

LOKLiK iEngrave™
User Manual Model:LEF02

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Safety Precautions

1. LOKLiK iEngrave™ uses laser beams to engrave and cut materials. Improper use of the device may result in potential safety hazards, including the risk of fire from the ignition of flammable materials, the release of harmful or irritating fumes, and serious injury to the eyes and skin from direct or reflected laser light;
2. Laser is classified into several categories based on their performance and potential hazards by internationally recognized standards. The LOKLiK iEngrave™ is classified as an FDA Class IV, Class 4 IEC standard device (according to IEC standards and the FDA classification system in the United States);

Laser Classifications	Hazard
Class I	Class I lasers are considered non-hazardous.
Class IIa	Class IIa lasers are not considered hazardous if the exposure time does not exceed 1×10^3 seconds; however, prolonged exposure may pose a risk.
Class II	Class II lasers present a risk with prolonged exposure.
Class IIIa	Class IIIa lasers may cause acute or prolonged exposure hazards depending on the beam's intensity. Additionally, direct observation using optical instruments can result in acute exposure hazards.
Class IIIb	Class IIIb lasers pose an acute risk from direct exposure to the skin and eyes.
Class IV	Class IV lasers pose an acute risk of serious harm to both the skin and eyes from direct or scattered exposure.

3. High-energy laser beams can cause severe eye damage, including blindness, as well as deep skin burns;
4. Improper use or modification of safety features increases the risk of eye and skin injury. Please read and follow the instructions of the user manual strictly before use;
5. Please wear safety goggles during the operation;

Do not look directly at or touch the laser beam.
Do not use the LOKLiK iEngrave™ to process reflective materials such as mirrors and glass.
Do not use the LOKLiK iEngrave™ when those around you are not equipped with personal protective equipment.
Children under 14 must have adult supervision while using the LOKLiK iEngrave™.
Keep the pets away from the LOKLiK iEngrave™.
Do not modify or disable any safety features of the laser system.

6. Please use the LOKLiK iEngrave™ in a well-ventilated space; the space should be equipped with a door and curtains to avoid direct exposure to the laser beam and prevent the spread of potentially toxic substances such as smoke, steam, and particulates;
7. During engraving and cutting, high-energy diode laser beams generate extreme heat, making some materials prone to catching fire and producing smoke. The LOKLiK iEngrave™ features a built-in flame sensor to detect flames and stop laser emission while sounding an alarm. However, it is crucial to monitor the LOKLiK iEngrave™ closely during operation;

Do not use materials that are highly flammable, explosive, or release toxic byproducts.
Do not take the processed materials out before it is completely cool.
Do not leave the LOKLiK iEngrave™ unintended during the operation.
Please clean the work surface of any debris, scraps, or flammable items after each use.
Please prepare a fire extinguisher in case of fire risk.
Do not let the USB cable and power cable touch the laser beam.

8. Optimal working temperature: 10°C - 30°C; optimal working humidity: 20% - 50%;

9. Please avoid using the hazardous materials listed below. When using unlisted material, please obtain a safety data sheet from the manufacturer;

Materials	Harm
PVC (Polyvinyl Chloride)	Releases toxic chlorine gas during laser cutting, which can damage the device's components.
Lexan (Polycarbonate)	Produces poor cutting results, is highly flammable, and absorbs infrared radiation, making cutting inefficient.
ABS (Acrylonitrile Butadiene Styrene)	Melts under laser exposure, leaving blurred patterns and sticky residue.
HDPE (High-Density Polyethylene)	Prone to melting and catching fire when exposed to the laser.
Polystyrene Foam	Thin sheets can be cut but are highly flammable and tend to melt.
Fiberglass	Contains epoxy resin, which releases toxic fumes during engraving.
Polypropylene	Melts easily and burns continuously, forming pebble-like droplets that solidify on the surface.
Coated Carbon Fiber	Emits toxic fumes and tends to fray during cutting; cannot be cut when coated.

10. Power Usage Guidelines:

- Do not use a power adapter with a different voltage output (Required voltage: 24V);
- When replacing the power adapter, please use the one with 24V output and a minimum current rating of 2.5 Amps;
- It is normal for a slight spark to occur when connecting the adapter plug to the mainboard. For better safety, you can connect the plug to the main board first before plugging in the power adapter.

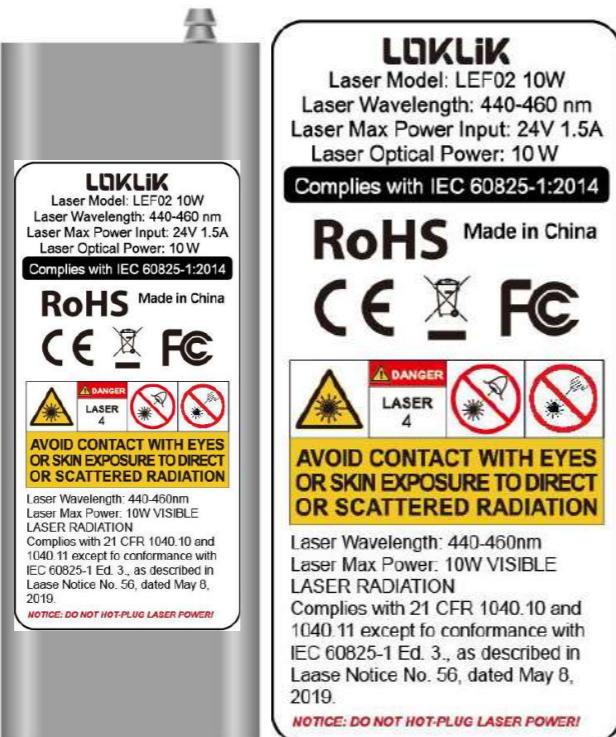
Specifications

Product	LOKLiK iEngrave™
Model	LOKLiK iEngrave™ LEF02
Engraving Area	300 x 300 mm/ 11.81 x 11.81 in
Maximum Engraving Speed	30000 mm/min
Power Adapter Input (AC)	110 - 240 V, 50 - 60 Hz
Power Adapter Output (DC)	24V 2.5A
Maximum Power Rate of Power Adapter	60 W
Package Dimensions	50 x 50 x50 cm
Package Weight	4.0 kg
Product Dimensions	50 x 50 x50 cm
Product Weight	6.5 kg
Operating Ambient Temp	0-35°C
Laser Module	
Laser Module Model	LEF02 10W
Laser Technology	Diode Laser
Wave Length	440 - 460 nm
Input	24 V 1.5A
Laser Head Power Range	10 W
Laser Head Height Adjustment	50 mm
Spot Size	0.06 x 0.06 mm
Safety Classification	FDA Class IV or Class 4 IEC standard
Applicable Material	Engraving: plywood, rough wood, hardwood, pine wood, acrylic, kraft paper, stainless steel, aluminum alloy, ceramic, etc. Cutting: poplar, pine wood, acrylic plate, bamboo, paper, etc.
Software	
Software	Laser GRBL, LightBurn LOKLiK APP
Support System	Laser GRBL: Windows LightBurn: Windows, Mac OS, Linux
Support File	JPG, PNG, BMP, GIF, SVG, AI, etc. LOKLiK APP only supports JPG, PNG, SVG
Connection	USB, SD Card, WiFi

Laser Module Label:



LASER APERTURE

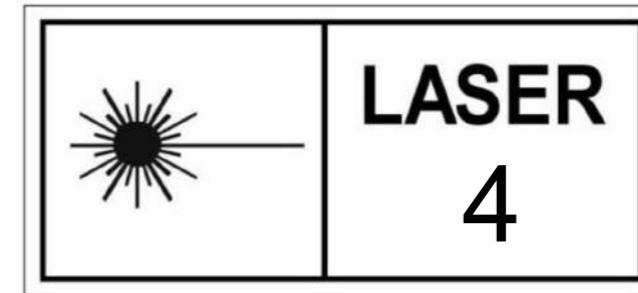


DANGER – LASER RADIATION

AVOID EYE OR SKIN EXPOSURE TO DIRECT OR SCATTERED RADIATION

CLASS 4 LASER PRODUCT

For entire product:



CLASS 1 LASER PRODUCT

Laser wavelength: 440-460nm

Laser max power: 10W

Complies with 21 CFR 1040.10 and 1040.11 except for conformance with IEC 60825-1 Ed. 3., as described in Laser Notice No. 56, dated May 8, 2019.

FCC Statement

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

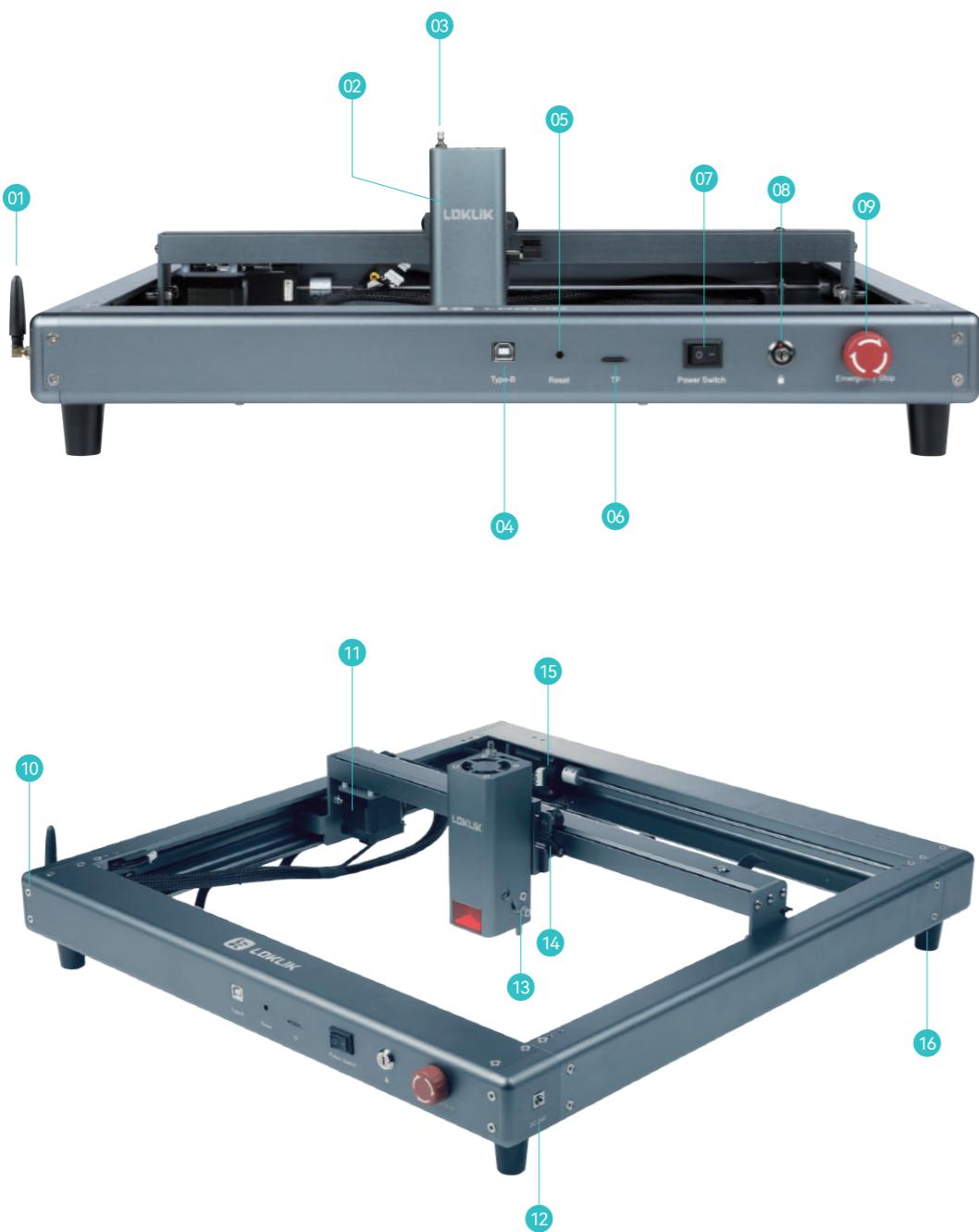
- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This 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.

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

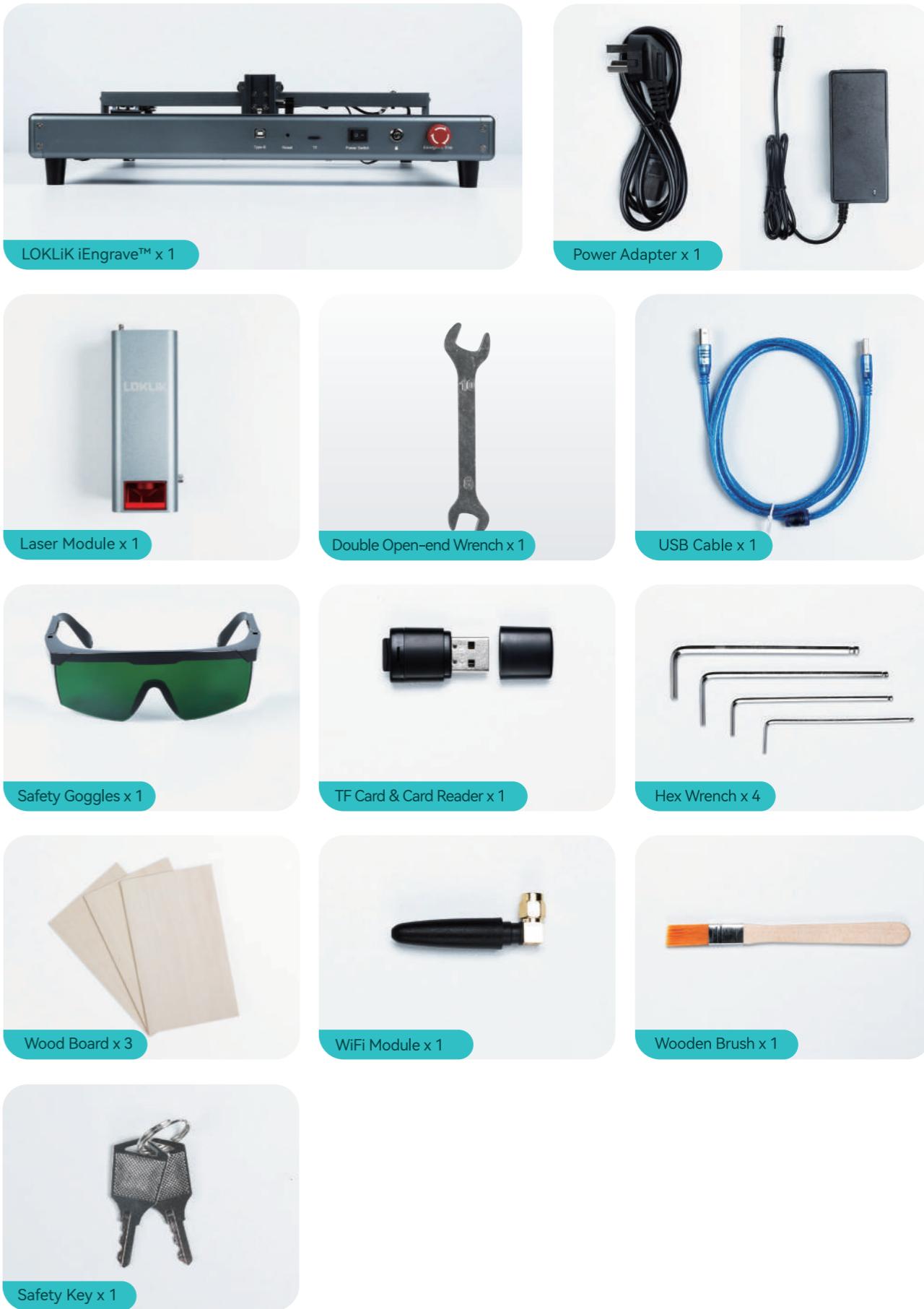
This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

Product Overview



1. WiFi Module	5. Reset Button	9. Emergency Stop Button	13. Focal Length Setting Pin
2. Laser Module	6. TF Card Slot	10. Air Pump Port	14. Laser Height Screw
3. Air Inlet	7. Power Switch	11. X-axis Motor	15. Y-axis Motor
4. USB Port	8. Safety Lock	12. Power Port	16. Support Foot

Included in The Box



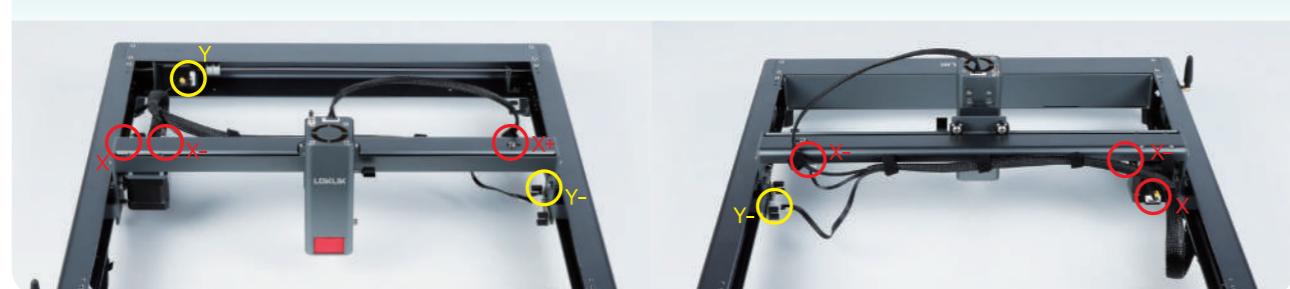
LOKLiK iEngrave™ Installation



▲ Keep the WiFi module straightforward and screw the WiFi module in as instructed;



► Keep the laser module straightforward and slide it into the mounting bracket; once the module is in place, tighten the screw as instructed to fix its position;



▼ Insert the connector into the port on the laser module; check the five ports marked below are connected (X/Y-/X-/X+/Y-);



◀ Dial down the focal length setting pin and loosen the laser height screw; slide the laser module upward or downward to ensure the pin top reaches the material surface; tighten the laser height screw and dial the pin back to its original position;

Note: The LOKLiK iEngrave™ is designed with a safety lock and emergency stop button for better user safety:

1. Loosen the emergency button and unlock the safety lock clockwise before using the LOKLiK iEngrave™;
2. Do not rotate the emergency button or unlock the safety lock anticlockwise. Otherwise, it may cause damage;
3. Assemble the power adapter and plug it in; connect the computer and LOKLiK iEngrave™ via USB cable and press the power switch to turn it on.

Software Installation

Download LOKLiK: <https://store.loklik.com/download>

More Instructions about Software Usage:

<https://store.loklik.com/app-help>

For Any Questions, Please Visit Our Official Website: www.loklik.com

Download QR Code:



LightBurn Installation

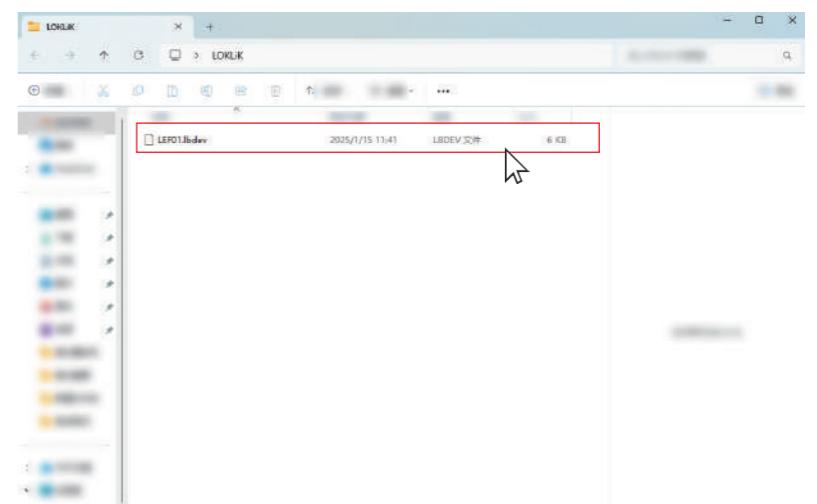
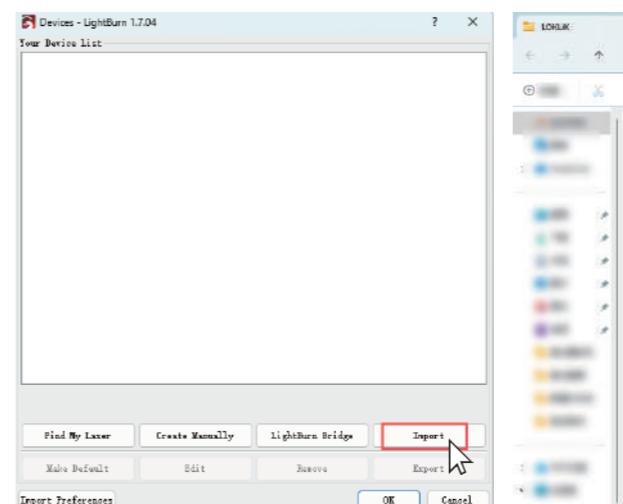
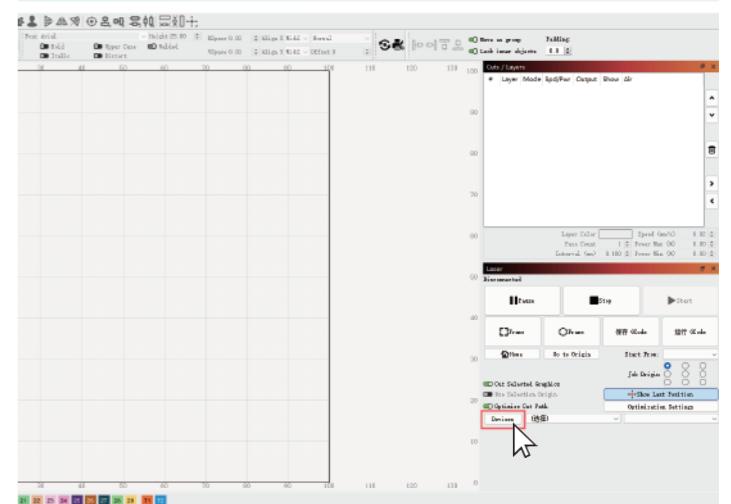
LightBurn is a professional laser engraving software that runs on Windows, Mac OS, and Linux. It offers a trial period, and if you are interested after the trial, you can pay for it.

Step 1 Insert the enclosed SD card to the computer and find the LightBurn software in the folder(path: /software) or you can download the LightBurn through this link: <https://lightburnsoftware.com/download/>;

Step 2 After installation, power on the LOKLiK iEngrave™ and connect it to the computer via USB cable;

Step 3 Open LightBurn on the computer - click "Device" to open "Your Device List";

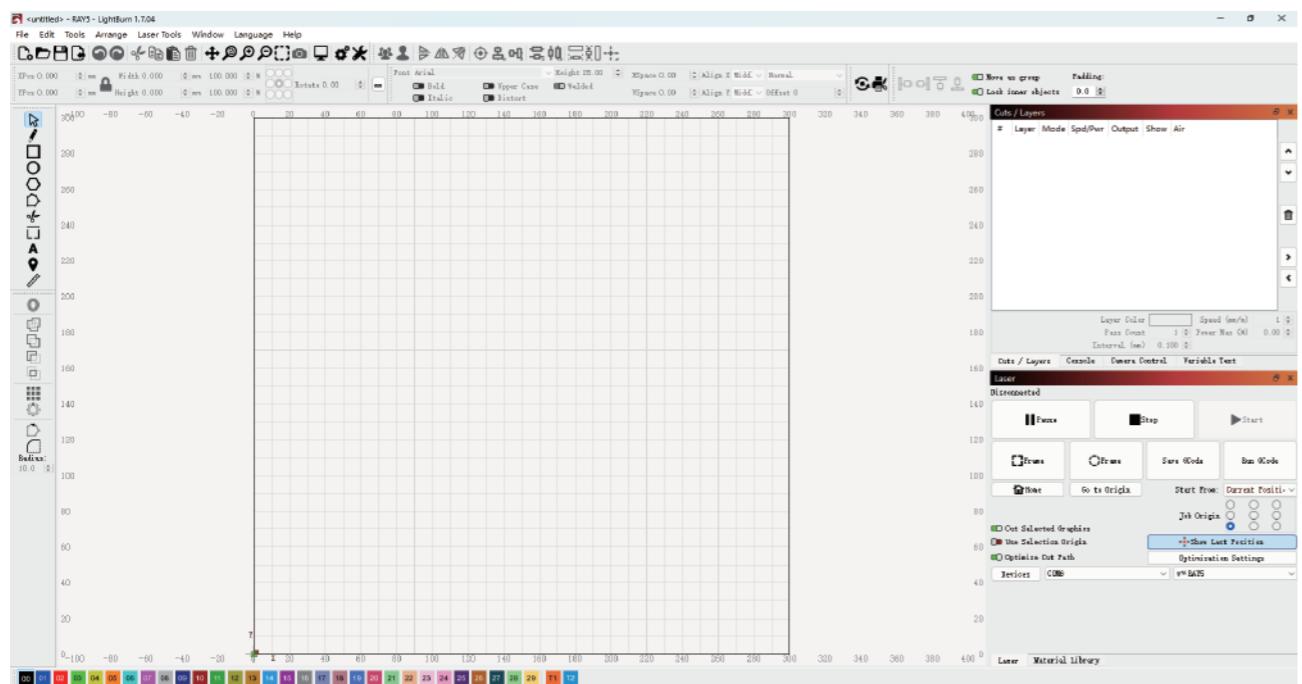
Step 4 Click "Import" on the pop-up window - Find the "LEF01.ibdev" file and click "Open";



Step 5 Select "LEF01" and click "OK" to import the configuration.

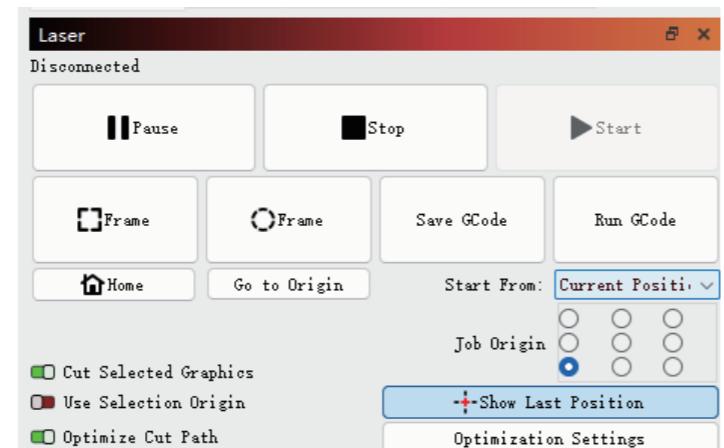
LightBurn Instruction

1 Software interface;



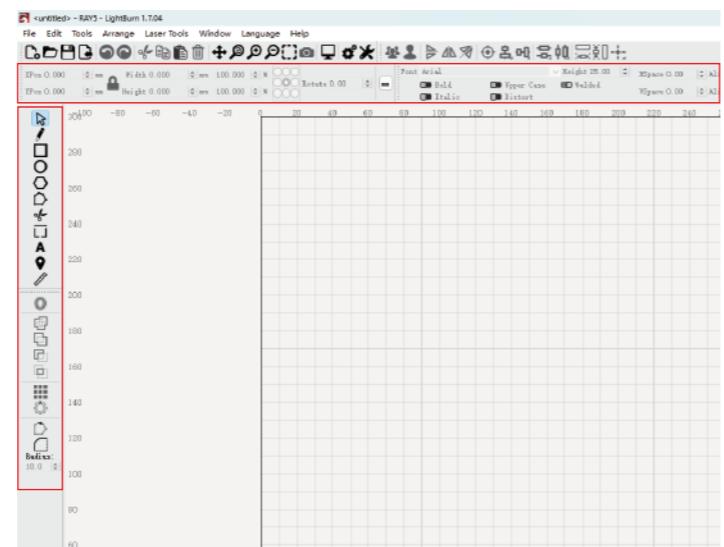
2

Select the correct port to connect the computer to the LOKLiK iEngrave™. LightBurn has three different Start modes - Current Position (Commonly used Mode), User Origin, and Absolute Coordinates;



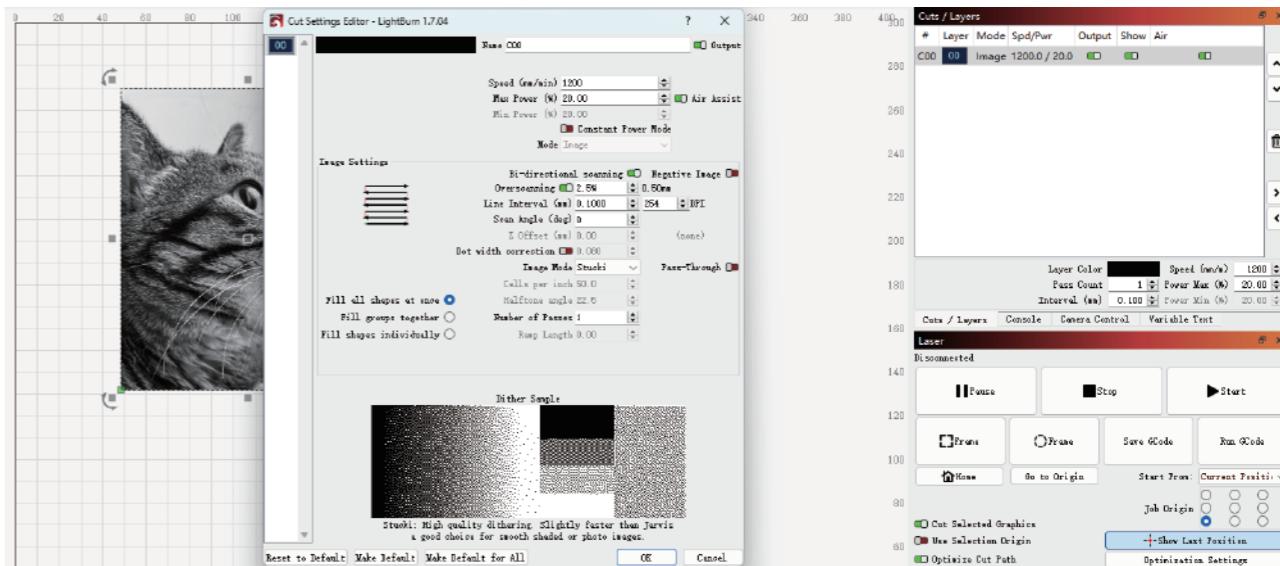
3

Click Menu "File" - "Import image from disk." Or just use the draw tool on the left column to design your own pattern;



4

Set up the name, speed, max power, mode, and other parameters on the Cuts/Layers page;



5

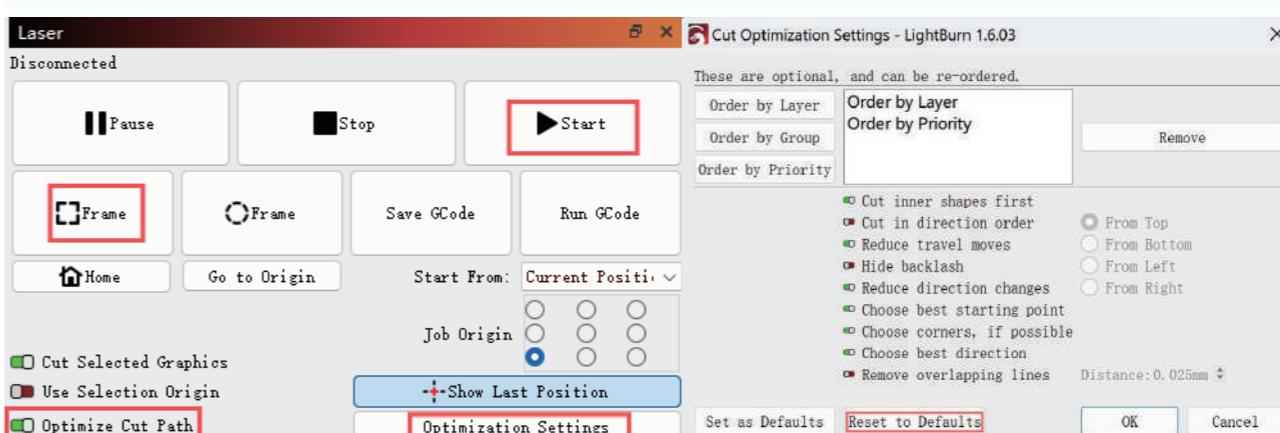
Put the material under the laser module and adjust the laser head height - click "Frame" to preview the engraving path and ensure the engraving path is within the material border - click "Start" to begin engraving (Note: Please activate the "Optimize Cut Path" and click "Optimization Settings" - "Reset to Defaults" before starting engraving for optimal result.);

For more info about LightBurn, please visit: <https://lightburnsoftware.com/pages/tutorials>

Note:

The cutting and engraving parameters only differ in speed and power. You can refer to the "LOKLiK iEngrave™ Quick Reference Chart" in the enclosed TF card for more recommending parameters.

When engraving in "Fill" mode, it is recommended to set the Line Interval as 0.1 mm and the "Line per Inch" as 254 for optimal results.



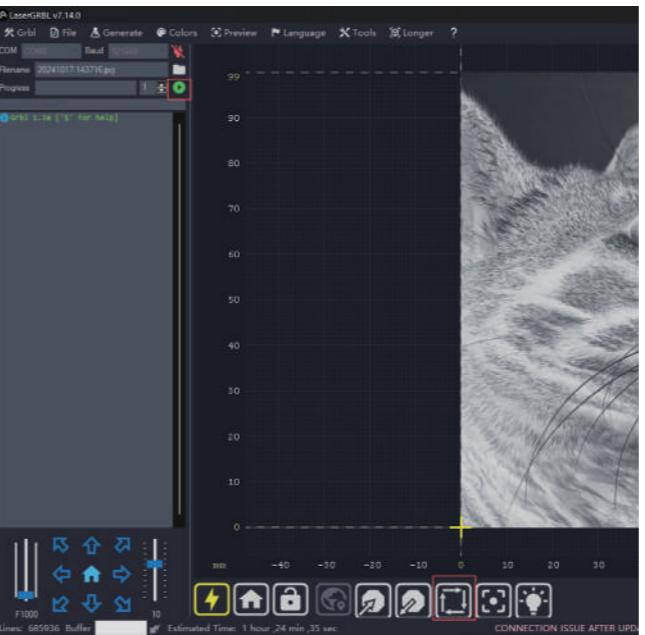
Laser GRBL Installation

Laser GRBL is a free and professional laser engraving software that runs on Windows.

Step 1 Insert the enclosed SD card into the computer and find the Laser GRBL software in the folder(path: /software), or you can download the Laser GRBL through this link: <https://lasergrbl.com/download/>;

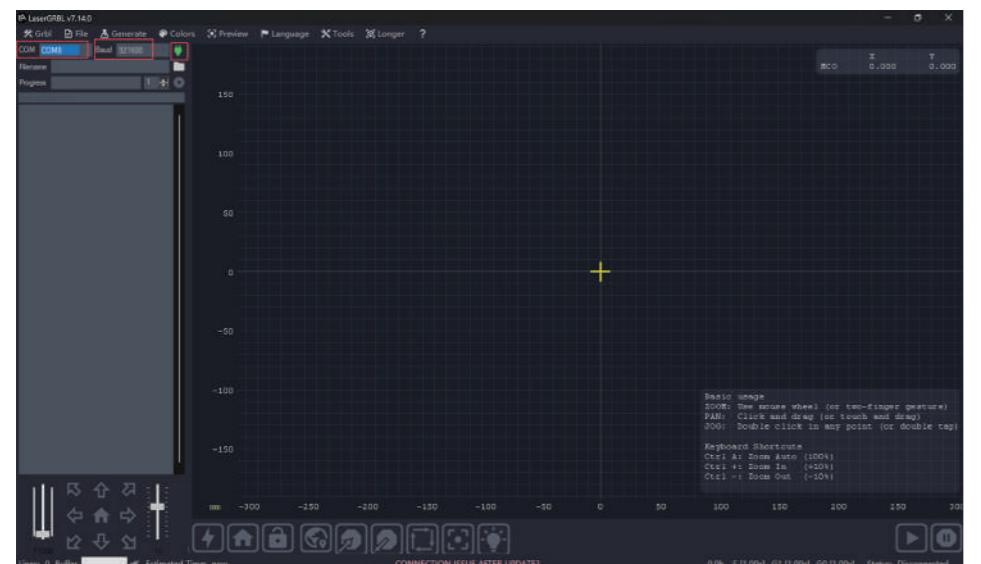
Step 2 After installation, power on the LOKLiK iEngrave™ and connect it to the computer via USB cable;

Step 3 Open Laser GRBL, select the correct port - set up the baud rate at 115200 - click "connect" (if you cannot find the correct port, click "Menu" - "Tools" - "Install CH340 Driver" to install the CH340 driver manually).



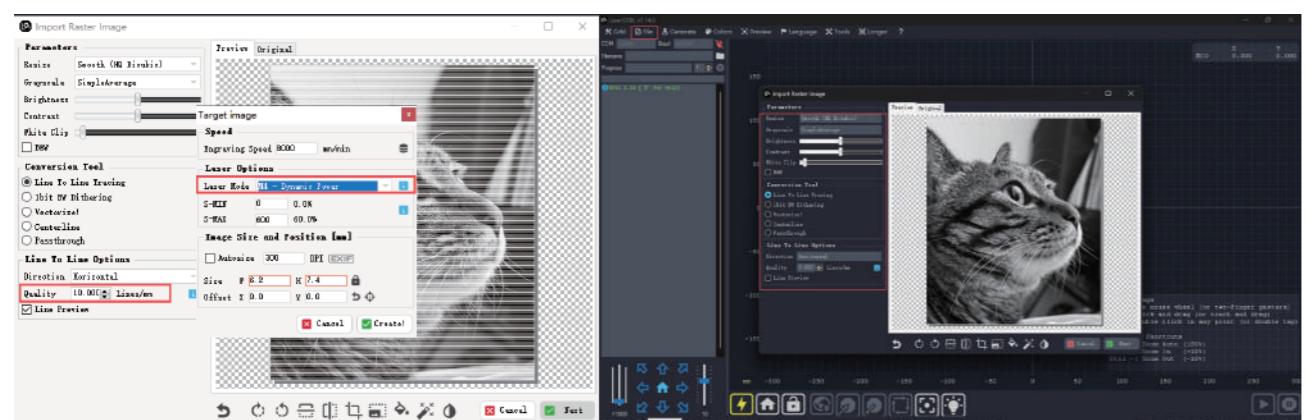
Laser GRBL Instruction

1 Software interface;



2

Click "File" and set up parameters; set up the "Laser mode" as M4-Dynamic Power; when engraving in "Fill" mode, set up the "Quality" value as 10 (Note: The imported image size should not exceed 300 x 300 mm);



FAQs

Q1: Where can I find the recommended cutting and engraving parameters?

A1: You can refer to the "LOKLiK iEngrave™ Quick Reference Chart" in the enclosed TF card for more parameters.

Q2: What to do when the engraving pattern appears uneven or with breaks?

A1: You can visit <https://store.loklik.com/app-help> for solution.

Q3: What to do when I encounter software problems during the cutting or engraving?

A1: For Laser GRBL users, please visit <https://lasergrbl.com/faq/> for solutions;

A2: For LightBurn users, please visit

<https://docs.lightburnsoftware.com/latest/Troubleshooting/> for solutions.

Q4: How to update firmware?

A1: You can visit (<https://store.loklik.com/app-help/detail?id=1892093750240907266>) for detailed update instructions.

Q5: How to maintain the laser module?

A1: The laser module will be contaminated after long use. To achieve the optimal cutting and engraving results, please follow the instructions below and maintain the module on a regular basis.

You will need: Allen Wrench, Non-woven Cloth, Alcohol or Isopropyl Alcohol Solution.

Step 1: Remove the laser window and air vent pipe;

Step 2: Dip a non-woven cloth in a small amount of alcohol or isopropyl alcohol solution (Note: Ensure the non-woven cloth is not too wet in case the excess liquid seeps into the laser module and damages the module);

Step 3: Use the non-woven cloth to clean the laser lens gently;

Step 4: Reassemble the laser window and air vent pipe back.

3

Put the material under the laser module and adjust the laser head height - click "Frame" to preview the engraving path and ensure the path is within the material border) - click "Start" to engrave.

For more info about Laser GRBL, please visit:
<https://lasergrbl.com/usage/>.