

## Samlex America SAM-2000-12

# Samlex 2000W Modified Sine Wave Inverter (SAM-2000-12) User Manual

Model: SAM-2000-12 | Brand: Samlex America

## 1. INTRODUCTION

This manual provides essential information for the safe and efficient operation of your Samlex 2000W Modified Sine Wave Inverter, model SAM-2000-12. This device is designed to convert 12V DC battery power into 115V AC household power, suitable for various applications. Please read this manual thoroughly before installation and use to ensure proper function and to prevent damage to the unit or connected devices.

## 2. SAFETY INFORMATION

**WARNING: This product may contain materials cautioned by California Proposition 65. Always handle with care and follow all safety guidelines.**

- **Electrical Hazard:** Inverters produce high voltage AC power. Treat the output terminals with the same respect as a standard AC wall outlet.
- **Ventilation:** Ensure the inverter is installed in a well-ventilated area. Do not block ventilation openings. Overheating can cause damage or fire.
- **Dry Environment:** Do not expose the inverter to water, rain, or spray. It is designed for indoor use or in a protected environment.
- **Proper Wiring:** Use appropriate gauge wiring for DC input connections to prevent overheating and ensure efficient power transfer. Observe correct polarity (+ to + and - to -).
- **Flammable Materials:** Do not install the inverter near flammable materials or in areas where flammable fumes or gases may accumulate.
- **Children and Pets:** Keep the inverter out of reach of children and pets.
- **Servicing:** Do not attempt to service the inverter yourself. Refer all servicing to qualified personnel.

### 3. PRODUCT OVERVIEW

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The Samlex SAM-2000-12 is a robust 2000-watt modified sine wave inverter designed for reliable power conversion. It features a durable casing with integrated cooling fins for efficient heat dissipation.



**Figure 1:** Samlex 2000W Modified Sine Wave Inverter, model SAM-2000-12. The inverter is black with a blue stripe, featuring cooling fins along its body. On one end, it has AC outlets, a power switch, and an RJ45 port. The other end shows red and black terminals for DC input.

#### Key Features:

- 2000 Watts continuous power output.
- 12V DC input voltage.
- Modified Sine Wave AC output.
- Multiple AC outlets for connecting devices.
- Integrated cooling system.

### 4. SETUP AND INSTALLATION

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Proper installation is crucial for the performance and safety of your inverter. Follow these steps carefully:

#### 4.1 Mounting Location:

- Choose a dry, cool, and well-ventilated area.
- Mount the inverter securely to a stable surface using the provided mounting brackets. Ensure there is adequate space around the unit for airflow.
- Avoid mounting in direct sunlight or near heat sources.

## 4.2 DC Input Connections:

1. Ensure the inverter's power switch is in the OFF position.
2. Connect the positive (+) terminal of the inverter to the positive (+) terminal of your 12V battery bank. Use heavy-gauge cables appropriate for the current draw (consult a wiring chart if unsure).
3. Connect the negative (-) terminal of the inverter to the negative (-) terminal of your 12V battery bank.
4. Ensure all connections are tight and secure to prevent loose connections, which can cause overheating and power loss.
5. It is recommended to install a fuse or circuit breaker in the positive DC input line, close to the battery, to protect against overcurrent.

## 4.3 Grounding:

Connect the inverter's chassis ground terminal to a reliable earth ground or the vehicle chassis (if applicable) using a suitable ground wire.

## 5. OPERATION

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Once the inverter is properly installed and connected, follow these steps to operate it:

1. **Turn On:** Flip the power switch on the inverter to the ON position. The power indicator light should illuminate, indicating the inverter is active.
2. **Connect AC Devices:** Plug your AC devices into the inverter's AC outlets. Ensure the total wattage of all connected devices does not exceed the inverter's continuous power rating (2000W).
3. **Monitor Load:** Pay attention to the inverter's performance. If the overload indicator illuminates or an alarm sounds, immediately disconnect some of the connected devices.
4. **Turn Off:** When finished, first turn off and unplug all AC devices, then flip the inverter's power switch to the OFF position.

## Important Considerations:

- **Starting Surges:** Some appliances, especially those with motors (e.g., refrigerators, pumps), require a higher starting wattage (surge power) than their continuous running wattage. Ensure the inverter's surge rating can handle these peaks.
- **Battery Drain:** Operating the inverter will drain your battery. Monitor your battery voltage and recharge as necessary to prevent deep discharge, which can damage the battery.

## 6. MAINTENANCE

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The Samlex SAM-2000-12 inverter requires minimal maintenance to ensure long-term reliable operation:

- **Keep Clean:** Periodically clean the exterior of the inverter with a dry cloth. Ensure the ventilation openings are free from dust and debris.
- **Check Connections:** Regularly inspect all DC input and AC output connections to ensure they remain tight and free from corrosion.
- **Ventilation:** Confirm that the installation area remains well-ventilated and that the inverter's cooling fins are not obstructed.
- **Battery Maintenance:** Maintain your battery bank according to the battery manufacturer's instructions. A healthy battery is essential for inverter performance.

## 7. TROUBLESHOOTING

If you encounter issues with your inverter, refer to the following troubleshooting guide:

| Problem                                      | Possible Cause   | Solution   |
|--|--|--|
| No power output / Inverter does not turn on  | <ul style="list-style-type: none"><li>Loose DC connections</li><li>Blown fuse/tripped breaker</li><li>Low battery voltage</li><li>Inverter switch is OFF</li></ul> | <ul style="list-style-type: none"><li>Check and tighten all DC connections.</li><li>Inspect and replace fuse or reset breaker.</li><li>Recharge battery.</li><li>Turn inverter switch to ON.</li></ul> |
| Overload indicator / Alarm sounds            | <ul style="list-style-type: none"><li>Connected load exceeds 2000W</li><li>High starting surge from appliance</li></ul>  | <ul style="list-style-type: none"><li>Reduce the total wattage of connected devices.</li><li>Disconnect high-surge appliances or use a lower-power alternative.</li></ul>                              |
| Low battery voltage indicator / Alarm sounds | <ul style="list-style-type: none"><li>Battery voltage is too low</li></ul>   | <ul style="list-style-type: none"><li>Recharge the battery immediately.</li><li>Check battery connections for corrosion or looseness.</li></ul>  |
| Inverter shuts down unexpectedly             | <ul style="list-style-type: none"><li>Overload condition</li><li>Low battery voltage</li><li>Over-temperature</li></ul>  | <ul style="list-style-type: none"><li>Reduce load.</li><li>Recharge battery.</li><li>Ensure adequate ventilation; allow inverter to cool.</li></ul>  |

If the problem persists after attempting these solutions, please contact Samlex America customer support for further assistance.

## 8. SPECIFICATIONS

The following table outlines the technical specifications for the Samlex SAM-2000-12 Modified Sine Wave Inverter:

| Specification                | Value           |
|------------------------------|-----------------|
| Model Name                   | SAM-2000-12     |
| Wattage                      | 2000 watts      |
| Power Source                 | Battery Powered |
| Recommended Uses For Product | Vehicle         |

| Specification           | Value                 |
|-------------------------|-----------------------|
| Brand                   | Samlex America        |
| Item Weight             | 8.4 Pounds            |
| Item Dimensions (LxWxH) | 15 x 9.1 x 4.6 inches |
| Material                | Plastic               |
| Color                   | Black                 |
| Country of Origin       | Taiwan                |

## 9. WARRANTY AND SUPPORT

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The Samlex SAM-2000-12 Inverter comes with a manufacturer's warranty. For specific details regarding warranty coverage, terms, and conditions, please refer to the documentation included with your product or visit the official Samlex America website.

For technical support, troubleshooting assistance beyond this manual, or warranty claims, please contact Samlex America customer service directly. Contact information can typically be found on the product packaging or their official website.