, ensuring that the belt tension is the same on both sides.



6.3 Securely fit the laser module into the slot and fasten the screw to ensure a tight assembly.

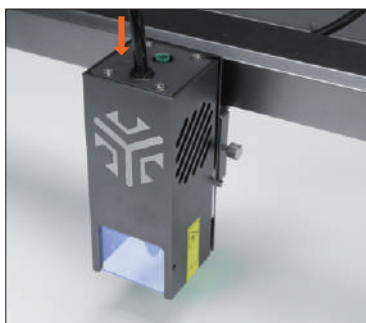


6.4 Connect the laser module wire.



6.5 Connect the air pipe.





10W



20W/33W/48W

6.6 Connect the air pump conversion wire.



7. Software Tutorials

ACMER laser engraver supports the most popular engraving software LaserGRBL and Lightburn.

LaserGRBL is an open source, easy to use and powerful software that is perfect for novice users to use, but LaserGRBL only supports Windows systems (Win XP/Win 7/Win 8/XP/ Win 10/Win 11). For Mac users, you can choose to operate LightBurn, which is also an excellent engraving software, but it costs \$60 (with a free one-month trial for the first installation), and this software also supports Windows systems.

If you want to download and install LaserGRBL, you can get the data directly from the TF card, or you can visit the official website of LaserGRBL to download; for Lightburn users, you can visit Lightburn official website to download.



ACMER APP



CH340SER



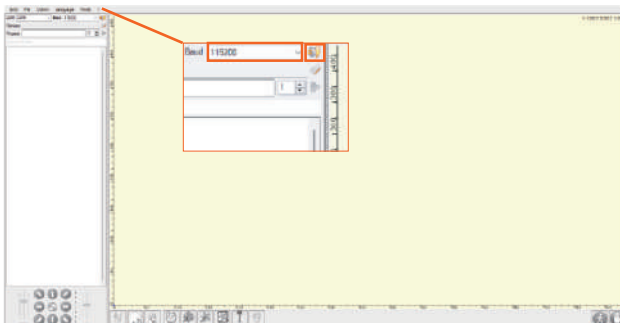
CH34x_Install_V
1.5.pkg

Note:

If you are using the software for the first time, please get the driver file from the TF card "Software->Drivers" file and install it.

7.1 LaserGRBL Tutorial

7.1.1 Select "115200", and then click "Connect".

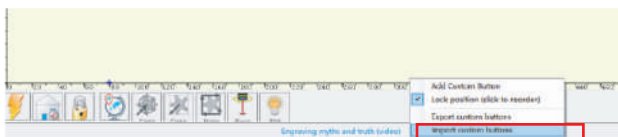


7.1.2 Click the Unlock button.

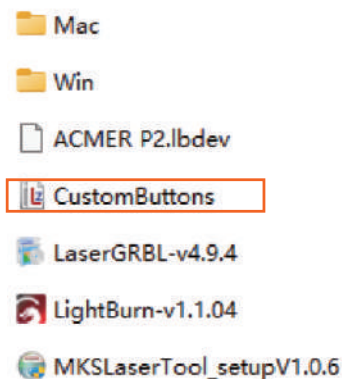


7.1.3 Introducing the air pump button.

- (1) Move your mouse to the blank area at the bottom right of the interface, then right-click and select "import custom buttons".



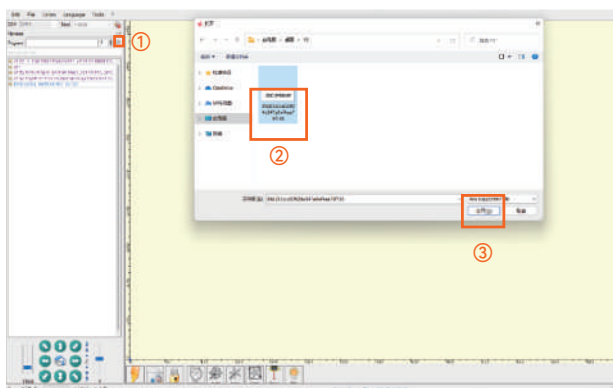
- (2) Select the "CustomButtons" file from the "Software" folder in the TF card.



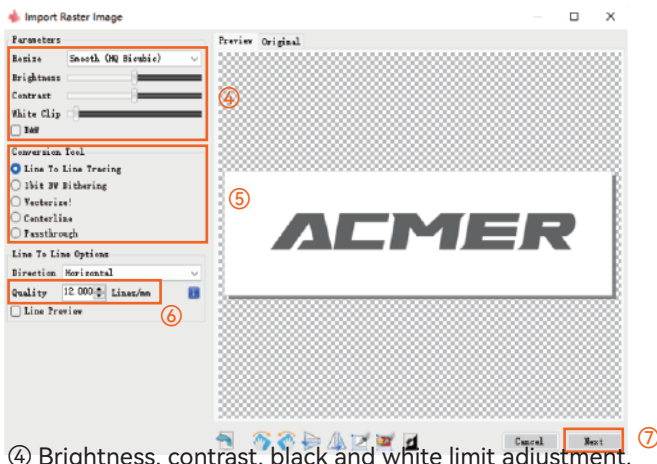
- (3) The air pump is controlled by clicking the "Air Pump" button.



7.1.4 Start engraving



- ① Click the "Open File" button.
- ② Select the engraving file.
- ③ Click "OPEN".



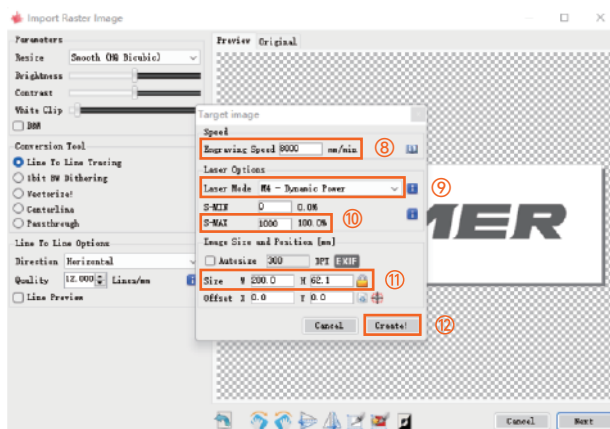
④ Brightness, contrast, black and white limit adjustment.

⑤ Select the engraving mode.

⑥ Adjust the engraving quality

⑦ (recommended quality setting is about 10).

⑧ Click "Next".



⑧ Select the engraving speed
(suggest to refer to the engraving parameter table).

⑨ Select "Laser Mode", "M4" for engraving and "M3" for cutting.

⑩ Set the engraving power, 1000 is the maximum power.

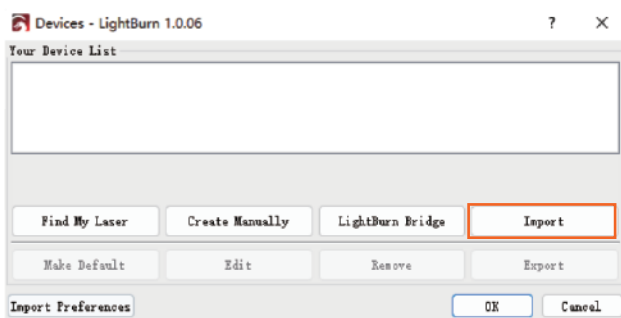
⑪ Set the engraving size.

⑫ Click "Create"

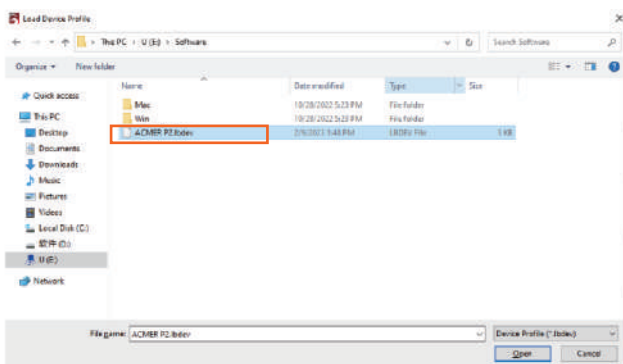
7.2 LightBurn Tutorial

7.2.1 Connecting the machine

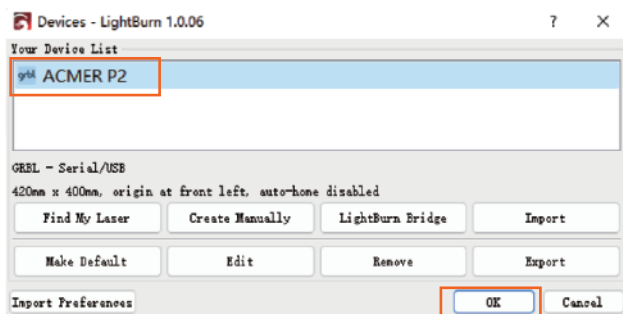
(1) Click "Import".



(2) Select "ACMER P2.lbdev", and then click "Open".



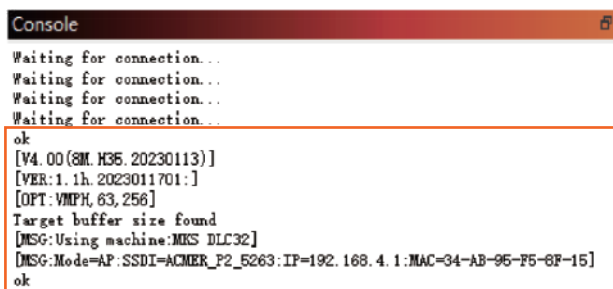
(3) Select "ACMER P2", and then click "OK".



- (4) Return to the main interface and select the correct port to complete the connection.

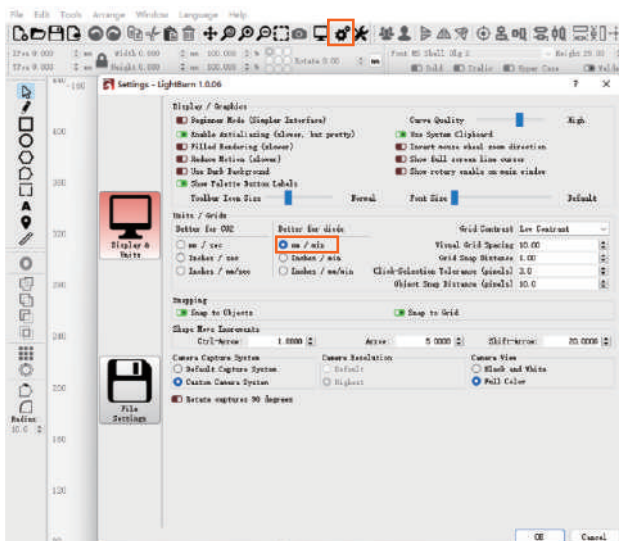


- (5) The machine is connected.

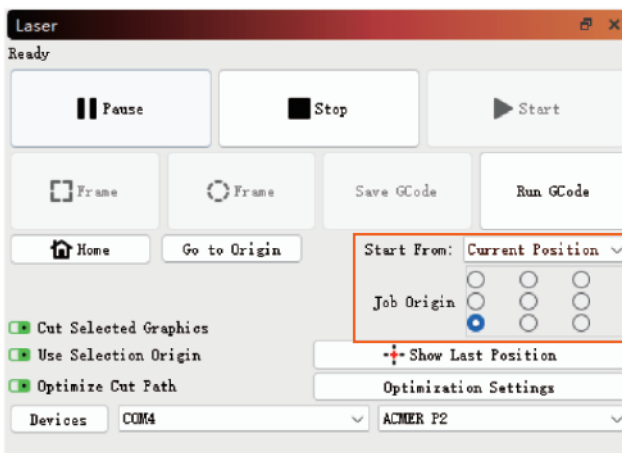


7.2.2 Software setup

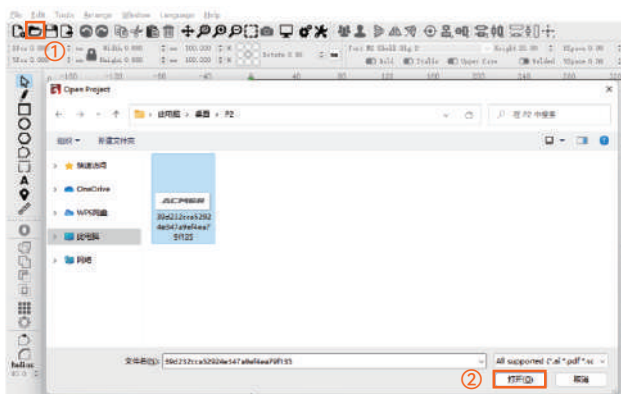
(1) Click "Setting" and set the speed unit to "mm/min".



(2) Set the machine engraving starting point as "Current Position", and set "Job Origin" to the lower left corner.

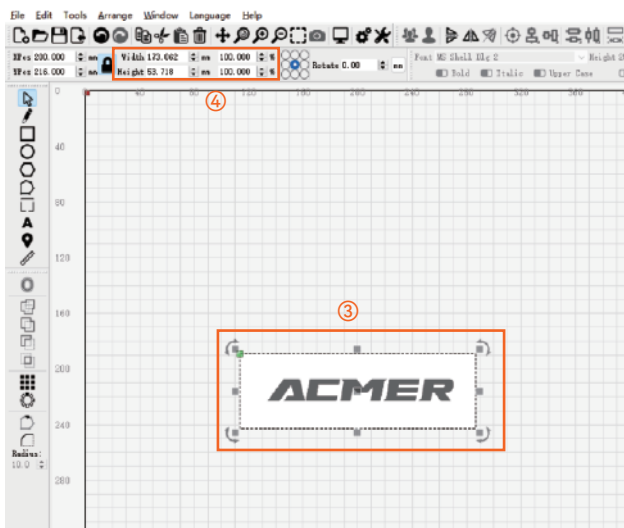


7.2.3 Start engraving



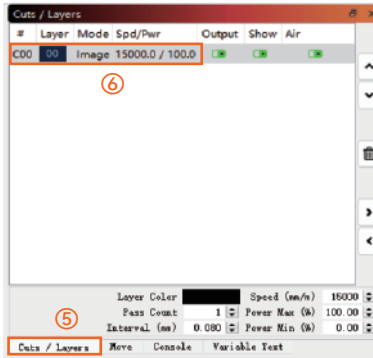
① Click "OPEN" to select the engraving file.

② Click "Open".



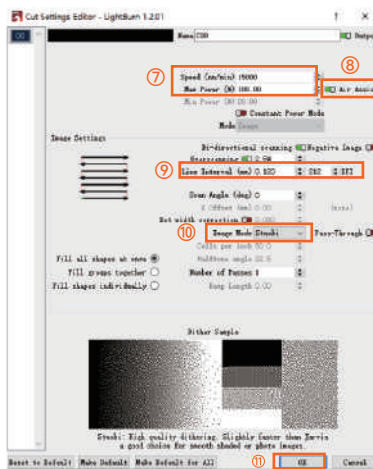
③ Click on the picture area.

④ Adjust the engraving size.



⑤ Select "Cuts/Layers".

⑥ Double-click the red box area.



⑦ Adjust the carving speed and carving power (suggest to refer to the carving parameter table).

⑧ Turn on or off the air pump.

⑨ Set the engraving quality.

⑩ Set the engraving mode.

⑪ Click "OK".



⑫ Click "Frame" to preview the engraving area.

⑬ Click "Start" to start engraving.

8. APP Tutorials

8.1 APP Download

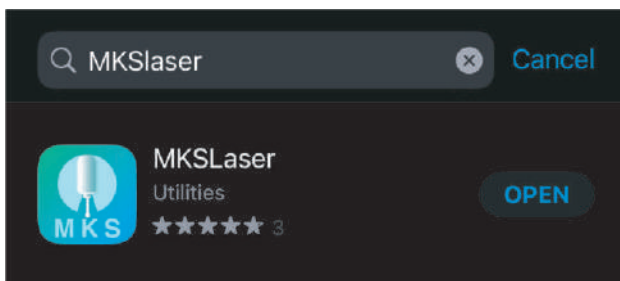
Android user

Android users can scan the QR code below or directly visit the ACMER website to download.



iPhone user

Search for "MKSLaser" in App Store.



8.2 APP Connection

(1) Insert the TF card into the card slot.

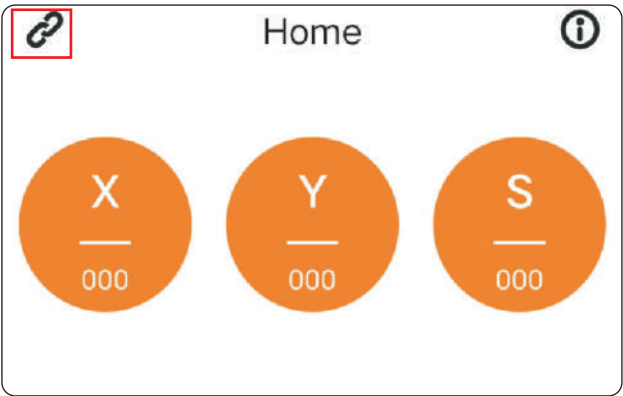


(2) Power on the machine, search for the network name "ACMER_P2_" through the cell phone WIFI function, and enter the password to connect.

The initial password is: 12345678

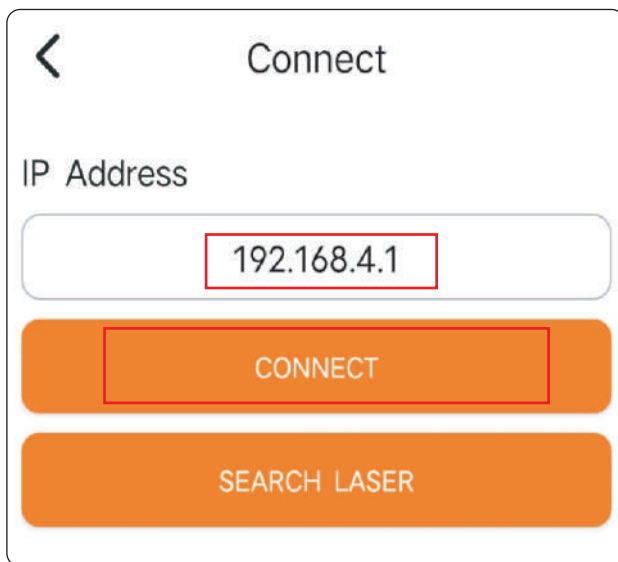


(3) Open the mobile app and click the icon in the upper left corner.



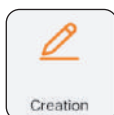
(4) Enter the IP address, and then click "CONNECT".

Note: The default IP address is "192.168.4.1".



The screenshot shows a mobile app interface for connecting a device. At the top is a back arrow and the title "Connect". Below this is a label "IP Address" followed by a text input field containing the default IP address "192.168.4.1". Below the input field are two orange buttons: "CONNECT" and "SEARCH LASER". Red rectangular boxes are drawn around the IP input field and the "CONNECT" button to indicate the required action.

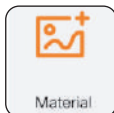
8.3 APP Function Introduction



You can use this function for self-creation, such as doodling, writing, etc. You can also access your phone album or take photos for engraving.



This function can be used to control the laser module movement and also to bring the laser module movement back into position.



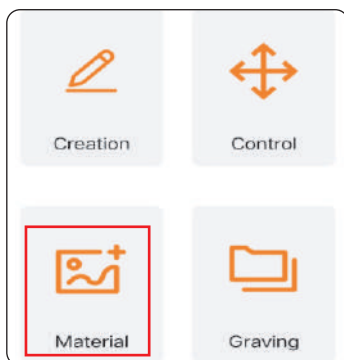
Get the material provided by ACMER for you to engrave.



You can store the programs generated by the computer software to the TF card, and then access the files in the TF card for offline engraving through this function.

8.4 Operation Demo

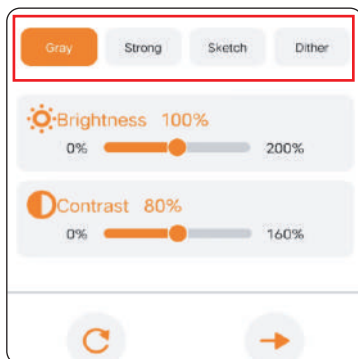
(1) Select “Material”.



(2) Select the engraving pattern.



(3) Select the engraving mode.



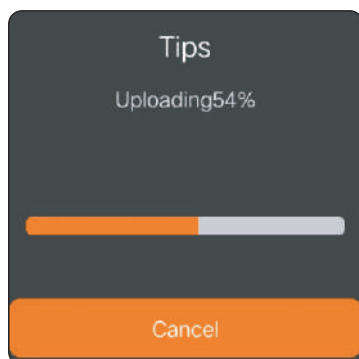
- (4) Adjust the engraving size and set the engraving parameters, then click the bottom right button to send the data.

| | |
|----------------------------------|----------------------------------|
| File Name DLC32001.nc | Size 96 134 mm |
| Work Speed 1000 mm/min | Laser Power 500 0-1000 |
| <div>⬅ ➡ ⏏ ⚙</div> | |

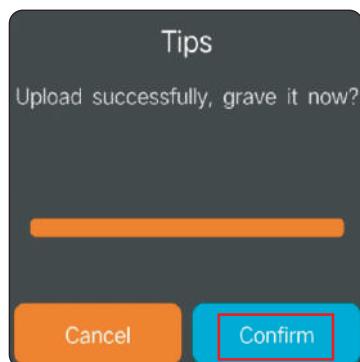


We suggest you set the engraving speed below 8000mm/min for better results!

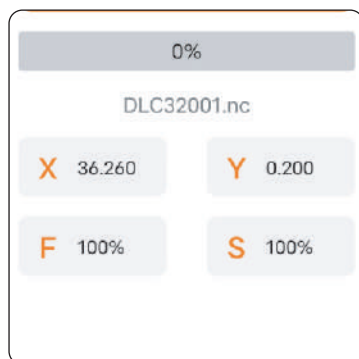
- (5) Wait for sending to complete.



(6) Click "Confirm" to start the engraving process.



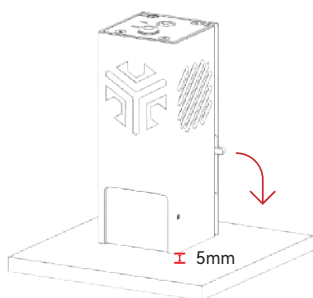
(7) Wait for the engraving to be completed.



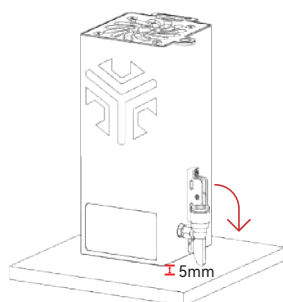
9. FAQ

Q1. Engraving machine can not cut through the material

1. Check if the laser module wiring is loose.
2. Confirm whether there is correct focus, which can be assisted by focusing the gate for focusing.



10W

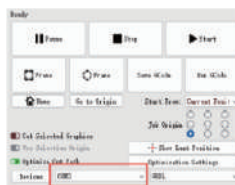
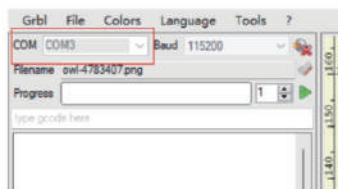


20W/33W/48W

3. Ensure that the engraving plane is flat and free of concavity.
4. Properly reduce the carving speed and increase the number of cuts, specific parameters can refer to the table of common carving parameters.

Q2. Engraving machine can not be connected to the computer side

1. Check whether the CH340 driver is installed on the computer, if not, please get the driver file from the TF card for installation.
2. Check if the correct port is selected.



3. Replace the USB cable and connect again.

4. Replace another computer to try.

Q3. Noise during the operation of the machine

1. First of all, when the machine is running, the cooling fan of the laser set itself will have a certain noise.

2. Check whether the table is flat.

3. Check whether the machine screws are loose or fall off.

4. Check whether there are foreign objects on the guide rail, you can remove the belt and slide the guide rail by hand to observe whether there is a jamming phenomenon, and add the right amount of lubricant to the guide rail if possible.

Q4. Y-axis moving abnormally or not moving

1. Check whether the changeover switch is switched to "Y" axis position.

2. Check whether the Y-axis motor wiring is loose at both ends.

3. If possible, use a multimeter to measure the output voltage of the motor port on the main board.

Q5. How to adjust the belt tightness

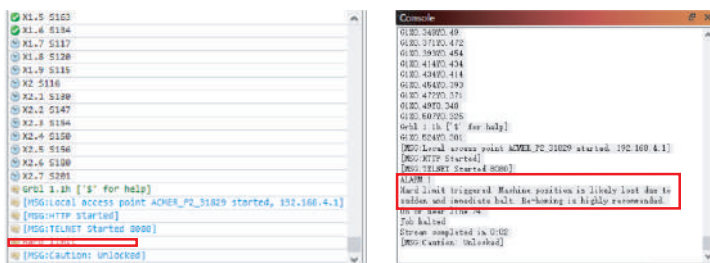
After installing the belt, twist the top wire on the tensioner to adjust the belt tightness, twist clockwise to tighten the belt, twist counterclockwise to loosen the belt, and keep the belt tightness on both sides of the Y axis.

Q6. What is the function of the switch at the back of the engraving machine?

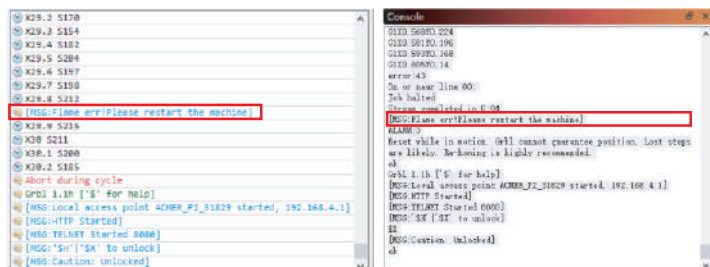
This switch is a rotary module toggle switch, toggle to the left for normal engraving position, toggle to the right for rotary module position, rotary module can be directly connected to the socket with "RM" logo next to it.

Q7. The machine stops engraving halfway through its work.

1. Check whether the machine power supply is properly connected.
2. Check if there is any abnormal obstruction to the limit switch, at this time the command bar will have the following prompt.



3. Check whether there is a flame generated during the carving process, at this time, the command bar will have the following prompt.



10. After Sale

Dear Customer,

Thank you for purchasing ACMER Laser Engraving Cutting Machine. We are dedicated to producing low price, high quality Laser Engraving Cutting Machine and hope you have as much fun using it as we did creating it!

If you have any issue/questions regarding the contents in the kit, please fill out a Service Ticket on our Support page.

<https://www.facebook.com/groups/1614455505653986>

Creating a Service Ticket will serve as your official requests for ACMER support. Our Customer Support Team will contact you within 48 hours.

The content of after-sales service is as follows:

1. REPLACEMENT PARTS

1.1 ACMER products are covered under a Replacement Part Program for a period of 12 months from the date of purchase.

1.2 Missing/Damaged/Defective Parts

1.2.1. Within 7 days of the delivery date, ACMER will replace any parts free of charge including shipping fees.

1.2.2. After 7 days of the delivery date, ACMER will replace any parts free of charge BUT the customer will be responsible for shipping fees.

1.3. Customer Damaged Parts.

1.3.1. The customer shall pay for the cost of the parts and the shipping fees.

2. CARRIER LOSS, MISSING, DAMAGED, AND DEFECTIVE PARTS

- 2.1 Claims for lost or damaged shipments must be reported to the carrier within the carrier's claim window, the customer needs to inform ACMER within 7 days of the delivery date. For any parts lost or damaged during shipping, the customer shall take photos or video and submit them when filling out a Service.
- 2.1.1. Ticket. If a claim number was issued by the carrier, please include the claim number when creating your Service Ticket (Report a Problem / Carrier Lost Parts.)
- 2.1.2. Once the Carrier dispute is resolved, please provide ACMER with all communications with the carrier. It is the customer's responsibility to keep ACMER up to date with ALL communication with the carrier.
- 2.1.3. ACMER will work with the customer on replacing the parts in the claim.
- 2.2 For Missing Parts, refer to section 1.2, the customer shall fill out a Service Ticket (Report a Problem / Missing Parts.)
- 2.3 For Damaged Hardware Parts, refer to section 1.2, the customer shall take photos or video and submit them when filling out a Service Ticket (Report a Problem / Damaged Hardware Parts.)
- 2.4 For Defective Electronic Parts, refer to section 1.2, the customer shall take photos or video and submit them when filling out a Service Ticket (Report a Problem / Defective Electronic Parts.)
- 2.4.1 If the part is Power Supply or Mainboard, the customer shall ship the part back to ACMER and ACMER will send a new part.

3. GENERAL SUPPORT

For information and support on building and operating your ACMER Laser Engraving Cutting Machine, please visit the ACMER Owners Group.

<https://www.facebook.com/groups/1614455505653986>



MADE IN CHINA

<https://acmerlaser.com/>

<https://www.facebook.com/groups/1614455505653986>

————— Acmer Technology Co., Ltd. —————

Xitou Industrial Estate, Qinfen Road, Longhua District, Shenzhen, China