GROWATT SPF6000 ES Plus

GROWATT SPF6000 ES Plus 6kW Off-Grid Inverter User Manual

Model: SPF6000 ES Plus

1. Introduction

This user manual provides comprehensive instructions for the installation, operation, and maintenance of the GROWATT SPF6000 ES Plus 6kW Off-Grid Inverter. Please read this manual thoroughly before installing or operating the inverter to ensure safe and efficient use. Keep this manual for future reference.

2. Safety Instructions

Safety is paramount when working with electrical equipment. Adhere to all local electrical codes and regulations. Only qualified personnel should perform installation and maintenance.

- Ensure the inverter is disconnected from all power sources (PV array, battery, AC grid) before performing any installation or maintenance.
- Do not attempt to repair the inverter yourself. Refer all servicing to qualified service personnel.
- Install the inverter in a well-ventilated area, away from flammable materials and direct sunlight.
- Ensure proper grounding of the inverter.
- Wear appropriate personal protective equipment (PPE) during installation and maintenance.

3. Product Overview

The GROWATT SPF6000 ES Plus is a high-performance 6kW off-grid inverter designed for reliable power conversion in standalone photovoltaic systems. It features a robust design and advanced functionalities to ensure stable power supply.



Figure 3.1: Front Panel of GROWATT SPF6000 ES Plus Inverter

This image displays the front panel of the Growatt SPF6000 ES Plus 6kW Off-Grid Inverter. The central circular display shows operational status, with indicators for AC/INV (AC/Inverter status), CHG (charge status), and FAULT (error status). Below the display are control buttons labeled ESC (Escape), UP, DOWN, and ENTER for navigation and settings adjustment. The inverter is a white rectangular unit with connection points visible at the bottom for various inputs and outputs.

Key Features:

- AC Output Power: 6,000W
- Compatible with PV systems up to 8kWP
- Transformerless design
- Maximum Efficiency: 93%

- One Maximum Power Point Tracking (MPPT) controller
- Protection Class: IP20

4. Setup and Installation

The installation of the GROWATT SPF6000 ES Plus inverter requires careful planning and execution. It is highly recommended that installation be performed by a certified electrician or qualified solar professional.

1. **Site Selection:** Choose a cool, dry, and well-ventilated location, protected from direct sunlight, rain, and dust. Ensure adequate clearance around the inverter for heat dissipation.
2. **Mounting:** Securely mount the inverter vertically on a sturdy wall or frame using appropriate fasteners.
3. **Wiring Connections:**
    - Connect the battery bank to the inverter's battery terminals, ensuring correct polarity.
    - Connect the PV array to the inverter's PV input terminals, observing correct polarity and voltage limits.
    - Connect the AC output to your load distribution panel.
    - Connect the AC input (if applicable for grid/generator charging) to the inverter.
    - Ensure all ground connections are properly made.
4. **Initial Power-Up:** Follow the specific power-up sequence detailed in the full installation guide (not provided here) to safely energize the system.

For detailed wiring diagrams and specific installation procedures, please refer to the complete installation manual provided with your product or available on the GROWATT website.

5. Operating Instructions

Once installed and powered on, the GROWATT SPF6000 ES Plus inverter will begin operation automatically. The front panel display provides real-time system status and allows for configuration adjustments.

Display and Buttons:

- **LCD Display:** Shows various parameters such as input voltage, output voltage, battery status, load percentage, and error codes.
- **AC/INV Indicator:** Lights up when AC power is present or the inverter is operating.
- **CHG Indicator:** Lights up when the battery is being charged.
- **FAULT Indicator:** Lights up when an error or fault condition occurs.
- **ESC Button:** Used to exit a menu or return to the previous screen.
- **UP/DOWN Buttons:** Used to navigate through menu options or adjust settings.
- **ENTER Button:** Used to confirm a selection or enter a submenu.

Basic Operation:

Navigate through the display menus using the UP and DOWN buttons to view different system parameters. Use the ENTER button to access settings and the ESC button to exit. Refer to the detailed operation manual for advanced settings and configuration options, such as battery type, charge current, and output voltage settings.

6. Maintenance

Regular maintenance ensures the longevity and optimal performance of your GROWATT SPF6000 ES Plus inverter.

Always disconnect all power sources before performing any maintenance.

- **Periodic Cleaning:** Keep the inverter's ventilation openings clear of dust and debris to ensure proper airflow and prevent overheating. Use a soft, dry cloth for cleaning the exterior.
- **Connection Checks:** Periodically inspect all electrical connections for tightness and signs of corrosion. Retighten any loose connections.
- **Environmental Inspection:** Ensure the installation environment remains dry, clean, and within the specified temperature range.
- **Battery Maintenance:** Follow the battery manufacturer's recommendations for battery maintenance, as this directly impacts system performance and lifespan.

7. Troubleshooting

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

Problem	Possible Cause	Solution
Inverter not turning on	No battery connection or low battery voltage.	Check battery connections and ensure battery voltage is above the minimum operating threshold.
No AC output	Overload, short circuit, or internal fault.	Reduce load, check for short circuits in wiring, or check fault codes on the display.
FAULT indicator lit	System error (e.g., over-temperature, over-voltage, under-voltage).	Refer to the display for specific error codes and consult the full manual for corresponding solutions. Ensure proper ventilation.
Low charging current	Insufficient PV input or incorrect settings.	Check PV array connections and ensure panels are clean. Verify charging settings in the inverter menu.

8. Specifications

Parameter	Value
Model	SPF6000 ES Plus
AC Output Power	6,000W
Maximum PV Array Power	8kWP
MPPT Trackers	1
Maximum Efficiency	93%
Protection Class	IP20
Dimensions (L x W x H)	395 x 460 x 132mm
Weight	13.5kg

Parameter	Value
Manufacturer	Growatt
Country of Origin	China
ASIN	B0DL6ZX5NT
Available on Amazon.de since	October 28, 2024
Guaranteed Software Updates until	Unknown

9. Warranty and Support

For warranty information, please refer to the warranty card included with your product or contact your point of purchase. Warranty terms and conditions may vary by region and seller.
For technical support, troubleshooting assistance beyond this manual, or service inquiries, please contact GROWATT customer service or your authorized GROWATT dealer. Contact information can typically be found on the manufacturer's official website or through your product documentation.
You can visit the official GROWATT store on Amazon for more information:GROWATT Store

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Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

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