

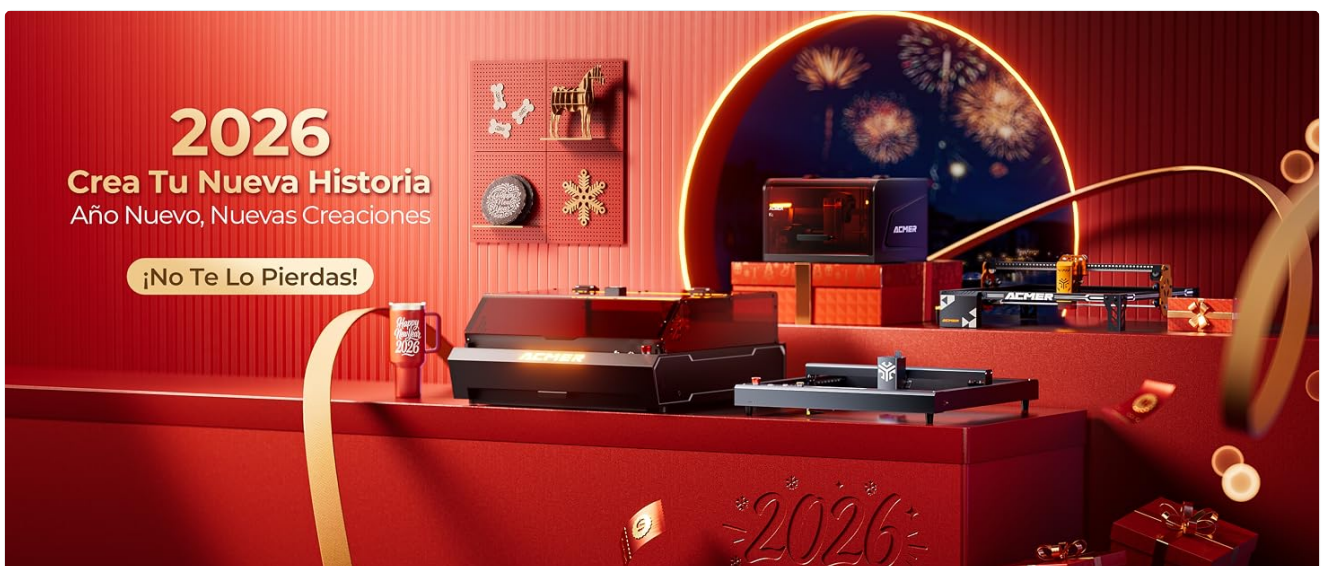
ACMER K1

ACMER K1 7W Laser Engraver and Cutter User Manual

Model: K1 (7W)

1. INTRODUCTION

Welcome to the ACMER K1 7W Laser Engraver and Cutter user manual. This document provides essential information for the safe and effective operation, setup, maintenance, and troubleshooting of your device. The ACMER K1 is a versatile Class 1 safety-enclosed laser machine designed for high-precision engraving and cutting on a variety of materials, suitable for DIY projects, small businesses, and educational purposes. Please read this manual thoroughly before operating the device to ensure proper usage and to maximize its performance and longevity.



The ACMER K1 is ideal for STEM education, fostering practical learning through creative projects.



Para pequeñas empresas

Perfecto para startups y talleres que desean añadir grabados y cortes personalizados a sus ofertas.

Perfect for small businesses to add custom engravings and cuts to their product offerings.



Para creadores DIY

Da rienda suelta a tu creatividad personalizando proyectos, creando regalos únicos y dando vida a tus ideas DIY.

Unleash creativity for DIY creators by personalizing projects and creating unique gifts.

2. SAFETY INSTRUCTIONS

The ACMER K1 is designed with Class 1 safety features, meaning the laser is fully enclosed during operation, minimizing direct exposure risks. However, adherence to safety guidelines is crucial.

2.1 General Safety Precautions

- Always operate the device in a well-ventilated area. The built-in exhaust fan helps, but additional ventilation is recommended, especially when engraving materials that produce strong fumes.
- Keep the work area clean and free of flammable materials.
- Do not leave the machine unattended during operation.
- Ensure the device is placed on a stable, level surface to prevent accidental tilting.

2.2 Integrated Safety Features

- **Class 1 Enclosure:** The laser module is fully enclosed, preventing direct laser beam exposure during normal operation.
- **Lid Induction Design:** The machine automatically stops operation if the lid is opened during a task, ensuring user safety.
- **Tilt Detection:** The device will instantly stop if its inclination angle exceeds 13 degrees, preventing accidents from unstable placement.
- **Smoke Exhaust Fan:** An integrated high-efficiency fan reduces smoke and odors generated during engraving, improving visibility and air quality within the enclosure.

Clase de seguridad 1: seguro para niños y mascotas



The ACMER K1 features Class 1 safety, making it safe for use around children and pets, complemented by an efficient exhaust system.

Excelente rendimiento en seguridad

Sistema inteligente de protección de seguridad



Diseño de inducción de tapa

Se detiene automáticamente cuando se abre la tapa, garantizando la seguridad del usuario en todo momento.

Diseño con detección de inclinación

La máquina se detiene instantáneamente si el ángulo de inclinación supera los 13°, evitando así accidentes causados por una colocación inestable.



The K1 includes a lid induction design that stops operation when opened and tilt detection that halts the machine if tilted beyond 13 degrees.

3. PRODUCT OVERVIEW

The ACMER K1 is a compact and powerful 7W laser engraver and cutter, designed for precision and ease of use.

Its enclosed design ensures safety while delivering high-quality results.

3.1 Key Features

- **Laser Power:** 7W blue diode laser.
- **Engraving Area:** 150 x 150 mm.
- **High Precision:** 0.01mm repeatable positioning accuracy with an ultra-fine 0.08 x 0.08mm laser spot.
- **High Speed:** Maximum movement speed of 10,000mm/min.
- **Compact and Portable:** Weighs only 2.4 kg with dimensions of 286 x 273 x 190 mm.
- **Wide Material Compatibility:** Engraves and cuts wood, bamboo, acrylic, leather, cardboard, ceramic, stone, and more.
- **Software Compatibility:** Supports AcmerTool (PC only), LightBurn, and LaserGRBL. Compatible with NC, DXF, BMP, JPG, PNG file formats. Works on macOS, Windows, and Linux.

Pour l'enseignement des STEM

Des idées aux projets - Apprentissage pratique des STEM



The ACMER K1 laser engraver, ready for operation.

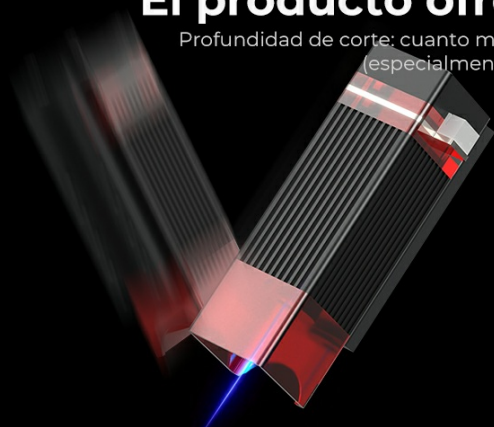
Zona de trabajo



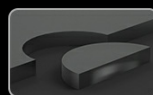
Compact design with a 150 x 150 mm engraving area, ideal for desktop use.

El producto ofrece múltiples opciones

Profundidad de corte: cuanto mayor es la potencia, mayor es la capacidad de corte (especialmente para materiales no metálicos)



Plywood



Black Acrylic



Paulownia Wood

3.5W

8mm

6mm

10mm

7W

10mm

12mm

13mm

12W

12mm

8mm

15mm

Achieve high-precision engravings with a 0.01mm accuracy and an ultra-fine laser spot.

Graba cada detalle

El láser ACMER tiene un punto de impresión ultrafino de 0,08 x 0,08 mm, lo que garantiza detalles precisos con una exactitud de $\pm 0,01$ mm.



The ACMER K1 laser ensures precise details with an exactitude of ± 0.01 mm.

Amplia compatibilidad



Laser GRBL



LightBurn



Windows

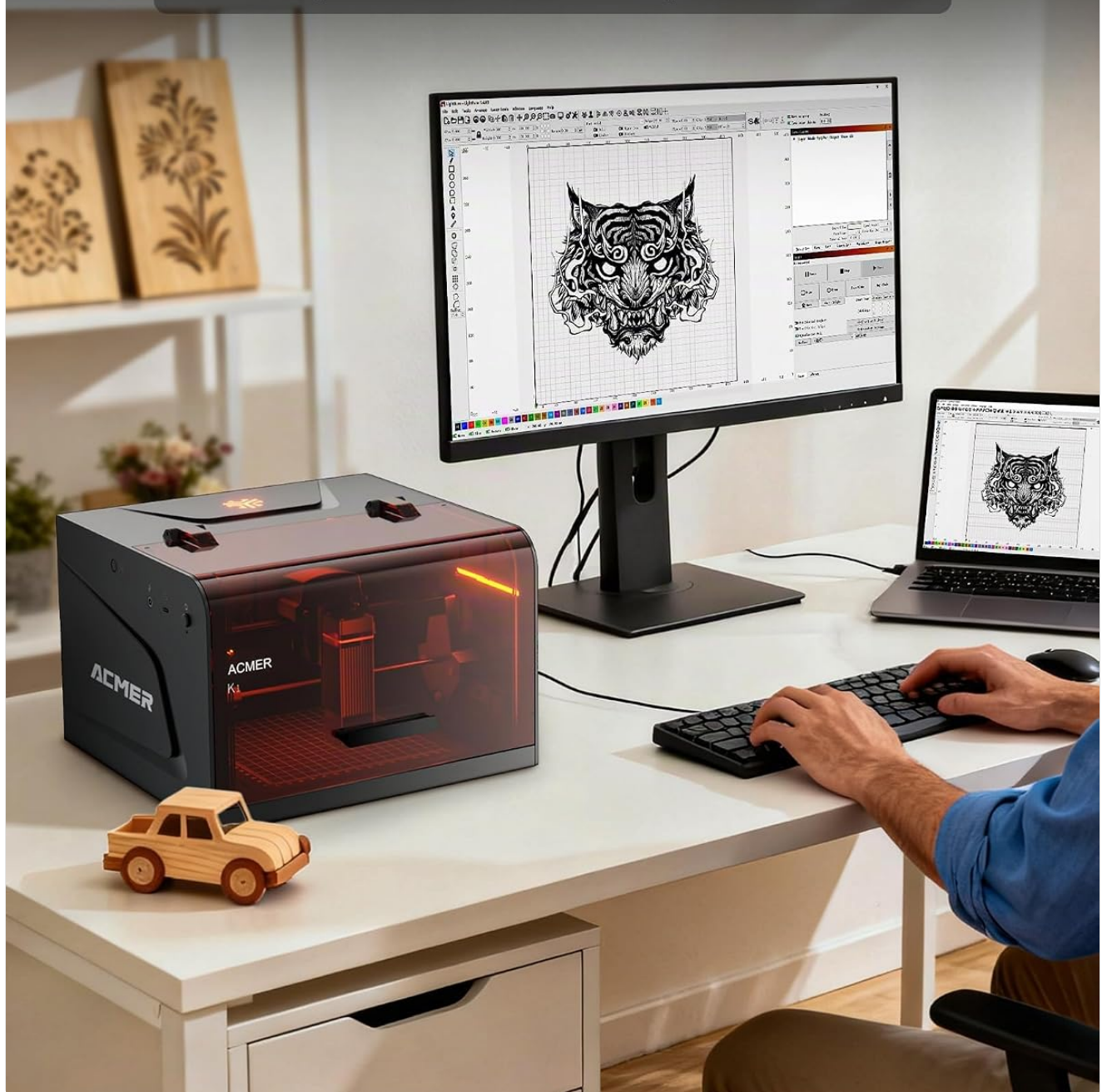


MacOS



Linux Systems

NC / DXF / BMP /
Archivos PNG/JPG



The K1 is compatible with popular software like LightBurn and LaserGRBL, supporting various file formats across multiple operating systems.

4. SETUP

4.1 Unboxing and Placement

1. Carefully remove the ACMER K1 from its packaging. Inspect all components for any signs of damage.
2. Place the machine on a stable, flat, and non-flammable surface. Ensure there is adequate space around the device for ventilation and access.
3. Connect the power adapter to the machine and then to a power outlet.
4. Connect the USB cable from the machine to your computer.

4.2 Software Installation

The ACMER K1 supports AcmerTool (proprietary software), LightBurn, and LaserGRBL. Choose the software that best suits your needs.

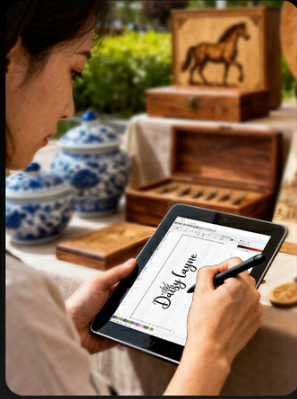
- **AcmerTool:** Download the latest version from the official ACMER website. This software is designed for ease of use, especially for beginners, and includes various engraving templates (PC operation only).
- **LightBurn/LaserGRBL:** These are third-party software options widely used in the laser engraving community. Download and install them according to their respective instructions. Ensure you configure the software for the ACMER K1 model and its specifications.

The machine is compatible with macOS, Windows, and Linux operating systems.

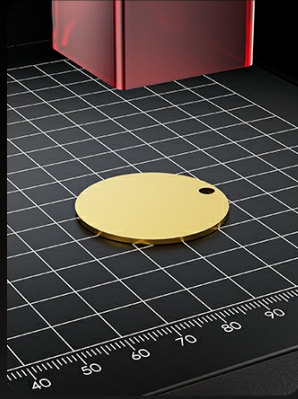
5. OPERATING INSTRUCTIONS

5.1 Basic Operation Workflow

1. **Design:** Create or import your design using your chosen software (AcmerTool, LightBurn, or LaserGRBL). The K1 supports NC, DXF, BMP, JPG, and PNG file formats.
2. **Material Placement:** Open the lid of the ACMER K1. Place your material (e.g., wood, acrylic, leather) securely on the engraving platform within the 150x150mm work area. Close the lid.
3. **Parameter Settings:** In your software, adjust the laser power, speed, and number of passes according to your material and desired effect. Refer to material testing guides for optimal settings.
4. **Preview:** Use the software's preview function to ensure the design is correctly positioned on your material.
5. **Start Engraving/Cutting:** Initiate the job from the software. The machine will begin its operation. Monitor the process closely.
6. **Completion:** Once the job is complete, the laser will stop. Wait for any residual smoke to clear before opening the lid and removing your finished piece.



01 : Diseña



02 : Previsualiza



03 : ¡Pulsa el botón!



04 : Listo

The simple four-step process: Design, Preview, Start, and Ready.

6. MAINTENANCE

Regular maintenance ensures optimal performance and extends the lifespan of your ACMER K1.

6.1 Cleaning

- **Laser Lens:** Periodically clean the laser lens with a specialized lens cleaning solution and a lint-free cloth. A dirty lens can reduce laser power and engraving quality.
- **Work Area:** After each use, clean the engraving platform and the interior of the enclosure to remove dust, debris, and residue from engraved materials. Use a soft brush or vacuum.
- **Exhaust Fan:** Ensure the exhaust fan is free from obstructions and dust buildup to maintain efficient smoke extraction.

6.2 General Checks

- Inspect all cables and connections for wear or damage.
- Check for any loose screws or components and tighten them if necessary.
- Keep the exterior of the machine clean.

7. TROUBLESHOOTING

If you encounter issues with your ACMER K1, refer to the following common problems and solutions:

7.1 Common Issues and Solutions

Problem	Possible Cause	Solution
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Problem	Possible Cause	Solution
Laser not firing or weak output	Dirty laser lens, incorrect power settings, loose cable, laser module malfunction.	Clean the laser lens. Check software power settings. Ensure all cables are securely connected. Contact support if the issue persists.
Poor engraving/cutting quality	Incorrect speed/power settings, material not flat, dirty lens, focus issue.	Adjust speed and power settings. Ensure material is flat and secured. Clean the laser lens. Verify laser focus.
Machine stops unexpectedly	Lid opened, machine tilted, power interruption, software error.	Ensure the lid is fully closed. Check if the machine was bumped or tilted. Verify power supply. Restart software and machine.
Software not connecting to machine	USB cable issue, driver not installed, incorrect COM port selected.	Try a different USB port or cable. Install necessary drivers. Select the correct COM port in the software settings.

8. SPECIFICATIONS

Feature	Specification
Model	K1
Laser Power	7W (7000mW)
Engraving Area	150 x 150 mm
Laser Spot Size	0.08 x 0.08 mm
Engraving Precision	0.01 mm (repeatable positioning)
Max. Movement Speed	10,000 mm/min
Dimensions (L x W x H)	286 x 273 x 190 mm
Weight	2.4 kg
Power Source	AC
Software Compatibility	AcmerTool, LightBurn, LaserGRBL
File Formats	NC, DXF, BMP, JPG, PNG
Operating Systems	macOS, Windows, Linux
Safety Class	Class 1 (Enclosed)

9. WARRANTY AND SUPPORT

ACMER is committed to providing high-quality products and excellent customer service.

9.1 Warranty Information

Your ACMER K1 laser engraver comes with a standard manufacturer's warranty. Please refer to the warranty card included in your product packaging or visit the official ACMER website for detailed terms and conditions regarding warranty coverage and duration.

9.2 Customer Support

For any technical assistance, operational questions, or troubleshooting not covered in this manual, ACMER offers 24/7 online support. Please visit the official ACMER website or contact our customer service team through the provided channels.



ACMER provides 24/7 online support for all your needs.

24/7 Online Support



ACMER products adhere to strict quality and safety standards, as evidenced by various certifications.

ASK A QUESTION ABOUT THIS MANUAL

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Details

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