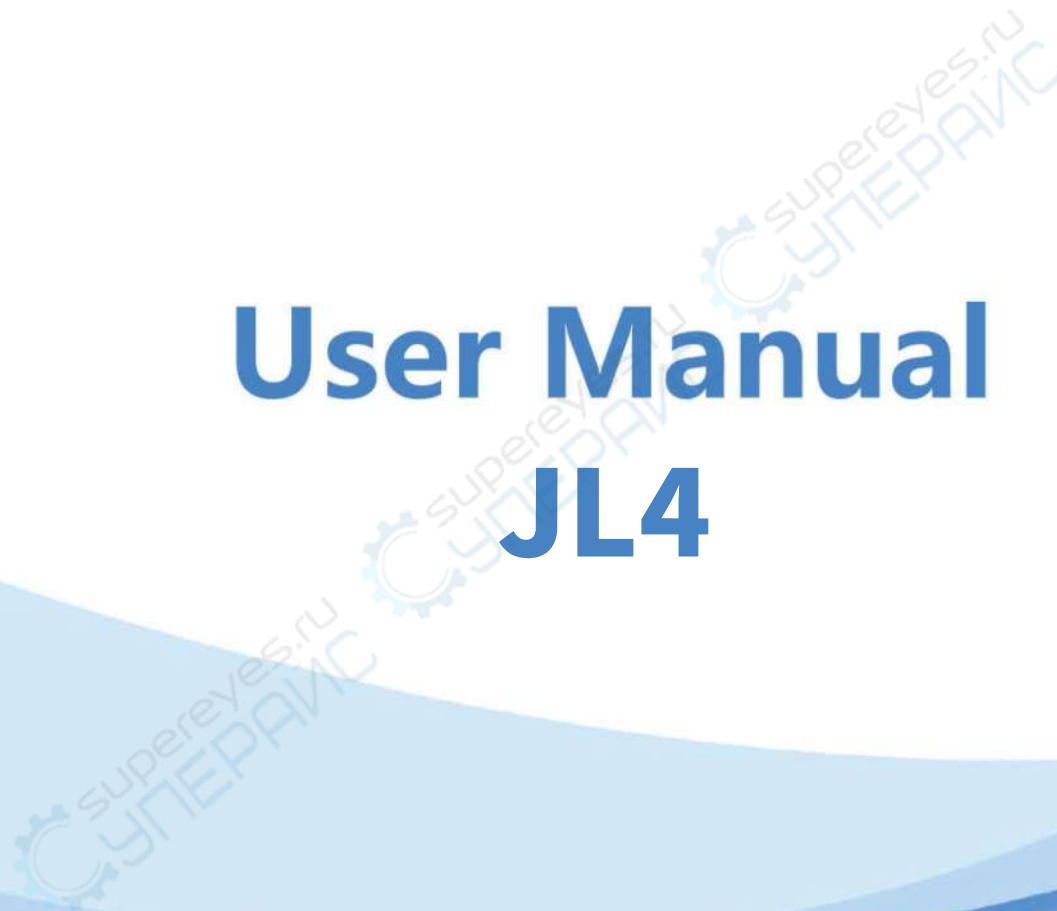


User Manual

JL4



Laser engraver software user manual

Please read this instruction carefully before using the product and keep it properly. There may be a delay in the content of the paper manual. Please download the latest version from the official website.

The data download URL is as follows:

www.dkjxz.com/download/JL4_User Manual.zip

www.dkjxz.com/download/JL4_Software.zip

www.dkjxz.com/download/JL4_video.zip

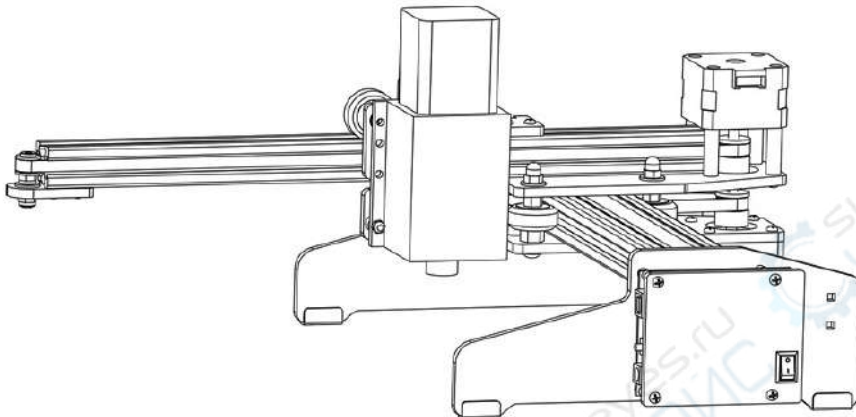


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01 Welcome

This product has a unique, minimalist, beautiful and innovative product design. You may enjoy the convenience and pleasure of laser engraving from now on.



Laser engraving machine parameter table

Product dimensions: 390 x 315 x 165mm

Package size: 450 x 270 x 130mm

Product weight: 1.66Kg

Package weight: 2.50Kg

Material: Aluminium + acrylic

Engraving area: 140*130 mm

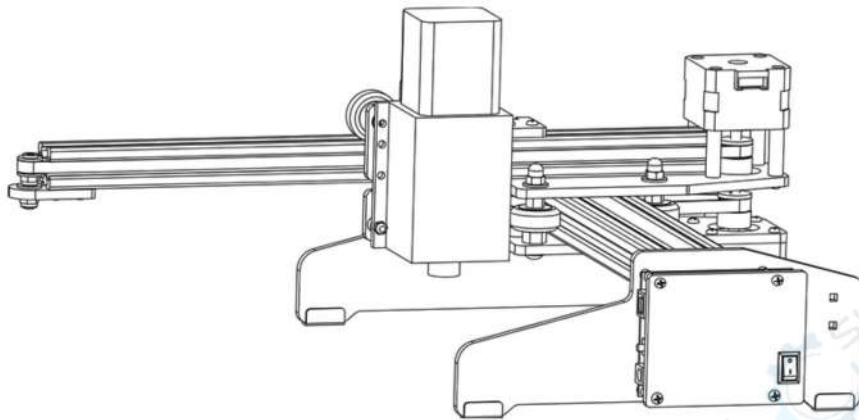
Product function: Connect computer to control / WIFI with mobile App control / One-touch offline engraving / Automatic detection of the maximum engraving area of the machine

Accessories: USB flash drive + data cable + power supply + kraftpaper + black cardboard + test wooden board + User manual

03 Products and accessories

Please check carefully whether the products and accessories inside the box are complete and intact. If there is any missing or broken, please contact the retailer.

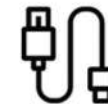
Accessories



1. Machine



2. Power Adapter



3. Data cable



4. Kraftpaper + black cardboard



5. User manual

1. Machine: Laser engraving machine

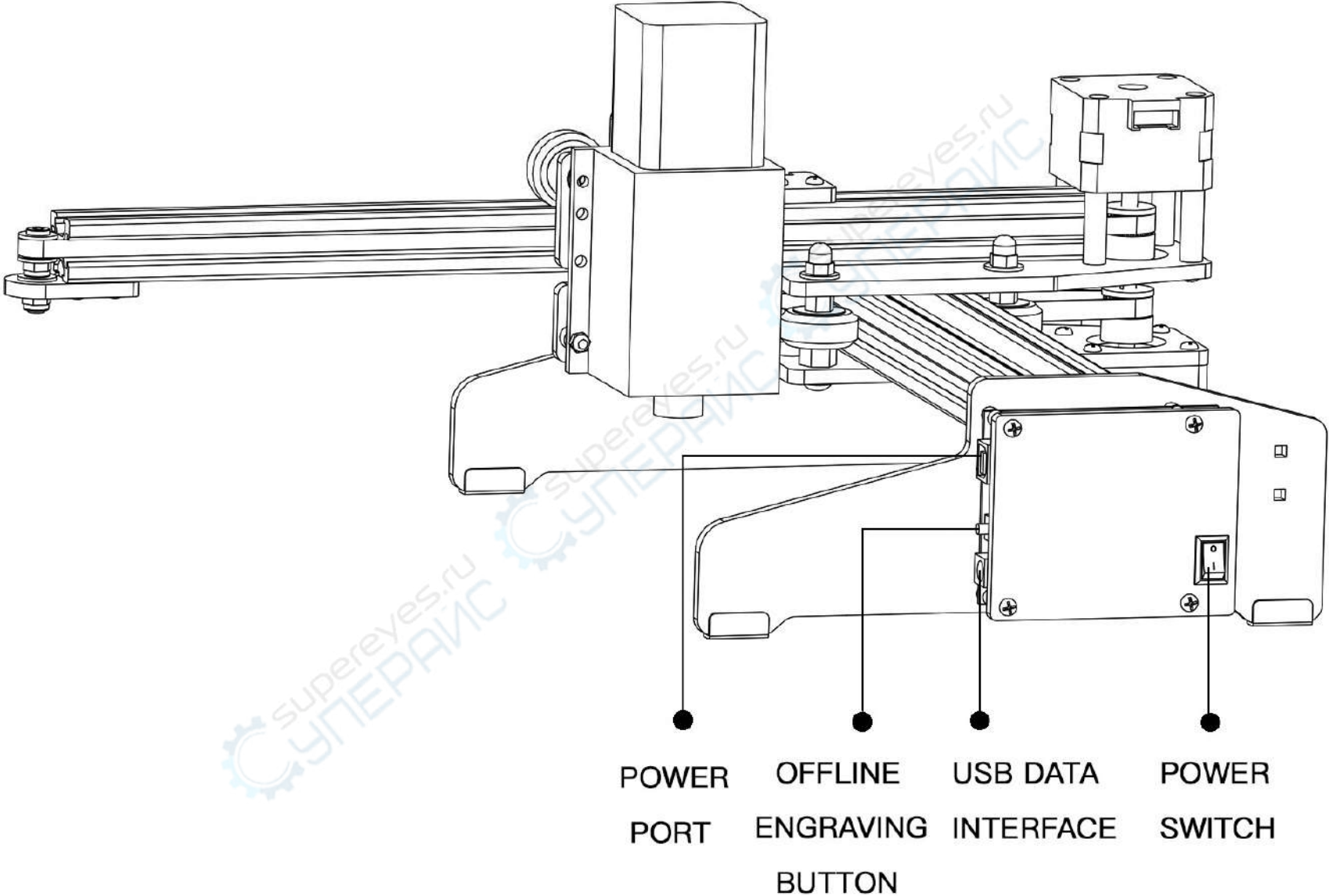
3. Power adapter: for supplying power to the engraver

5. User manual: Instructions for use of the engraving machine

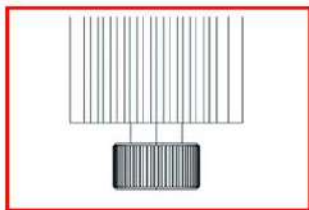
2. Power adapter: for supplying power to the engraver

4. Kraftpaper + black cardboard: For engraving tests and laser focusing

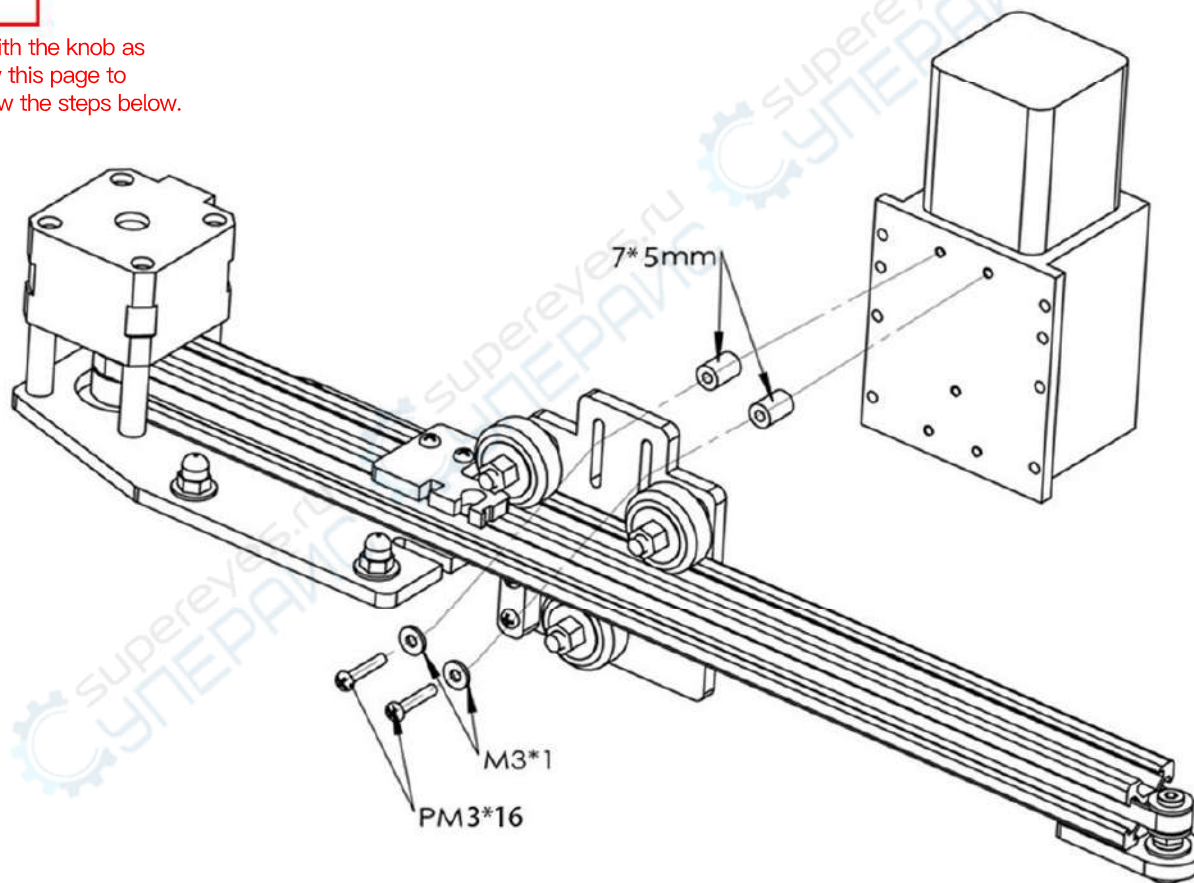
03 DIAGRAMS OF THE STRUCTURE AND FUNCTIONS



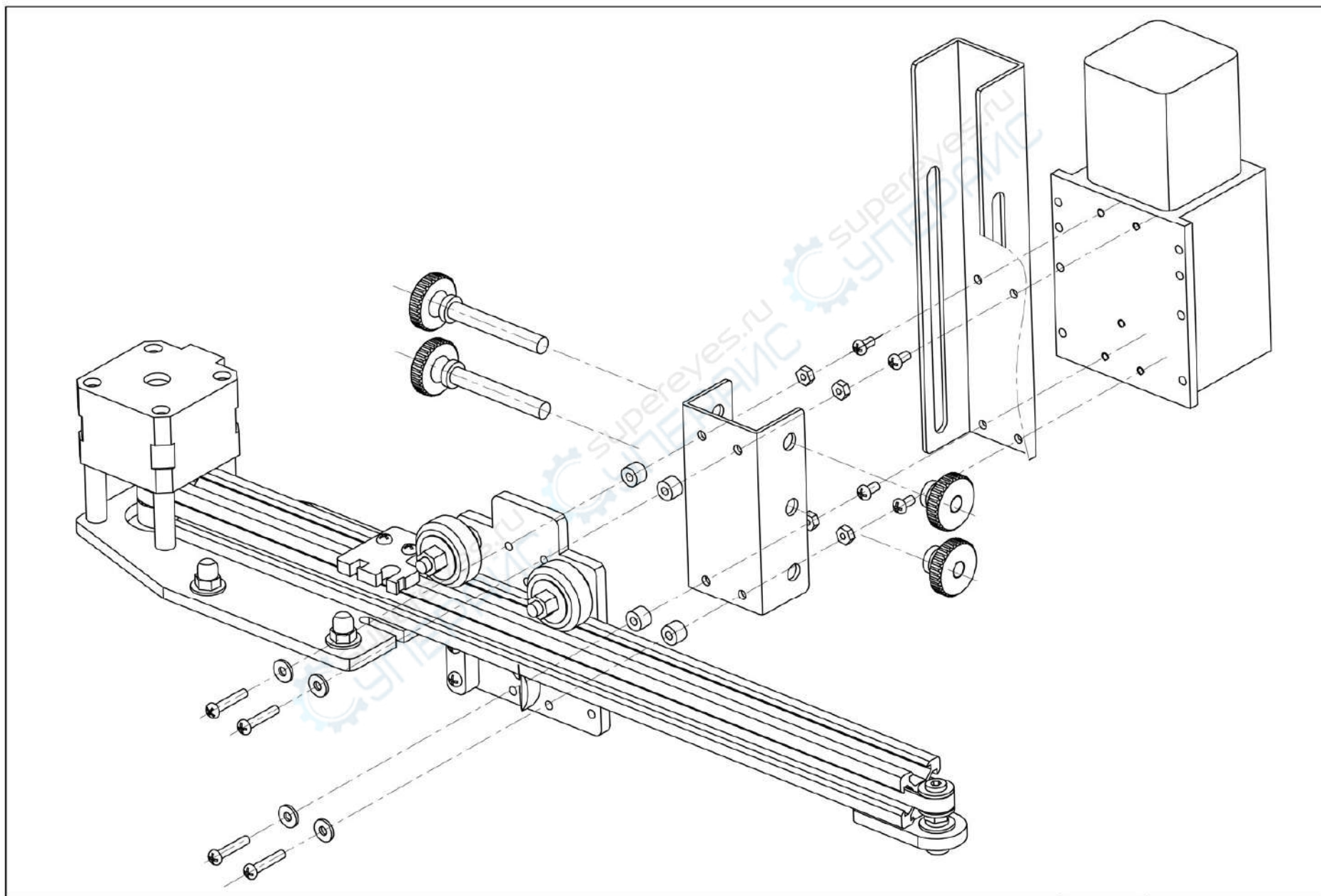
04 INSTALLATION GUIDE



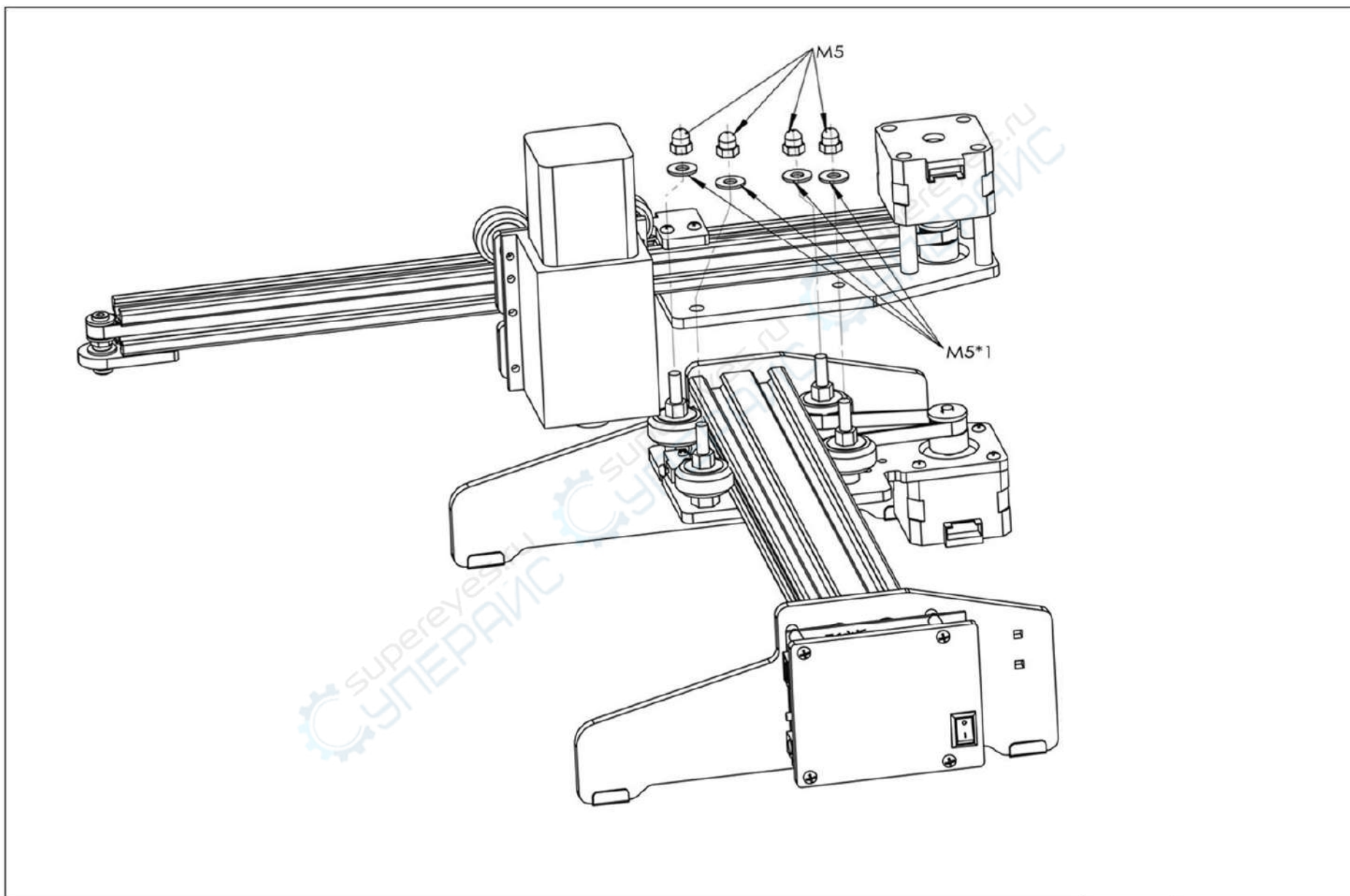
If you receive the laser module with the knob as shown in the figure, please follow this page to assemble; otherwise, please follow the steps below. If not, please skip to Page5.



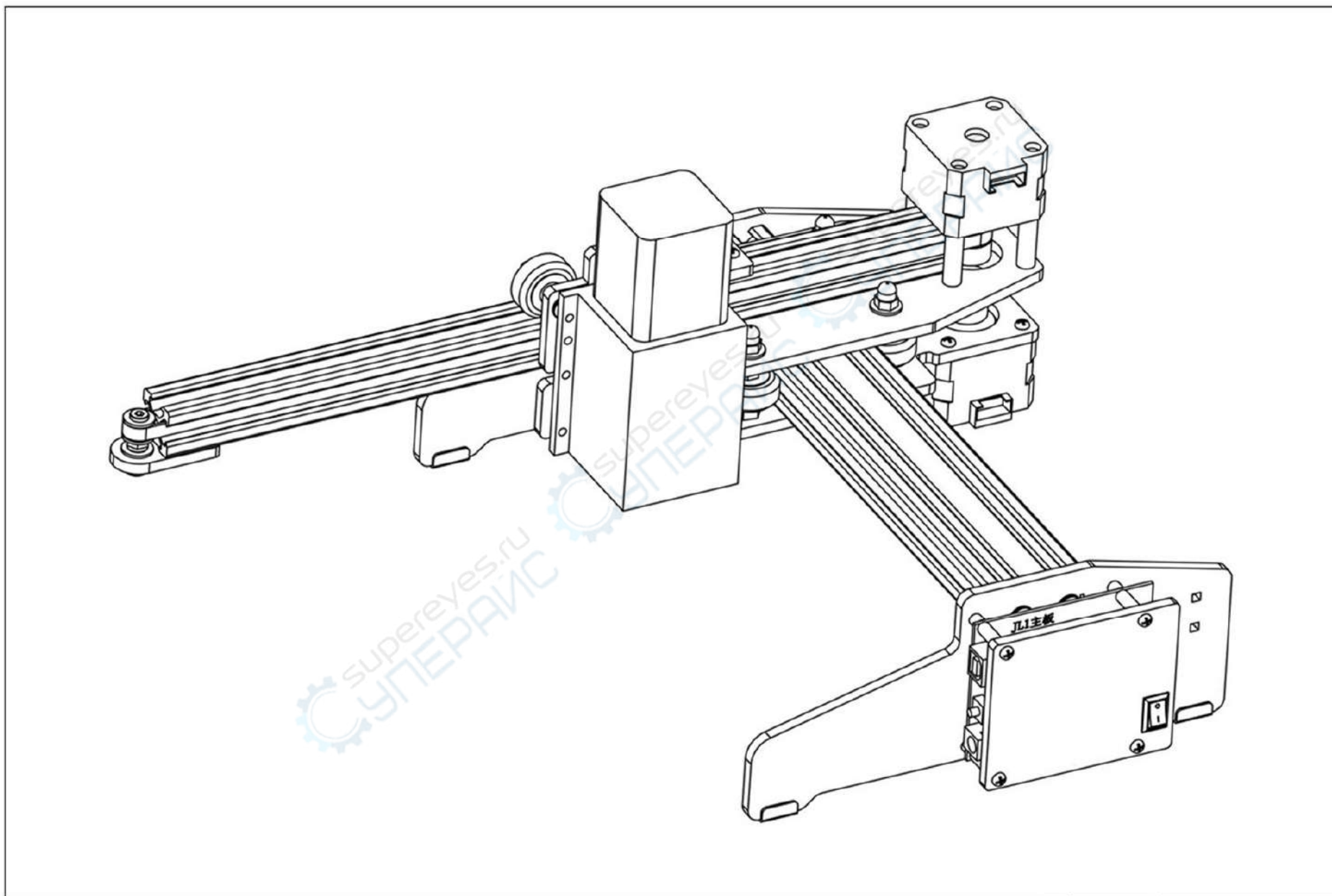
04 INSTALLATION GUIDE



04 INSTALLATION GUIDE

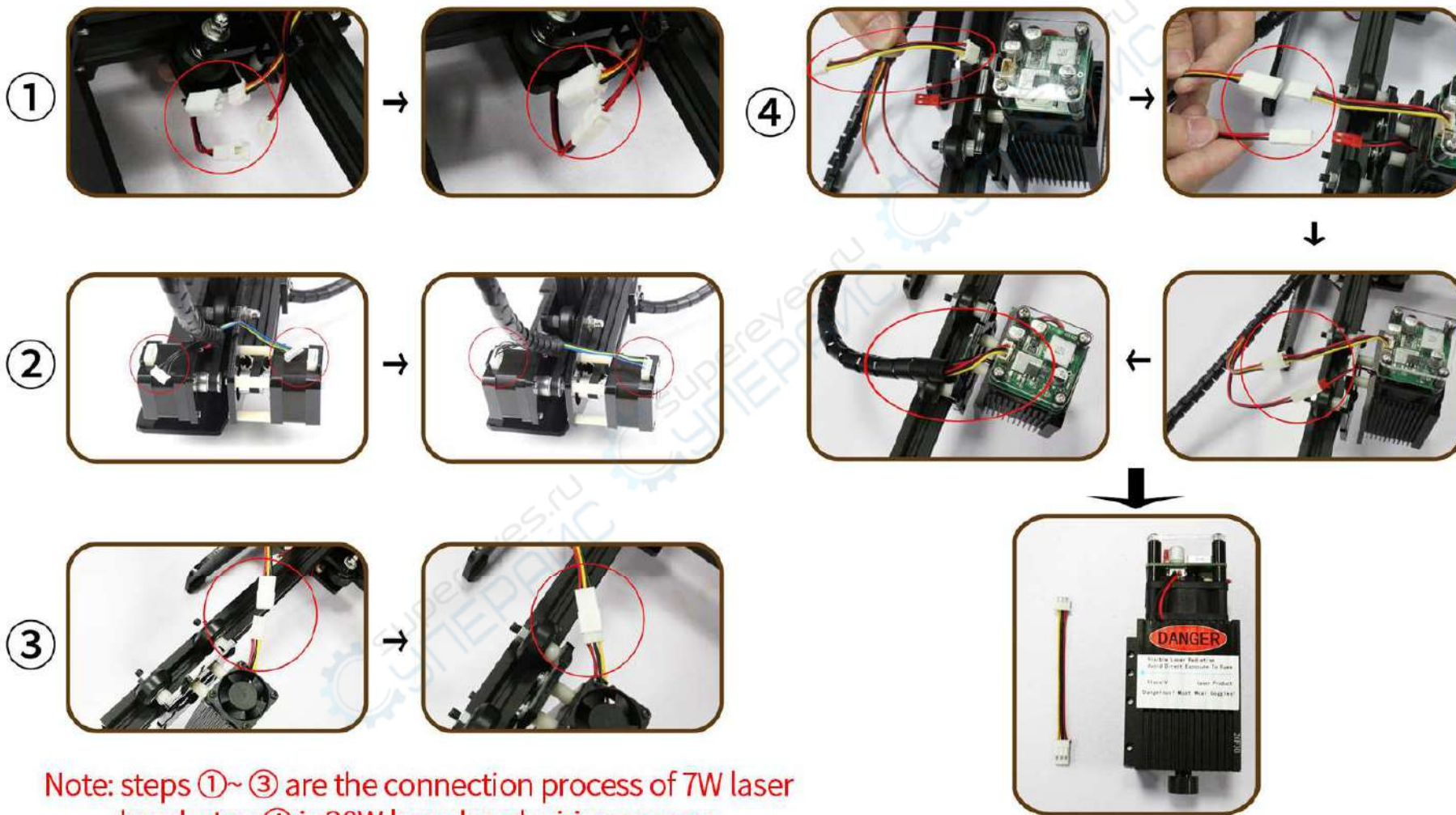


04 INSTALLATION GUIDE



04 INSTALLATION GUIDE

Wire installation diagram



Note: steps ①~ ③ are the connection process of 7W laser head, step ④ is 20W laser head wiring process.

20210405

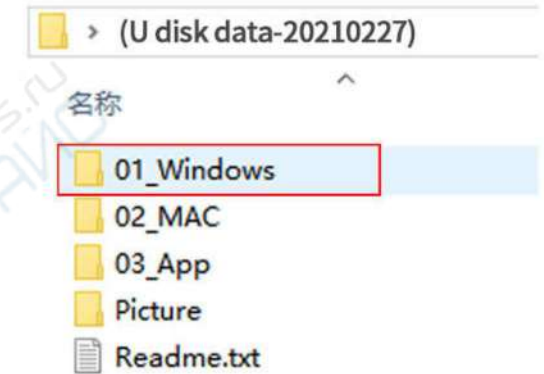
05 First-Time User Guide Install Driver Software for Win



1. Connect the machine to the power supply, plug the USB cable into the machine, and turn on power switch.



2. Insert the random U disk into the computer. Enclosed are the required information such as drivers and application software.



3. First install the driver in the USB disk, and then open the software in it. The built-in files of the USB disk are shown in the figure.



05 First–Time User Guide **Install the Operating Software for WIN**

1.About the Software:

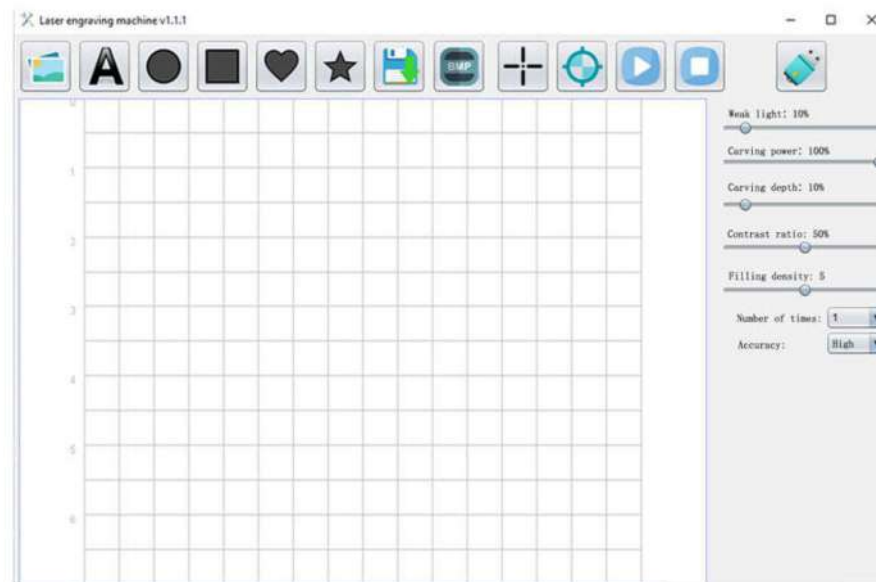
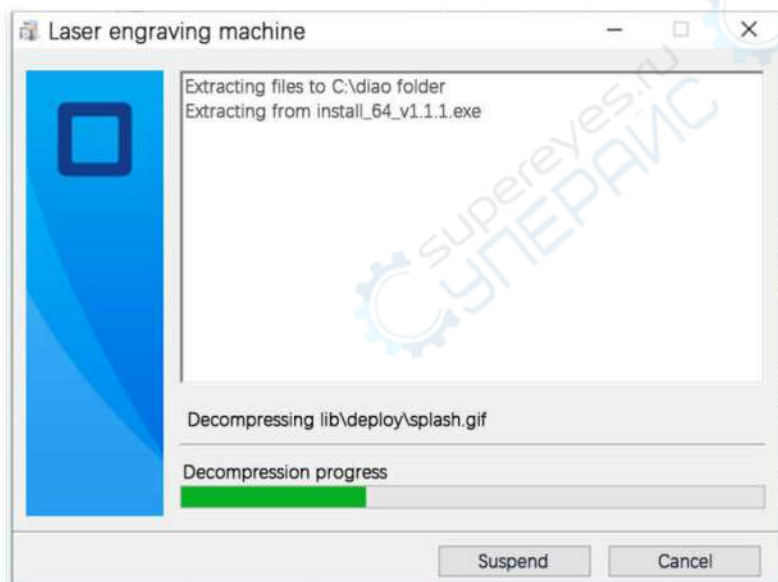
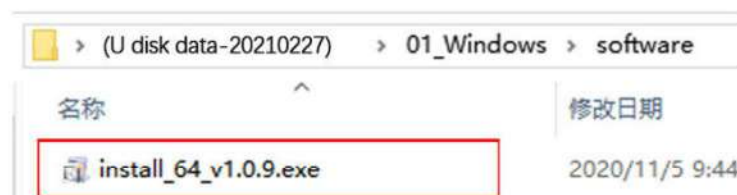
This software supports the Windows operating system and the company's most laser engraving machines.

After completing installation according to the instructions, double–click the desktop shortcut to run.

The software supports engraving of pictures, texts, vectors, etc. and has four engraving modes i.e. Black & White, Contour, Discrete and Sketch, which can be connected to a computer via USB or to a mobile phone via WiFi.

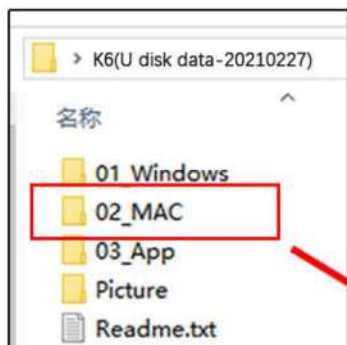
2.Software Installation:

Double–click the installation file, and it will be automatically installed in the directory of C:\diao; a shortcut Laser engraving machine.exe will be generated on the desktop. Open it to run.

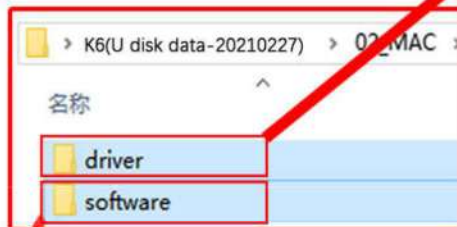


The software opens the interface

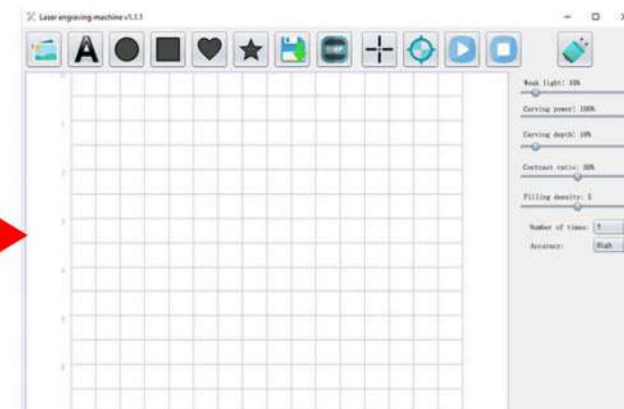
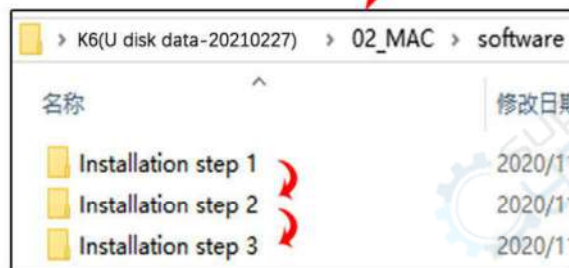
05 First-Time User Guide **Install Driver Software for MAC**



1. First install the driver in the USB disk. Open the folder of MAC.



2. Install the driver, follow the prompts in turn, and click finish when the installation is complete.



Open the second file software, and then open the step 1 in the file to obtain the serial port permission, and then open the step 2 to install the runtime environment, and finally open the step 3 to enter into the operational software interface as shown in the picture on the right.

05 First-Time User Guide Operation Introduction

The screenshot shows the software interface for a laser engraving machine. At the top, there is a toolbar with icons for various functions, each labeled with text above it:

- Import Picture
- Enter text
- Circle
- Square
- Heart shape
- Pentagram
- Saved
- Convert pictures to BMP format
- Cross light
- Preview position
- Start carving
- Stop carving
- Connect the machine

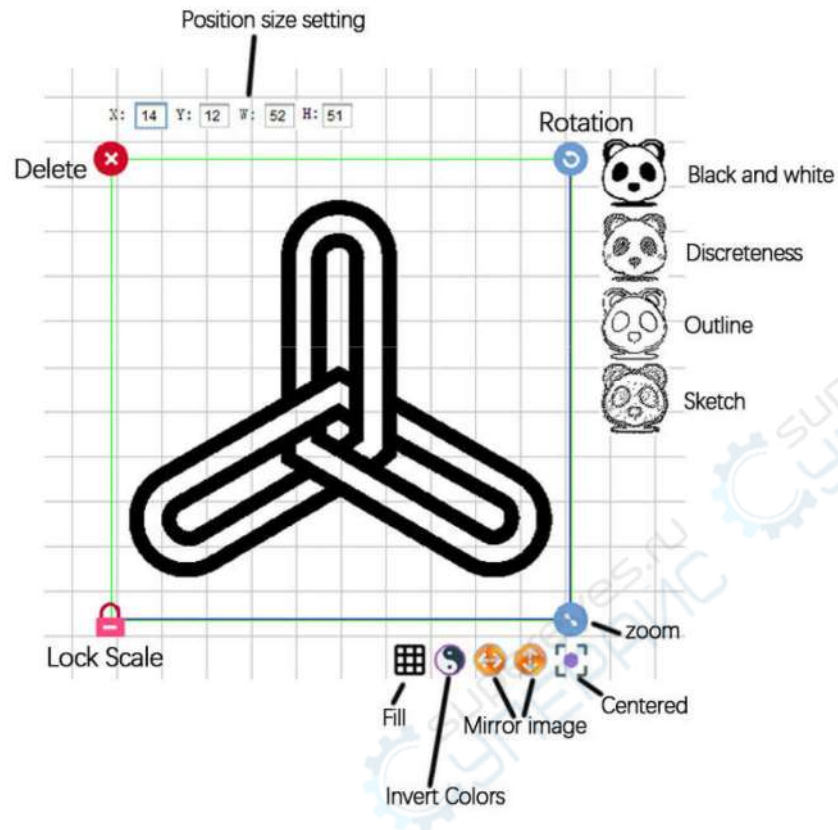
The main workspace features a grid with a panda image. Several tools and settings are labeled with lines pointing to them:

- Delete (red 'X' icon)
- Position size setting (X: 21, Y: 23, W: 38, H: 34)
- Rotation (blue circular arrow icon)
- Black and white (checkbox)
- Discreteness (checkbox)
- Outline (checkbox)
- Sketch (checkbox)
- Lock Scale (pink padlock icon)
- Invert Colors (yin-yang icon)
- Mirror image (orange double-headed arrow icon)
- Centered (blue square icon)
- zoom (magnifying glass icon)

On the right side, there is a settings panel with sliders and dropdown menus:

- Weak light: 10% (slider) — Adjusts laser standby power
- Carving power: 100% (slider) — Adjusts laser engraving power
- Carving depth: 10% (slider) — Adjusts the engraving depth
- Contrast ratio: 50% (slider) — Adjusts the laser cutting depth
- Filling density: 5 (slider) — Adjusts engraving accuracy
- Number of times: 1 (dropdown) — Adjust engraving times
- Accuracy: High (dropdown) — Adjust engraving accuracy

The version number '0.0' is visible in the bottom right corner of the software window.

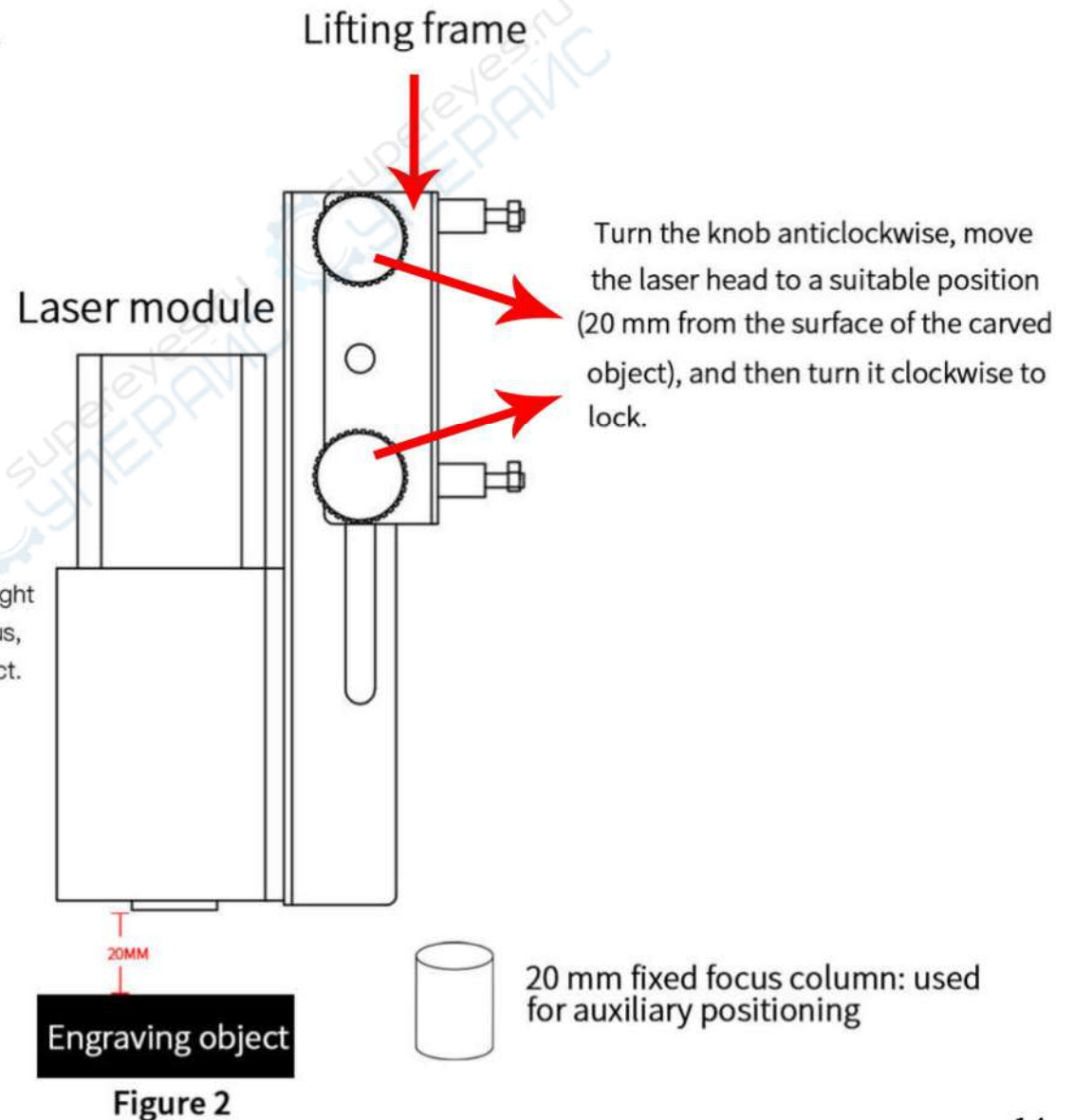
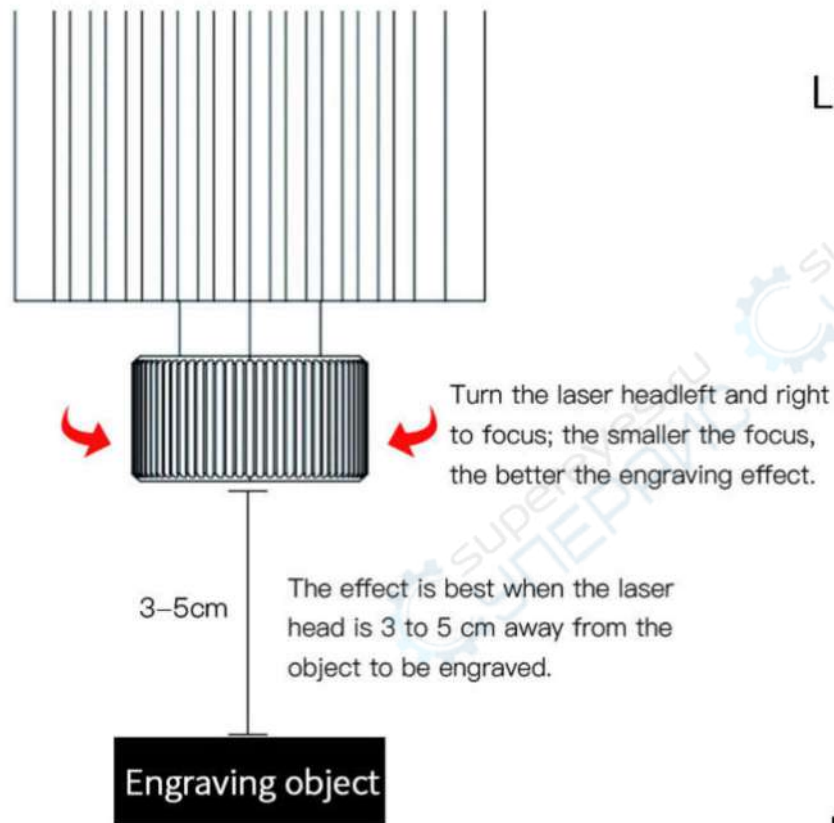


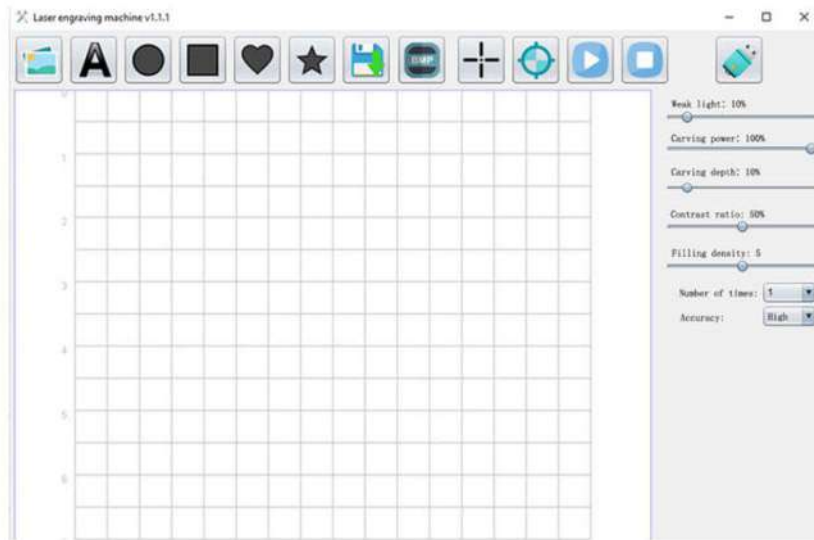
X: 3 Y: 9 W: 34 H: 31	X and Y coordinates and width and height information of the selected image
	Rotation: Adjusts the angle of the selected image
	Zoom: Adjusts the scale of the selected image
	Lock: Locks the scale of the selected image
	Delete: Deletes the selected image
	Color Invert: Inverts the color of the selected image
	Horizontal Flip: Flips the selected image horizontally
	Vertical flip: Flips the selected image vertically
	Center: Centers the selected image
	Black & White Engraving: Default image engraving mode


Laser focus adjustment instructions:

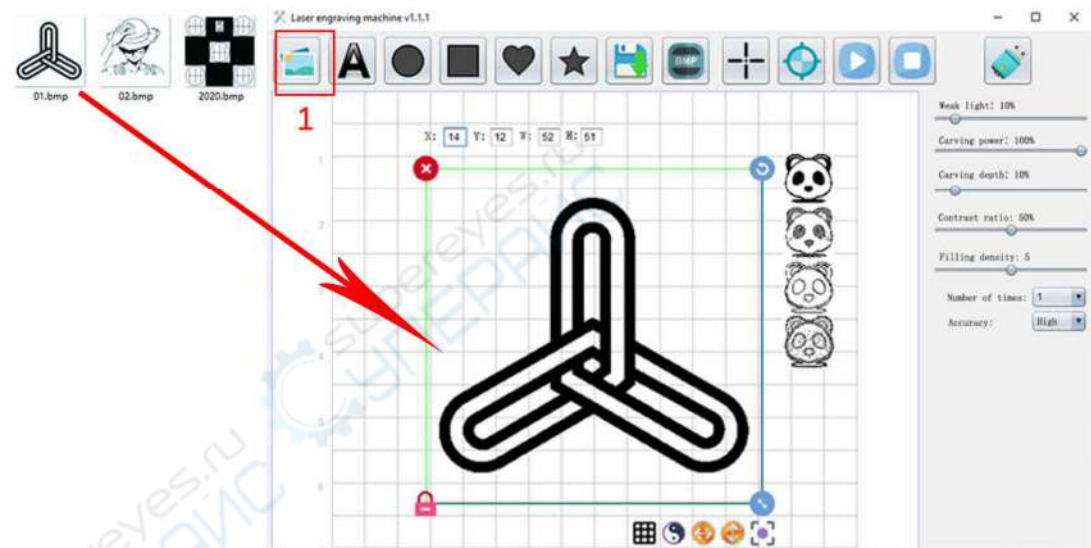
1. If you receive the laser module as shown in "Figure 1" below, adjust the focus by adjusting the laser knob.
2. If the laser module you received is shown in "Figure 2" below, adjust the focus by adjusting the lifting frame.

Note: The focus needs to be adjusted to the minimum, otherwise the engraving effect will be poor.

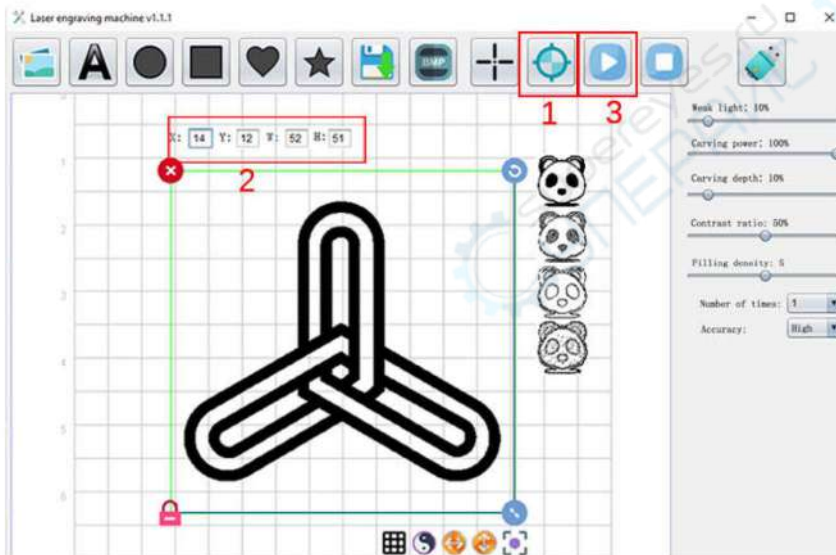




1. Open the software and click the device connection icon  in the upper right corner. If the icon changes from gray to green as shown in the figure, the connection has been successful!




2. Select and open Image (1), or drag in Image (2).



3. Adjust the size and position

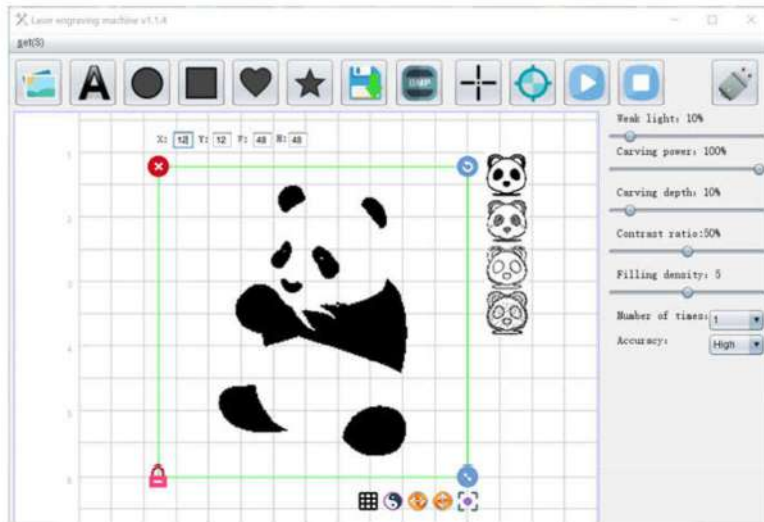
- 1) Click the position preview icon (1); move the object to be engraved or determine its position using the machine; click "Stop Preview".
- 2) Hold down the left mouse button and drag the image to adjust its position; slide the mouse wheel to zoom in and out to view the image.
- 3) Enter the dimension W or H (2) in the upper left corner of the image.

When  appears in the lower left corner of the image, if you change one of the dimensions, the other dimensions will be scaled up or down accordingly.)

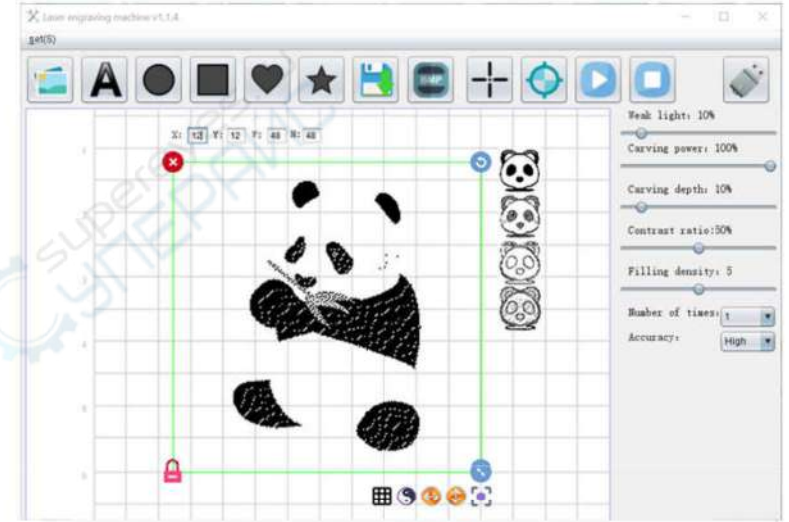
4. Click "Start" (3) to start engraving.

06 Computer Software Operation **Image Processing**

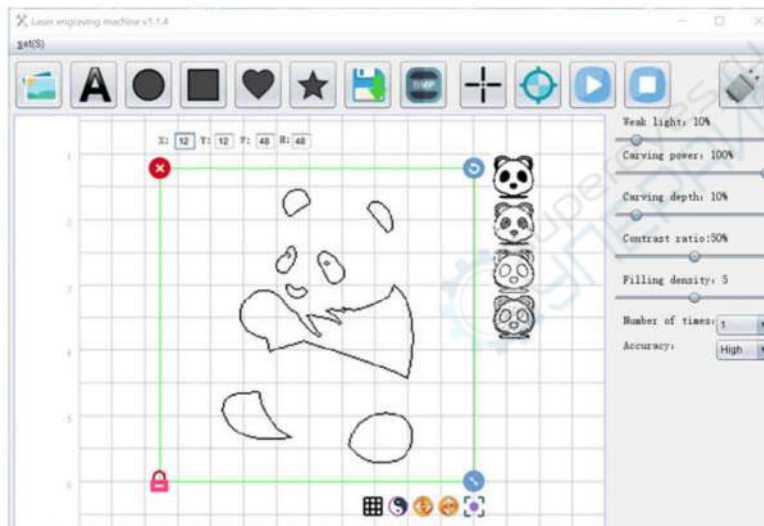
There are four effect modes for image processing: Black & White, Discrete, Contour, and Sketch. The effects of a color image in four modes are shown below:



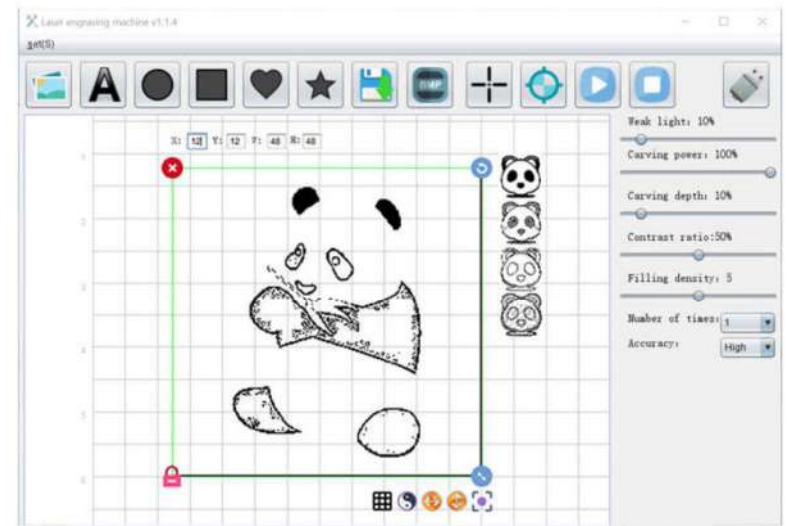
1. Black & White Mode: Default image engraving mode



2. Discrete Mode: Used for engraving gray scale photos



3. Contour Mode: Used for contour engraving or cutting



4. Sketch Mode: Used for engraving gray scale photos

06 Computer Software Operation **Image Processing**

A comparison of the picture and the sculpture is shown below:



1. Black & White Mode



2. Discrete Mode

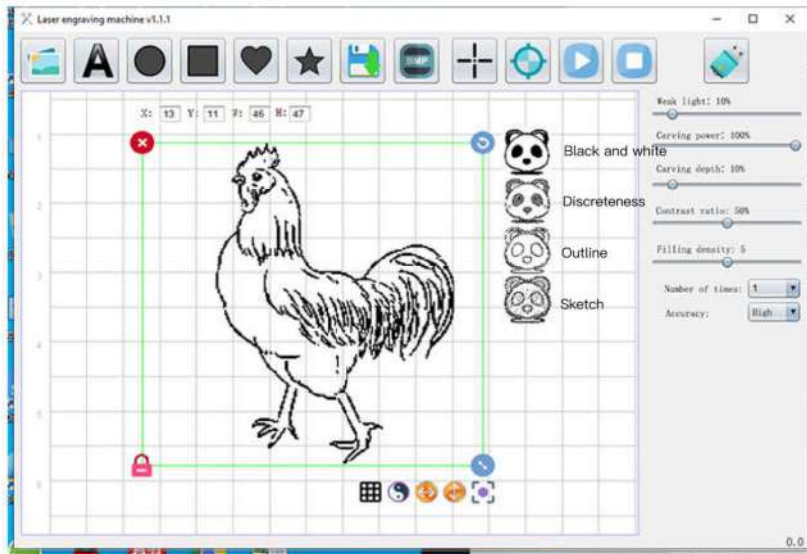


3. Contour Mode

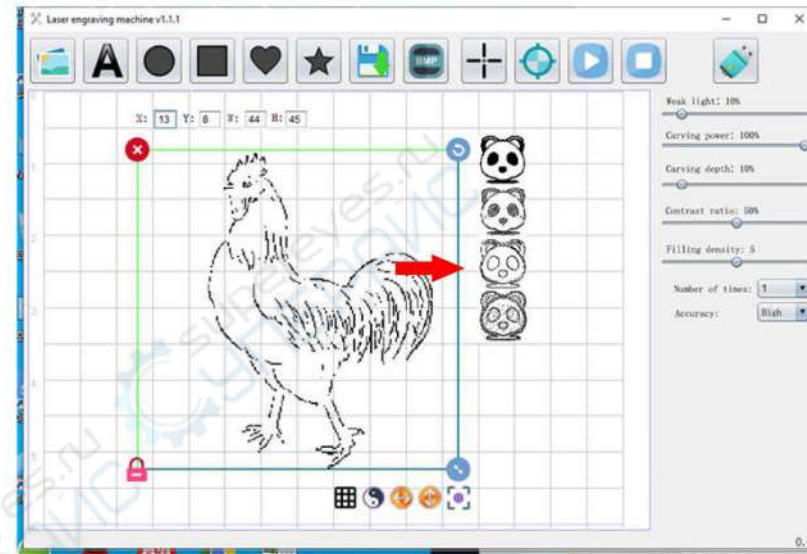


4. Sketch Mode

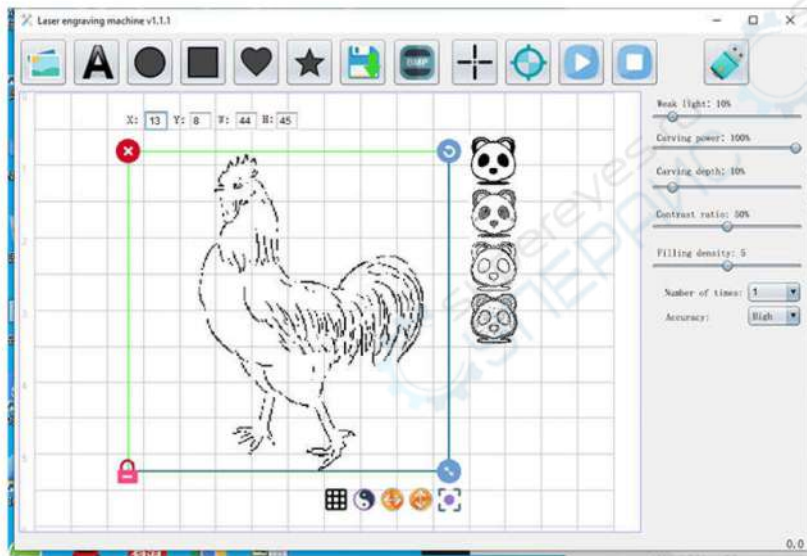
06 Computer Software Operation **Contour Cutting**



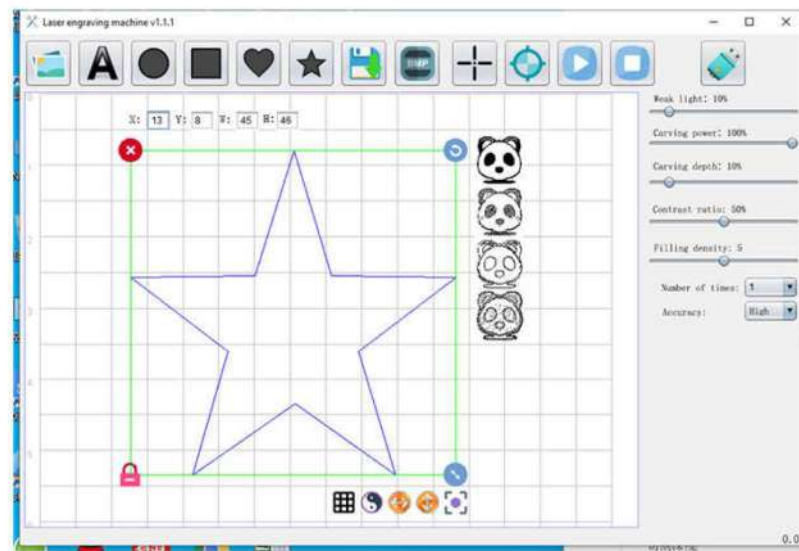
1. The default mode of image processing is "Black & White".



2. Select "Contour" to convert the image to a contour.

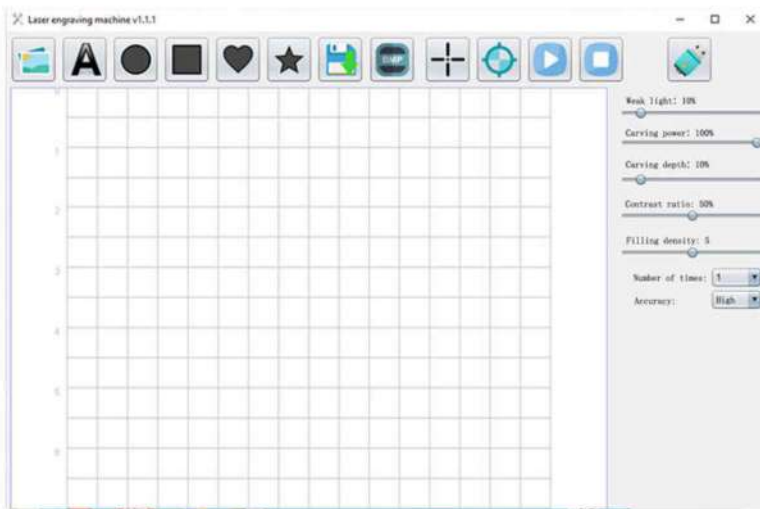


3. The contour can be used for contouring and cutting. Adjusting laser power and the engraving depth will affect the cutting depth and speed.

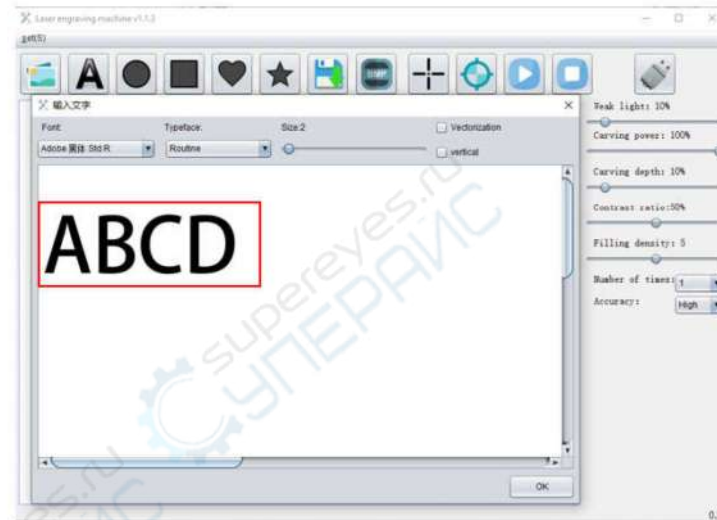


4. Engraving software supports PLT format vector image file, directly drag into the vector image, the software will automatically transform into contour mode

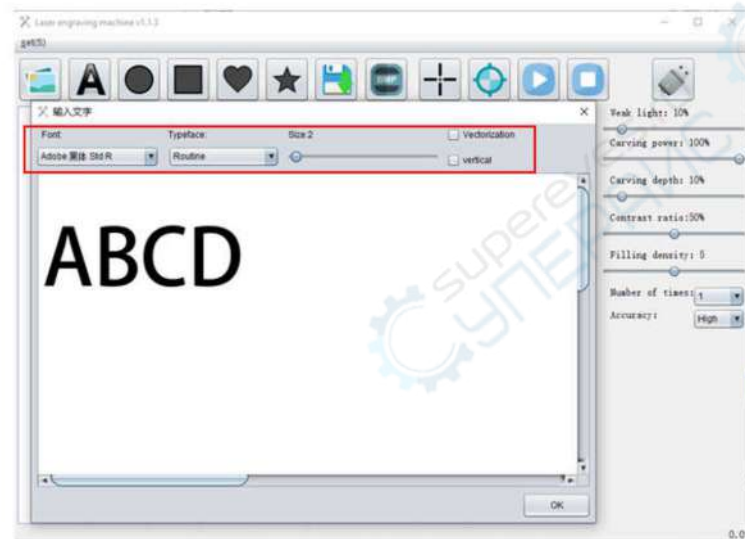
06 Computer Software Operation **Text Engraving**



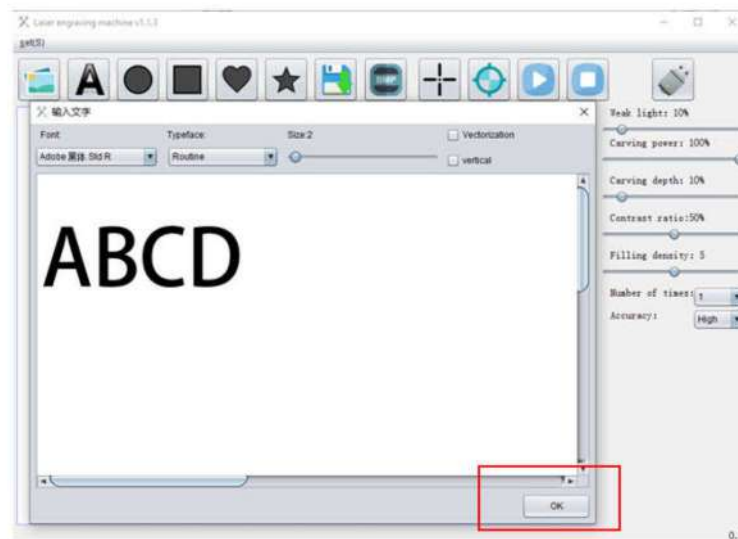
1. Click the icon to enter text.



2. The text input interface pops up. Click the icon below Size in the upper right corner after entering the text. The size of the text varies with the size.

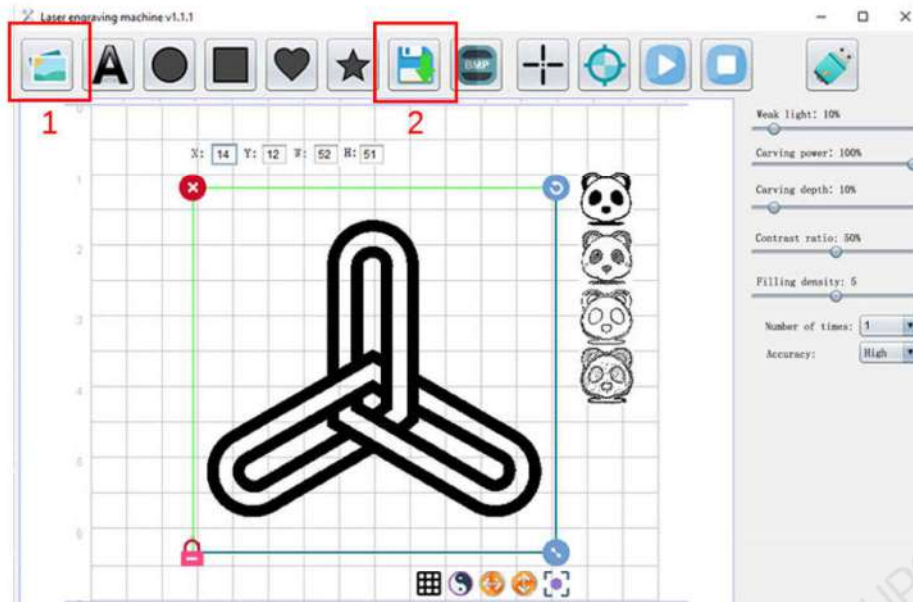


3. Click the upper left corner to adjust the typeface, font, text size, etc.

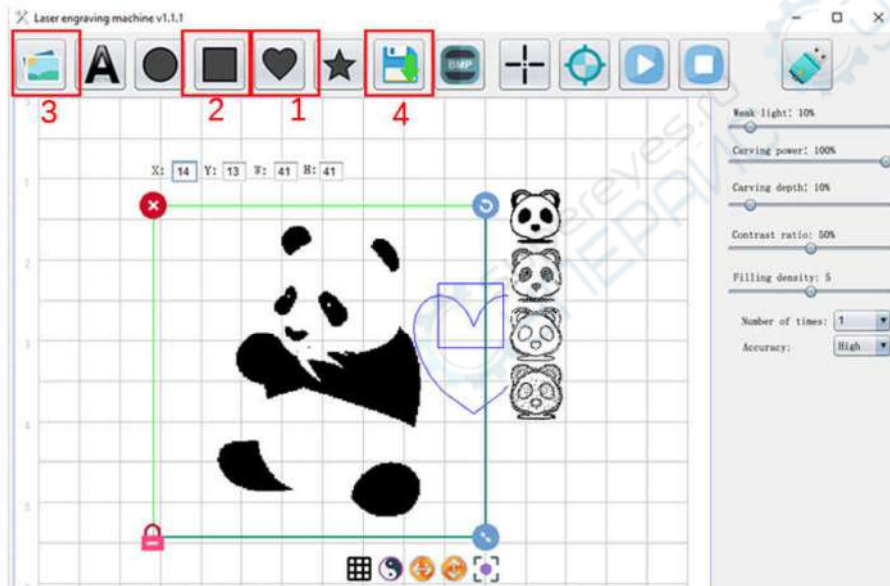


4. After setting, click "OK" in the lower right corner to return to the review interface. After entering the text, adjust its position and size and start engraving.

06 Computer Software Operation **Offline Functions**



1. Offline engraving (photo of last time will be engraved):
Connect the machine to power supply, power on for standby.
First time, short press the mid-button and laser head will preview the engraving position.
Second time, short press the mid-button and laser head will stop previewing.
Third time, long press the mid-button to start engraving the downloaded photo.
During engraving process, short press the mid-button to pause to pause, short press to continue and long press to stop.

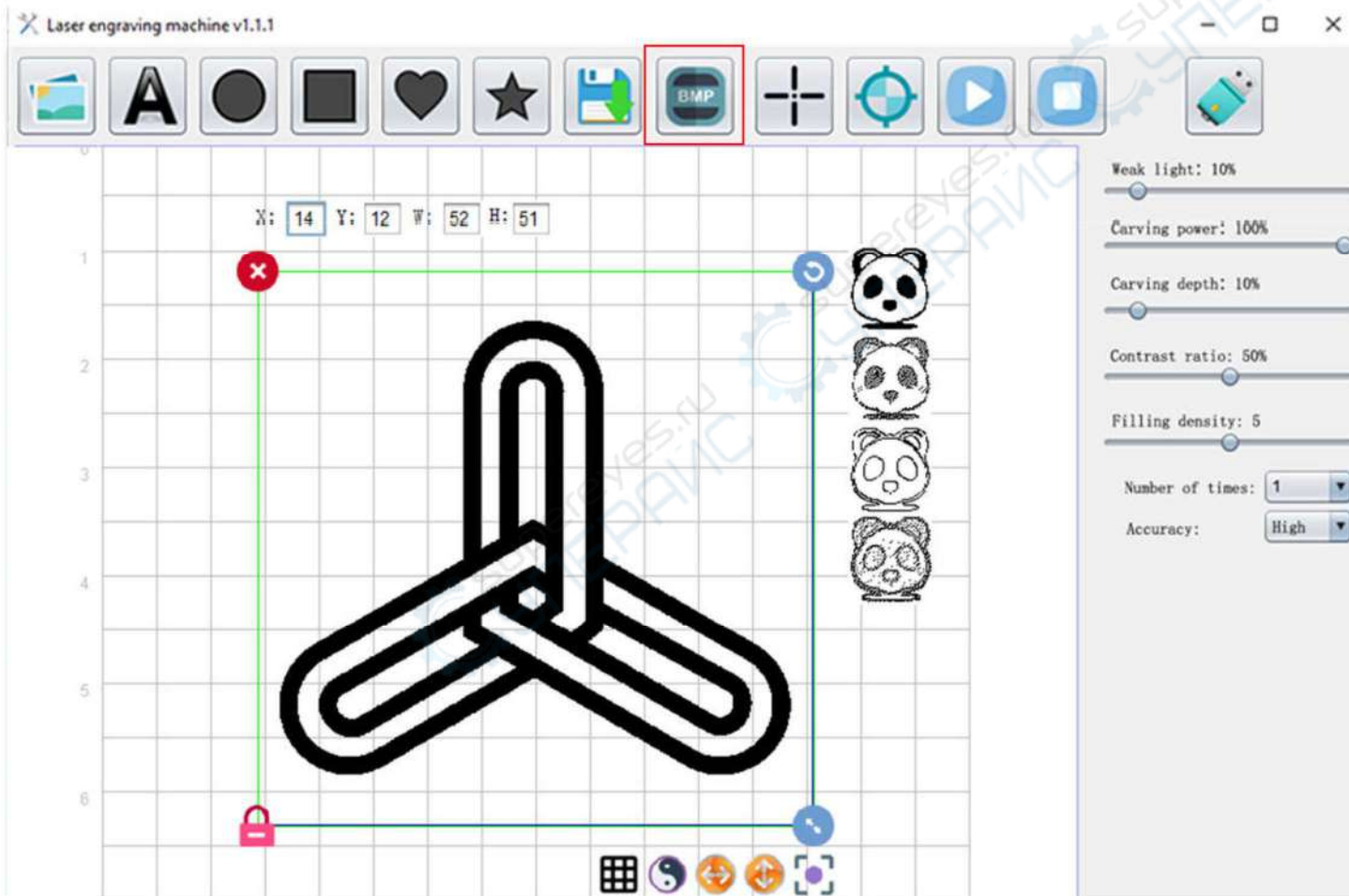


2. Image design saving: Different engraving modes can be set for a variety of images and graphs, and they can be placed freely and adjusted in the design. Can design a variety of placement and combination of effects, for example as follows:
Click Icon (1) to load the graph and click Icon (2) to load the graph. Select the image import icon (3) to import the image to be engraved. Click Icon (4) to save the designed image. Enter a name for the image following the instructions. Select a save path to save the image.

06 Computer Software Operation **Image Export**

1. BMP picture conversion tool. You can use this tool to convert selected pictures into BMP format.

The operation is as follows: Click the icon shown by the arrow in the figure below, find the picture you need to convert in the pop-up dialog box and double-click, the conversion will be completed instantly, and a BMP format file will be generated in the same directory of the original picture.



Connection method

The mobile phone will actively connects to the device WIFI

1. Scan QR code with mobile browser to download and install mobile APP for engraving operation.



Google Play



Android



IOS



Select WiFi, connect to wainlux

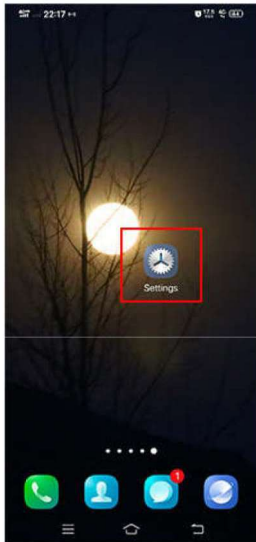


Enter the password: 11112222



The connection is successful

2. Mobile wifi connection



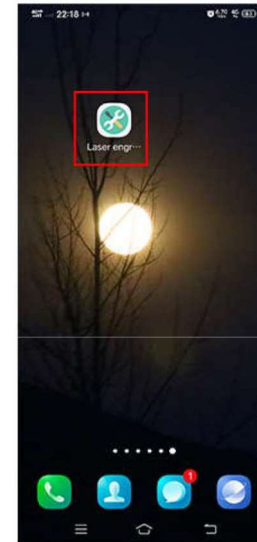
Open your phone's Settings app



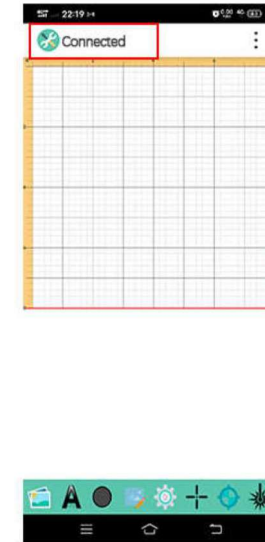
Select WiFi Settings



Click Open



Open the engraving machine APP



Wait a while, the upper left corner shows connected, indicating that the connection is successful and you can operate the device

07 APP Use Instructions **Graph Import**

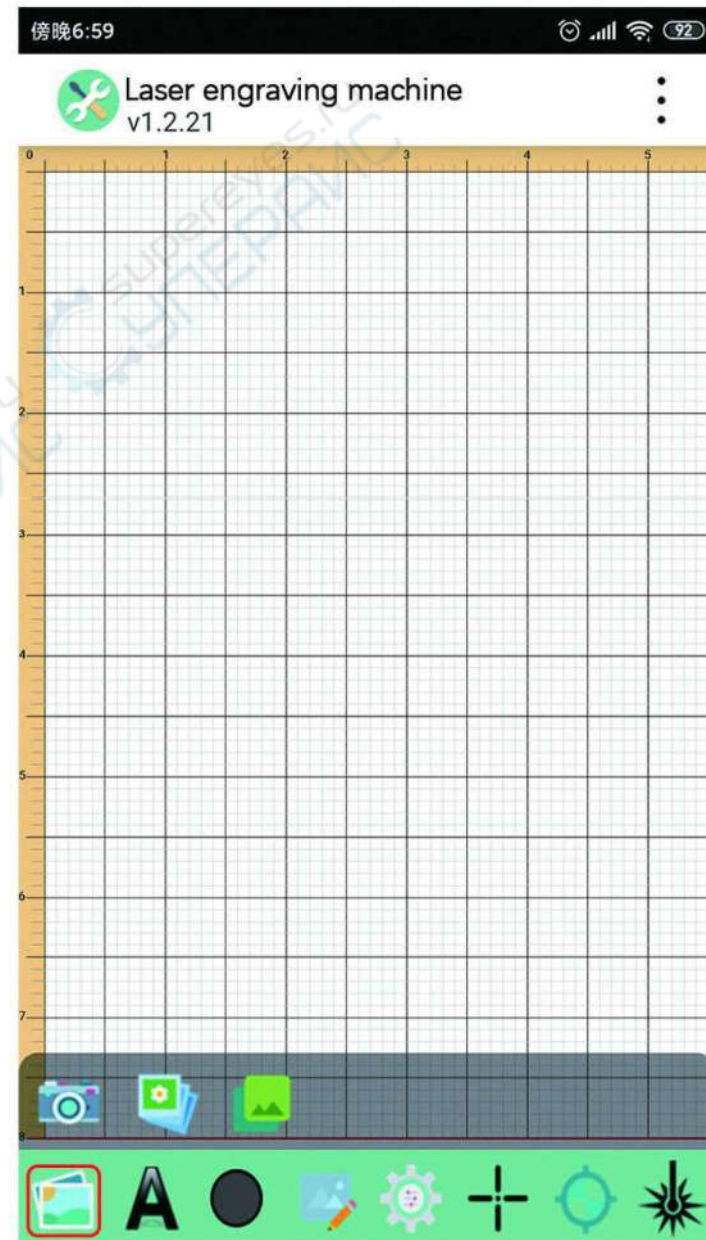
1. Image import:

Click the first icon, in the menu bar at the bottom



There are three ways to import images:

1. Take a photo;
2. Import from Album;
3. Import APP's built-in images;

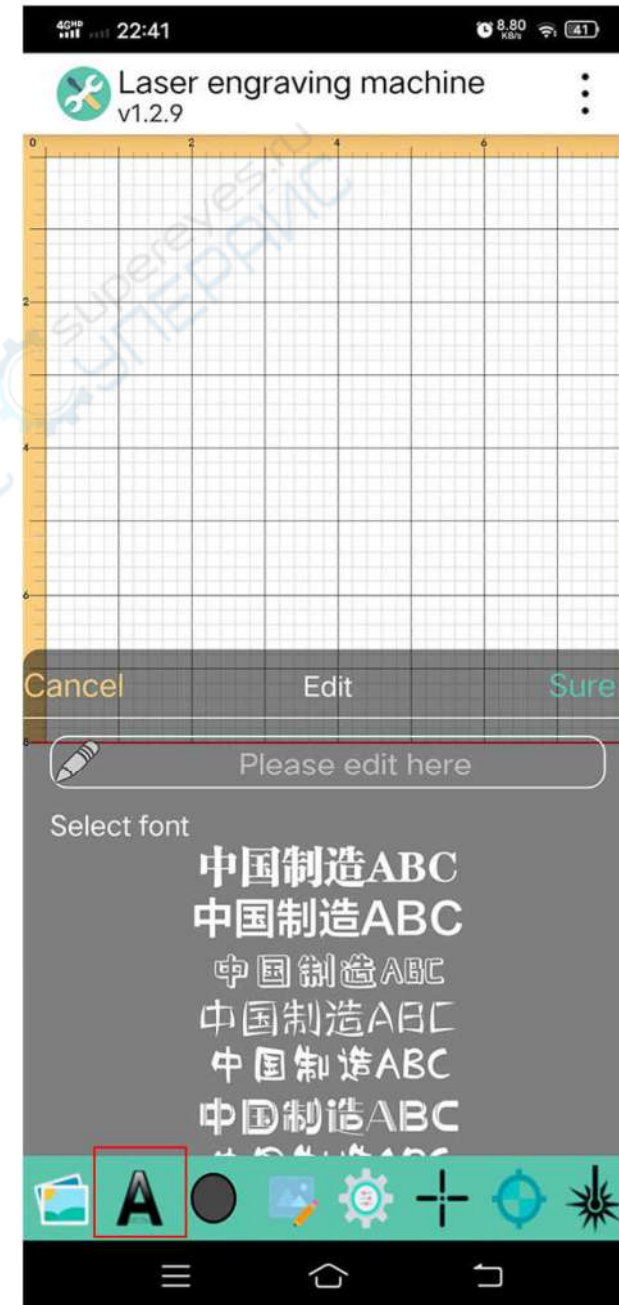


2. Text import:

Click the second icon



in the menu bar at the bottom to bring up the ways to import text, as shown in the figure:

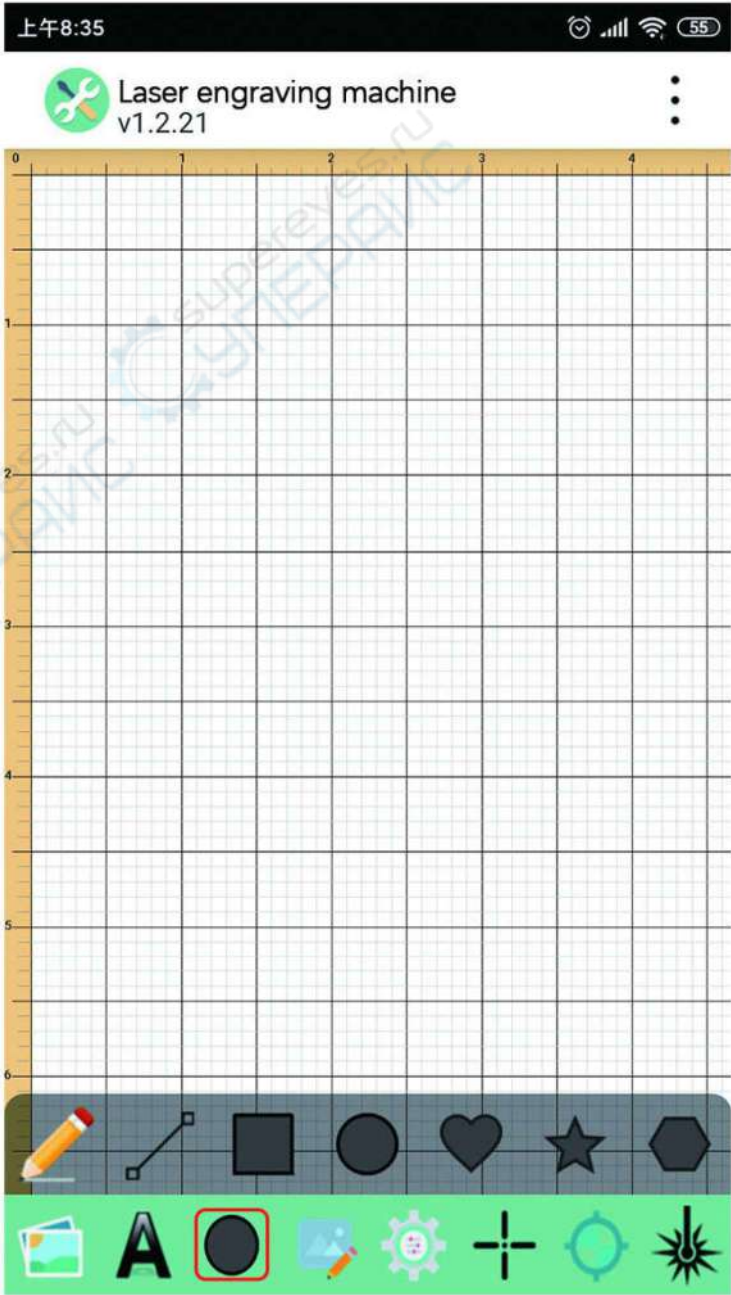


3.Geometric graph import:

Click the third icon

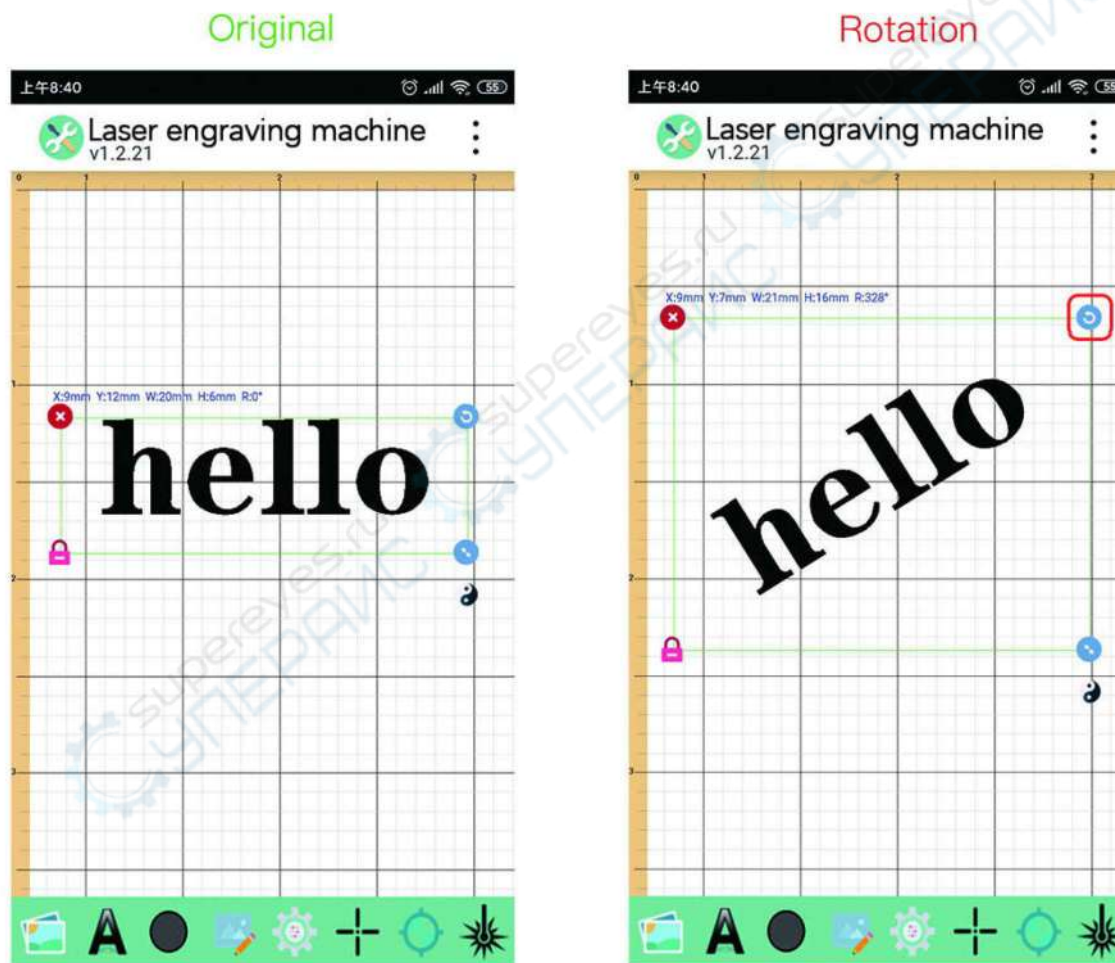


in the menu bar at the bottom to bring up the ways to import geometric graphs, as shown in the figure:





1. Rotation:


Import an image, text or geometric graph. Take text for example, press and hold  to rotate the text.

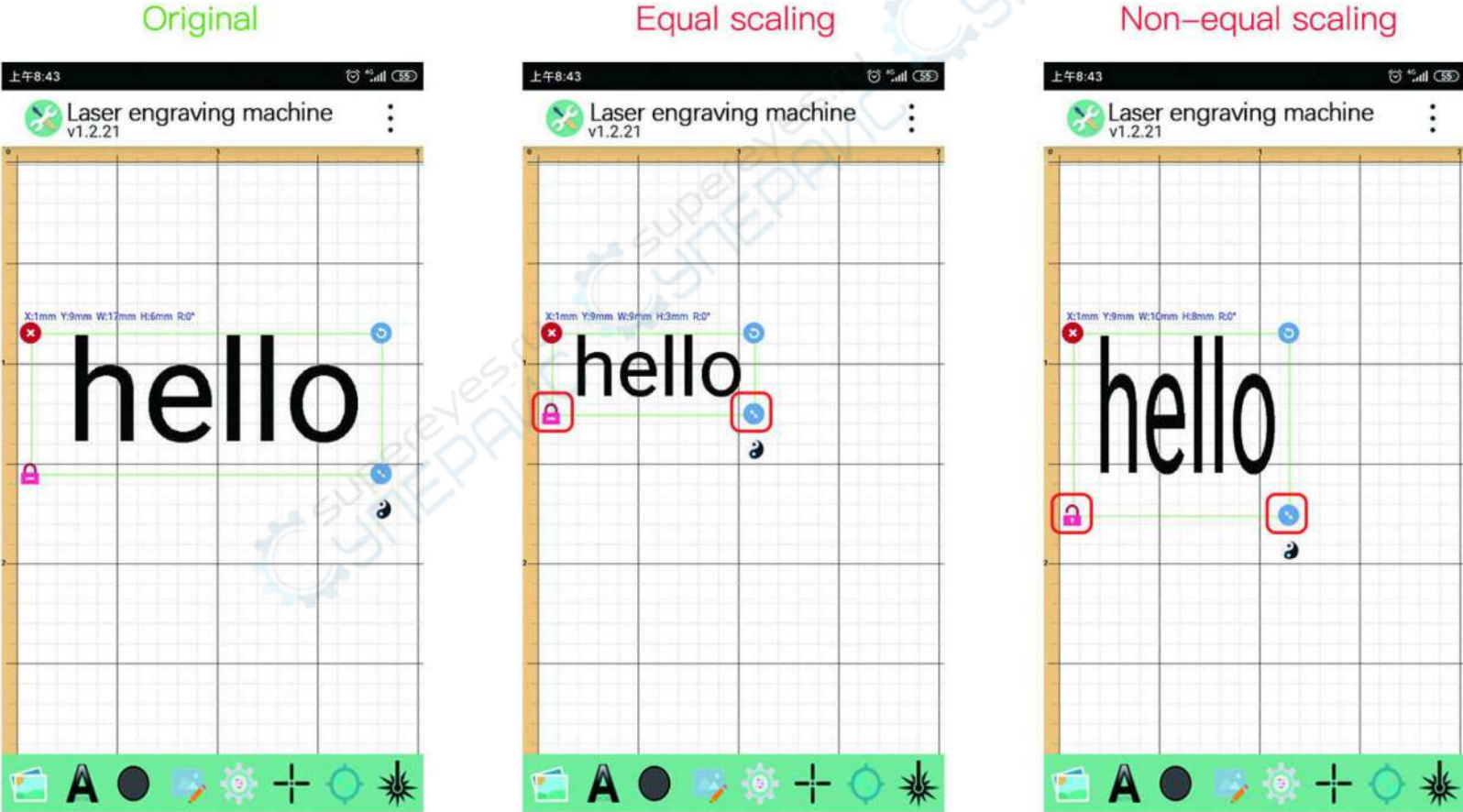


2. Scaling:


Import an image, text or geometric graph. Take text for example, press and hold  to scale the text.

Equal scaling: there is  in the bottom left corner of the graph.

Non-equal scaling: there is  in the bottom left corner of the graph.



3. Invert:

Import an image, text or geometric graph. Take text for example, press and hold  to invert the color.

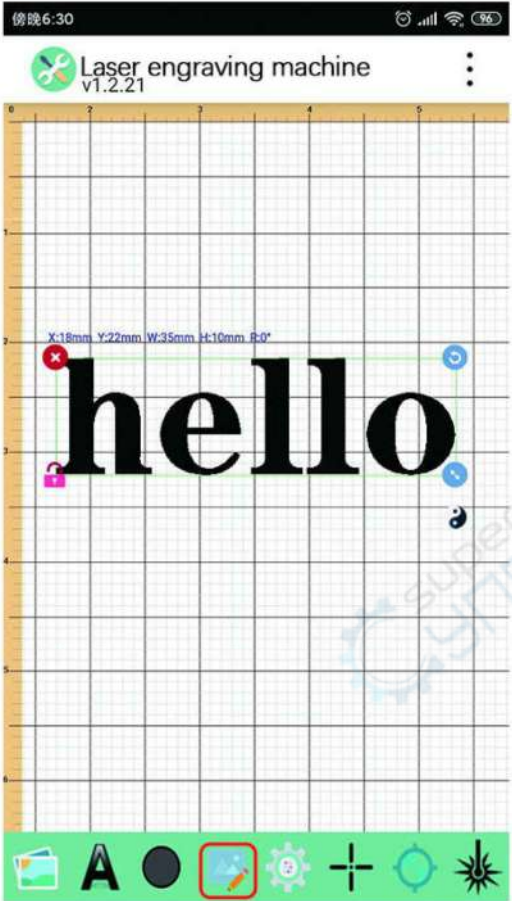


4. Graph processing:



Click the fourth icon in the menu bar at the bottom to bring up the following pop-up box. Take text for example, set the text graph set to Cutting Mode.

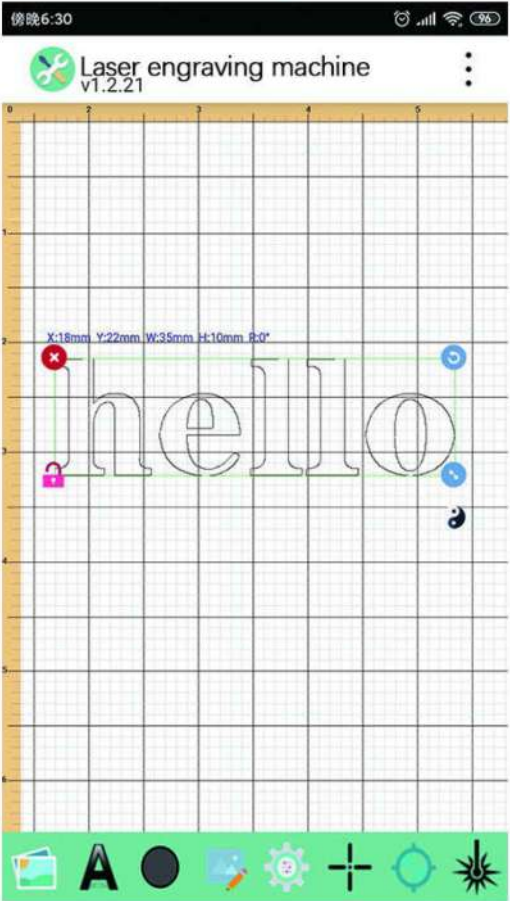
Default Black & White Mode



Mode Setting



Cutting Mode



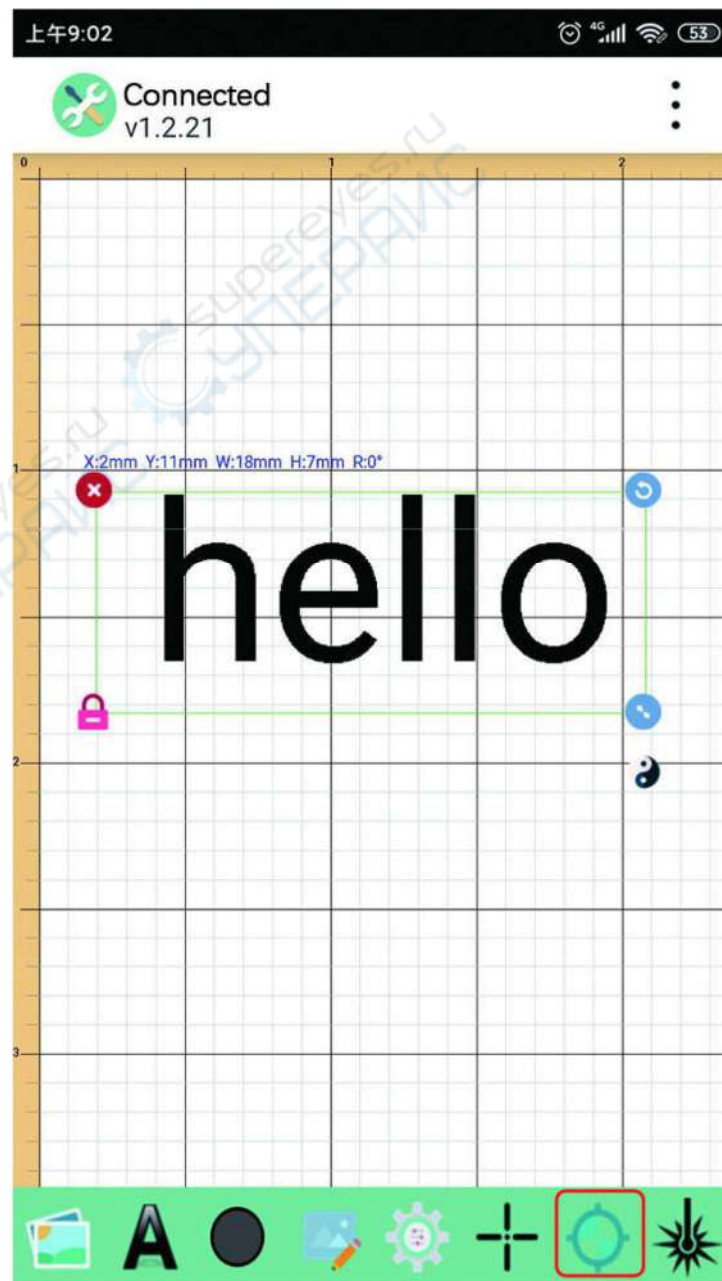
07 APP Use Instructions **Engraving Operation**

1. Engraving locating:

First, you need to import pictures, text, and geometry. Then click on the bottom menu bar, the seventh icon



The device will locate the area that needs to be carved, and clicking again will stop the location.



07 APP Use Instructions **Engraving Operation**

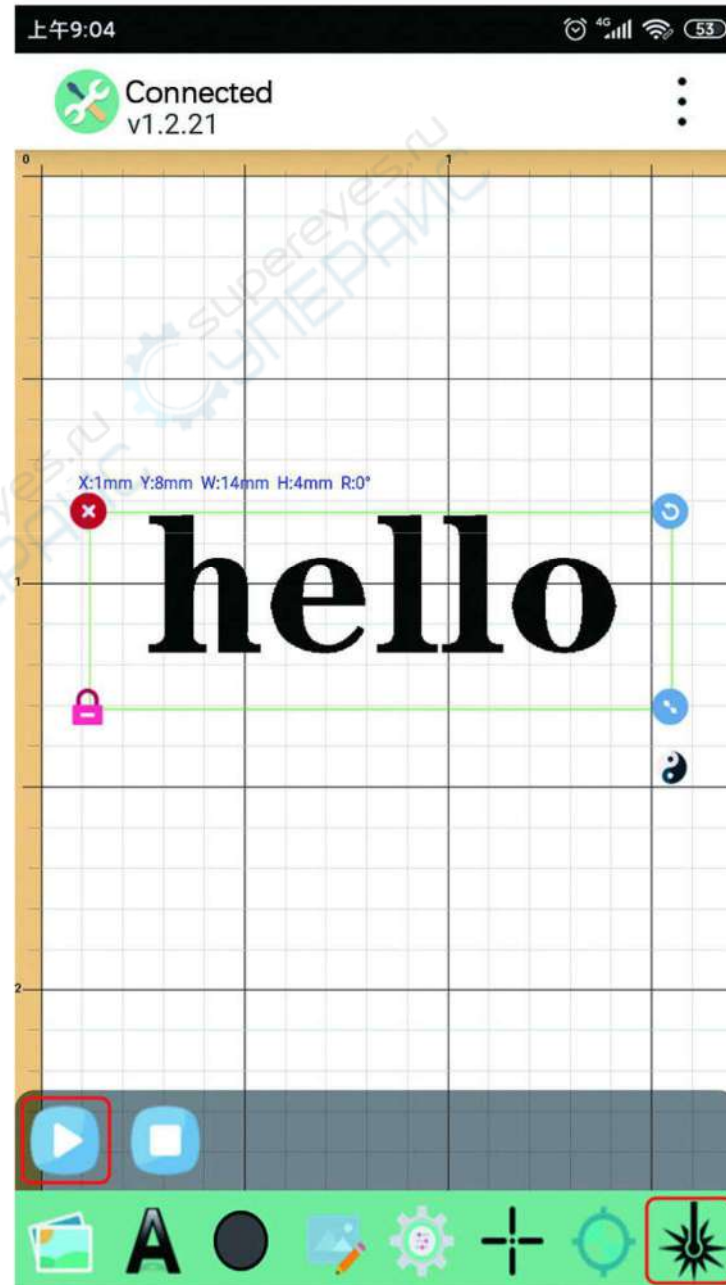
2.open engraving:

First, you need to import pictures, text, and geometry. Then click the menu bar at the bottom, the eighth icon



The menu pop-up box will pop up, click the first icon, and the device will start carving.

Click the first icon again and the device will pause sculpting.



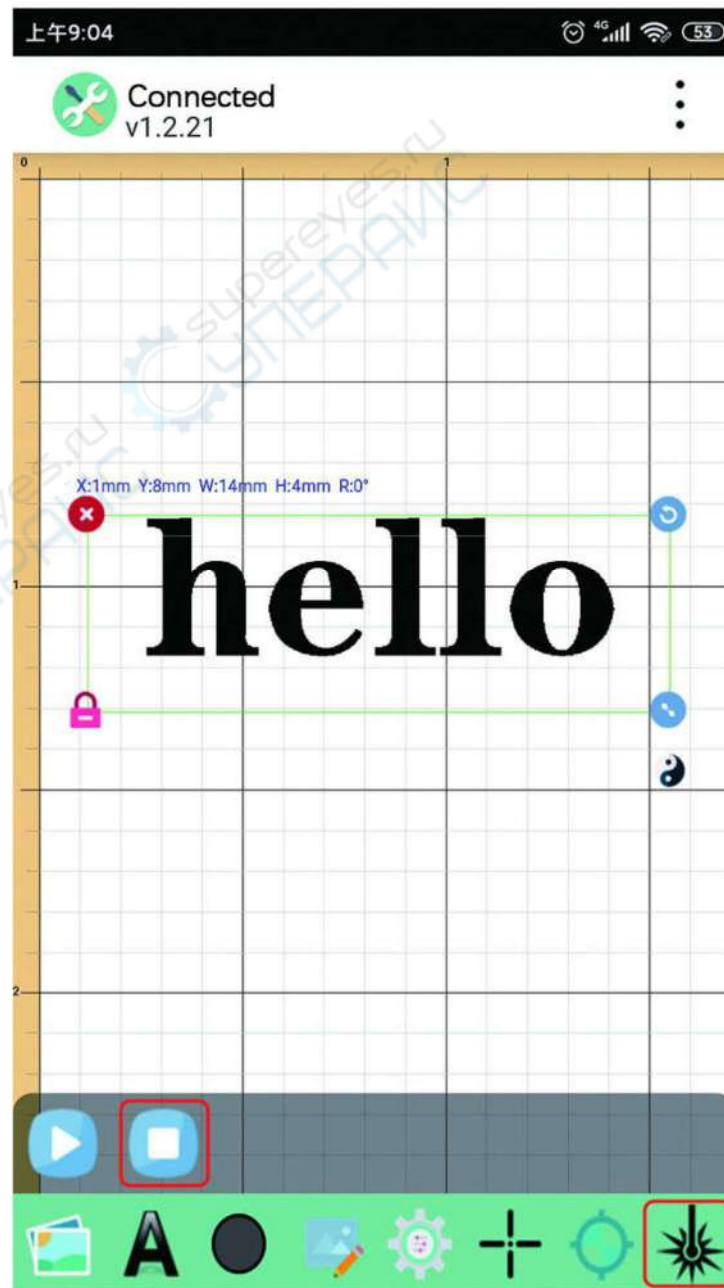
07 APP Use Instructions **Engraving Operation**

3. Stop engraving:

First, you need to import pictures, text, and geometry.
Then click the menu bar at the bottom, the eighth icon



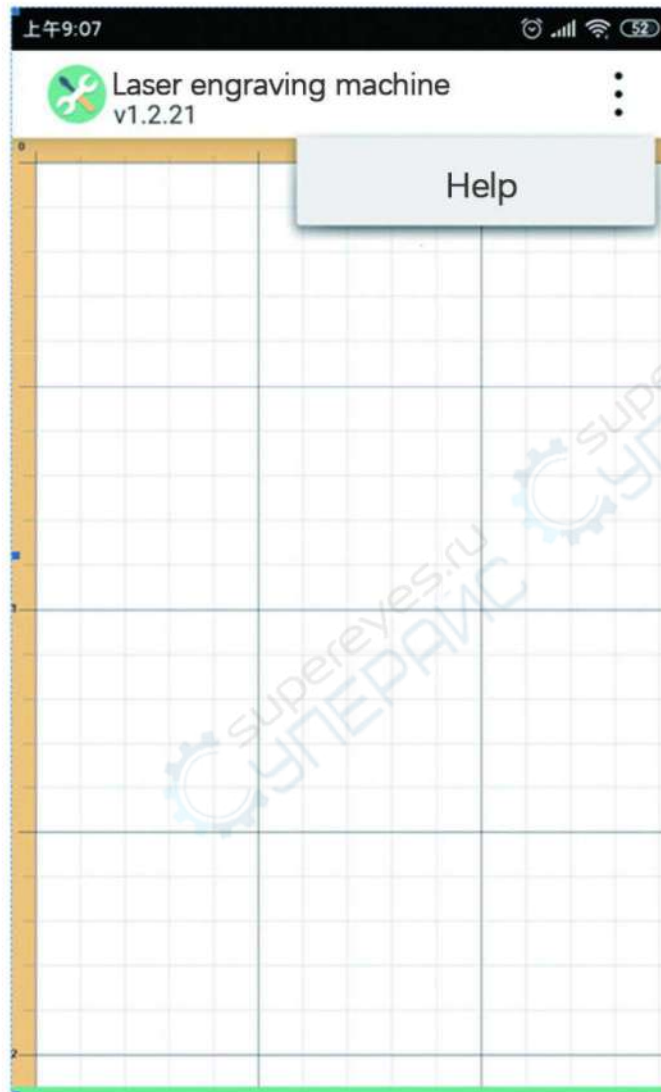
The menu pop-up box will pop up, click the second icon,
and the device will stop carving.



07 APP Use Instructions **Engraving Operation**

4. Tutorial:

Click  in the top right corner to bring up the help pop-up box. Click the help box to enter the tutorial page.



08 Safety Instructions, Care and Maintenance

Safety Instructions



Beware of Laser

1. Laser brightness is harmful to the eyes.
Please do not look directly at the laser.



请勿直视
Do not look directly at the light

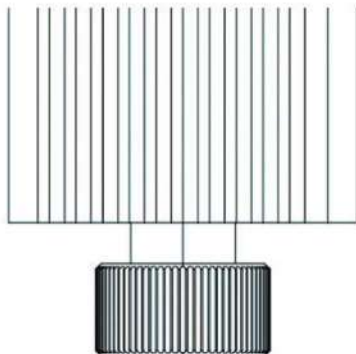


2. Keep your hands away from the machine while it is working to avoid injury.



3. Turn off the machine when it is not in use to avoid operation by a third party.

Care and Maintenance



4. The laser head is consumable. It is recommended to turn off the machine for 10 minutes for every 4 hours of engraving, and turn off the machine for 10 minutes for every 1 hour of cutting.

09 FAQs

I. The machine has no response after it is powered on.

1. Check whether the power plug of the machine is properly inserted into the socket;
2. Check whether the power socket is powered on and whether the switch is on;
3. Check whether the red power switch on the machine is on.

II. The machine is not connected to the computer.

1. Check whether the USB cable properly connects the computer (the cable should be connected to the port at the back of the desktop computer) and Is the machine connected normally;
2. Check whether the red power switch on the machine is on, whether the laser is slightly bright, etc.
3. Check whether the driver software has been installed on the computer. If there is an exception during the installation, shut down the computer and restart it, and then re-install the driver software;
4. Check whether the computer is normal. Scan and kill the virus, restart the computer and try again;
5. Pull out the USB cable and power plug, and plug them in again after 5 seconds.

III. There is no response when the mobile APP is connected with the machine.

1. Check whether the red power switch on the machine is on, whether the laser is slightly bright, etc.
2. Check whether the phone is normal. Scan and kill the virus, restart the phone and try again;
3. After the machine is powered on, it can only be connected effectively once. If the machine or mobile APP is
4. shut down midway, the machine can only be connected again after the machine and mobile APP are restarted;
To connect the machine with the mobile APP, the machine must be powered on and return to Standby Mode.
Open the mobile APP to connect the machine.

09 FAQs

IV. The machine can't engrave patterns

1. Laser module not well focused: see page 14 for details
2. Check if there is any debris in the light outlet of the laser head. If any, remove it before engraving
3. Check engraving power and depth parameters, and they cannot be set too small.

V. Unclear engraving

1. Clean the light outlet of the laser head with alcohol to remove dust or sundries;
2. Increase the engraving depth until the desired engraving effect is achieved (the depth and power of engraving should be increased or decreased repeatedly depending on the desired effect);
3. Check whether the machine is placed flat. The machine must be placed on a level table when working.
4. The image imported must be clear and its color must not be too light, which will affect the engraving effect.

VI. Questions about one-key offline engraving

1. Engraving stops midway: The image is not downloaded completely; re-download the image;
2. There are no patterns or patterns are unclear: The engraving power and depth parameters are not set correctly when the image is downloaded;
3. There are extra lines when the image is engraved: The computer may have a virus; kill the virus of the computer; restart the computer; re-download the image.