

[Manuals.plus](#) /

› [FOSA](#) /

› FOSA FS-S1 Ultrasonic Cutter User Manual

FOSA FS-S1

FOSA FS-S1 Ultrasonic Cutter Instruction Manual

Model: FS-S1

1. INTRODUCTION

The FOSA FS-S1 Ultrasonic Cutter is a precision tool designed for cutting various materials using high-frequency ultrasonic vibrations. It features a 40 KHz cutting frequency, 3 adjustable speed modes, and an alloy blade tip, making it suitable for applications such as 3D printing model trimming, working with plexiglass, PCBs, carbon fiber, and leather. This manual provides essential information for the safe and effective operation, maintenance, and troubleshooting of your FS-S1 Ultrasonic Cutter.



Figure 1: FOSA FS-S1 Ultrasonic Cutter with blade cap removed.

2. SAFETY INFORMATION

Please read all safety instructions carefully before using the FOSA FS-S1 Ultrasonic Cutter. Failure to follow these instructions may result in injury or damage to the device.

- **Sharp Blade:** The cutter uses a very sharp blade. Handle with extreme care to prevent cuts. Always keep the blade cap on when not in use.
- **Eye Protection:** Always wear appropriate eye protection when operating the cutter to guard against flying debris.
- **Material Compatibility:** Only use the cutter on materials specified in this manual. Do not attempt to cut hard metals, glass, or other unsuitable materials.

- **Power Source:** Use only the provided Type-C cable and a compatible 12V power source. Do not use damaged cables or power adapters.
- **Keep Away from Children:** This device is not a toy. Keep it out of reach of children and unauthorized users.
- **Ventilation:** Ensure adequate ventilation when cutting certain materials that may produce fumes or dust.
- **Water and Moisture:** Do not expose the device to water or operate it in damp conditions.
- **Maintenance:** Disconnect power before performing any maintenance or blade changes.

3. PACKAGE CONTENTS

Verify that all items are present in your package:

- FOSA FS-S1 Ultrasonic Cutter Unit
- Alloy Blade Tips (4 pieces)
- Type-C Power Cable
- User Manual (this document)

4. PRODUCT OVERVIEW AND FEATURES

The FOSA FS-S1 Ultrasonic Cutter is engineered for precision and versatility. Key features include:

- **Powerful Cutting Performance:** Features an advanced aviation-grade alloy blade head combined with 4 quality ceramic chips, delivering excellent cutting strength and precision.
- **Advanced Technology:** Utilizes 40,000Hz automatic tracking technology with a dynamic compensation system, maintaining consistent performance for up to 4 hours of continuous cutting.
- **Versatile Modes:** Offers 3 adjustable modes (Gentle, Standard, Strong) to customize cutting power based on different materials and project requirements.
- **User-Friendly Design:** Equipped with a convenient auxiliary light, ergonomic buttons, and a high-definition display for ease of use and visibility during intricate tasks.
- **Compact and Portable:** Designed with a lightweight aluminum alloy shell and a non-slip surface, making it easy to carry. Features Type-C power input for convenience.

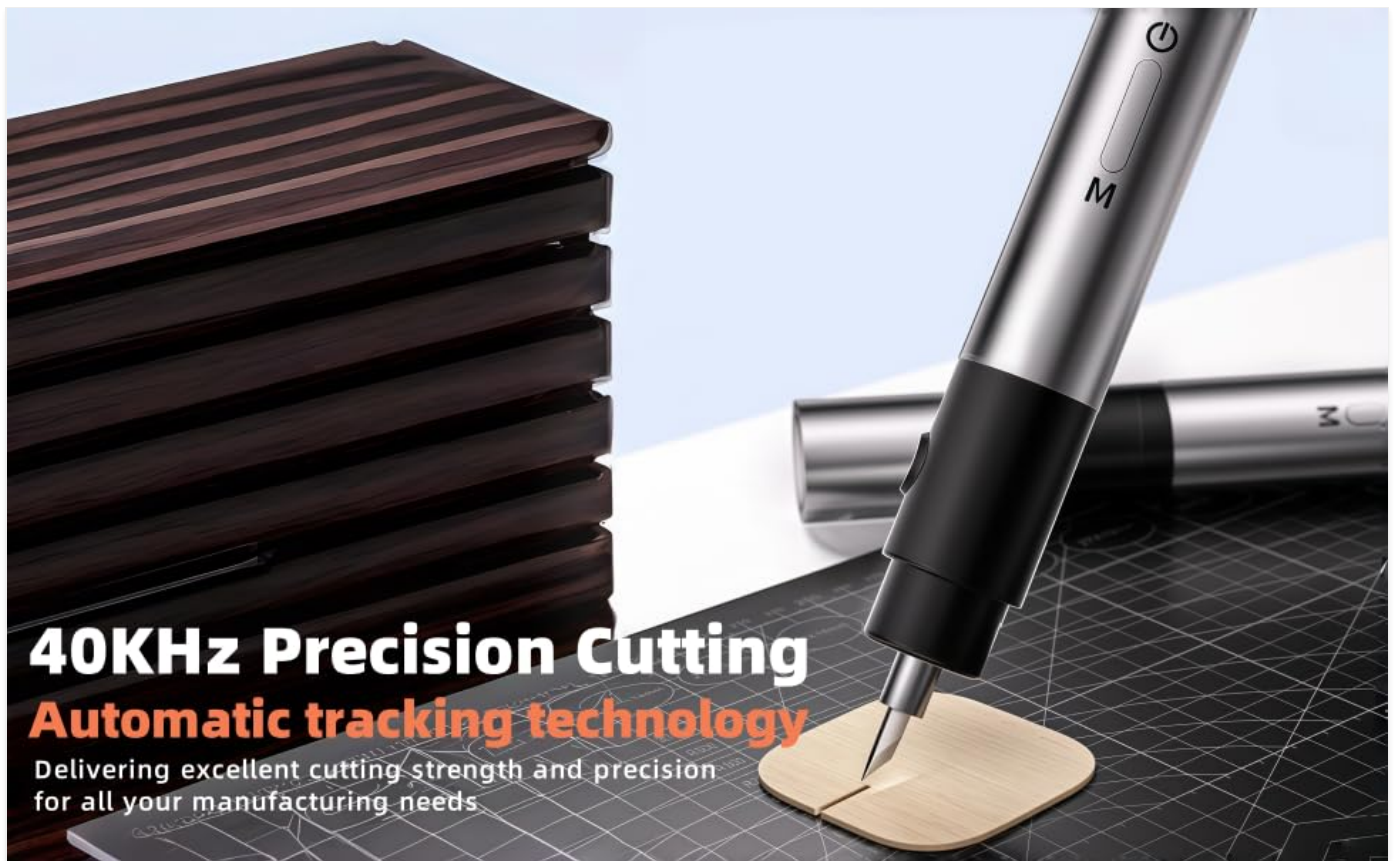


Figure 2: The FOSA FS-S1 Ultrasonic Cutter highlighting its display and adjustable modes.

5. SETUP

5.1 Charging the Device

1. Connect the provided Type-C power cable to the charging port on the cutter.
2. Connect the other end of the cable to a compatible 12V power adapter (not included) or a USB power source.
3. The high-definition display will indicate the charging status. Ensure the device is fully charged before first use for optimal performance.

5.2 Blade Installation

1. Ensure the device is powered off and disconnected from any power source.
2. Carefully remove the protective blade cap.
3. Loosen the blade retention screw (if present) or mechanism at the tip of the cutter.
4. Insert a new alloy blade tip into the designated slot, ensuring it is seated firmly and correctly oriented.
5. Secure the blade by tightening the retention screw or mechanism. Do not overtighten.
6. Replace the protective blade cap when the cutter is not in use.

3 Adjustable Modes Free adjustment of Level 3 cutting strength

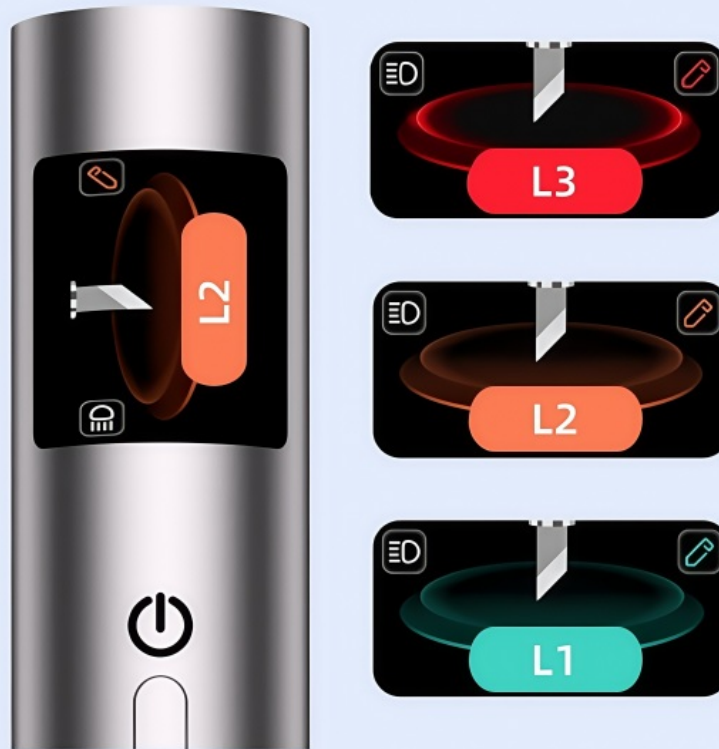


Figure 3: Close-up view of the aerospace titanium alloy blade tip.

6. OPERATING INSTRUCTIONS

6.1 Powering On/Off

- To power on, press and hold the power button (usually marked with a  symbol) until the display illuminates.
- To power off, press and hold the power button again until the display turns off.

6.2 Selecting Cutting Modes

The FS-S1 offers three adjustable cutting modes to suit different materials:

1. After powering on, press the 'M' button (Mode button) to cycle through the available modes.
2. The high-definition display will show the current mode:
 - **Gentle (L1):** For delicate materials or fine trimming, such as thin paper or soft plastics.
 - **Standard (L2):** General purpose mode for materials like wood, thicker paper, and some 3D print models.
 - **Strong (L3):** For tougher materials such as carbon fiber laminates, plexiglass, PCBs, and leather.
3. Select the appropriate mode for your material to ensure efficient cutting and prevent damage to the blade or workpiece.

6.3 Cutting Technique

1. Place the material to be cut on a stable, protective surface.
2. Hold the cutter firmly with a comfortable grip, ensuring your fingers are clear of the blade.
3. Gently apply the blade tip to the material at the desired cutting line.
4. Apply light, consistent pressure and guide the cutter along the line. Allow the ultrasonic vibrations to do the cutting; excessive force is not required and can damage the blade or material.
5. For thicker materials, multiple passes with light pressure may be more effective than a single forceful pass.
6. Utilize the auxiliary light for improved visibility in intricate cutting tasks.



Figure 4: Examples of materials being cut by the FOSA FS-S1 Ultrasonic Cutter, including 3D print models, circuit boards, and leather.

7. MAINTENANCE

7.1 Blade Cleaning and Replacement

- Always power off the device and disconnect it from power before handling the blade.
- After use, carefully wipe the blade tip with a soft, dry cloth to remove any material residue.
- If the blade becomes dull or damaged, replace it with a new FOSA alloy blade tip following the 'Blade Installation' instructions in Section 5.2.

7.2 Device Cleaning and Storage

- Wipe the body of the cutter with a clean, damp cloth. Do not use harsh chemicals or abrasive cleaners.
- Ensure the device is completely dry before storing.
- Store the cutter in a cool, dry place, away from direct sunlight and moisture. Always keep the protective blade cap on.

8. TROUBLESHOOTING

If you encounter issues with your FOSA FS-S1 Ultrasonic Cutter, refer to the following common problems and solutions:

Problem	Possible Cause	Solution
Device does not power on	Low battery or no charge Faulty power cable/adaptor	Charge the device fully using the provided Type-C cable. Try a different Type-C cable or power adapter.

Problem	Possible Cause	Solution
Poor cutting performance	Dull or damaged blade Incorrect cutting mode selected Material too hard or unsuitable	Replace the blade tip. Select a higher cutting mode (Standard or Strong). Ensure the material is compatible with ultrasonic cutting.
Device overheats	Prolonged continuous use Excessive pressure during cutting	Allow the device to cool down before resuming use. Apply lighter pressure and let the ultrasonic vibrations work.
Blade vibrates excessively or makes unusual noise	Blade not properly secured Damaged blade or internal component	Ensure the blade is correctly installed and tightened. Replace the blade. If the issue persists, contact customer support.

9. SPECIFICATIONS

Feature	Specification
Brand	FOSA
Model	FS-S1
Cutting Frequency	40 KHz
Adjustable Gears	3 (Gentle, Standard, Strong)
Blade Material	Alloy (Metal)
Handle Material	Plastic
Input Port	Type-C
Input Voltage	12V
Input Power	>40 W
Safety Lock	Yes
Dimensions (approx.)	25 x 186 mm (0.98 x 7.32 inches)

10. WARRANTY AND SUPPORT

For warranty information, technical support, or to purchase replacement parts, please refer to the product packaging or contact FOSA customer service through their official website or the retailer where the product was purchased. Please have your model number (FS-S1) and purchase date available when contacting support.

