

Manuals+

[Q & A](#) | [Deep Search](#) | [Upload](#)

manuals.plus /

- › [ACMER](#) /
- › [ACMER S2 7W Laser Engraving Machine User Manual](#)

ACMER S2 7W

ACMER S2 7W Laser Engraving Machine User Manual

Model: S2 7W | Brand: ACMER

1. INTRODUCTION

Thank you for choosing the ACMER S2 7W Laser Engraving and Cutting Machine. This manual provides essential information for the safe and efficient operation of your device. The ACMER S2 is designed for high-precision engraving and cutting on a variety of materials, offering a 300 x 300 mm working area and a 7W laser head for versatile applications. Please read this manual thoroughly before operating the machine to ensure proper setup, usage, and maintenance. Keep this manual for future reference.

2. SAFETY INFORMATION

WARNING: Laser radiation can cause eye damage and skin burns. Always wear the provided safety goggles when operating the machine. Never look directly at the laser beam.

- Ensure the machine is placed on a stable, level surface.
- Operate in a well-ventilated area to dissipate fumes and smoke generated during engraving/cutting.
- Keep flammable materials away from the working area.
- Do not leave the machine unattended during operation.
- Keep children and pets away from the machine during operation.
- Only engrave or cut materials specified as safe for laser processing. Avoid reflective or transparent materials without proper preparation.
- In case of emergency, immediately disconnect power to the machine.

3. PACKAGE CONTENTS

Verify that all components are present in your package:

- ACMER S2 Laser Engraving Machine (main frame and laser module)
- Power Adapter
- USB Cable
- Safety Goggles

- User Manual (this document)
- Assembly Tools (screws, hex keys, etc.)
- Test Materials (e.g., small wood or acrylic samples)

4. SETUP GUIDE

The ACMER S2 is designed for quick and easy assembly. Follow the illustrated instructions provided in the separate assembly guide for detailed steps.

4.1 Assembly

Assemble the frame components, attach the laser module, and connect all necessary cables. Ensure all screws are tightened securely for stable operation. The machine features POM pulleys and a double dovetail slide structure for stability and reduced vibration.

Video: This video demonstrates the stable structure of the ACMER S2, highlighting the POM pulleys and double dovetail slide. It also shows the integrated ruler for easy measurement, the 300x300mm engraving area, and the compatibility with a rotary module (sold separately) for cylindrical object engraving. The video further illustrates the machine's cutting capabilities on 3mm and 10mm plywood, and 3mm and 6mm acrylic, as well as its compatibility with popular engraving software like LaserGRBL and LightBurn.

4.2 Software Installation

The ACMER S2 is compatible with popular laser engraving software such as LaserGRBL and LightBurn. Download the latest version of your preferred software from the official websites. Follow the software's installation instructions. Drivers may be required for your operating system (Windows, macOS, Linux).

Compatible avec LaserGRBL et LightBurn, deux logiciels de gravure majeurs.

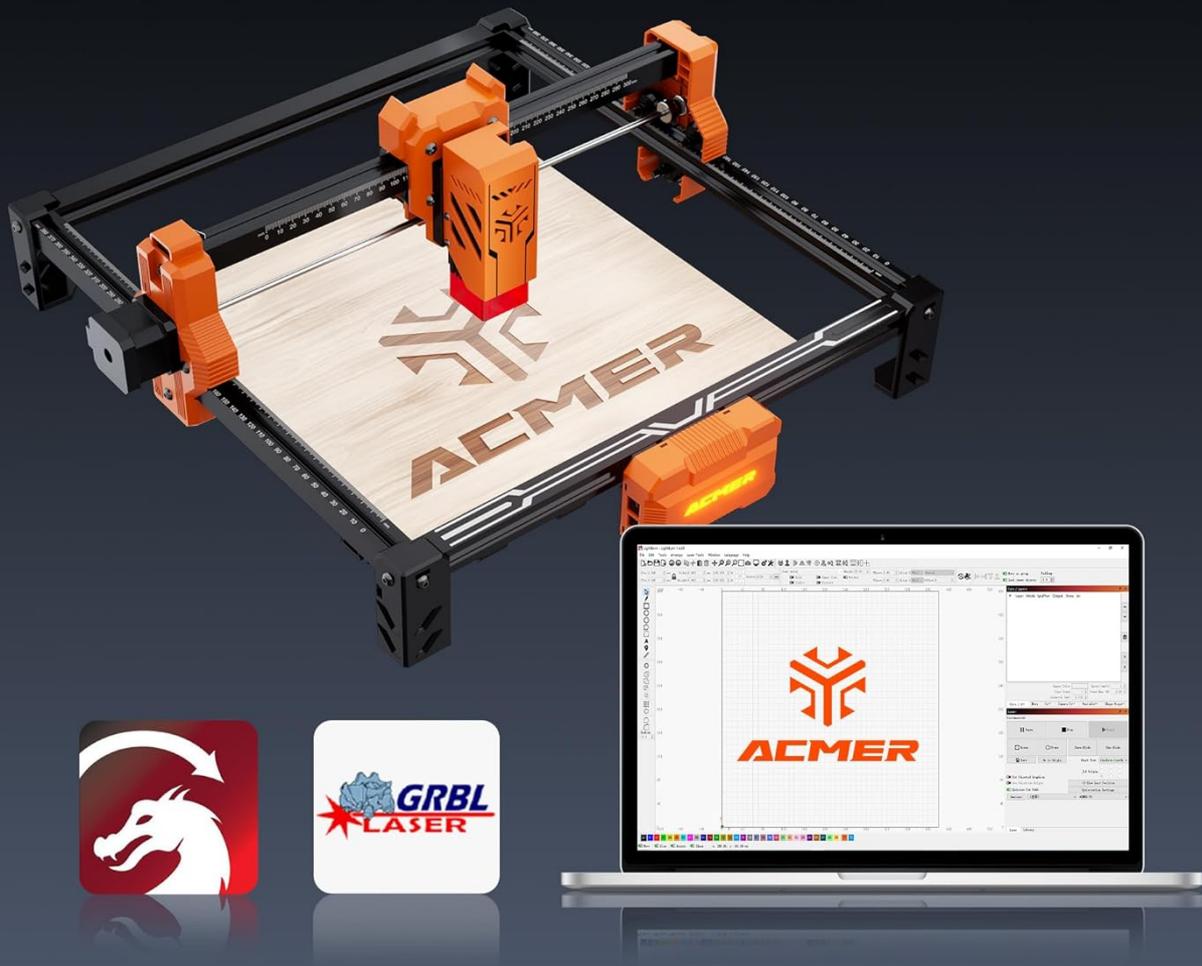


Image: The ACMER S2 Laser Engraver is compatible with major engraving software like LaserGRBL and LightBurn, supporting various file formats including NC, DXF, BMP, JPG, and PNG across Windows, macOS, and Linux operating systems.

5. OPERATING INSTRUCTIONS

5.1 Preparing Your Material

Place your material securely on the working surface. For optimal results and to protect the surface below, use a honeycomb panel or a sacrificial layer. The machine features a 300 x 300 mm engraving area.



Espace de travail large

300 × 300 mm / 11,81 × 11,81 pouces

Image: The ACMER S2 features a large working area of 300 x 300 mm (11.81 x 11.81 inches), providing ample space for various engraving and cutting projects.

5.2 Focusing the Laser

Adjust the laser module height to achieve the optimal focal point on your material. Refer to the specific instructions in your software for precise focusing techniques.

5.3 Software Settings

Import your design into LaserGRBL or LightBurn. Adjust parameters such as laser power, speed, and number of passes according to the material type and desired effect. Experiment with test pieces to find the ideal settings for different materials.

Vitesse de traitement :10.000 mm/min
Plus rapide, plus efficace



Image: The ACMER S2 offers extreme engraving precision with an ultra-fine laser spot of 0.08 x 0.08 mm, achieving engraving accuracy up to 0.01 mm, resulting in highly detailed designs compared to other lasers.

5.4 Starting the Engraving/Cutting Process

Once settings are configured, initiate the process from your software. Monitor the machine during operation. The ACMER S2 boasts a processing speed of 10,000 mm/min for faster and more efficient work.

Video: This video demonstrates the cutting capabilities of the ACMER S2, showing 3mm acrylic cut in one pass and 3mm plywood cut in one pass. It also showcases engraving on stainless steel, a leaf, and slate, highlighting the machine's versatility across different materials.

Vitesse accrue, plus d'efficacité

10000 mm/min

ACMER S2 7W 10000mm/min

Other 6000mm/min

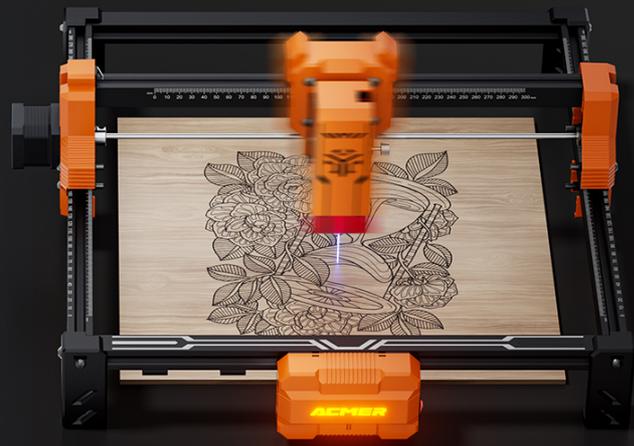


Image: The ACMER S2 offers increased efficiency with a processing speed of 10,000 mm/min, significantly faster than other machines typically operating at 6,000 mm/min.

5.5 Material Compatibility

The ACMER S2 can engrave and cut a wide range of materials, including but not limited to:

- Wood (poplar, plywood, balsa, MDF)
- Acrylic (dark colors)
- Leather
- Paper, Cardboard
- Fabric
- Anodized Metal, Painted Metal
- Slate, Ceramic (for engraving)
- PCB

Always test on a small, inconspicuous area first to determine optimal settings and material suitability.

Plus de matériaux, plus de créations

Bois, bambou, papier, plastique, cuir, carte PCB, oxyde d'aluminium, revêtements non réfléchissants et métal laqué, céramique



Image: Examples of creations made with the ACMER S2, demonstrating its ability to work with various materials such as wood, bamboo, plastic, leather, PCB, anodized aluminum, non-reflective coatings, and lacquered metal.

6. MAINTENANCE

Regular maintenance ensures the longevity and performance of your ACMER S2.

- **Cleaning the Lens:** Periodically clean the laser lens with a soft, lint-free cloth and lens cleaning solution to maintain optimal laser performance.
- **Cleaning the Rails:** Keep the guide rails and wheels free from dust and debris to ensure smooth movement of the laser module.
- **Belt Tension:** Check the tension of the timing belts regularly. Adjust if they are too loose or too tight according to the assembly guide.
- **General Cleaning:** Wipe down the machine exterior with a dry cloth. Avoid using harsh chemicals.

7. TROUBLESHOOTING

If you encounter issues with your ACMER S2, refer to the following common problems and solutions:

Problem	Possible Cause	Solution
Machine not connecting to PC	Incorrect driver, faulty USB cable, software issue	Install correct drivers, try a different USB port/cable, restart software/PC.
Laser not firing or weak	Incorrect focus, low power setting, dirty lens, laser module issue	Adjust focus, increase power setting in software, clean laser lens, check laser module connection.
Engraving/cutting results are poor or inconsistent	Incorrect speed/power settings, material not flat, loose belts, dirty lens	Adjust settings, ensure material is flat, check belt tension, clean lens.
Machine makes unusual noises	Loose components, debris on rails, motor issue	Check all connections and screws, clean rails, contact support if noise persists.
Engraving is distorted (e.g., circles appear as ovals)	Loose belts, incorrect motor steps per mm setting	Check and adjust belt tension. Verify motor steps per mm settings in your software or firmware.

8. SPECIFICATIONS

Feature	Specification
Manufacturer	Acmer
Model	S2 7W
Laser Power	7W (Optical Output)
System Power	48W
Engraving Precision	0.01 mm
Laser Spot Size	0.08 x 0.08 mm
Working Area	300 x 300 mm
Processing Speed	Up to 10,000 mm/min
Power Type	Electric
Noise Level	Below 45 dB
Compatible Software	LaserGRBL, LightBurn
Supported OS	Windows, macOS, Linux
Supported File Formats	NC, DXF, BMP, JPG, PNG, etc.
Product Dimensions	Approx. 55.1 x 29.6 x 14.2 cm
Product Weight	Approx. 3.6 kg

9. WARRANTY AND SUPPORT

ACMER provides lifetime technical support and 24/7 customer service for the S2 Laser Engraving Machine. For any questions, technical assistance, or warranty claims, please contact ACMER customer support through their official channels. Spare parts availability is guaranteed for 1 year.



Images: ACMER offers 24/7 online support and ensures product quality through various certifications of conformity.