ExpertPower IVV48V10KW

ExpertPower 10KW 48V Hybrid Solar Inverter Instruction Manual

Model: IVV48V10KW
Brand: ExpertPower

1. Introduction

This manual provides essential information for the safe and efficient operation of your ExpertPower 10KW 48V Hybrid Solar Inverter. This advanced inverter is designed to integrate solar power, battery storage, and grid electricity, offering a versatile solution for various applications including home, cabin, off-grid, and grid-tie solar systems. It features a 12KW maximum solar input, 10KW AC output, and can be paralleled for up to 60KW capacity. Please read this manual thoroughly before installation and operation.

2. Safety Warnings

WARNING: Electrical shock hazard. Installation and maintenance must be performed by qualified personnel only.

- Always disconnect all power sources (solar, battery, grid) before performing any maintenance or wiring.
- Ensure proper grounding of the inverter.
- Do not operate the inverter if it is damaged or appears to be malfunctioning.
- Keep children away from the inverter and wiring.
- Install in a well-ventilated area, away from flammable materials.
- Follow all local and national electrical codes.

3. Product Overview

The ExpertPower 10KW Hybrid Solar Inverter is a robust unit designed for efficient energy management. It features a clear LCD display for monitoring and control, along with various connection ports for solar panels, batteries, AC input/output, and communication.

3.1 Key Features

- **Hybrid Solar Inverter:** Built-in MPPT solar charger (12KW max solar input, 200A utility battery charger).
- **Robust Specifications:** Dual 100A MPPT charge controllers, 10KW pure sine wave output (20KW surge), compatible with 120/208/240Vac.
- **Grid-Tie & Off-Grid Capabilities:** Supports both remote off-grid and grid-tied residential/commercial applications.
- **Enhanced Parallel Functionality:** Connect up to 6 units for a maximum of 60KW capacity.
- **Adaptable Power Supply:** Powers loads from PV arrays or AC grid without a connected battery. Compatible with SLA, AGM, GEL, and Lithium LiFePO4 batteries.
- **Split Phase Operation:** Offers both 240V and 120V from a single inverter.
- **Advanced Connectivity:** Wi-Fi-enabled for remote monitoring, detachable LCD, RS485, CAN-BUS, RS232 ports.

3.2 Physical Diagram

Detailed diagram of the ExpertPower 10KW Hybrid Solar Inverter, highlighting front, side, and bottom views, cable box connections, side buttons, and LCD display.

Front view of the ExpertPower 10KW Hybrid Solar Inverter, showcasing its sleek design and integrated display.

Internal view of the ExpertPower 10KW Hybrid Solar Inverter's connection terminals, including circuit breakers for grid, load, and generator.

4. Setup

4.1 Site Selection and Mounting

Choose a well-ventilated, dry, and cool location. Ensure sufficient clearance around the inverter for heat dissipation. Mount the inverter securely to a vertical surface.

4.2 Wiring Connections

All wiring must comply with local and national electrical codes. Use appropriate wire gauges for all connections.

4.2.1 Battery Connection

Connect the battery bank to the inverter's battery terminals. Ensure correct polarity (positive to positive, negative to negative). The inverter is compatible with various battery types including SLA, AGM, GEL, and Lithium LiFePO4.

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This video demonstrates the power and communication connections between the SPH8-10KW inverter and SG48100P batteries, including steps for wiring positive and negative terminals, connecting communication cables, and initial startup procedures.

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This video shows the step-by-step process of connecting 48V100Ah server rack batteries to a 5KW all-in-one solar inverter, including battery wiring, communication setup, and initial power-on sequence.

4.2.2 Solar Panel (PV) Connection

Connect your solar panel arrays to the PV input terminals. The inverter supports two 6000W PV inputs, each handling up to 600V open circuit voltage. Ensure proper sizing and configuration of your PV array.

4.2.3 AC Grid/Load Connection

Connect the AC grid input and AC load output to the designated terminals. The inverter supports 120V, 208V, and 240V AC output for split-phase operation.

4.2.4 Communication Connections

Connect communication cables (RS485, CAN-BUS, RS232) for BMS integration and remote monitoring. The inverter is Wi-Fi-enabled for app-based management.

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This video provides a detailed guide on navigating the menu and setup options for a 12000W hybrid solar inverter, focusing on battery type selection, communication protocols, and other advanced settings.

5. Operating Modes

The ExpertPower Hybrid Solar Inverter offers flexible operating modes to suit various energy needs.

5.1 System Layout and Versatility

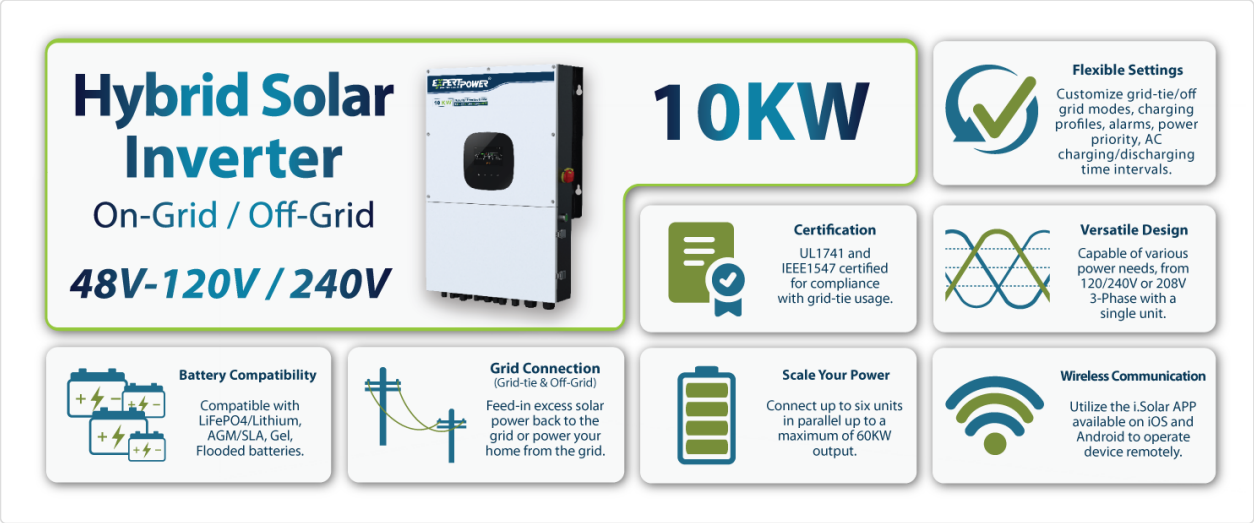

Illustration of a home solar system layout with the ExpertPower Hybrid Solar Inverter, demonstrating versatility for off-grid and grid-tied applications, multi-scenario use, and continuous power supply.

5.2 Grid-Tie Operation

In grid-tie mode, the inverter can feed excess solar power back to the utility grid, potentially reducing electricity bills through net metering. It also provides backup power during blackouts.

5.3 Off-Grid Operation

For off-grid applications, the inverter relies on battery storage and solar input to provide continuous power. It can also integrate with a generator for additional backup.

5.4 Parallel Functionality

Multiple inverters can be connected in parallel to increase the overall system capacity up to 60KW. This allows for scalability to meet growing energy demands.

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This video illustrates the process of parallel connection and parameter setting for a 10kW inverter, demonstrating how to configure multiple units for increased power output and split-phase operation.

5.5 Advanced Monitoring

The built-in Wi-Fi module allows for remote monitoring and management of your inverter via a dedicated app on iOS or Android devices. This provides real-time data and control over your energy system.

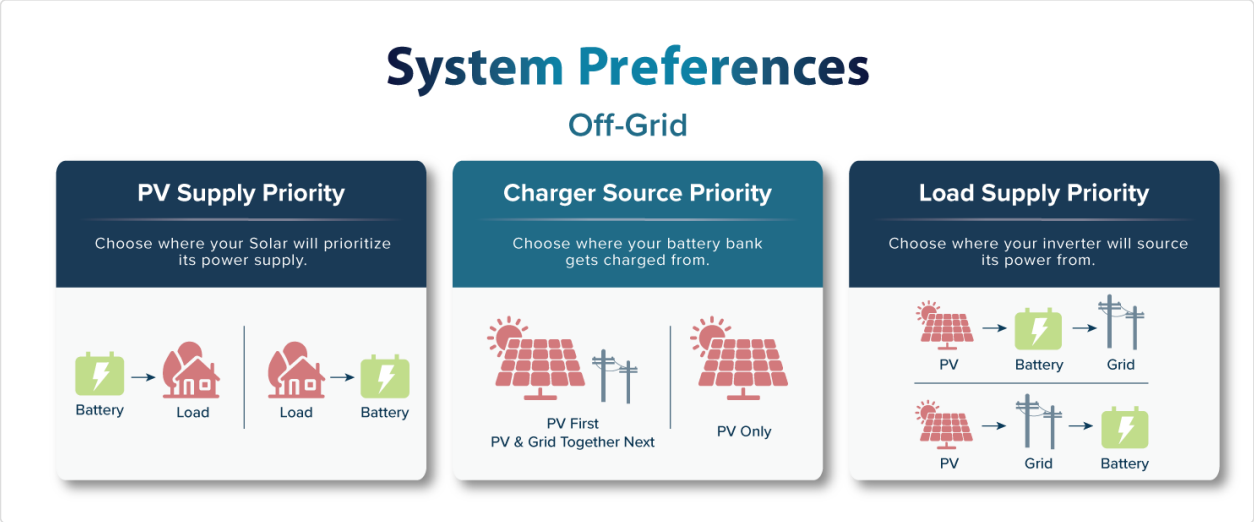

Diagram showing Wi-Fi monitoring capabilities of the ExpertPower Hybrid Solar Inverter, allowing users to monitor and manage their system remotely via a dedicated app on various devices.

6. Maintenance

Regular maintenance ensures the longevity and optimal performance of your inverter.

- Periodically inspect all wiring connections for tightness and corrosion.
- Keep the inverter's ventilation openings clear of dust and debris.
- Check the LCD display for any error codes or warnings.
- Ensure firmware is up-to-date for best performance and security.

7. Troubleshooting

If you encounter issues with your inverter, refer to the following general troubleshooting steps. For specific error codes, consult the detailed troubleshooting section in the full product manual.

- **No Power Output:** Check all AC and DC connections, ensure battery is charged, and verify grid connection.
- **Inverter Not Turning On:** Check the main power switch and battery voltage.
- **Error Code Displayed:** Note the error code and refer to the comprehensive troubleshooting guide in the full manual or contact customer support.
- **Overload Protection:** Reduce the connected load if the inverter is shutting down due to overload.

8. Specifications

Feature	Value
Item Weight	218 pounds
Item model number	IVV48V10KW-2
Brand	ExpertPower

Power Source	Solar Powered
Model Name	IVV48V10KW
Input Voltage	48 Volts
Output Power	10000 Watts

9. Warranty & Support

Your ExpertPower 10KW Hybrid Solar Inverter comes with a manufacturer's warranty. For specific warranty terms and conditions, please refer to the warranty card included with your product or visit the ExpertPower website.

For technical assistance, troubleshooting, or any product-related inquiries, please contact ExpertPower Direct customer support. Contact information can be found on your product packaging or the official ExpertPower website.

Additional protection plans may be available for purchase to extend coverage beyond the standard warranty period.