



# User Manual

Infinite Y-axis Laser Engraver



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# A Letter to Users

Dear users:

Thank you for choosing our product. For the best experience, please read the instructions before operating the machine. Our teams are always ready to render you the best services. Please contact us via the phone number or e-mail address provided at the end when you have any problem.

For a better using experience of our product, you can also learn how to use the engraving machine in the following ways:

View the corresponding instructions and videos in the TF card.

Visit official website [www.spider-laser.com](http://www.spider-laser.com) to find the relevant software/hardware information, contact details, operation and maintenance instructions.

## Instructions for Use

For engraving and cutting purpose, please allow the work piece to be exposed to the high-density laser beam which is emitted by the laser engraver. And please follow the instructions below when operate it:

1. It is advisable to run the machine under well-ventilated conditions, as laser engraver may generate a small amount of fume or gas. It is prohibited to store the machine in areas which close to combustible and explosive substances, volatile solvents or sources of heat. Instead, please store it in a well-ventilated, cool and dust-free place.
2. Make sure that only the specific attached power cord rather than other similar power cords is used during installation. And It is prohibited to come in contact with electronic areas with hands or other tools when the machine is connected to a power supply.
3. Clean the laser module with a dry cloth regularly when the power is off. And switch off the machine when it is offline for an extended period of time, and unplug the power cord;
4. Ensure to run the laser at 0°C- 35°C environment temperature. Operation at sub-zero temperature is prohibited. An also don't operate the machine in a wet environment or in thunderstorm weather;
5. It is prohibited that any act of touching the moving parts and the laser module at work;
6. Please place a flat object such as an aluminum alloy or stainless steel plate on the workbench before engraving. For these objects can't be easily penetrated by the laser, this operation will protect your workbench of being engraved. And then you can place the engraving material.
7. Wear goggles to prevent vision damage arising from exposure to the laser spot during laser engraving operation;
8. For avoiding personal injury, children under 12 years old are not allowed to run the machine without an adult tutorial.
9. Put in place fire extinguishers in case of use, and this shall be regularly checked. It is prohibited to keep the machine unattended while it is running;
10. Users should comply with the laws and regulations of the corresponding countries and regions where the equipment is located (used), abide by professional ethics, pay attention to safety obligations, and strictly prohibit the use of our products or equipment for any illegal purposes. Spider M1 will not be responsible for any violators' legal liability under any circumstance.

# Specification

## Model

Spider M1/Spider M1 Pro/Spider M1 Max

## Laser power

5W/10W

## Machine size

100\*100\*485(685)mm

## Safety class

Class I(FDA classification standard)

## Net weight

3.3kg/3.6kg

## Laser engraving software

Laser GRBL, LightBurn

## Operation system

Windows/MacOS/IOS/Android

## Format files

jpeg, jpg, png, bmp, svg, dxf

## Input

100-240V~50-60Hz

## Types of supporting materials

Cardboard, wood, bamboo, rubber, leather, fabric, acrylic, plastic, etc.

## Output

DC 12V, 5A

## Range of operation temperature

0°C~35°C

## Safety certification

IEC60825, FDA, CE, RoHS, FCC, UKCA, PSE, UL

## Engraving size

200/400\*∞

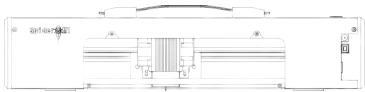
## Laser source

Semiconductor laser unit

## Laser wave length

455±5nm

# Parts List



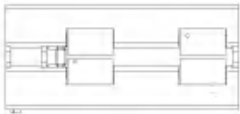
1. Spider M1



2. Delicated Frame(Optional)



3. Micro Adjust  
(Optional)



4. Y-axis Rotary  
Roller(Optional)



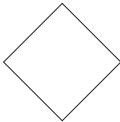
5. Power Adaptor



6. Power Cord



7. M5/M4/M3 Allen Key



8. Dustless Cloth

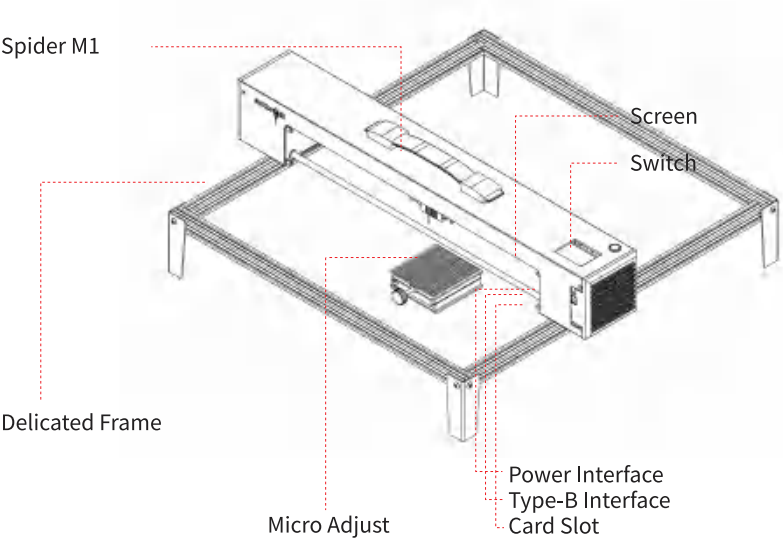


9. User Manual



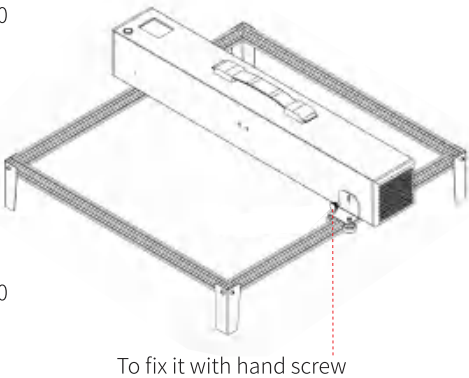
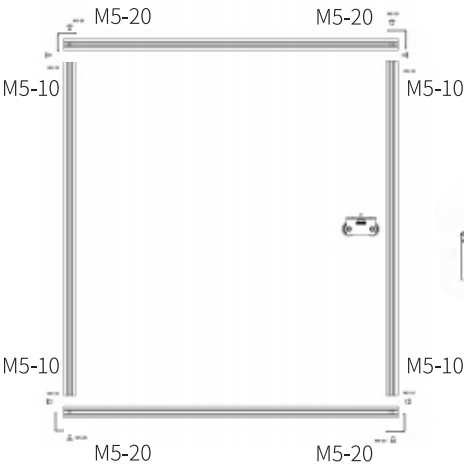
10. TF Card

# Equipment Introduction

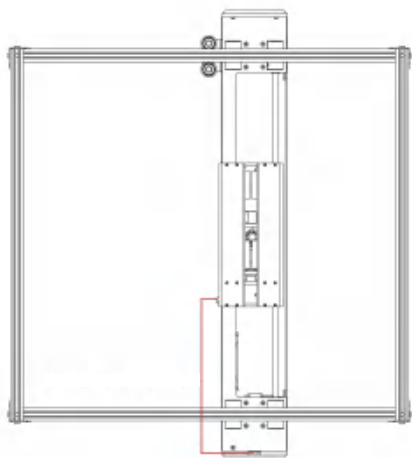


## Delicated Frame Installation Guide

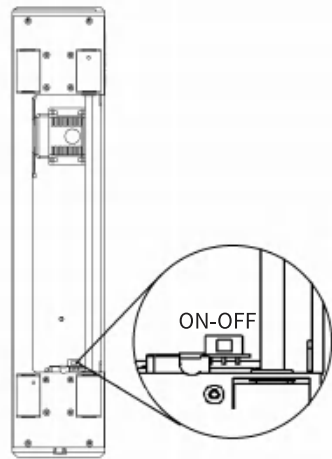
Delicated frame supports Spider M1 engraving objects from 200mm to 400m. Please take below picture for reference. 4 corners are locked with two M4 screws.



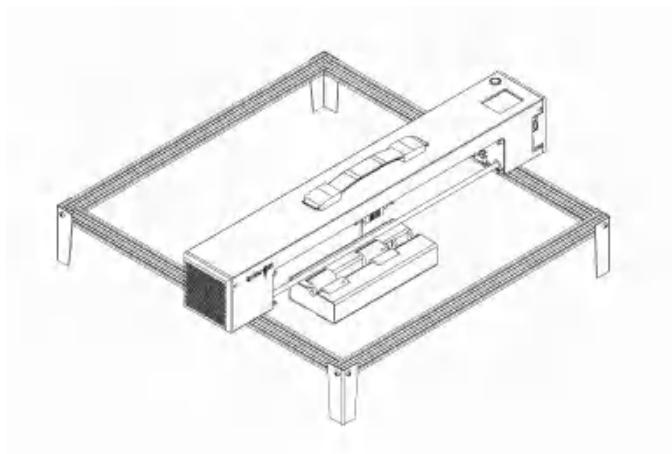
# Y-axis Rotary Roller Installation Guide



**Step 1:** connect Spider M1 with Y-axis rotary roller



**Step 2:** turn off the safety switch on the bottom of the Spider M1

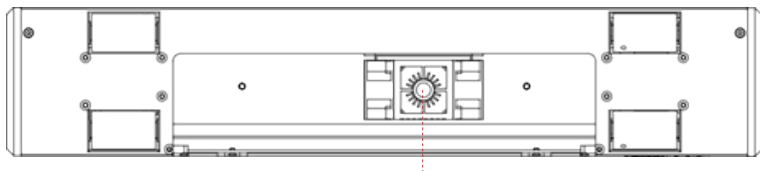


**Step 3:** to engrave the desired objects

# Spider M1 Operation Instructions

## I. Preparations Before Engraving

Please insert the TF card into the TF card slot before operation, and plug in the 12V adapter power supply. Then turn on the power switch, the red light will on. After this Spider M1 will be ready for work. BTW, the TF card that comes with the machine contains the tutorials of LightBurn and Laser GRBL. You can get the relevant information from the TF card.



Protective lens

**Note:** no matter what method you use, please make sure you inserted the TF card before engraving, and use a clean cloth which a cloth dampened with alcohol to wipe the protective lens of the laser module to ensure the best engraving effect.

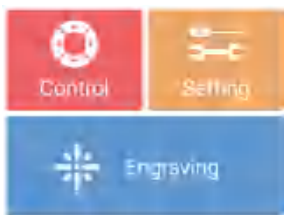
## II. Four Modes to Operate the Laser Engraver

There are 4 operation modes: **type-B real-time operation**, **mobile app wireless operation**, **PC web wireless terminal operation**, and **TF card operation**.

**1. Type-B real-time working:** for real-time working by Type-B, please refer to the tutorial in the TF card.

### 2. Mobile app wireless operation:

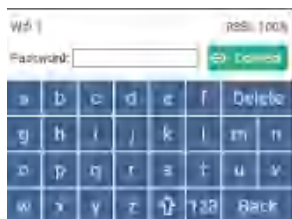
**Step 1:** to connect Wi-Fi first.



a. Spider M1 standby interface

b. Click setting to connect Wi-Fi

c. Click Wi-Fi page to select Wi-Fi



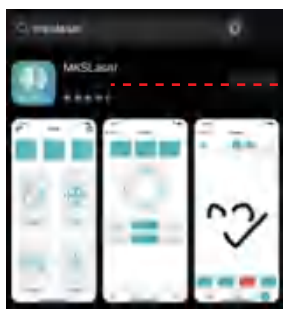
d. Type in password to link Wi-Fi



e. Get spider M1 device IP



**Step 2:** to download the MKSLaser app from Apple app store or Google Play.



Search MKSLaser on App Store or Google Play, download the app.

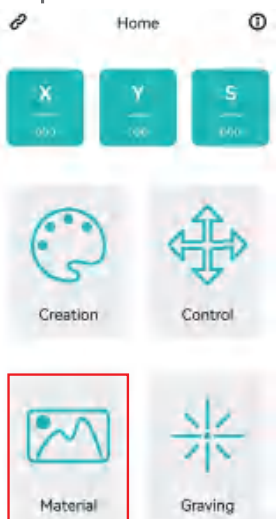
Click to connect laser engraver.



**Step 3:** type in the IP which shown on Spider M1, and make sure that the mobile phone and device are in the same LAN, click Connect in the upper left corner, type in the device IP, click Connect, then return to the home page.



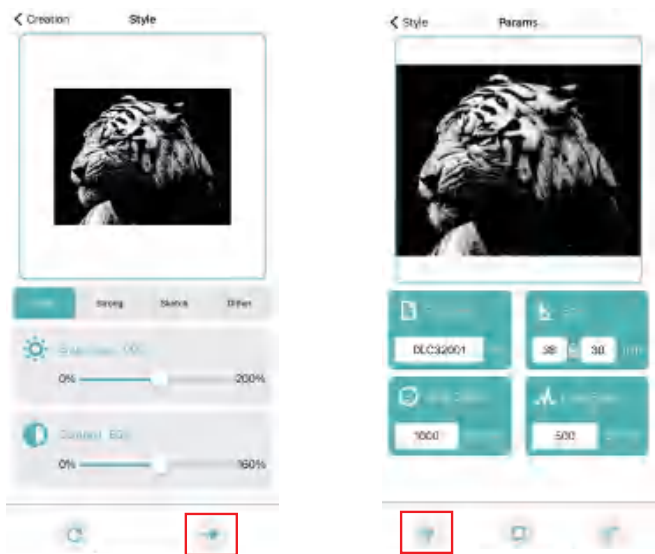
**Step 4:** select Material.



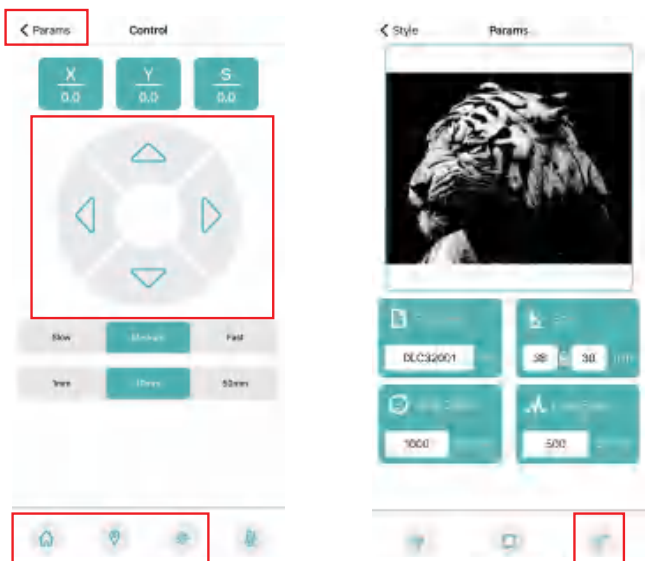
**Step 5:** click Creation.



**Step 6:** engraving parameters setting.



**Step 7:** set the engraving position.



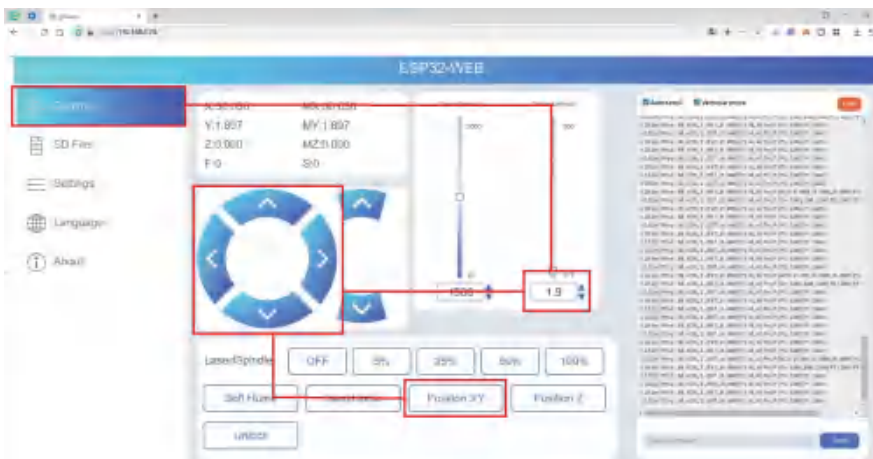
**Step 8:** start engraving (after starting engraving, you can exit the APP on mobile phone or connect it to the terminal, it will not affect the engraving).

### 3.PC web wireless terminal operation:

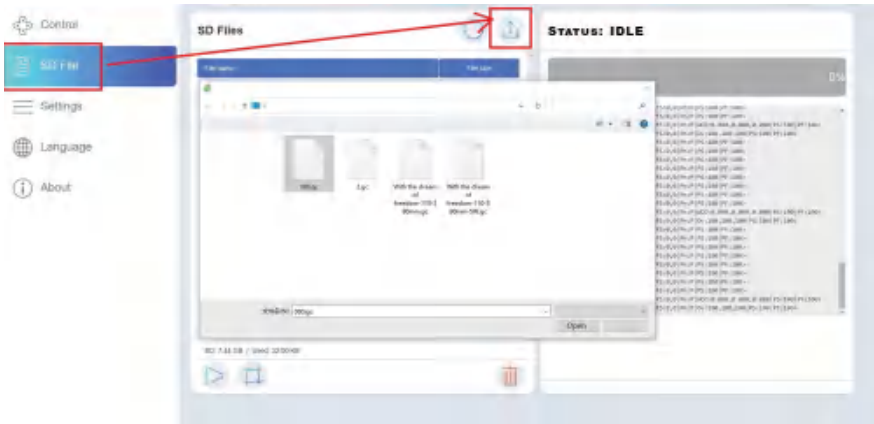
**Step 1:** view the IP address from spider M1' s touch screen, type in the IP of Spider M1 laser engraving machine, enter working page.



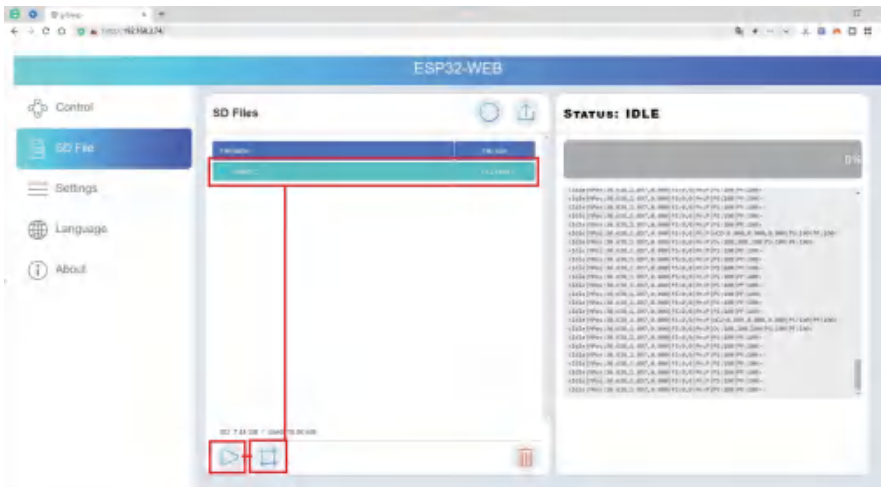
**Step 2:** move to the engraving position and set the origin.



**Step 3:** click SD file, select the desired engraving file.



**Step 4:** preview the engraving area and start engraving.



4.TF Card

Copy the engraving file to the TF card through the card reader, and plug into the TF card holder of the spider M1, and then you can start your engraving or cutting.

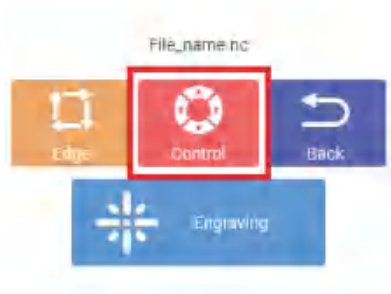
**Step 1:** choose Engraving on screen.



**Step 2:** choose the desired file.



**Step 3:** select the Control.



**Step 4:** set the position.



**Step 5:** start engraving.



# Exception Handling

Q1: When operating the engraving machine under wireless environment, the laser engraver cannot be connected, or cannot be operated after connection.

A: first please check whether the engraver is in the same local area network with PC or mobile phone, then restart the engraving machine, and reconnect to the network.

Q2: The Y-axis is offset during the engraving process.

A: clean the Y-axis roller of the engraving machine, clean the engraving plane, and make sure that the bottom surface of the engraving machine does not scrape the engraving surface.

Q3: The laser performance is obviously declined and the engraving depth cannot be reached.

A: clean the protective lens with a dust-free cloth or replace the protective lens.

# WARRANTY

Before returning the product and filling in a warranty, please contact after-sale person for going through after-sale formality. And attach this warranty card along with the returned machine.

Repair ☐                      Change ☐                      Return ☐

Name: \_\_\_\_\_ Telephone: \_\_\_\_\_

Address: \_\_\_\_\_

Serial Number: \_\_\_\_\_ Order Number: \_\_\_\_\_

Channel: \_\_\_\_\_ Date of Purchase Day: \_\_\_\_\_

Manufacture Problem Description and Return Reasons/Suggestions: \_\_\_\_\_

Repair Records: \_\_\_\_\_

Note: Client needs to fill in basic info. and return reasons. Repair records shall be retained for technicians.

※ Users should abide by the laws and regulations of the country and region where the equipment is located (place of use), abide by professional ethics, and pay attention to safety obligations. It is strictly forbidden to use our products or equipment for any illegal purpose. Our company is not responsible for the relevant legal responsibilities that the violator should bear.

Since each model is different, the actual product may be different from the picture. Please refer to the actual product.

The final interpretation right belongs to Shenzhen Sky Electronics Co., Ltd.





Subscribe Spider M1



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**Website:** [www.spider-laser.com](http://www.spider-laser.com)

**Email:** [cs@spider-laser.com](mailto:cs@spider-laser.com)



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.

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

#### Radiation Exposure Statement

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment.

This equipment should be installed and operated with minimum distance 20cm between the radiator and your body.