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ExpertPower IVV48V6.5KW

ExpertPower 6500W 48V - 120V Hybrid Solar Inverter User Manual

Model: IVV48V6.5KW | Brand: ExpertPower

INTRODUCTION

This manual provides detailed instructions for the installation, operation, and maintenance of your ExpertPower 6500W 48V - 120V Hybrid Solar Inverter. Designed for home, cabin, and off-grid solar systems, this inverter offers advanced features for efficient energy management. Please read this manual thoroughly before installation and use to ensure safe and optimal performance.



Figure 1: ExpertPower 6500W Hybrid Solar Inverter. This image shows the front view of the inverter, highlighting its compact design and integrated display.

KEY FEATURES

- **UL1741 Standard Compliance:** Pure sine wave AC output of 120V, built-in MPPT solar charger with 8000W max solar input

and 120A utility battery charger. Supports two 4000W PV inputs, each up to 500V open circuit voltage.

- **Adaptable Power Supply:** Powers loads from PV arrays or AC grid, even without a battery. Compatible with SLA, AGM, GEL, and Lithium LiFePO4 battery types.
- **Split Phase Operation:** Supports 120V/240V split phase (requires 2 units) for large appliances and HVAC systems. Also supports 120V single-phase (1 unit) and 208V 3-phase (3 units).
- **Enhanced Parallel Functionality:** Connect up to 6 units for a maximum system capacity of 39KW, allowing for scalability.
- **Advanced Connectivity:** Wi-Fi enabled for remote monitoring via a dedicated app (iOS/Android). Features a detachable LCD control module and multiple communication ports (RS485, CAN-BUS, RS232) for BMS integration.

FEATURES



Battery Compatibility

Compatible with LiFePO4/Lithium, AGM/SLA, Gel, Flooded batteries.



Grid Connection (No Feedback)

Charge your batteries and power your home from the grid or a generator.



Scale Your Power

Connect up to six units in parallel for 39KW loads.



Flexible Settings

Customise your charging profile, alarms, and cut-offs for complete control over your system.



Versatile Design

Wire your inverters for 120V/240V Split Phases or 208V 3-Phase to cover all power your needs.



Wireless Communication

Using the WatchPower Wi-Fi App (Requires registration).

6.5KW 48V-120V



Hybrid Solar Inverter Charger

Figure 2: Overview of the ExpertPower Hybrid Solar Inverter's key features, including battery compatibility, grid connection, scalability, flexible settings, versatile design, and wireless communication.

PRODUCT OVERVIEW AND COMPONENTS

Familiarize yourself with the inverter's physical layout and included components.

DIAGRAM

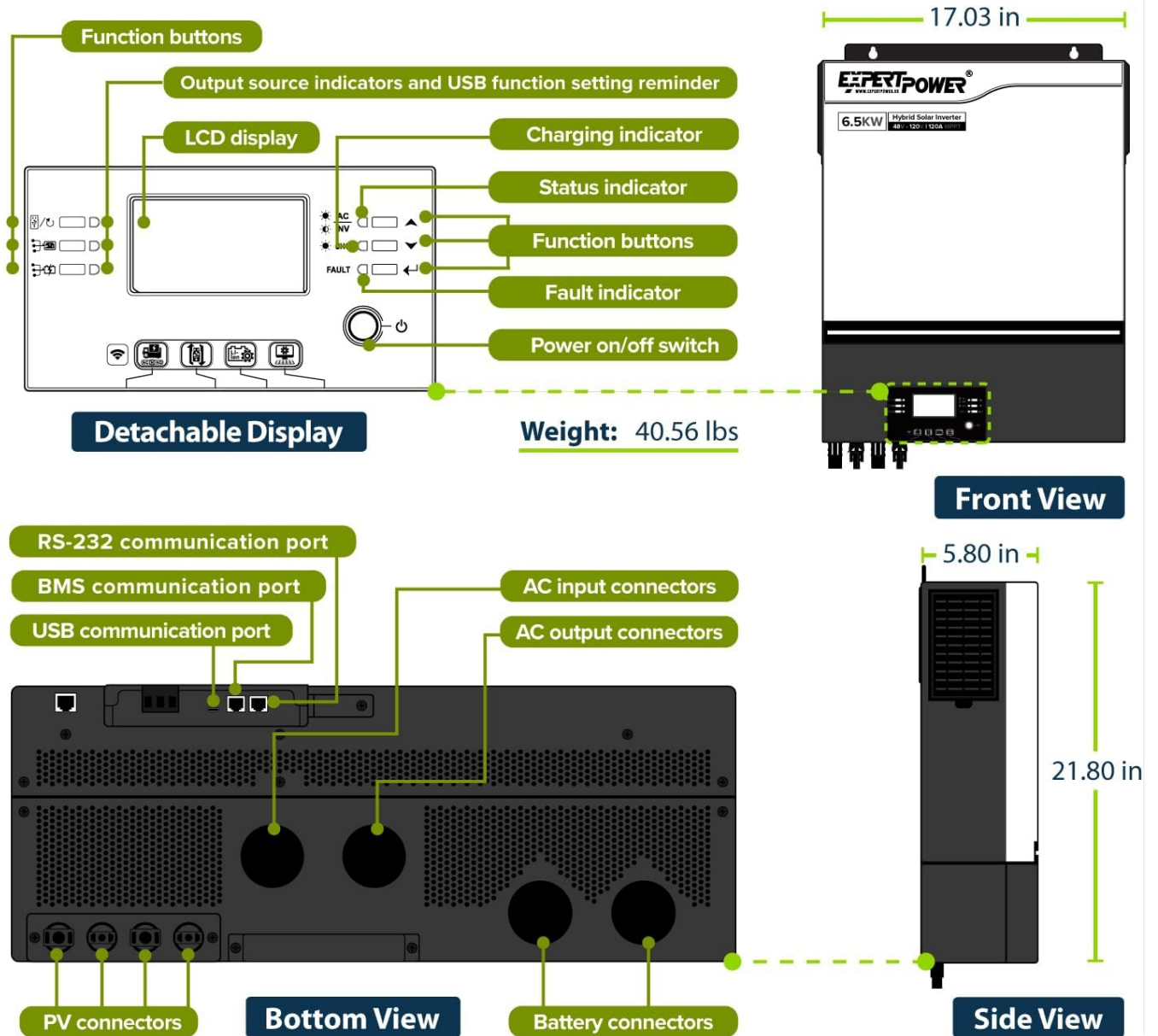


Figure 3: Detailed diagram of the inverter showing its front, side, and bottom views, along with dimensions and port locations. Key components include the LCD display, function buttons, charging indicator, status indicator, fault indicator, power on/off switch, RS-232, BMS, and USB communication ports, AC input/output connectors, PV connectors, and battery connectors.

ExpertPower 48V Inverter Charger Package

Comes Included With:

- ExpertPower 48V Hybrid Inverter
- 4 x Cable Glands
- 3 x Cable Accessories
- 2 x PV Connectors
- DC Fuse
- Manual
- Software CD



Figure 4: Contents included in the ExpertPower 48V Inverter Charger Package. This includes the hybrid inverter unit, cable glands, cable accessories, PV connectors, a DC fuse, a user manual, and a software CD.

SETUP AND INSTALLATION

Proper setup is crucial for the inverter's performance and safety. Consult a qualified electrician for installation if you are unsure.

System Integration

The inverter is designed to integrate with various power sources, including grid power, generators, solar panels, and battery banks.

COMPLETE SYSTEM

This versatile inverter seamlessly integrates with your power sources, offering **Grid Power** (no feedback) and **Generator (AC)** passthrough capabilities. It also excels at inverting **Solar** and **Battery Bank (DC)** current, serving as your primary power source when AC Power is unavailable or when you're looking to optimize your electric bill expenses.

With up to six combinations of charging and load priority management modes, you gain full control over your energy consumption, potentially ensuring long-term savings on your utility bills.

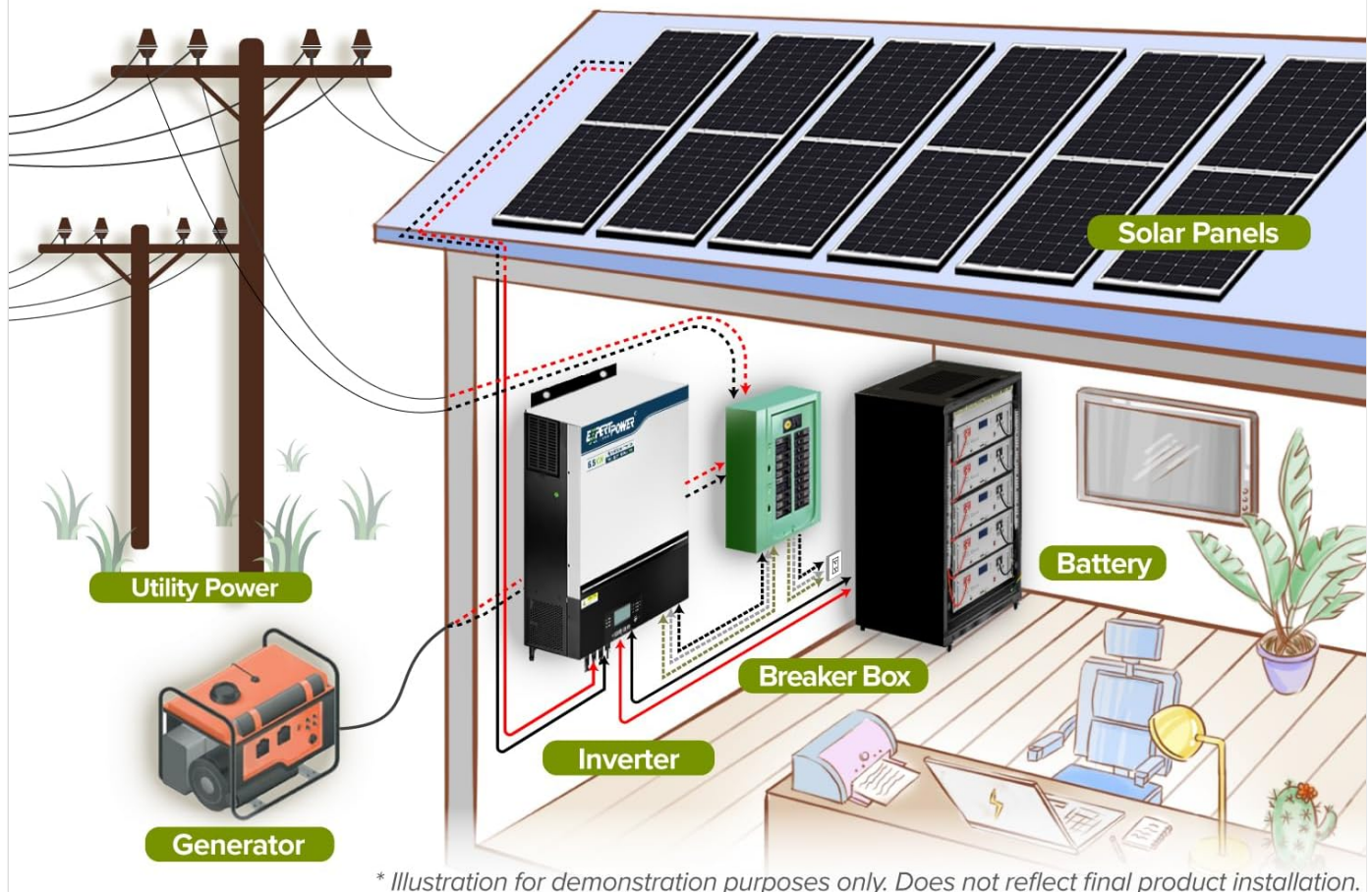


Figure 5: Diagram illustrating a complete solar system setup with the ExpertPower inverter. It shows connections between utility power, generator, solar panels, battery bank, breaker box, and the inverter, demonstrating its role in managing power flow.

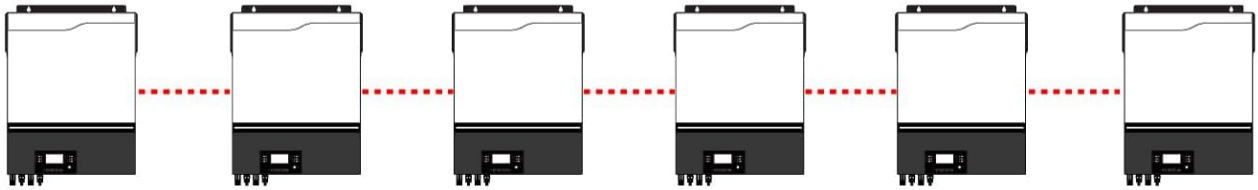
Parallel and Multi-Phase Configurations

The inverter supports various configurations to meet diverse power needs, including single-phase, split-phase, and 3-phase setups.

VERSATILE DESIGN

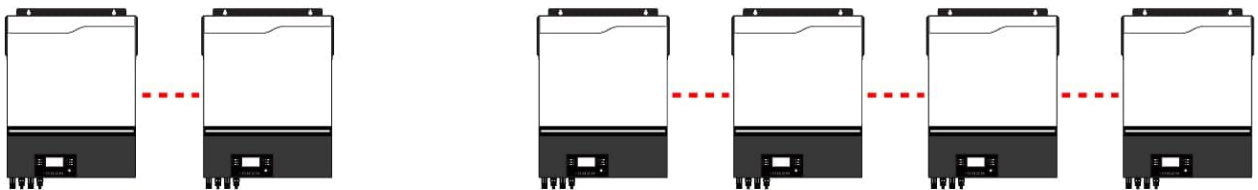
Single-Phase: Max. 6 Parallel Connection

For maximum 39KW power delivery of 120V residential systems.



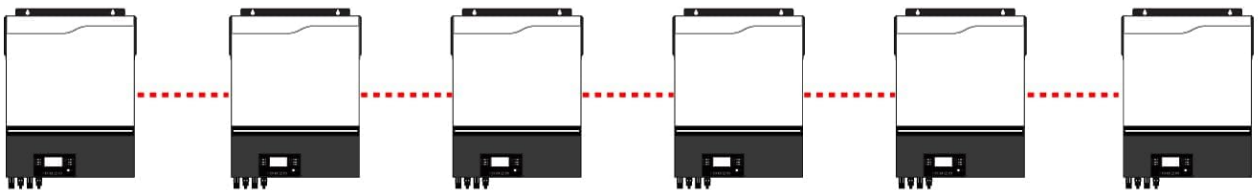
Split-Phase: Series and Parallel Connection

Up to six inverters for 240V and 120V systems for large residential applications.



A One inverter in each phase
(alternatively: One inverter in single phase, second for split phase)

B Two inverters in each phase
(alternatively, two pairs in split-phase)



C Up to six inverters in two groups of three parallel

Combine the hybrid solar inverters in up to 15 different configurations and up to six inverters in total to match any of your power needs for either residential or commercial use in either 3-Phase 208V, Split Phase 240V, or 120V.

Figure 6: This image demonstrates the versatile design of the ExpertPower inverter, showing how multiple units can be connected in parallel for single-phase systems (up to 6 units for 39KW) and in series-parallel for 120V/240V split-phase systems (up to 6 units). For detailed wiring diagrams and specific instructions for each configuration (single-phase, split-phase, 3-phase), refer to the comprehensive user manual provided with your product or available for download from the ExpertPower website.

OPERATING INSTRUCTIONS

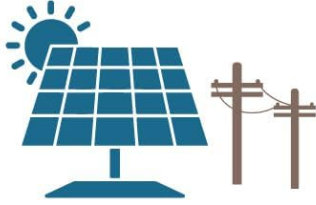
Power Source Prioritization

The inverter allows you to configure charging and load priorities to optimize energy usage based on your preferences and available sources.

PREFERENCES

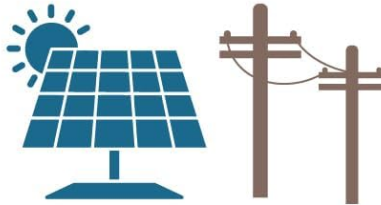
Charging Priority

Control how the battery bank gets charged from different power sources.



Solar Priority

The inverter will prioritize solar power for charging. AC Input will only charge the battery bank when solar power is no longer available.



Solar and AC Input

The inverter will charge the battery bank from both solar and AC power at the same time.

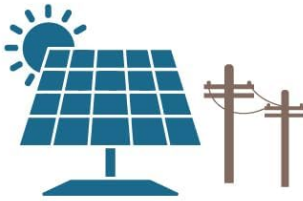


Solar Only

The inverter will only charge the battery bank from available solar power.

Load Priority

Control how your appliances get powered so you never run out of power.



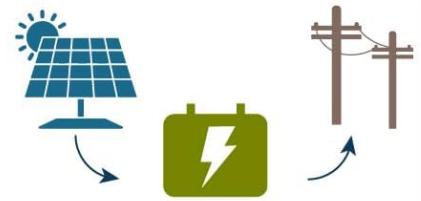
Solar Priority

The inverter will invert solar power to supply the loads first; if the solar input is not enough it will compensate from the AC input.



AC Priority

The inverter will redirect the AC Input to power all loads and will only use DC inputs when AC input power is not available.



DC Priority

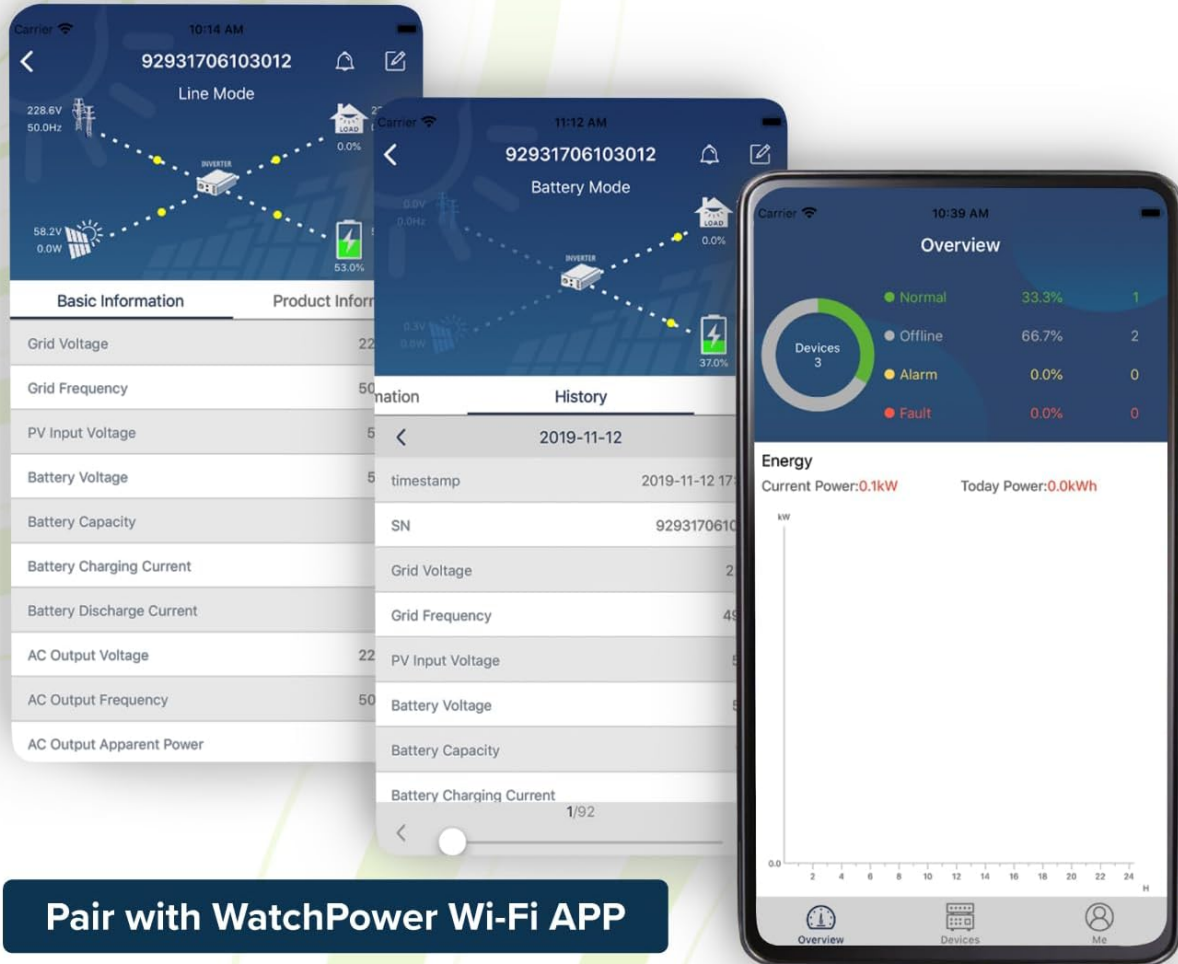
The inverter will prioritize inverting from solar first, if solar is not enough it will invert from battery power and will only power loads from AC input once the low battery warning triggers.

Figure 7: This graphic illustrates the charging priority options (Solar Priority, Solar and AC Input, Solar Only) and load priority options (Solar Priority, AC Priority, DC Priority) for the ExpertPower inverter, allowing users to control how the battery bank is charged and how appliances are powered.

Remote Monitoring with Wi-Fi App

The built-in Wi-Fi functionality enables remote monitoring and management of your inverter via a dedicated mobile application.

Wi-Fi MONITORING



Pair with WatchPower Wi-Fi APP

Built in Wi-Fi transmitters allows you to monitor your hybrid inverter from anywhere via Wi-Fi. Download the app from the Android or Apple store to start. (Registration required)

Figure 8: Screenshots of the WatchPower Wi-Fi App interface, demonstrating its capabilities for monitoring basic information, product information, history, and energy overview. The app allows users to monitor their hybrid inverter from anywhere.

Download the WatchPower Wi-Fi App from the iOS App Store or Google Play Store. Registration is required to connect and monitor your device.

SPECIFICATIONS

Attribute	Value
Model Name	48V 6.5KW Hybrid Solar Inverter
Wattage	6500 watts
Power Source	Solar Powered
Recommended Uses	Home

Attribute	Value
Brand	ExpertPower
Product Dimensions	17.03 x 5.8 x 21.8 inches
Item Weight	50 pounds
Item Model Number	IVV48V6.5KW
Country of Origin	China

MAINTENANCE

Regular maintenance ensures the longevity and optimal performance of your ExpertPower Hybrid Solar Inverter.

- **Cleaning:** Periodically clean the exterior of the inverter with a soft, dry cloth. Ensure ventilation openings are free from dust and debris to prevent overheating.
- **Connections:** Annually inspect all electrical connections (PV, battery, AC input/output) for tightness and signs of corrosion. Loose connections can lead to poor performance or safety hazards.
- **Environment:** Ensure the inverter is installed in a well-ventilated area, away from direct sunlight, moisture, and flammable materials. Maintain ambient temperatures within the specified operating range.
- **Firmware Updates:** Check the ExpertPower website or the WatchPower app for any available firmware updates to ensure your inverter has the latest features and bug fixes.

TROUBLESHOOTING

This section provides general guidance for common issues. For complex problems, consult the full user manual or contact ExpertPower support.

Problem	Possible Cause	Solution
Inverter not powering on	No DC input from battery/PV; Power switch off; Blown fuse.	Check battery connections and voltage; Ensure PV input is sufficient; Verify power switch is ON; Inspect and replace fuses if necessary.
No AC output	Overload; Short circuit; Low battery voltage; Inverter fault.	Reduce connected load; Check for short circuits in wiring; Charge batteries; Check LCD display for error codes and refer to manual.
Wi-Fi connection issues	Incorrect Wi-Fi settings; Router too far; App not registered.	Verify Wi-Fi credentials; Move inverter closer to router or use a Wi-Fi extender; Ensure app registration is complete.

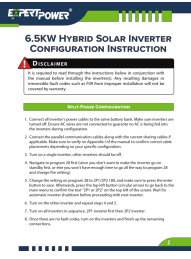

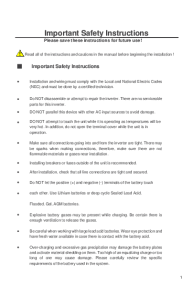

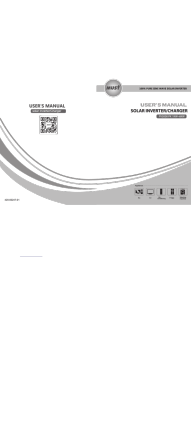
WARRANTY AND SUPPORT

For warranty information, technical support, or service inquiries, please contact ExpertPower directly. Refer to the official user manual (PDF) for detailed warranty terms and contact methods.

You can find the official User Manual (PDF) [here](#).

Visit the ExpertPower Store for more products and support: [ExpertPower Store](#).

Related Documents - IVV48V6.5KW

	<p>ExpertPower 6.5KW Hybrid Solar Inverter Configuration Instructions</p> <p>Detailed instructions for setting up the ExpertPower 6.5KW Hybrid Solar Inverter. Covers split-phase and parallel configuration steps, disclaimer, and support contact details.</p>
	<p>PowMr POW-SunSmart SP5K Hybrid Solar Inverter User Manual</p> <p>Comprehensive user manual for the PowMr POW-SunSmart SP5K hybrid solar inverter, detailing installation, operation, features, technical specifications, and troubleshooting for efficient solar energy management.</p>
	<p>PowMr Solar Inverter User Manual</p> <p>Comprehensive user manual for the PowMr Solar Inverter, detailing installation, operation, safety instructions, technical specifications, and troubleshooting for this 5000W off-grid 48V inverter.</p>
	<p>Sun Gold Power SPH6548P 6.5KW 48V Split Phase Solar Inverter User Manual</p> <p>User manual for the Sun Gold Power SPH6548P 6.5KW 48V split-phase solar inverter, detailing its features, installation, operation, safety guidelines, and maintenance procedures.</p>
	<p>Hollandia Must PV3000 PK Power Inverter with Charger User Manual</p> <p>Comprehensive user manual for the Hollandia Must PV3000 PK series power inverter with charger, detailing operating modes, warning codes, LCD icons, technical specifications, and connection diagrams.</p>



PowMr Solar Inverters & Controllers: New Energy Solutions

Explore the PowMr range of PV inverters, solar controllers, and lithium batteries. This manual provides comprehensive product information, specifications, and company details for sustainable energy solutions from Shenzhen Hehejin Industrial Co., Ltd.

Documents - ExpertPower – IVV48V6.5KW

ExpertPower 6.5KW Hybrid Solar Inverter	
	
<ul style="list-style-type: none">Status indication with RGB lightsBuilt-in Wi-Fi for remote monitoring (Android/iOS App is available)Supports USB On-the-go functionResonant compensation and full SRS (SRS48, CDR-BUS or RS232)High-efficiency design for lower power consumptionReliable independent design, easy to install and maintainCompatible AC/DC output, easy to connect to home appliances and power toolsSelectable high power charging currentSelectable input voltage range for home appliances and power toolsCompatible to 100V, 120V or generator inputBuilt-in safety lockOptional DC output for DC bus, LED bulb, router and so onParallel operation with 1 unit	
MODEL	IVV48V6.5KW
Rated Power	6500VA/6500W
PROTECT	PROTECT, CANDELITY
INPUT	
Voltage	120 VAC
Selectable Voltage Range	80-140 VAC (For Computers) 80-140 VAC (For Home Appliances)
Frequency Range	50 Hz/60 Hz (Auto-sensing)
OUTPUT	
AC Voltage Regulation (Std. Mode)	±100VAC ± 5%
Surge Power	12000W
Efficiency (Peak)	92%
Transfer Time	20 ms (For Personal Computers) 20 ms (For Home Appliances)
Waveform	Pure sine wave
No Load Power Consumption	≤ 7W
DC Voltage (Optional)	12 VDC ± 5%, 100V
BATTERY	
Battery Voltage	48 VDC
Floating Charge Voltage	54 VDC
Overcharge Protection	63 VDC
SOLAR CHARGE & AC CHARGE	
AC Charge Type	MPPT
AC Charge Type	MPPT
MPPT Range (V)	80V ~ 1000V (100V ± 2)
Maximum PV Array Open-Circuit Voltage	90 VDC
Maximum PV Input Current	120 A ± 2
Maximum Solar Charge Current	120 A
Maximum AC Charge Current	120 A
Maximum Charge Current	120 A
PHYSICAL	
Dimensions (D x W x H (mm))	5.9 x 17.9 x 11.8
Net Weight (kg)	4.5
Communication Interface	USB (232/19200)/Wi-Fi/Ony contact
OPERATING ENVIRONMENT	
Humidity	5% to 95% Relative Humidity (Non-condensing)
Operating Temperature	-40°C to +40°C
Storage Temperature	-40°C to +40°C
STANDARD	
UL	UL 1741-2010 (R6.2), CSA C22.2 No. 107.1-16
CE	CE, RoHS, REACH
Product specifications are subject to change without further notice.	
www.expertpower.us • support@expertpower.us • (242) 537-5382	

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ExpertPower 6.5KW Hybrid Solar Inverter Status indication with RGB lights Built-in Wi-Fi for mob ... rge Power Efficiency Peak Transfer Time Waveform No Load Power Consumption DC Voltage Optional **IVV48V6.5KW** 6500VA/6500W Yes, up to 6 units 120 VAC 90-140 VAC For Computers 80-140 VAC For Home ...

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[pdf] User Manual Instructions

ExpertPower 6.5KW Hybrid Inverter 500V 4 Pack ExpertPower 6500W 48V 120V Solar 120A MPPT

Controller 240V Split Phase 2 Units Max 39KW Parallel UL1741 Built in WiFi Home Cabin Off Grid

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www.expertpower.us 48V-120V 6500W HYBRID SOLAR INVERTER

USER MANUAL MODEL: **IVV48V6.5KW** Table of Contents ABOUT THIS MANUAL

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Purpose.....

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