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ACMER S2-4W

ACMER S2 4W Laser Engraver Machine User Manual

Model: S2-4W

1. INTRODUCTION

The ACMER S2 4W Laser Engraver Machine is designed for high-precision engraving and cutting across a variety of materials. Featuring a 4W laser module and a 300x300mm working area, it offers a 0.08x0.08 mm laser spot for detailed results and can achieve speeds up to 10,000 mm/min. This manual provides essential information for safe and effective operation of your device.



Figure 1: ACMER S2 4W Laser Engraver Machine and example projects.

2. SAFETY GUIDELINES

Operating a laser engraver requires strict adherence to safety protocols to prevent injury. Always wear the provided protective laser goggles during operation. Ensure the protective laser shield is in place. Operate the machine in a well-ventilated area to dissipate smoke and fumes. Avoid direct exposure to the laser beam. Keep children and pets away from the operating area.

3. PACKAGE CONTENTS

Verify all components are present upon unpacking:

- Laser module x1
- X-axis component x1
- Adapter x1

- Front profile x1
- Optical axis assembly x1
- Right profile x1
- Focus column x1
- Foot base x4
- Rear profile x1
- Left profile (with limiter) x1
- Instructions x1
- Screw bag x4
- USB data cable x1
- Tool kit x1
- Motherboard box x1
- Right slider component x1
- Left slider component x1
- Laser Goggle x1
- Board x2

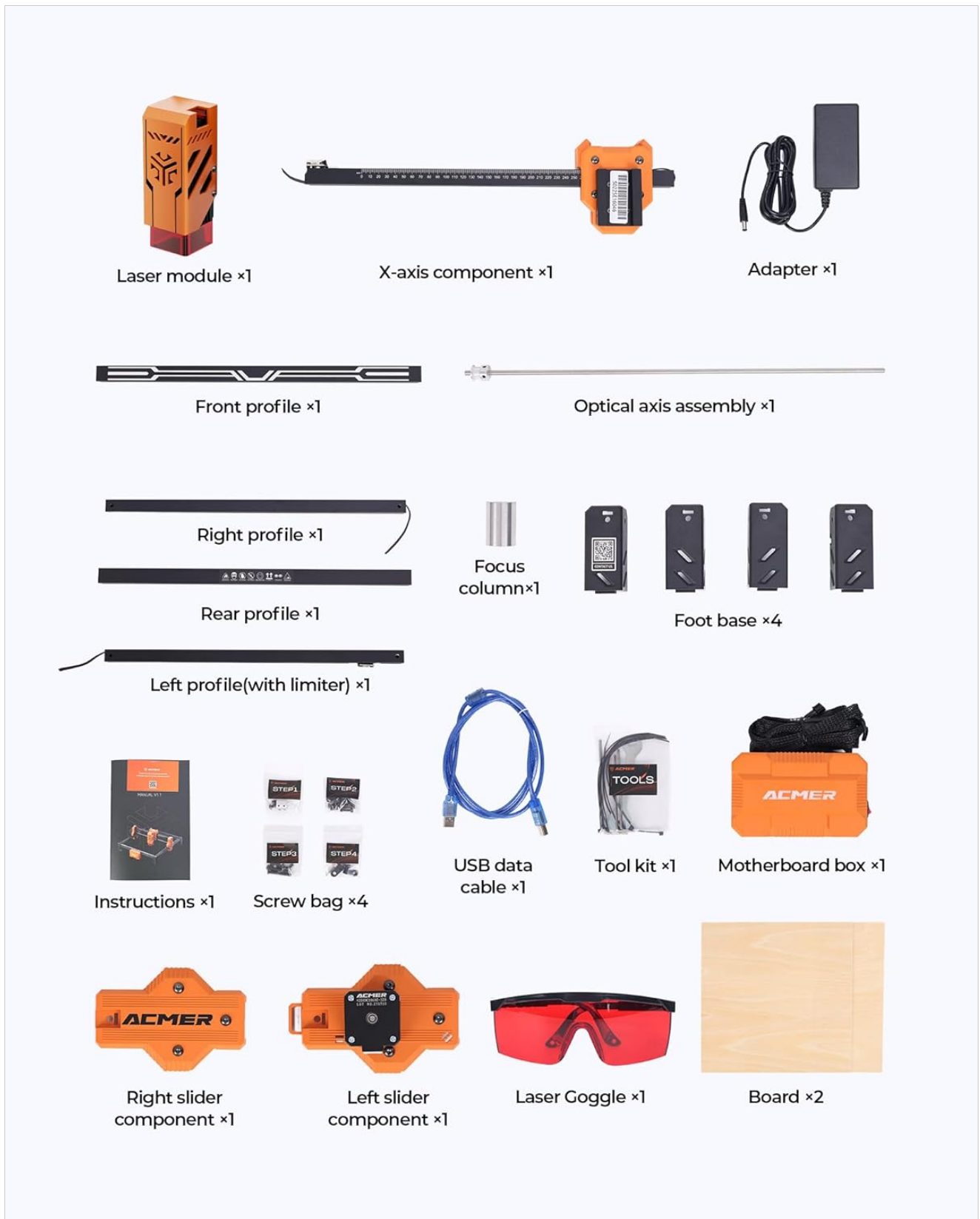


Figure 2: Included components of the ACMER S2 4W.

4. SETUP GUIDE

4.1 Assembly

Follow the detailed instructions provided in the included manual for step-by-step assembly of the laser engraver. Ensure all screws are tightened securely and components are correctly aligned.

4.2 Software Installation

The ACMER S2 4W is compatible with popular engraving software such as LightBurn and LaserGRBL. Install the software on your computer (Windows, macOS, or Linux systems are supported). Connect the engraver to your computer using the provided USB data cable.

Wider Compatibility

Computer Systems: Windows/macOS/Linux Systems
File format: Import NC/DXF/BMP/PNG/JPG files via USB.



Figure 3: Software compatibility and connection setup.

5. OPERATING INSTRUCTIONS

5.1 Material Placement

Place your material (e.g., wood, acrylic, leather) on the working surface. Ensure it is flat and securely positioned. The 300x300mm workspace allows for various project sizes.

Small Machine, Large Workspace

Dimensions: 19.29*19.68*7.68 in
Workspace: 11.81*11.81 in Weight: 6.6 lb



Figure 4: Large working area for diverse projects.

5.2 Focus Adjustment

Use the focus column to set the correct distance between the laser module and the material surface. Proper focus is crucial for achieving optimal engraving and cutting results.

5.3 Design and Software Settings

Import or create your design in the chosen software. Adjust parameters such as laser power, speed, and number of passes according to the material and desired effect. The ACMER S2 4W offers ultra-high engraving precision with a 0.08x0.08 mm laser spot.



Figure 5: High-precision laser engraving technology.

5.4 Starting Engraving/Cutting

Once settings are configured, initiate the engraving or cutting process from the software. Monitor the operation and ensure safety goggles are worn. The machine can achieve processing speeds up to 10,000 mm/min for efficiency.

10000 mm/min Processing Speed

Faster Speed, More effective

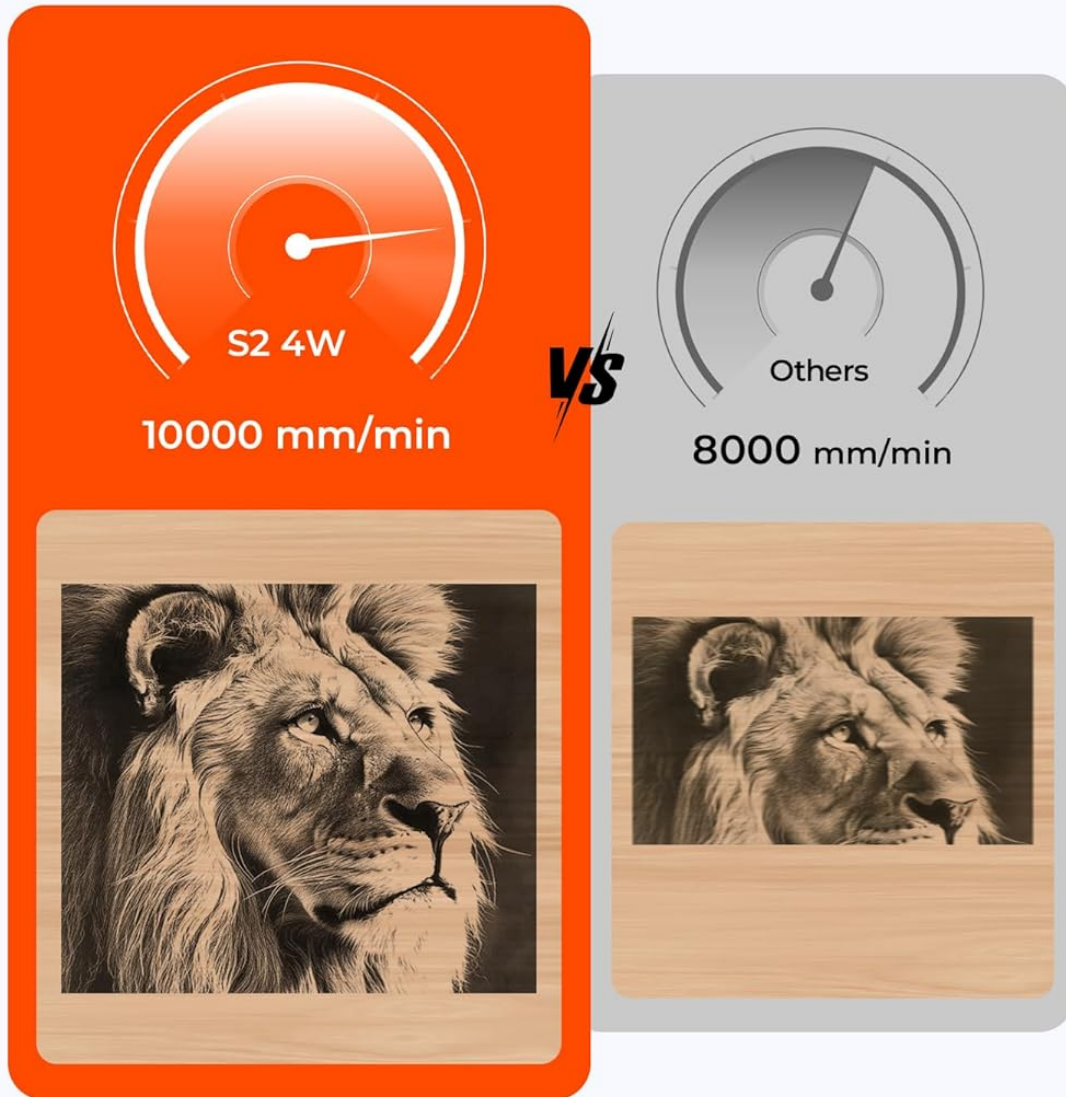


Figure 6: Processing speed comparison.

The 4W laser module provides powerful cutting performance, capable of cutting through 8 mm poplar wood (multi-pass) and 6 mm black acrylic (single pass).

We Create Artwork on Multiple Materials



Wood



Paper



Plastic



Leather



Acrylic



Glass



Paulownia wood



Plywood



Bamboo



Painted metal



Stone



Ceramic

Figure 7: Versatility across multiple materials.

6. MAINTENANCE

Regular maintenance ensures optimal performance and longevity of your engraver.

- **Cleaning:** Periodically clean the laser lens and the working area to remove dust and debris. Use a soft, lint-free cloth.
- **Lubrication:** Apply a small amount of lubricant to the guide rails as recommended in the full instruction manual to ensure smooth movement of the laser module.

- **Inspection:** Regularly inspect cables and connections for any signs of wear or damage.

7. TROUBLESHOOTING

Refer to these common issues and solutions:

Problem	Possible Cause	Solution
Laser not firing	Power cable disconnected, software error, laser module fault	Check power connection, restart software, contact support
Engraving is too light	Incorrect focus, low power setting, high speed setting	Adjust focus, increase laser power, decrease speed
Material not cutting through	Insufficient power, too high speed, too few passes	Increase laser power, decrease speed, increase number of passes
Machine not connecting to computer	USB cable issue, driver not installed, software port error	Check USB cable, install drivers, verify software port settings

8. SPECIFICATIONS

- **Product Dimensions:** 23.5 x 25.59 x 7.87 inches
- **Item Model Number:** P2-10
- **Item Weight:** 8.18 pounds
- **Manufacturer:** Acmer
- **Date First Available:** March 21, 2025
- **Laser Spot Size:** 0.08x0.08 mm
- **Engraving Precision:** Up to 0.01 mm
- **Processing Speed:** Up to 10,000 mm/min
- **Laser Module Power:** 4W
- **System Power:** 48W
- **Working Area:** 300x300 mm
- **Noise Level:** Less than 45 dB
- **Compatible Materials:** Wood, acrylic, leather, metal coatings, paper, glass, stone, ceramic
- **Software Compatibility:** LaserGRBL, LightBurn (Windows, macOS, Linux)

9. WARRANTY AND SUPPORT

ACMER provides lifetime technical support for the S2 4W Laser Engraver Machine. For any issues or inquiries, please refer to the contact information provided in your product packaging or visit the official ACMER website for assistance.

10. PRODUCT VIDEOS

Your browser does not support the video tag.

Video 1: Demonstrating the ACMER S2 4W laser engraver's cutting and engraving capabilities on various materials.

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Video 2: Short video showcasing the ACMER S2 4W laser engraver in action, highlighting its precision and ease of use.

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Video 3: Promotional video for the ACMER S2 4W laser engraver, demonstrating its features and applications.