

Xantrex Freedom SW3012

Xantrex Freedom SW3012 Inverter/Charger Instruction Manual

Model: Freedom SW3012

1. INTRODUCTION

This manual provides essential information for the safe and efficient operation of your Xantrex Freedom SW3012 Inverter/Charger. The Freedom SW3012 is a sophisticated power conversion system designed to provide reliable AC power from a DC battery bank and to efficiently charge batteries from an AC source. It integrates a 3000-watt pure sine wave inverter with a 150-amp multi-stage battery charger, suitable for various applications including marine, RV, and off-grid systems.

Please read this manual thoroughly before installation or operation to ensure proper use and to prevent potential hazards.

2. SAFETY INFORMATION

Safety precautions must be observed at all times when installing, operating, or maintaining the Xantrex Freedom SW3012. Failure to follow these instructions can result in serious injury, death, or damage to the equipment.

- **Electrical Hazard:** This unit operates with high voltages and currents. Installation and servicing should only be performed by qualified personnel.
- **Battery Safety:** Batteries can produce explosive gases. Ensure adequate ventilation and avoid sparks or flames near batteries. Wear eye protection.
- **Grounding:** The inverter/charger must be properly grounded according to local and national electrical codes.
- **Ventilation:** Ensure the unit is installed in a well-ventilated area to prevent overheating.
- **Water Exposure:** Do not expose the unit to water, rain, or spray.

3. SETUP AND INSTALLATION

Proper installation is critical for the performance and safety of your Freedom SW3012. It is highly recommended that installation be performed by a certified electrician or marine/RV technician.

3.1 Unpacking and Inspection

Upon receiving the unit, carefully unpack it and inspect for any shipping damage. Report any damage to the carrier immediately.

3.2 Mounting Location

Select a mounting location that is:

- Dry and protected from moisture.
- Well-ventilated to allow for heat dissipation.
- Accessible for wiring and maintenance.
- Close to the battery bank to minimize DC cable length and voltage drop.
- Capable of supporting the unit's weight (approximately 75 pounds).

3.3 Electrical Connections

The Freedom SW3012 requires connections for DC input (from batteries), AC output (to loads), and AC input (from shore power or generator for charging). All wiring must comply with applicable electrical codes and standards.

Refer to the wiring diagram provided in the full installation guide for detailed connection instructions. Ensure all connections are secure and properly insulated.



This image displays the Xantrex Freedom SW3012 Inverter/Charger. The front panel features indicators for Inverter, AC, Charge, and Fault status, along with buttons for Clear Fault, Reset, and Inverter Enable. The side of the unit shows the main DC input/output terminals and other connection points.

4. OPERATING INSTRUCTIONS

Once properly installed, the Freedom SW3012 is designed for straightforward operation.

4.1 Front Panel Controls and Indicators

- **INVERTER ENABLE Button:** Toggles the inverter function on or off.
- **CLEAR FAULT/RESET Button:** Used to clear fault conditions or reset the unit.
- **INVERTER LED:** Illuminates when the inverter is active and producing AC power.
- **AC LED:** Illuminates when AC input (shore power/generator) is detected.
- **CHARGE LED:** Illuminates when the battery charger is active.
- **FAULT LED:** Illuminates to indicate a fault condition. Refer to the troubleshooting section for details.

4.2 Inverter Mode

To use the inverter function:

1. Ensure the DC battery bank is adequately charged.
2. Press the **INVERTER ENABLE** button. The INVERTER LED should illuminate.
3. The unit will now convert 12V DC from your batteries to 120V AC for your connected appliances.

4.3 Charger Mode

When an external AC source (shore power or generator) is connected to the AC input, the Freedom SW3012 will automatically switch to charger mode (if the inverter is off or if AC pass-through is enabled) and begin charging the batteries. The AC LED and CHARGE LED will illuminate.

5. MAINTENANCE

Regular maintenance helps ensure the longevity and optimal performance of your inverter/charger.

- **Cleaning:** Periodically clean the exterior of the unit with a dry cloth. Ensure ventilation openings are free from dust and debris. Do not use liquid cleaners.
- **Connections:** Annually inspect all electrical connections (DC and AC) for tightness and corrosion. Loose connections can cause overheating and poor performance.
- **Battery Inspection:** Regularly check your battery bank for proper fluid levels (if applicable), clean terminals, and overall health.
- **Ventilation:** Ensure the area around the inverter/charger remains clear to allow for proper airflow.

6. TROUBLESHOOTING

This section provides basic troubleshooting steps for common issues. For complex problems, contact Xantrex technical support.

6.1 No AC Output / Inverter Not Working

- **Check INVERTER ENABLE:** Ensure the INVERTER ENABLE button is pressed and the INVERTER LED is on.
- **Check DC Input:** Verify battery voltage is within the operating range (typically 10.5V-16V for a 12V system). Check DC fuses or circuit breakers.
- **Check for Faults:** If the FAULT LED is on, press the CLEAR FAULT/RESET button. Refer to the full manual for specific fault codes if available.
- **Overload:** Disconnect some AC loads and try resetting the inverter.

6.2 Batteries Not Charging

- **Check AC Input:** Ensure the external AC source (shore power/generator) is connected and active. The AC LED should be on.
- **Check AC Input Breaker:** Verify the AC input breaker on the unit or at the source is not tripped.
- **Check CHARGE LED:** Ensure the CHARGE LED is illuminated.
- **Battery Condition:** Severely discharged or damaged batteries may not accept a charge.

7. SPECIFICATIONS

Technical specifications for the Xantrex Freedom SW3012 Inverter/Charger:

Specification	Value
Model Number	Freedom SW3012
Brand	Xantrex
Output Power	3000 Watts
Input Voltage	12 Volts DC
Charger Current	150 Amps
Power Source	Battery Powered
Item Weight	75 Pounds
Product Dimensions (L x W x H)	18 x 10 x 6 inches
Manufacturer	Xantrex


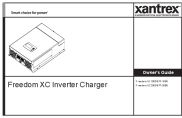
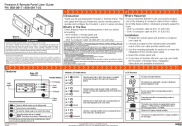


8. WARRANTY INFORMATION

Specific warranty terms and conditions for the Xantrex Freedom SW3012 Inverter/Charger are typically provided with the product documentation at the time of purchase. Please refer to your warranty card or the official Xantrex website for detailed information regarding coverage, duration, and claims procedures.

9. CUSTOMER SUPPORT

For technical assistance, service, or further inquiries regarding your Xantrex Freedom SW3012 Inverter/Charger, please contact Xantrex customer support directly. Contact information can typically be found on the official Xantrex website or in the product packaging.

Xantrex Official Website: www.xantrex.com

	<p><u>Xantrex Freedom Xi Inverter Installation Guide for RV, Fleet, and Marine Use</u></p> <p>This installation guide provides detailed instructions and safety information for installing and configuring the Xantrex Freedom Xi Sine Wave Inverter in recreational vehicles, fleet vehicles, and marine applications.</p>
	<p><u>Xantrex Freedom XC Inverter Charger Owner's Guide: Installation, Operation, and Safety</u></p> <p>This comprehensive owner's guide provides detailed information on the Xantrex Freedom XC Inverter Charger, including installation procedures, operational modes, key features, safety precautions, and troubleshooting tips. Designed for recreational, commercial, fleet vehicle, and marine applications, it covers models Freedom XC 1000 and Freedom XC 2000.</p>
	<p><u>Xantrex Freedom X Remote Panel User Guide - Installation and Operation</u></p> <p>Comprehensive user guide for the Xantrex Freedom X Remote Panel (PN: 808-0817, 808-0817-02). Learn about installation, features, status indicators, viewing battery/grid mode information, and Bluetooth app connectivity for Xantrex Freedom X and XC series inverters used in RVs, boats, and off-grid systems.</p>
	<p><u>Xantrex Freedom e-GEN System User Guide for Onboard Lithium-Ion Power</u></p> <p>The Xantrex Freedom e-GEN System is a lithium-ion battery-based power solution for onboard applications, providing safe, clean, and efficient AC power. This user guide covers introduction, safety, operation, monitoring, charging, troubleshooting, maintenance, and specifications.</p>
	<p><u>Xantrex Freedom 458 Series Inverter/Charger Owner's Manual</u></p> <p>Comprehensive owner's manual for the Xantrex Freedom 458 Series Inverter/Charger, detailing installation, operation, features like three-stage battery charging, automatic AC transfer switching, and troubleshooting for models 10, 15, 20, 25, and 30.</p>
	<p><u>Xantrex Power Solutions Guide: Inverters, Chargers, and Solar Systems</u></p> <p>A comprehensive guide to Xantrex's advanced power solutions, detailing true sine wave inverters, inverter/chargers, battery chargers, lithium-ion batteries, backup power systems, and solar products for RVs, boats, heavy-duty trucks, and specialty vehicles.</p>