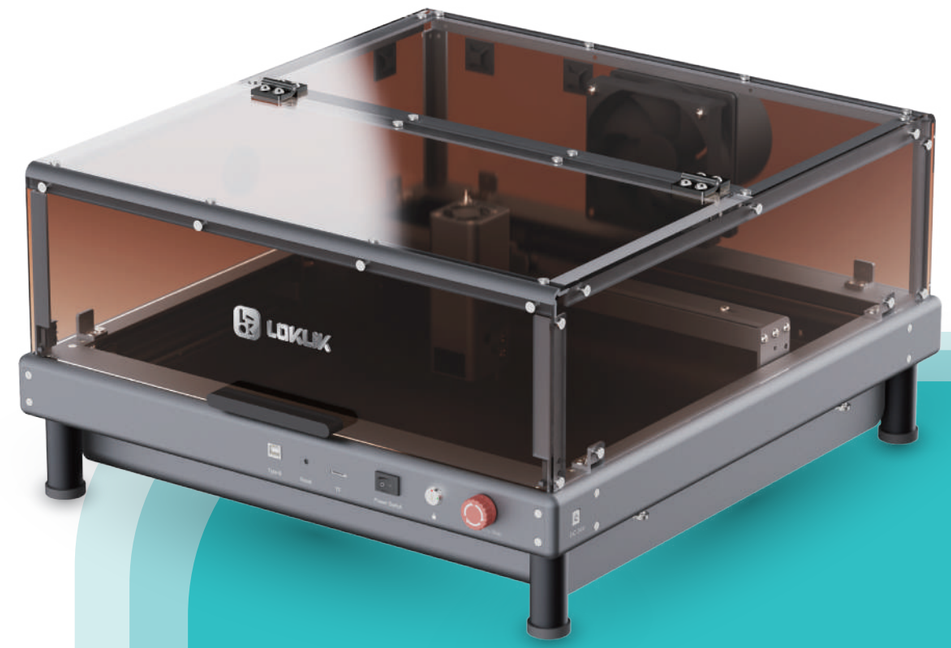


LOKLiK iEngrave™ - cover

User Manual LEF02

Mode d' emploi de LOKLiK iEngrave™ - cover
Manuale dell'utente di LOKLiK iEngrave™ - cover
Manual de Usuario del LOKLiK iEngrave™ - cover
Benutzerhandbuch für LOKLiK iEngrave™ - cover

Safety Precautions

1. LOKLiK iEngrave™ - Cover 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™ - Cover is classified as an FDA Class I, Class 1 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 $1x10^3$ 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;

The position of laser radiation

AVOID EYE OR SKIN EXPOSURE TO DIRECT OR SCATTERED RADIATION

Laser Wavelength: 450-460nm
Laser Max Power: 10W VISIBLE LASER RADIATION
Complies with 21 CFR 1040.10 and 1040.11 except fo
conformance with IEC 60825-1 Ed. 3., as described in Laase
Notice No. 56, dated May 8, 2019.

DANGER-CLASS 4 LASER RADIATION
WHEN OPEN
AND INTERLOCKS DEFEATEN
AVOID EYE OR SKIN EXPOSURE TO DIRECT OR SCATTERED RADIATION

Do not look directly at or touch the laser beam.
Do not use the product to process reflective materials such as mirrors and glass.
Do not use the product without personal protective equipment.
Children under 14 must have adult supervision while using the product.
Keep the pets away from the product.
Do not modify or disable any safety features of the laser system.

Caution - Use of controls or adjustments or performance of procedures other than those specified may result in hazardous radiation exposure.
Users are prohibited from disassembling or modifying the laser without permission.
DANGER-CLASS 1 LASER RADIATION WHEN OPEN AND INTERLOCKS DEFEATEN, AVOID EYE OR SKIN EXPOSURE TO DIRECT OR SCATTERED RADIATION

6. Please use the LOKLiK iEngrave™ - Cover 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™ - Cover features a built-in flame sensor to detect flames and stop laser emission while sounding an alarm. However, it is crucial to monitor the device 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 device 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;

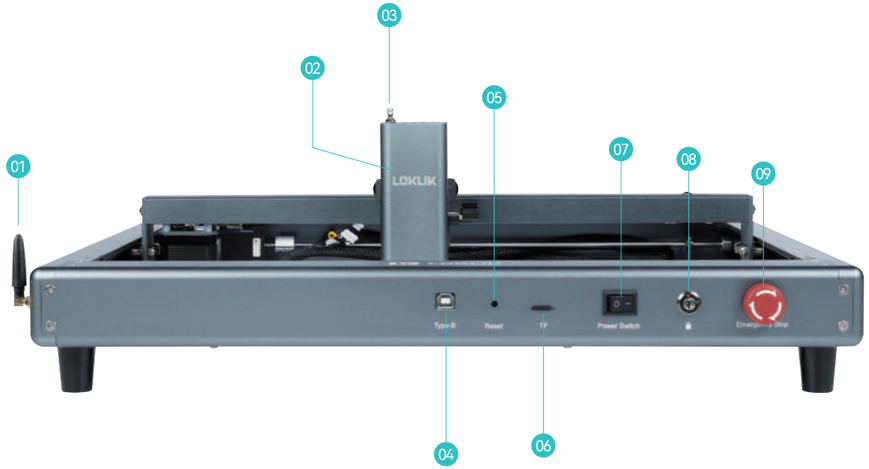
Materials	Harm
PVC (Polyvinyl Chloride)	Releases toxic chlorine gas during laser cutting, which can damage the device's components.
Lexan (Polycarbonate)	Produces poor cutting results, is highly flammable, and absorbs infrared radiation, making cutting inefficient.
ABS (Acrylonitrile Butadiene Styrene)	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.

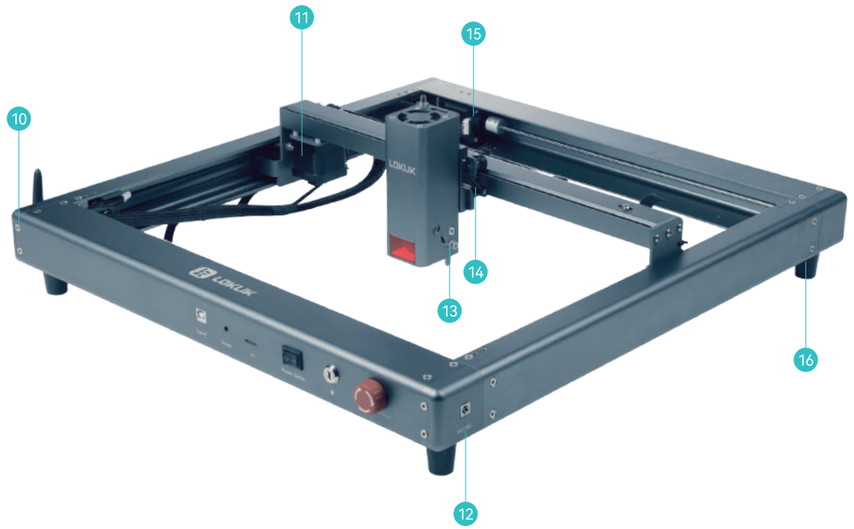
10. Power Usage Guidelines:
・Do not use a power adapter with a different voltage output(Required voltage: 24V);
・When replacing the power adapter, please use the one with 24V output and a minimum current rating of 2.5 Amps;
・It is normal for a slight spark to occur when connecting the adapter plug to 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™ - Cover
Model	LOKLiK iEngrave™ LEF01
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	614 x 528 x 280mm
Package Weight	9.8kg
Product Dimensions	605 x 595 x 330mm
Product Weight	15.4kg
Operating Ambient Temp	0-35℃
Laser Module	
Laser Module Model	LEF01 10W
Laser Technology	Diode Laser
Wave Length	450 - 460 nm
Input	24 V 1.5A
Laser Head Power Range	10 - 11 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

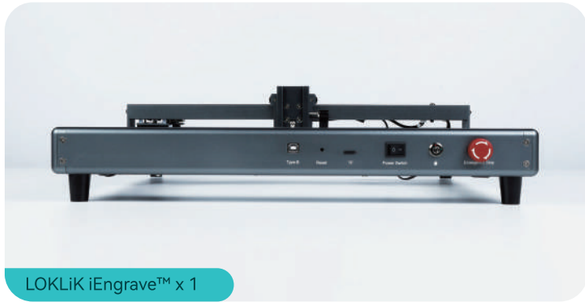
Product Overview





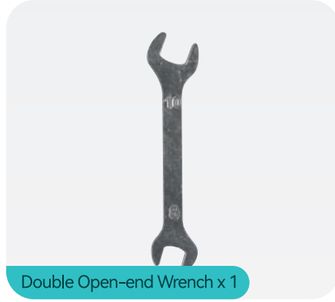
1. WiFi Module	2. Laser Module	3. Air Inlet	4. USB Port
5. Reset Button	6. TF Card Slot	7. Power Switch	8. Safety Lock
9. Emergency Stop Button	10. Air Pump Port	11. X-axis Motor	12. Power Port
13. Focal Length Setting Pin	14. Y-axis Motor	15. Support Foot	16. Bottom Shell
17. Laser Cover	18. Exhaust Port	19. Fan	

Included in The Box


LOKLiK iEngrave™ x 1

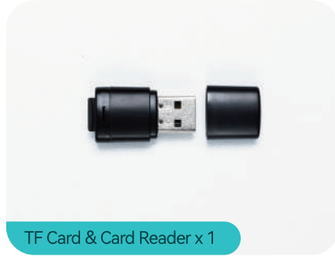
Power Adapter x 1

Laser Module x 1


Double Open-end Wrench x 1

USB Cable x 1

Safety Goggles x 1

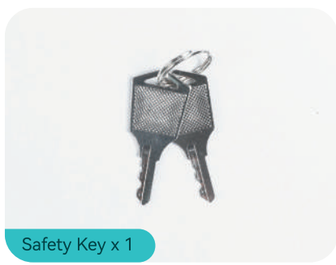

TF Card & Card Reader x 1

Hex Wrench x 4

Wood Board x 3

WiFi Module x 1

Wooden Brush x 1

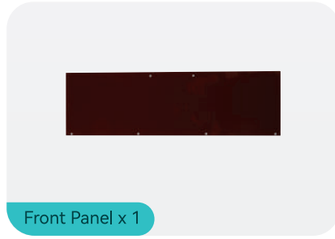

Safety Key x 1

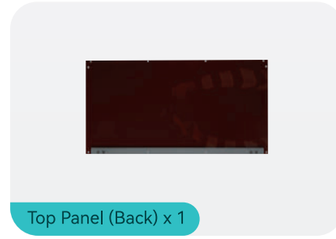
Laser Cover Accessories

Left/Right-side Panel x 2

Top Panel (Front) x 1

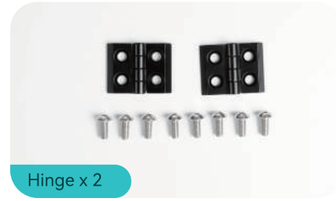
Back Panel x 1

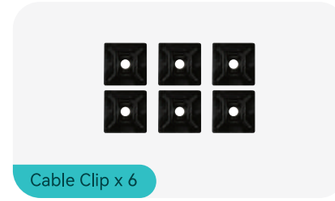

Front Panel x 1


Top Panel (Back) x 1

Angle Bracket x 6

U-shaped Connector Bar x 2


Hinge x 2


Cable Clip x 6

Cable Tie x 10

M4 Screw x 42, M5 Screw x 8

Fan/Light Bar Power Adapter x 1

Light Bar x 1

Handle x 1

Hose Clip x 1

Ventilation Pipe x 1

Leg Extension x 8

Leg Extension Pad x 4

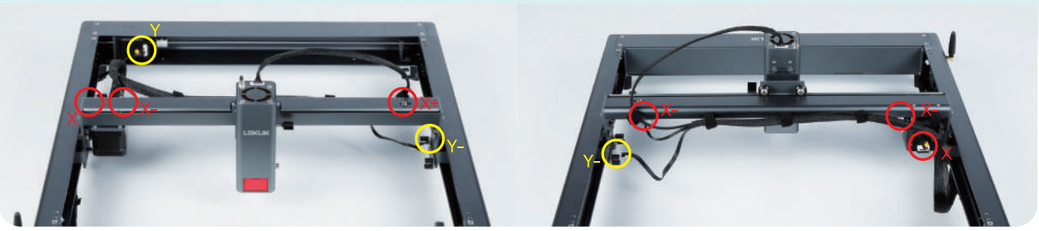
LOKLiK iEngrave™ - Cover Installation

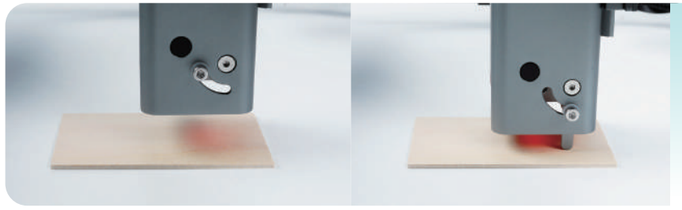
Release the screws used to fix the axes;

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™ - Cover 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 device;
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™ - Cover via USB cable and press the power switch to turn it on.

Laser Cover Installation

1. Support Foot Installation

1.1

Turn off the device, unplug the power cord, USB cable, and air pump cable, and disconnect the laser module. Loosen the laser height screw and remove the laser module in the vertical direction.

1.2

Assemble the four leg extension 1 and the 4 leg extension pads together, then one support foot is completed;

1.2.1

If you need to use the attachment rotary, assemble the leg extension 2 to the leg extension 1 first and then assemble the leg extension pad.

1.3

Turn the device over and install the four assembled leg extensions to the four corners of the device (Note: Please check whether the screws to fix the bottom base are tightened after turning over).

1.4

Peel off the protective film on the back of the cable clips and attach it to the side or bottom of the metal base. Use the cable tie to secure the cables on the left side.

2. Laser Cover Installation

2.1

Angle Bracket: Reinstall the laser module back and tighten the laser height screw, then reconnect the laser module. Install the 6 angle brackets with the mounting holes on the device body. (Note: Ensure that the angle brackets are positioned on the inner side of the device);

2.2

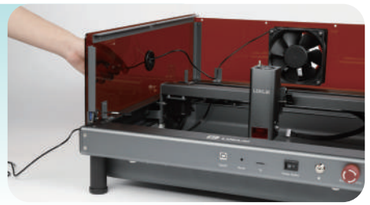
Left/Right Panel: Match the holes of the left and right side panels with the mounting holes of the angle brackets on both sides of the device. Use M4 screws and an Allen wrench to secure two panels in place;

2.3

Back Panel: Assemble the back panel with the short U-shaped connector bar with M4 screws and an Allen wrench. Match the holes of the back with the mounting holes of the installed angle brackets on the back of the device. Use M4 screws and an Allen wrench to secure the back panel in place;

2.4

Fan Cable: Thread the fan cable through the cable hole on the left-side panel and use the cable tie and cable clip to secure the cable. Then connect the fan cable to the fan/light bar power adapter;



2.5

To enable the lid open safety stop function when the cover is opened, connect the limit switches as instructed; otherwise, leave them disconnected;

2.6

Handle: Align the handle with the mounting holes on the front panel, then use the Allen wrench to tighten the M4 screws securely;

2.7

Front Panel & Top Panel(Front): Assemble the front panel with the top panel(front) through the long U-shaped connector bar through M4 screws and Allen wrench;

2.8

Top Panel(Back): Place the top panel (back) on top. Connect the back panel to the top panel (back) by fixing the M4 screws on the U-shaped connector bar. Align the hinges with the holes on the top panel (back) and the top panel (front), then connect the two top panels together by fixing the M5 screws on the hinges.

3. Ventilation Pipe & Light Bar Installation

3.1

Place the hose clip over the ventilation pipe and slide the pipe onto the exhaust port. Rotate the screw on the hose clip to secure the pipe. The other end of the ventilation pipe can be placed outdoors;

3.2

Peel off the backing of the light bar and attach it to the position as instructed. Thread the light bar cable through the cable hole on the left-side panel and use the cable tie and cable clip to secure the cable. Then connect the cable to the fan/light bar power adapter.

Note:

1. If the device detects the cover is opened during engraving, the laser head will stop working immediately, and a message such as "Safety door is open. Please close it before continuing engraving." will appear on LightBurn, Laser GRBL, or the LOKLiK app. Engraving resumes once the cover is closed;
2. To enhance safety, the device cannot perform framing, move the laser module, or engrave with the cover open. The cover must be closed before any operations can proceed.

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

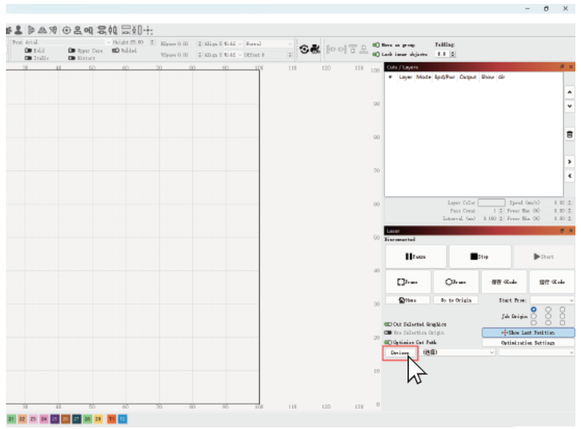
LightBurn is a professional laser engraving software that runs on Windows, Mac OS, and Linux. It offers a trial period, and if you are interested after the trial, you can pay for it.

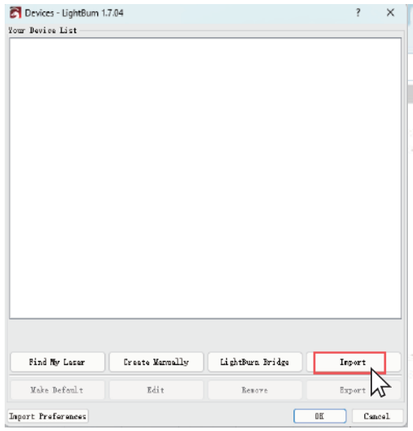
Step 1 Insert the enclosed SD card to the computer and find the LightBurn software in the folder(path: /software) or you can download the LightBurn through this link: https://lightburnsoftware.com/download/.

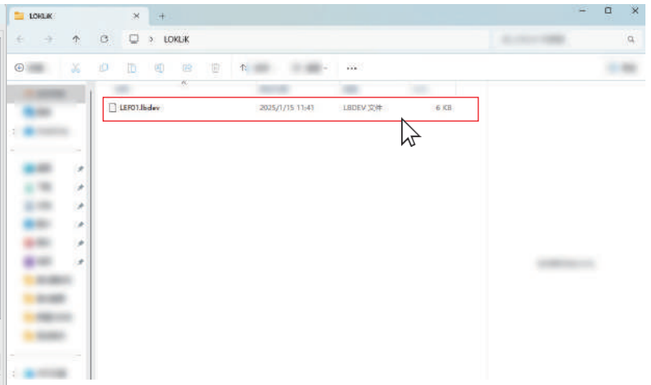
Step 2 After installation, power on the device and connect it to the computer via a USB cable;

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

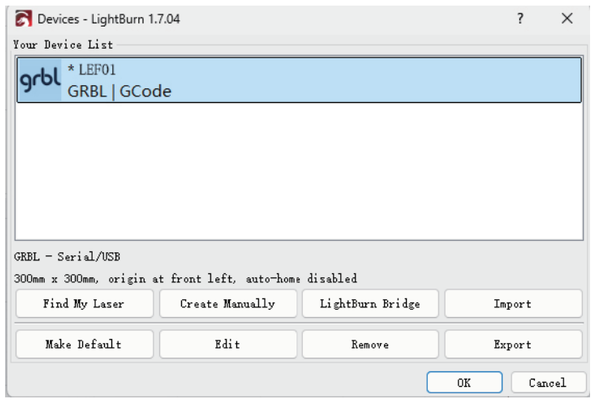
Step 4 Click "Import" on the pop-up window - Find the "LEF01.ibdev" file and click "Open";





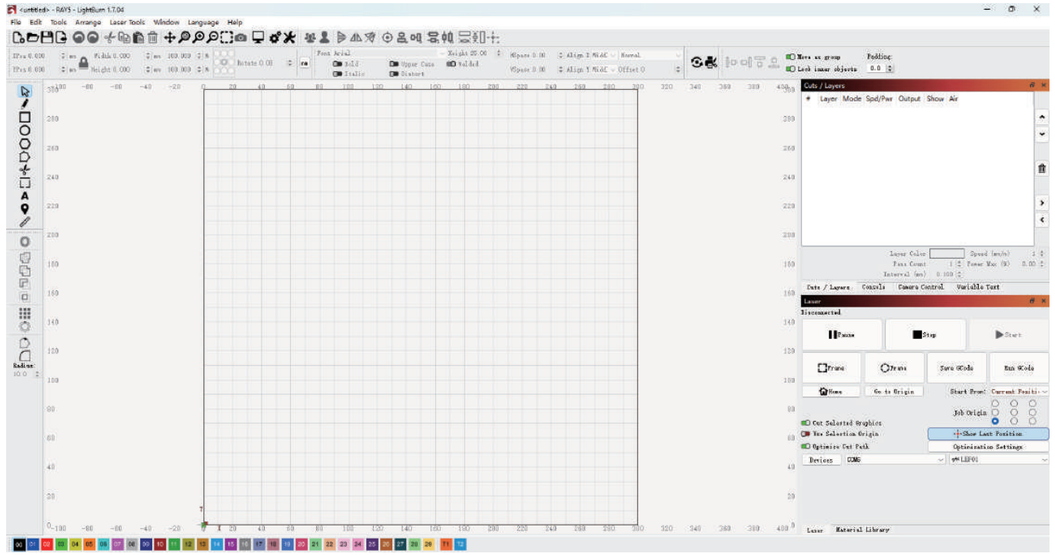


Step 5 Select “LEF01” and click “OK” to import the configuration.



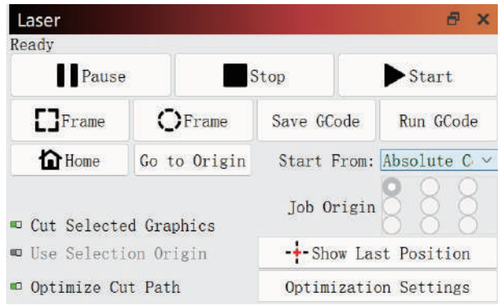
LightBurn Instruction

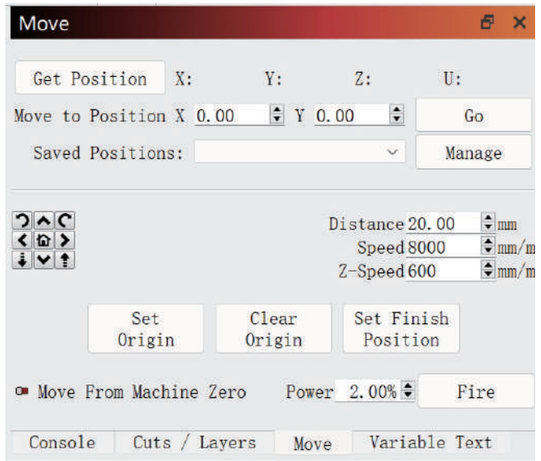
1 Software interface;



2

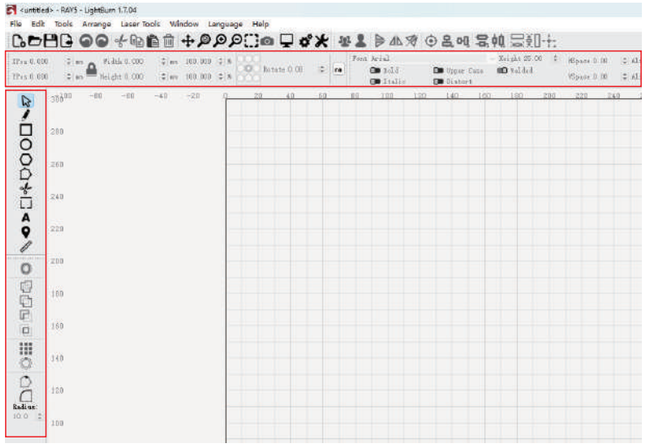
Select the correct port to connect the computer to the device. LightBurn has three different Start modes - Current Position, User Origin, and Absolute Coordinates (Recommended Mode) and move the laser module by clicking on the "Move" page;





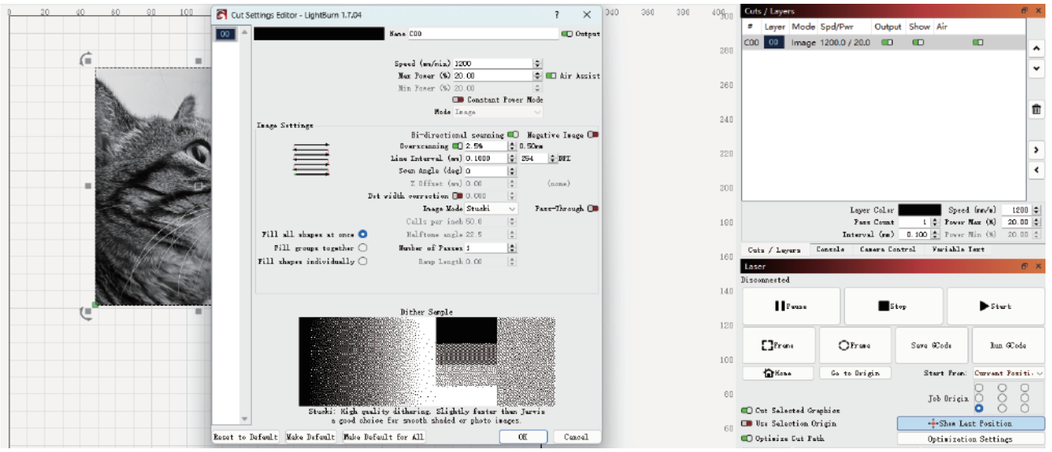
3

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



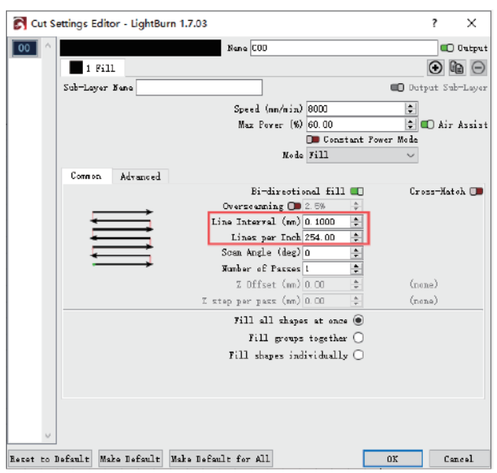
4

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



Note:

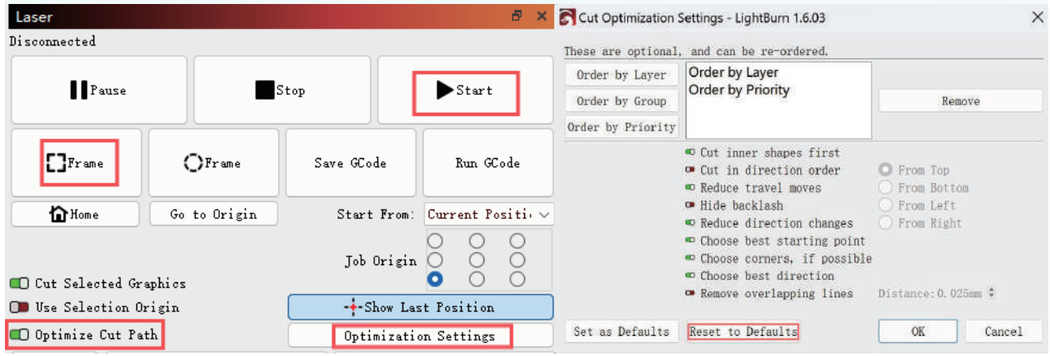
The cutting and engraving parameters only differ in speed and power. You can refer to the "LOKLiK iEngrave™ Quick Reference Chart" in the enclosed TF card for more recommending parameters. When engraving in "Fill" mode, it is recommended to set the Line Interval as 0.1 mm and the "Line per Inch" as 254 for optimal results.



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**



Laser GRBL Installation

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

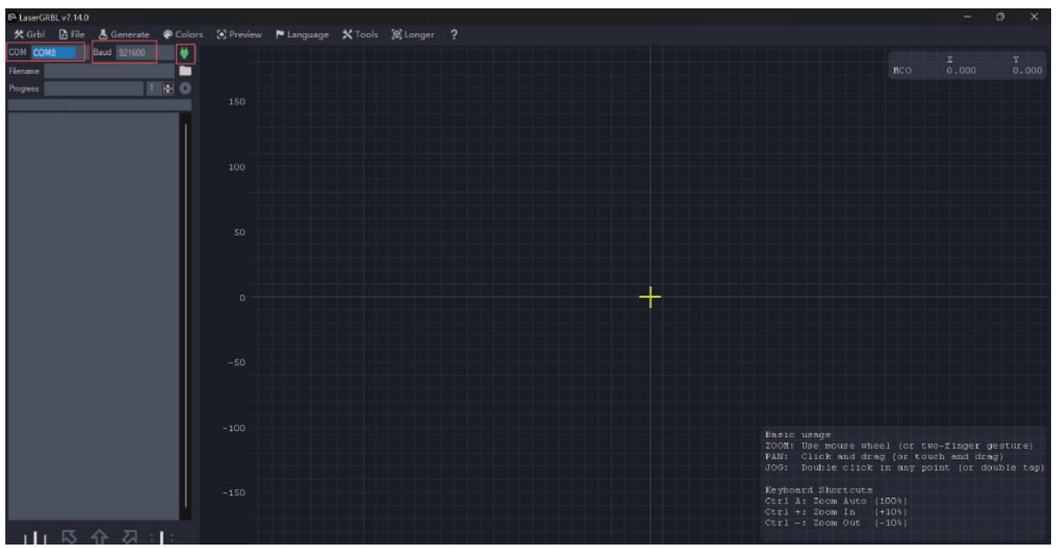
Step 1 Insert the enclosed SD card into the computer and find the Laser GRBL software in the folder(path: /software), or you can download the Laser GRBL through this link: https://lasergrbl.com/download/;

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

Step 3 Open Laser GRBL, select the correct port - set up the baud rate at 921600 - click "connect" (if you cannot find the correct port, click "Menu" - "Tools" - "Install CH340 Driver" to install the CH340 driver manually).

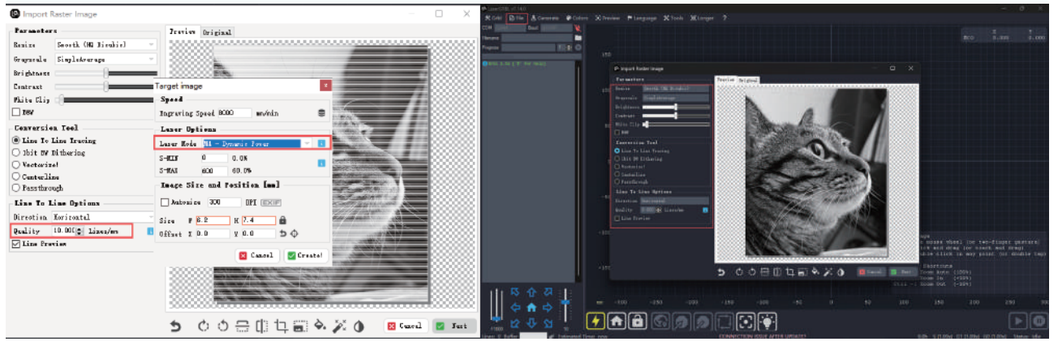
Laser GRBL Instruction

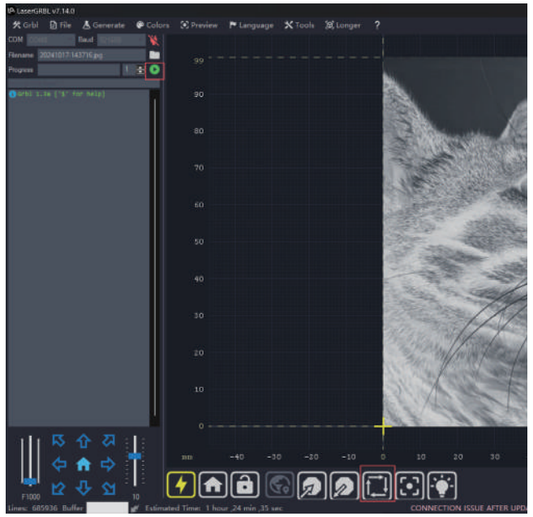
1 Software interface;



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 × 300 mm);





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/.**

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.

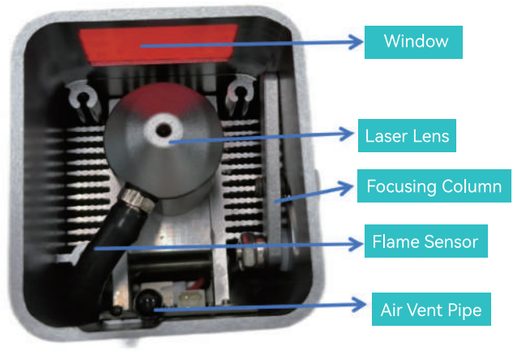
Step 1: Remove the laser window and air vent pipe;

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.

Laser Module Diagram



Q6: What to do if LightBurn or Laser GRBL cannot detect the device when connected via USB?

Step 1: Ensure the baud rate is set to 921600 in LightBurn or Laser GRBL;

Step 2: You need to manually install the CH340 driver if your computer is loaded with old Windows or Mac systems. You can check the installation video on the attached SD card or visit https://store.loklik.com/app-help for detailed instructions;

Step 3: If none of the above steps work, please contact LOKLiK customer service for further assistance.

Limited Warranty

This product is covered by a one-year warranty from the date of purchase. If a defect occurs under normal use within the warranty period, we will provide warranty service. Proof of purchase is required to claim warranty service. LOKLiK accessories are covered by a free warranty for three months from the date of purchase. In the event that any warranty terms conflict with applicable local laws and regulations, the local laws will take precedence.

To the extent permitted by applicable laws, LOKLiK is not responsible for the warranty in the following situations: malfunctions caused by improper use, maintenance, and storage by consumers; malfunctions caused by self-repair or dismantling by those who do not undertake the three-guarantee repair without the permission of our company; products that can continue to be used after repair when the warranty expired; damage caused by force majeure. Meanwhile, LOKLiK disclaims all implied and legal warranties, including warranties of merchantability and fitness for a particular purpose. The warranties that are allowed to be denied are for the duration of this warranty.

Proof of purchase may be required to verify warranty eligibility.

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.