

Ovsuqu FL-30W

Ovsuqu Raycus 30W Fiber Laser Engraver User Manual (Model FL-30W)

Comprehensive instructions for safe and effective operation.

1. INTRODUCTION

This manual provides essential information for the safe and proper use of your Ovsuqu Raycus 30W Fiber Laser Engraver, Model FL-30W. Please read this manual thoroughly before operating the machine to ensure optimal performance and user safety. This device is designed for precision marking and engraving on various materials, including metals and certain non-metals.

2. SAFETY INFORMATION

WARNING: This product contains a Class 2 laser. Direct exposure to the laser beam may cause eye injury. Always wear appropriate laser safety goggles during operation.

- **Laser Class:** Class 2, with an output power of 0.874mW.
- **FDA Accession Number:** 2420799-000.
- Always wear certified laser safety goggles that protect against 1064 nm wavelength light.
- Never look directly into the laser beam or at reflections from shiny surfaces.
- Ensure the work area is clear of flammable materials.
- Keep children and unauthorized personnel away from the operating machine.
- Operate the machine in a well-ventilated area to dissipate fumes generated during engraving.
- Ensure proper grounding of the equipment.

3. PRODUCT OVERVIEW

The Ovsuqu Raycus 30W Fiber Laser Engraver is a compact and powerful machine designed for precise material marking. Familiarize yourself with its main components:



Figure 3.1: Overall view of the Ovsuqu Raycus 30W Fiber Laser Engraver. This image displays the complete laser marking machine, highlighting its compact design suitable for desktop use.



Figure 3.2: Front view with labeled components. Key parts include the Galvo head (1), Field lens (2), Working table (3), Control switch (4), and the internal Laser source (5).

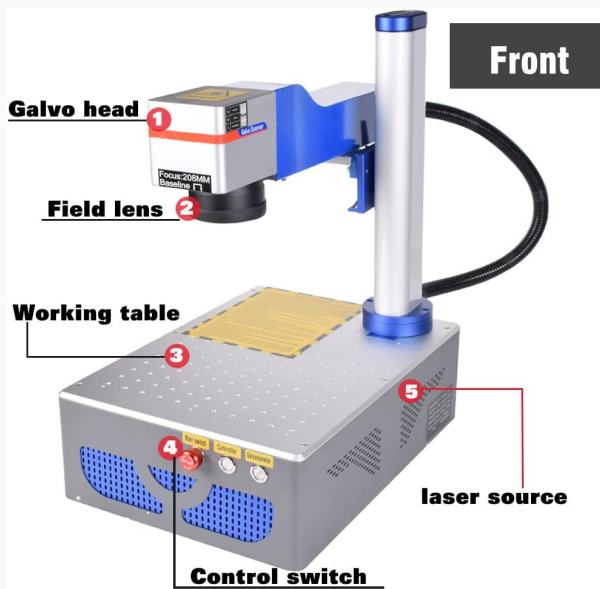


Figure 3.3: Back view with labeled ports. This view shows the Laser source protect cable (6), Lifting handle (7), Cooling fan (8), PC-USB port, Pedal Port, Power Socket, and External Ground connection.



Figure 3.4: Close-up of the Galvo Scanner Head. This component directs the laser beam with high precision across the working area.



Figure 3.5: Raycus RFL-30QS Fiber Laser Source. This is the core component generating the laser beam, known for its reliability and performance.

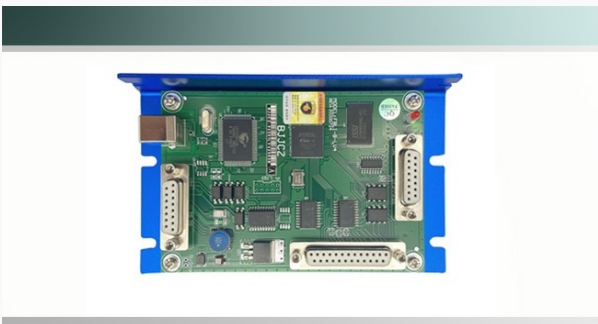


Figure 3.6: BJJCZ Control Board. This board manages the laser's operations and interfaces with the control software.

4. SETUP

4.1 Unpacking and Inspection

Upon receiving your laser engraver, carefully unpack it. The machine is typically shipped in a protective wooden crate with styrofoam padding. Inspect all components for any signs of damage during transit. Report any damage immediately to the supplier.

4.2 Included Components

Verify that all items are present in the package:



Figure 4.1: Included accessories. This image shows the various cables, tools, safety glasses, and other items provided with the laser engraver.

- Ovsuqu Raycus 30W Fiber Laser Marking Machine
- Software & Manual (on U Disk)
- Laser Safety Goggles
- Foot Switch
- Power Cable
- USB Cable
- Focal Length Ruler
- Grounding Wire
- Mounting Hardware (e.g., hex bolts)

4.3 Assembly

1. Carefully attach the Galvo head assembly to the main unit using the provided hex bolts. Typically, this involves securing about 6 bolts.
2. Connect the laser source protect cable to its designated port.
3. Connect the USB cable from the machine's PC-USB port to your computer.
4. Plug the foot switch into the Pedal Port.
5. Connect the power cable to the Power Socket and then to a grounded electrical outlet.
6. Attach the external ground wire to the designated terminal on the machine and to a reliable ground source.

4.4 Software Installation

The included U Disk contains the necessary drivers and software (EZCAD). Install these programs on your computer. The machine is also compatible with LightBurn software for Galvo lasers, which may require separate purchase and setup. Refer to the software documentation on the U Disk for detailed installation instructions.

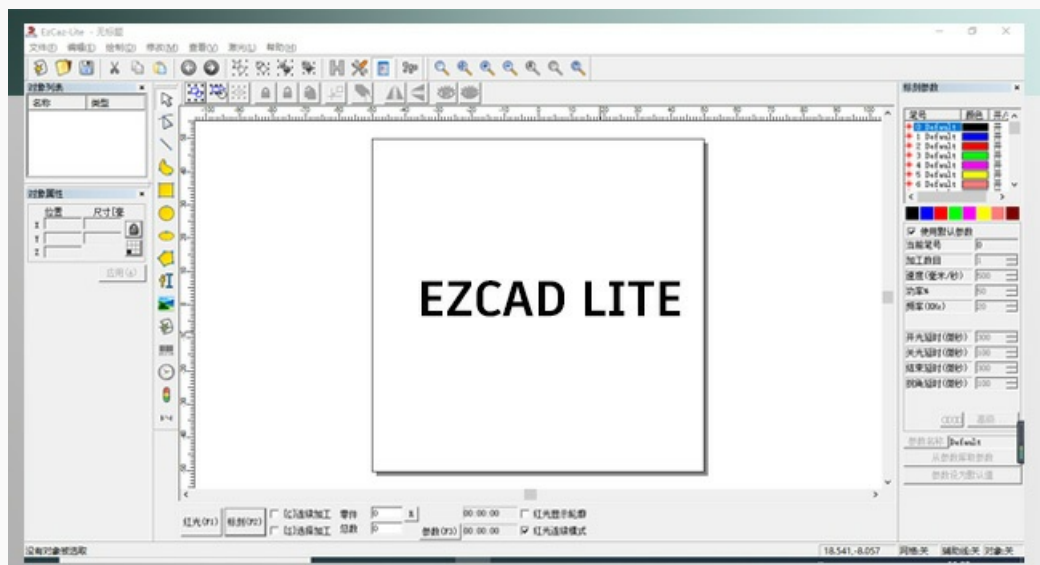


Figure 4.2: EZCAD Lite Software Interface. This is the primary software used to control the laser engraver.

5. OPERATION

5.1 Initial Power-Up and Focus Adjustment

1. Ensure all connections are secure and you are wearing safety goggles.
2. Turn on the main power switch on the machine.
3. Launch the EZCAD software on your computer.
4. Place the focal length ruler on your material. Adjust the lifting handle (7 in Figure 3.3) until the laser's red guide light (if equipped) converges into a single, sharp point on the material surface, indicating correct focus.

5.2 Software Usage (EZCAD/LightBurn)

Use the installed software to design or import your engraving patterns. The software allows you to control laser parameters such as power, speed, frequency, and scan area. Refer to the software's dedicated manual for detailed instructions on creating and executing engraving jobs.

5.3 Material Compatibility and Applications

The Ovsuqu Raycus 30W Fiber Laser Engraver is suitable for a wide range of materials and applications:

- **Metals:** Gold, Silver, Aluminum, Stainless Steel, Brass, Copper, Alloy Steel, Carbon Steel. Applications include metal surface processing, peeling coatings, aluminum black marking, and black/color marking on stainless steel.
- **Non-metals:** Nylon, light button, ABS, PVC, PES. Suitable for excellent marking effects on plastics and other sensitive materials.

The machine is ideal for large area engraving and applications in the semi-conductor and electronics industries.



Figure 5.1: Examples of Fiber Laser Applications. This image showcases various items marked or engraved by a fiber laser, including jewelry, metal tags, and plastic components.

6. MAINTENANCE

Regular maintenance ensures the longevity and optimal performance of your laser engraver.

- **Cleaning:** Keep the working table and the exterior of the machine clean. Use a soft, dry cloth.
- **Lens Care:** The field lens is a critical component. Clean it gently with a lens cleaning solution and a lint-free cloth specifically designed for optical components. Avoid touching the lens surface with bare hands.
- **Cooling Fans:** Periodically check and clean the cooling fans (8 in Figure 3.3) to ensure proper airflow and

prevent overheating.

- **Connections:** Regularly inspect all cables and connections for wear or looseness.
- **Software Updates:** Keep your EZCAD or LightBurn software updated to the latest version for improved features and stability.

7. TROUBLESHOOTING

This section addresses common issues you might encounter. For more complex problems, refer to the software manual or contact customer support.

- **No Laser Output:** Check if the machine is powered on, the emergency stop button is disengaged, and all cables (power, USB) are securely connected. Verify laser parameters in the software.
- **Poor Engraving Quality:** Ensure the laser is properly focused on the material. Adjust laser power, speed, and frequency settings in the software. Clean the field lens if necessary.
- **Software Connection Issues:** Reinstall USB drivers from the U Disk. Try a different USB port or cable. Restart both the machine and the computer.
- **Machine Not Responding:** Check the emergency stop button. Ensure the main switch is on. Restart the machine.

8. SPECIFICATIONS

Feature	Specification
Brand	Ovsuqu
Model	FL-30W
Laser Source	Raycus 30W Fiber Laser
Laser Class	Class 2 (0.874mW Output Power)
FDA Accession Number	2420799-000
Center Wavelength	1064 nm
Repetition Frequency Range	40-60 kHz
Maximum Single Pulse Energy	0.75 mJ
Power Adjustment Range	10-100%
Working Area	200 x 200 mm
Control Board	BJJCZ Original

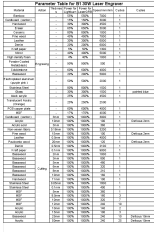


Feature	Specification
Software Compatibility	EZCAD (included), LightBurn (compatible)
Estimated Service Life	100,000 hours
Materials	Metals (Gold, Silver, Aluminum, Stainless Steel, Brass, Copper, etc.), Non-metals (Nylon, ABS, PVC, PES, etc.)

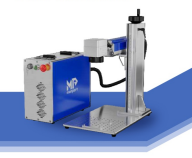
9. WARRANTY AND SUPPORT

The Ovsuqu Raycus 30W Fiber Laser Engraver comes with a **2-year warranty**. For technical assistance, troubleshooting beyond this manual, or warranty claims, please contact your vendor or the manufacturer's customer support. Ensure you have your model number (FL-30W) and purchase details available when seeking support.

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Related Documents - FL-30W

	<p>B1 Laser Engraver Material Parameter Tables for 20W and 30W Models</p> <p>Comprehensive material parameter tables for the LONGER B1 laser engraver, covering both 20W and 30W models. Includes recommended settings for engraving and cutting various materials like wood, acrylic, leather, metal, and more.</p>
	<p>LONGER Laser B1 Engraver Quick Start Guide (20W/30W)</p> <p>Comprehensive quick start guide for the LONGER Laser B1 engraver (20W/30W). Covers essential safety information, laser class definitions, parts identification, packing list, and detailed step-by-step installation instructions.</p>
	<p>Cloudray EzCad2 Software Installation Guide</p> <p>Step-by-step instructions for installing the Cloudray EzCad2 software and its necessary drivers on a PC, including system requirements and driver installation via Device Manager.</p>

<div><p>Optical fiber laser marking machine operating specification</p><p>Please read the instructions before installing and using the product</p><p>Important notice</p><ul style="list-style-type: none">1. Read the operating manual carefully and understand the content.2. Do not touch the laser beam or the laser head when the machine is running.3. Do not touch the laser beam or the laser head when the machine is running.4. Do not touch the laser beam or the laser head when the machine is running.5. Do not touch the laser beam or the laser head when the machine is running.6. Do not touch the laser beam or the laser head when the machine is running.7. Do not touch the laser beam or the laser head when the machine is running.8. Do not touch the laser beam or the laser head when the machine is running.9. Do not touch the laser beam or the laser head when the machine is running.10. Do not touch the laser beam or the laser head when the machine is running.<p>Technical parameters</p><p>Model: PL5 Series</p><p>Power: 30W</p><p>Wavelength: 1064nm</p><p>Marking speed: 1000mm/s</p><p>Marking area: 100mm x 100mm</p><p>Marking depth: 0.1mm</p><p>Marking precision: ±0.01mm</p><p>Marking material: Metal, Plastic, Wood, etc.</p></div>	<p>Optical Fiber Laser Marking Machine Operating Specification</p> <p>Operating specifications for the optical fiber laser marking machine, detailing product presentation, plant parameters, installation, and commissioning.</p>
<div><p>Monport 30W Fiber Laser Machine User Manual</p></div>	<p>Monport 30W Fiber Laser Machine User Manual</p> <p>Comprehensive user manual for the Monport 30W Fiber Laser Machine, covering installation, operation, safety, and maintenance.</p>
<div><p>Installation and Operation Manual</p><p>PL5 Series Handheld Fiber Laser Marking System</p></div>	<p>Phezer PL5 Series Handheld Fiber Laser Marking System: Installation and Operation Manual</p> <p>This manual provides detailed instructions for the Phezer PL5 Series Handheld Fiber Laser Marking System, covering installation, operation, safety guidelines, maintenance, and troubleshooting. Learn to utilize its advanced features for precise marking on various materials.</p>