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› [Ortur](#) /

› [Ortur Laser Master 2 S2 LU2-10A Laser Engraver and Cutter with Rotary Roller Instruction Manual](#)

Ortur Laser Master 2 S2 LU2-10A

Ortur Laser Master 2 S2 LU2-10A Laser Engraver and Cutter with Rotary Roller Instruction Manual

Model: Laser Master 2 S2 LU2-10A

1. INTRODUCTION

This manual provides detailed instructions for the safe and effective operation, setup, and maintenance of your Ortur Laser Master 2 S2 LU2-10A Laser Engraver and Cutter, along with the Ortur Laser Rotary Roller. Please read this manual thoroughly before using the device to ensure proper functionality and safety.

2. SAFETY INFORMATION

WARNING: This product uses a high-power laser. Improper use can cause serious injury, including eye damage and burns. Always wear appropriate laser safety goggles when operating the device.

Never look directly at the laser beam.

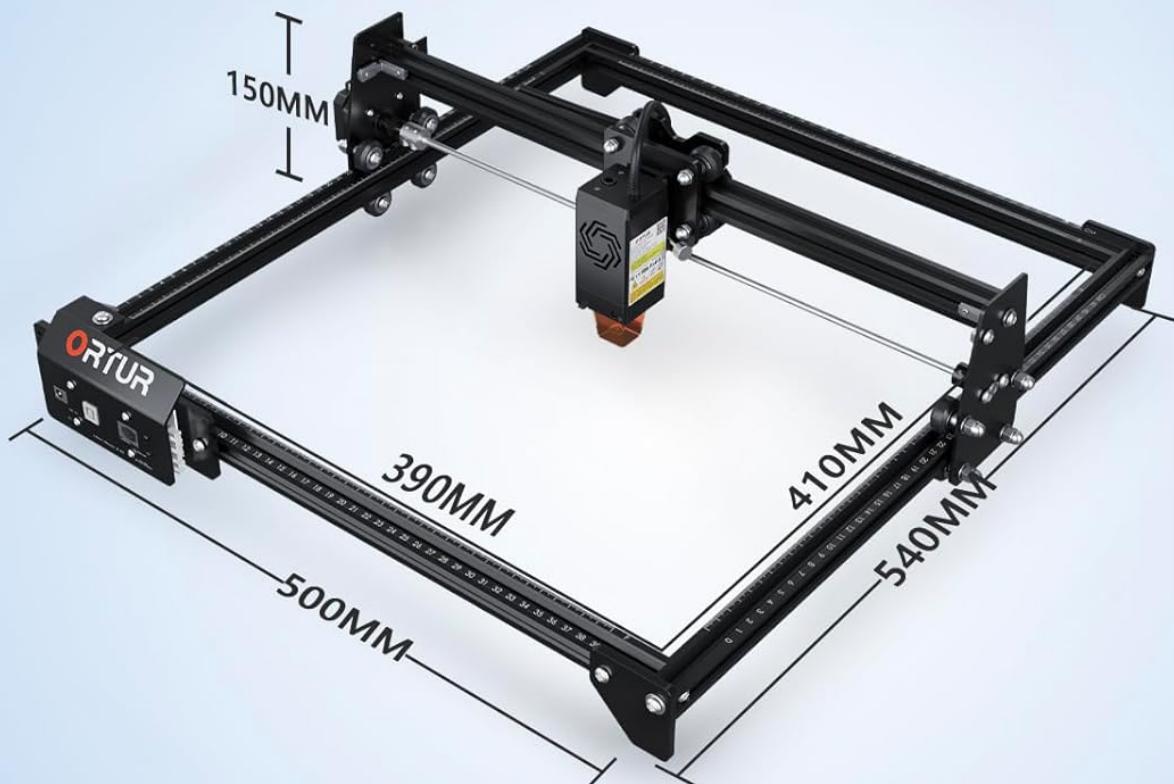
Observe the following safety precautions:

- **Eye Protection:** Always wear certified laser safety goggles.
- **Ventilation:** Operate in a well-ventilated area to dissipate fumes and smoke generated during engraving/cutting.
- **Fire Hazard:** Keep a fire extinguisher nearby. Do not leave the machine unattended during operation.
- **Material Compatibility:** Only engrave or cut materials suitable for laser processing. Avoid reflective, flammable, or PVC materials.
- **Children and Pets:** Keep children and pets away from the operating area.
- **Emergency Stop:** Familiarize yourself with the emergency stop button location.

The Ortur Laser Master 2 S2 LU2-10A includes the following safety protections:

- Exposure Duration Detection
- Laser Beam Safety Guard
- Power Control System
- Position Movement Protection

OLM2S2-LU2-10A



4 Safety Protections



Exposure Duration
Detection



Laser Beam
Safety Guard



Power Control
System



Position Movement
Protection

Image: Overview of the Ortur Laser Master 2 S2 LU2-10A, showing its dimensions and highlighting its four safety protection features: Exposure Duration Detection, Laser Beam Safety Guard, Power Control System, and Position Movement Protection.

3. PACKAGE CONTENTS

Upon unpacking, verify that all components are present. The package typically includes:

- Ortur Laser Master 2 S2 Engraver Frame

- LU2-10A Laser Module (10W Output Power)
- Ortur Laser Rotary Roller (YRR2.0)
- Power Adapter and Cables
- USB Cable
- Safety Goggles
- Assembly Tools and Screws
- Sample Materials for Testing
- User Manual (this document)





Image: The complete Ortur Laser Master 2 S2 LU2-10A laser engraver with the 10W laser module, shown alongside the Ortur Laser Rotary Roller and various engraved sample items.

4. PRODUCT OVERVIEW

4.1 Ortur Laser Master 2 S2 LU2-10A Engraver

The Ortur Laser Master 2 S2 LU2-10A is a high-performance laser engraver and cutter featuring a powerful 10W optical output laser module. It is designed for precision engraving and efficient cutting of various materials.

- **Laser Module:** LU2-10A, 10W optical power.
- **Compressed Spot:** 0.05mm x 0.1mm for fine detail.
- **Cutting Capability:** Can cut up to 30mm acrylic and 20mm wood.
- **Engraving Area:** 390mm x 410mm.
- **Air-Assist Interface:** Built-in for enhanced cutting performance.
- **Structure:** Industrial-grade full metal design for reliability and accuracy.

Higher Precision

Enhanced 10W Laser Module



Image: Close-up of the Ortur LU2-10A laser module, illustrating its higher precision with a smaller compressed spot size (0.05x0.1mm) compared to other modules.

Cleaner Cut

Enhanced 10W Laser Module

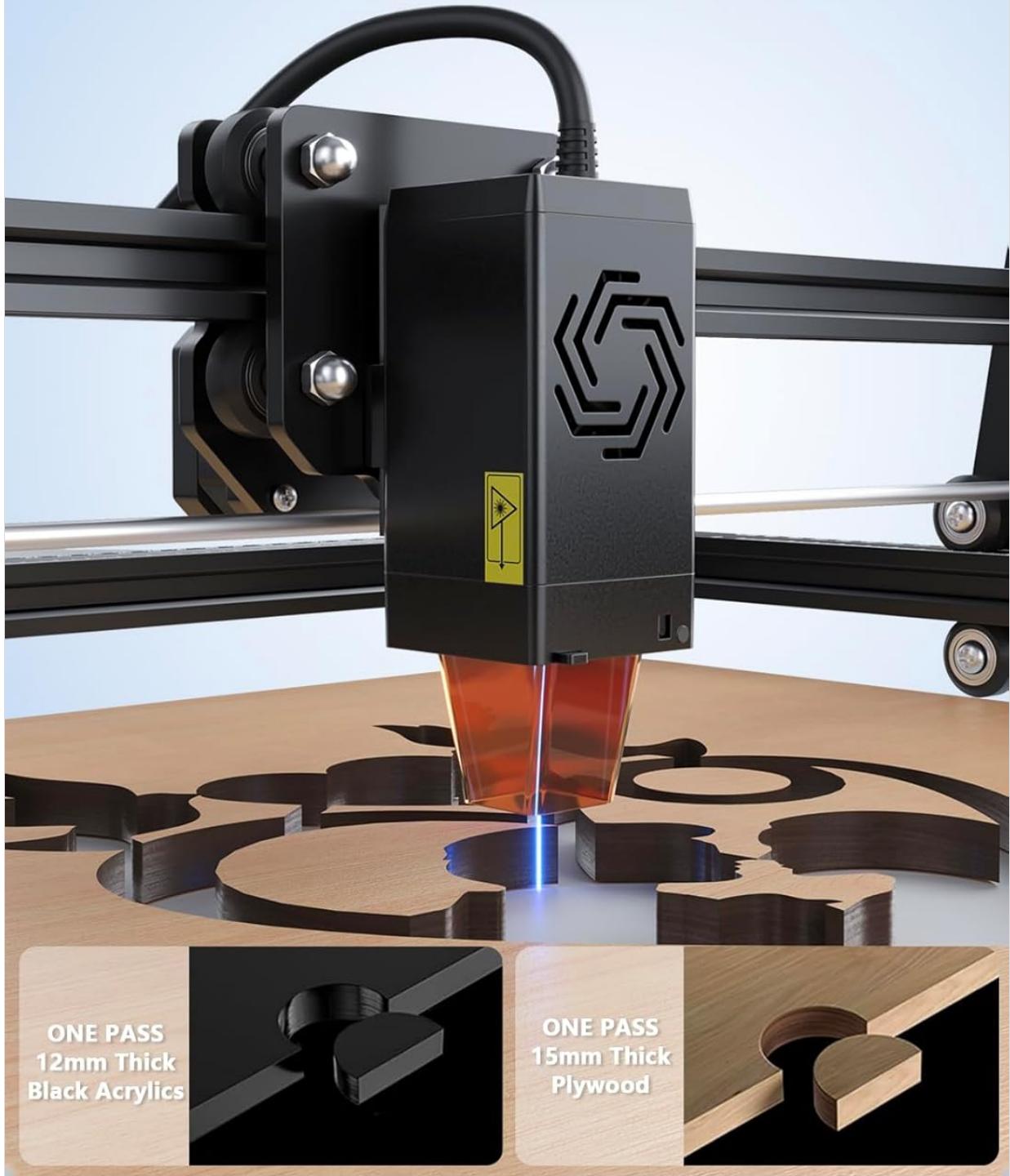


Image: Demonstrates the cutting capability of the Ortur LU2-10A laser module, showing clean cuts through 12mm thick black acrylic and 15mm thick plywood in a single pass.

Stable Light 10W Laser Module

Integrated Air Assist , Dual Fans , Foldable Focal
Gauge All in 235g Weight

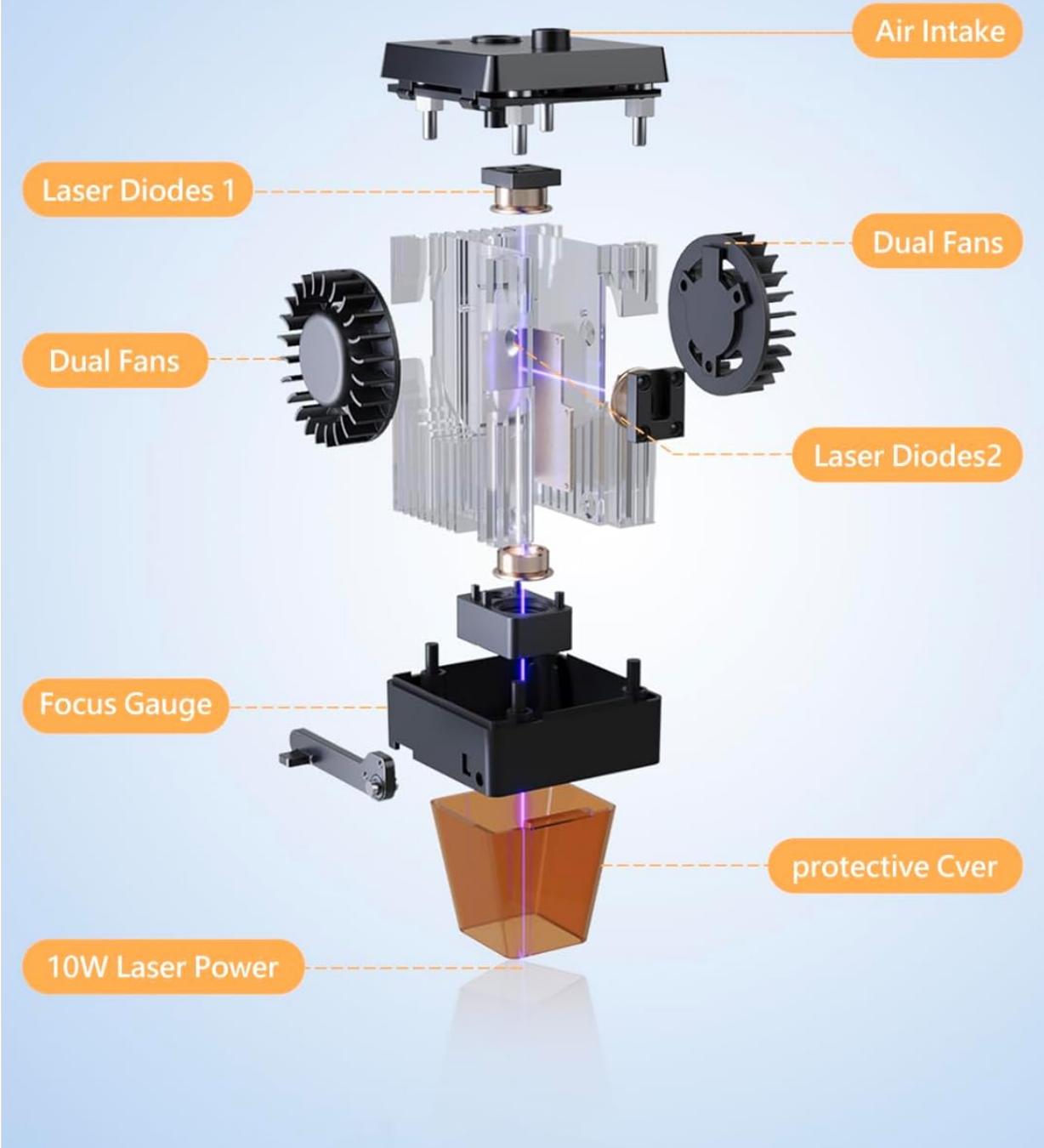


Image: Exploded view of the Ortur 10W laser module, detailing its internal components including air intake, dual fans, laser diodes, focus gauge, and protective cover.

4.2 Ortur Laser Rotary Roller (YRR2.0)

The Ortur Laser Rotary Roller is an accessory designed for engraving cylindrical or irregularly shaped objects that cannot be processed on a flat bed. It expands the versatility of your laser engraver.

- **Function:** Enables 360° rotating engraving on cylindrical objects.
- **Adjustable Diameters:** Features 7 adjustable diameter settings, accommodating objects from 8mm to

110mm.

- **Compatibility:** Suitable for items such as cups, bottles, pipes, and small diameter cylinders.



Image: Close-up of the Ortur Rotary Roller, illustrating its gear mechanism and the 7 adjustable diameter settings for engraving objects of various sizes, from 8mm to 100mm.

360° ROTATING ENGRAVING



*There is a bracket with wheels which is designed to provide support to goblets such as wine glass.

Image: The Ortur Rotary Roller in operation, demonstrating 360° rotating engraving on a cylindrical object (a beverage can).

WIDELY APPLICABLE



Image: A collage showcasing various items that can be engraved using the rotary roller, including wine glasses, bottles, tumblers, rolling pins, rings, and pens.

5. SETUP

5.1 Main Unit Assembly

The Ortur Laser Master 2 S2 LU2-10A features a modular design for easy assembly. Typically, assembly can be completed within 10-15 minutes by following the included quick start guide or video instructions.

1. Unpack all components and verify against the package contents list.
2. Assemble the frame according to the provided diagrams, securing all screws.
3. Install the LU2-10A laser module onto the gantry.
4. Connect all necessary cables (power, USB, motor cables).
5. Ensure the machine is placed on a stable, level surface in a well-ventilated area.

5.2 Rotary Roller Connection

To use the Ortur Laser Rotary Roller, connect it to the engraver's dedicated rotary axis port. Specific connection details can be found in the rotary roller's supplementary guide.

1. Ensure the main engraver is powered off.

2. Connect the rotary roller's motor cable to the designated port on the engraver's control board.
3. Place the rotary roller on a stable surface within the engraver's working area.
4. Adjust the height of the engraver's gantry or the rotary roller's support to ensure proper focus on the cylindrical object.

6. OPERATING INSTRUCTIONS

6.1 Software Compatibility

The Ortur Laser Master 2 S2 LU2-10A is compatible with popular laser engraving software:

- **LaserGRBL:** Free software, compatible with Windows 7 / 8 / XP / 10 / 11.
- **LightBurn:** Paid software, compatible with Windows 7 / 8 / XP / 10 / 11 and macOS.

Supported file formats include SVG, DXF, JPG, JPEG, PNG, BMP, TIF, CR2, etc.

6.2 Basic Engraving/Cutting Process

1. **Design Preparation:** Create or import your design in your chosen software.
2. **Material Placement:** Place the material securely on the engraving bed.
3. **Focus Adjustment:** Adjust the laser module's focus using the integrated focus gauge.
4. **Software Settings:** Configure laser power, speed, and passes based on the material type and desired outcome.
5. **Frame Test:** Use the software's framing function to ensure the design fits within the material.
6. **Start Operation:** Initiate the engraving or cutting process. Monitor the machine closely.

6.3 Using the Rotary Roller

When engraving cylindrical objects, the rotary roller replaces the standard flat bed operation.

1. **Install Rotary Roller:** Connect the rotary roller as described in Section 5.2.
2. **Place Object:** Secure the cylindrical object (e.g., cup, bottle) onto the rotary roller.
3. **Adjust Diameter:** Set the rotary roller to the appropriate diameter using its adjustable gears (7 steps, 8mm to 110mm).
4. **Focus Laser:** Adjust the laser module height to focus on the surface of the cylindrical object.
5. **Software Configuration:** In your engraving software (e.g., LightBurn), enable the rotary axis and input the correct diameter and steps per rotation settings.
6. **Start Engraving:** Proceed with the engraving process, ensuring the object rotates smoothly.

7. MAINTENANCE

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

- **Clean Laser Lens:** Periodically clean the laser module's lens with a lint-free cloth and lens cleaning solution.
- **Clean Rails and Wheels:** Keep the guide rails and wheels free from dust and debris to ensure smooth movement.
- **Lubricate Moving Parts:** Apply a small amount of lubricant to the guide rails and lead screws as needed.
- **Firmware Updates:** Check the Ortur official website for any available firmware updates for your machine.
- **Inspect Cables:** Regularly check all cables for wear or damage.

8. TROUBLESHOOTING

If you encounter issues, refer to the following common problems and solutions:

- **No Laser Output:**

- Check power connection and laser module cable.
- Ensure safety features (e.g., tilt sensor) are not triggered.
- Verify software settings for laser power.

- **Machine Not Connecting to Computer:**

- Check USB cable connection.
- Install necessary drivers for the engraver.
- Try a different USB port or cable.

- **Poor Engraving/Cutting Quality:**

- Verify laser focus is correctly set.
- Adjust laser power and speed settings for the material.
- Clean the laser lens.
- Ensure the material is flat and securely held.

- **Rotary Roller Not Rotating:**

- Check the rotary roller's motor cable connection.
- Ensure rotary axis is enabled and configured correctly in software.
- Verify the object is not too heavy or causing friction.

For further assistance, consult the Ortur support website or contact customer service.

9. SPECIFICATIONS

9.1 Ortur Laser Master 2 S2 LU2-10A Engraver

- **Model:** Laser Master 2 S2 LU2-10A
- **Laser Module:** LU2-10A (10W Optical Output Power)
- **Compressed Spot Size:** 0.05mm x 0.1mm
- **Engraving Area:** 390mm x 410mm
- **Machine Dimensions (Approx.):** 500mm (L) x 540mm (W) x 150mm (H)
- **Cutting Capability:** Up to 30mm acrylic, 20mm wood
- **Compatibility:** Windows 7/8/XP/10/11, macOS (with LightBurn)
- **Supported File Formats:** SVG, DXF, JPG, JPEG, PNG, BMP, TIF, CR2, etc.

9.2 Ortur Laser Rotary Roller (YRR2.0)

- **Model:** YRR2.0
- **Adjustable Engraving Diameter:** 8mm to 110mm (7 steps)
- **Dimensions (Approx.):** 129mm (L) x 184mm (W) x 81mm (H)

SPECIFICATIONS



Image: Technical specifications and dimensions of the Ortur Laser Rotary Roller, showing approximate measurements of 129mm in length, 184mm in width, and 81mm in height.

10. WARRANTY AND SUPPORT

Ortur products come with a standard manufacturer's warranty. Please refer to the warranty card included with your product or visit the official Ortur website for detailed warranty terms and conditions.

For technical support, troubleshooting assistance, or spare parts, please contact Ortur customer service through their official website or the retailer where you purchased the product. Provide your product model and serial number for faster service.