PowMr POW-HVM6.2K-48V-LIP

PowMr 6200W Hybrid Inverter User Manual

Model: POW-HVM6.2K-48V-LIP
Brand: PowMr

Overview Setup Operation Maintenance Troubleshooting Specifications Support

1. Product Overview

The PowMr 6200W Hybrid Inverter is a versatile power solution designed for solar energy systems. It converts 48V DC power from batteries or solar panels to 220V/230V AC power, suitable for various household and industrial applications. This inverter features an integrated 120A MPPT charge controller, ensuring efficient solar power utilization. It supports multiple battery types, including lead-acid and lithium, and can even operate without a battery. Its advanced design allows for parallel operation of up to 12 units, significantly expanding power capacity and flexibility for larger systems.



Figure 1: Front view of the PowMr 6200W Hybrid Inverter, showcasing the display and control buttons.

Key features include a pure sine wave output, multiple charging and output modes for optimized energy

management, and comprehensive protection mechanisms against overload, overtemperature, and short circuits. The intelligent variable speed fan ensures efficient heat dissipation and extends the system's lifespan. This inverter is compatible with both mains voltage and generator power, offering automatic restart functionality upon mains restoration.

2. Setup and Installation

Proper installation is crucial for the safe and efficient operation of your PowMr Hybrid Inverter. Please ensure all connections are secure and follow local electrical codes.

2.1 Unpacking and Inspection

Carefully unpack the inverter and inspect it for any shipping damage. Report any damage to your supplier immediately. Ensure all components listed in the packing list are present.

2.2 Mounting the Inverter

Choose a suitable mounting location that is dry, well-ventilated, and away from direct sunlight, heat sources, and flammable materials. Ensure there is sufficient clearance around the inverter for proper airflow. Mount the inverter vertically on a sturdy surface using appropriate fasteners.

2.3 Electrical Connections

All electrical wiring should be performed by a qualified electrician. Refer to the detailed wiring diagrams provided in the full PDF manual for specific instructions. The inverter supports various input sources and battery configurations.

- **PV Input:** Connect your solar panel array to the PV input terminals. The inverter supports a maximum PV array open circuit voltage of 500VDC and an MPPT voltage range of 60VDC to 450VDC. The rated PV power is 6500W.
- **Battery Connection:** Connect your 48V battery bank (lead-acid or lithium) to the battery terminals. The inverter can also operate without a battery in certain configurations.
- **AC Input:** Connect the AC utility grid or a generator to the AC input terminals. The maximum AC input voltage is 300Vac.
- **AC Output:** Connect your electrical loads to the AC output terminals. The inverter provides a 230Vac output with a pure sine wave waveform.

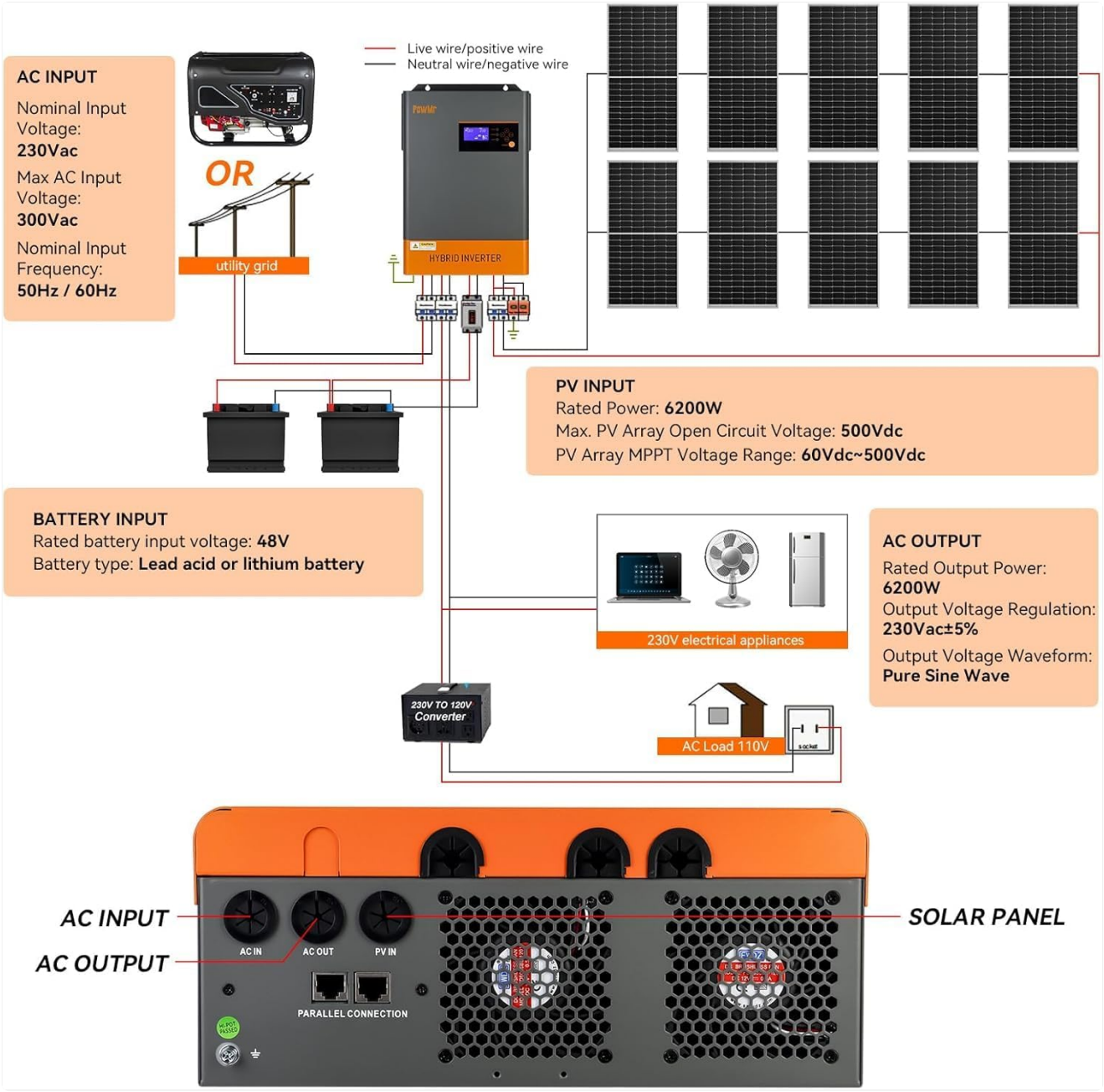


Figure 2: Detailed connection diagram showing PV input, battery input, AC input, and AC output terminals.



Figure 3: Illustration of various 48V battery types compatible with the inverter, including GEL, FLD (Flooded), and Li-ion.

2.4 Parallel Operation

The PowMr 6200W Hybrid Inverter supports parallel operation of up to 12 units, allowing for significant power expansion. This can be configured for single-phase or split-phase systems, with the capability to achieve 380V AC output in three-phase split operation. Communication cables are required for parallel setup.

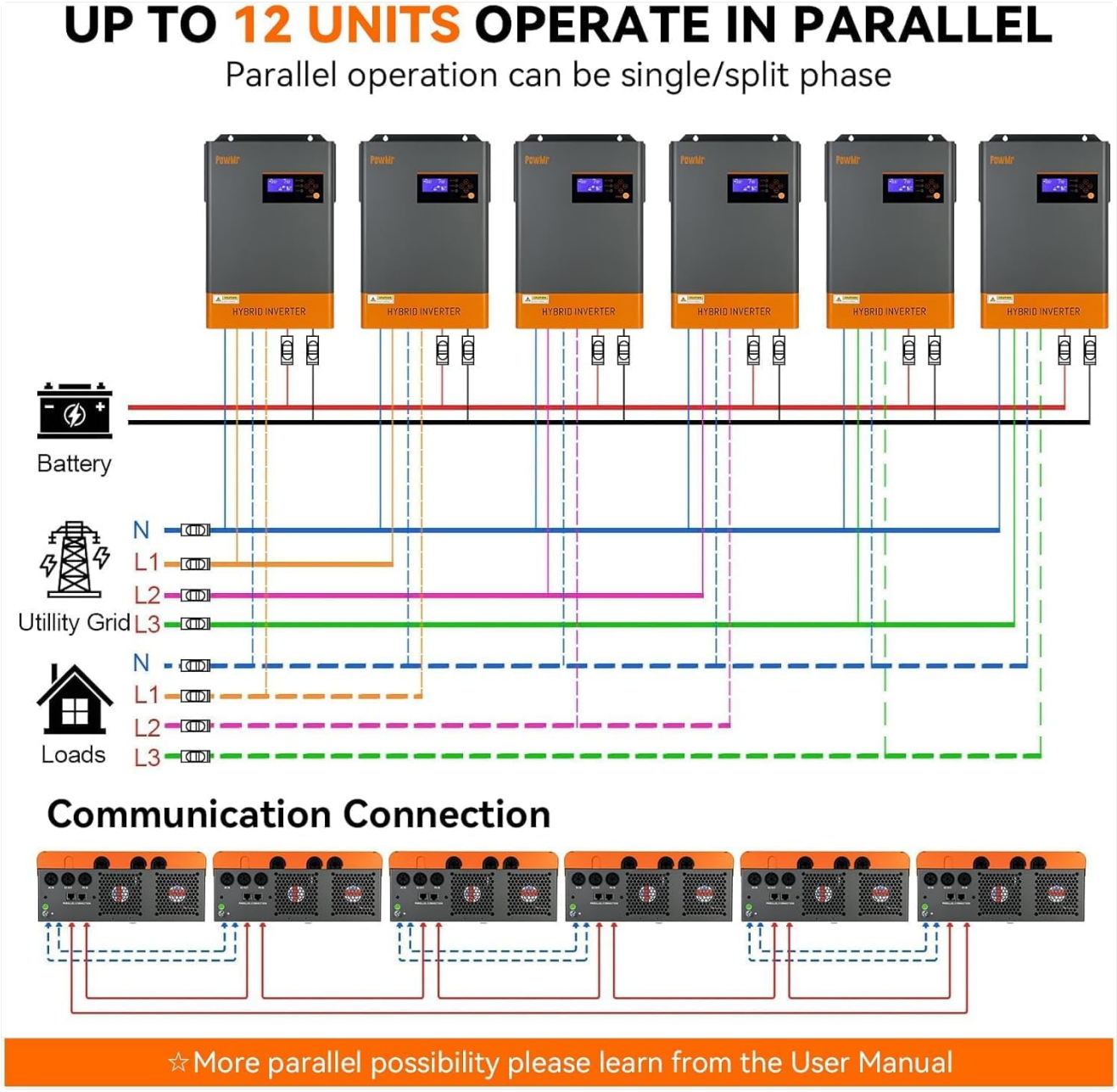


Figure 4: Diagram illustrating the parallel connection of multiple inverters to a common battery bank, utility grid, and loads.

3. Operation

Once installed, the inverter can be configured and operated via its integrated display and control buttons. The display provides real-time information on system status, input/output voltages, and charging parameters.

3.1 Charging Modes

The inverter offers four selectable charging modes to optimize battery charging based on available power sources:

- **Solar First:** Prioritizes solar power for charging the battery.
- **Utility First:** Prioritizes utility grid power for charging the battery.
- **Solar and Utility:** Uses both solar and utility power to charge the battery.
- **Only Solar:** Charges the battery exclusively from solar power.

3.2 Output Modes

The inverter also provides flexible output modes to manage power delivery to your loads:

- **Solar Priority:** Loads are powered primarily by solar energy.
- **Utility Priority:** Loads are powered primarily by the utility grid.
- **Inverter Priority:** Loads are powered primarily by the inverter (from battery/solar).
- **SBU Priority (Solar-Battery-Utility):** Prioritizes solar, then battery, then utility.
- **SUB Priority (Solar-Utility-Battery):** Prioritizes solar, then utility, then battery.

These modes allow users to customize the system's behavior to meet specific energy management needs and optimize self-consumption or grid interaction.

4. Maintenance

Regular maintenance helps ensure the longevity and optimal performance of your PowMr Hybrid Inverter. Always disconnect all power sources before performing any maintenance.

- **Cleaning:** Periodically clean the exterior of the inverter with a dry, soft cloth. Ensure ventilation openings are free from dust and debris to prevent overheating.
- **Connections:** Annually inspect all electrical connections for tightness and signs of corrosion. Loose connections can lead to poor performance or safety hazards.
- **Battery Inspection:** If using lead-acid batteries, check electrolyte levels and terminal conditions regularly as per battery manufacturer guidelines. For lithium batteries, follow manufacturer recommendations.
- **Environment:** Ensure the installation environment remains within specified temperature and humidity ranges.

Do not attempt to open the inverter casing or perform internal repairs. Refer all servicing to qualified personnel.

5. Troubleshooting

The PowMr 6200W Hybrid Inverter is equipped with multiple protection features to ensure safe operation. If the inverter displays an error code or behaves unexpectedly, refer to the full manual for a detailed troubleshooting guide. Below are common issues and general advice:

- **No Power Output:**
  - Check all input power sources (PV, battery, utility) are connected and active.
  - Verify circuit breakers or fuses are not tripped.
  - Ensure the inverter is turned on.
- **Overload Protection:**
  - The inverter will shut down if the connected load exceeds its rated capacity (6200W). Reduce the load and restart the inverter.
- **Overtemperature Protection:**
  - Ensure adequate ventilation around the inverter. Clear any obstructions from the cooling fans. Allow the unit to cool down before restarting.
- **Short Circuit Protection:**
  - If a short circuit is detected on the output, the inverter will shut down. Identify and resolve the short circuit in your wiring or connected appliances before restarting.
- **Battery Low Voltage Protection:**
  - The inverter will stop discharging the battery if its voltage drops below a safe level to prevent damage.

Recharge the battery.

- **Parallel Connection Error Protection:**
  - If multiple inverters are connected in parallel, ensure communication cables are correctly installed and all units are configured properly.



Figure 5: Visual representation of the inverter's comprehensive protection features, including overload, charge short, AC reverse, short-circuit, bypass overcurrent, battery overvoltage, battery low voltage, and parallel connection error protection.

For persistent issues or complex problems, please contact PowMr customer support.

6. Technical Specifications

Below are the key technical specifications for the PowMr 6200W Hybrid Inverter (Model: POW-HVM6.2K-48V-LIP):

Feature	Specification
Model Number	POW-HVM6.2K-48V-LIP

Feature	Specification
Rated Power	6200W
Output Voltage Regulation	230Vac ±5%
Output Waveform	Pure Sine Wave
PV Rated Power	6500W
Max PV Array Open Circuit Voltage	500VDC
PV Array MPPT Voltage Range	60VDC ~ 450VDC
Max AC Input Voltage	300Vac
Max Input Current	27A
MPPT Charge Controller Current	120A
Battery Voltage	48VDC
Compatible Battery Types	Lead-Acid (Sealed, AGM, Gel, Flooded), Lithium, or Battery-less operation
Parallel Function	Supports up to 12 units in parallel
Package Dimensions	21.65 x 14.96 x 7.09 inches
Item Weight	20.2 pounds
Manufacturer	PowMr

7. Warranty and Support

For detailed warranty information regarding your PowMr 6200W Hybrid Inverter, please refer to the warranty card included with your product or contact PowMr customer support directly. Warranty terms and conditions may vary by region and purchase date.

7.1 Customer Support

If you encounter any issues, have questions about installation, operation, or require technical assistance, please contact PowMr customer support. They can provide detailed PDF manuals in various languages (German, Italian, French, English, etc.) upon request.
For the most up-to-date contact information, please visit the official PowMr website or refer to the contact details provided in your product packaging.
You can also visit the **PowMr Store on Amazon** for more product information and support resources.

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