

## Victron Energy PMP122305102

# Victron Energy MultiPlus-II 3000VA 12V Inverter Charger User Manual

Model: PMP122305102

## 1. INTRODUCTION

The Victron Energy MultiPlus-II is a pure sine wave inverter charger that integrates the functionalities of both the MultiPlus and MultiGrid series. This unit is designed to provide reliable power conversion and battery charging for a wide range of applications, including marine, RV, off-grid, and industrial systems. It features an external current transformer option for advanced PowerControl and PowerAssist functionalities, optimizing self-consumption and ensuring stable power delivery. This manual provides essential information for the safe and efficient installation, operation, and maintenance of your MultiPlus-II inverter charger.





## 2. KEY FEATURES

- **Integrated Inverter and Charger:** Combines a powerful pure sine wave inverter with an advanced battery charger.
- **Power Assist:** Prevents overload of a limited AC source (e.g., generator or shore power) by boosting the output with power from the battery.
- **Uninterrupted AC Power (UPS Function):** In the event of a grid failure, the inverter automatically takes over the supply to connected loads within 20 milliseconds, ensuring continuous operation.
- **Parallel and Three-Phase Operation:** Up to six units can operate in parallel for increased power output. Three units can be configured for three-phase output.
- **Slimmer Profile:** Modern manufacturing techniques result in a more compact design.
- **Low Standby Power:** Designed for energy efficiency, consuming significantly less power in standby mode.
- **Easy Installation:** Features accessible AC and DC connections via a service panel.
- **Compliance:** Meets UPS and solar standards, including built-in anti-islanding.

## 3. PRODUCT OVERVIEW

IN ONE VIEW

## Freedom. Powered by know-how.

-  MultiPlus-II: Combines MultiPlus, MultiGrid functions.
-  External current transformer for advanced control.
-  PowerAssist: Prevents overload, boosts AC source output.
-  Remote monitoring and control via GX device and VRM app/portal.






Figure 3.1: Front view of the Victron Energy MultiPlus-II Inverter Charger.

INVERTER/CHARGERS

### MultiPlus II 2X 12-Volt 3000VA 120 Amp UL-Certified



#### Our new inverter/charger

The MultiPlus-II 2x120V is the perfect one-box mobile solution 50A 120/240VAC split-phase applications. Whether it is supplied from shore power or a generator, the MultiPlus-II 2x120V can accept and passthrough both lines of a 120/240V supply, with the capability to utilize the full 50A for charging and AC loads. When connecting to a single phase 120V supply, the L1 input of the MultiPlus-II 2x120V will accept incoming power for charging and passthrough, while combining the L1 and L2 outputs for single-phase 120V on each line.



Figure 3.2: Overview of MultiPlus-II key features including MultiPlus/MultiGrid functions, external current transformer, PowerAssist, and remote monitoring.

DIMENSIONS

### Compact size

Weight: 22KG / 48LBS

275 mm / 10.8 inches

148 mm / 6 inches

578 mm / 23 inches




 Robust technology

 Global network

 45 years of know-how

Figure 3.3: Dimensions of the MultiPlus-II unit, highlighting its compact size.

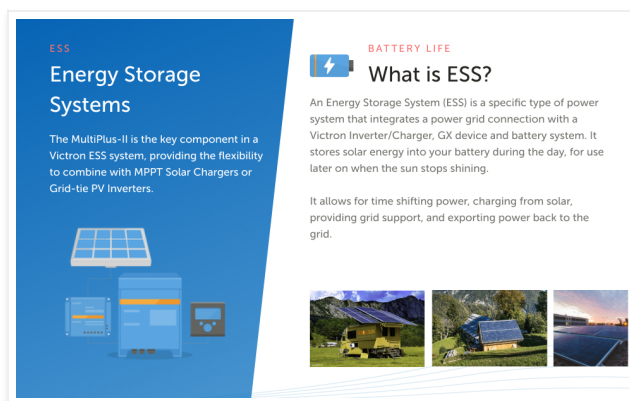


Figure 3.4: Diagram illustrating the UPS function, showing how the MultiPlus-II provides uninterrupted AC power during grid outages.

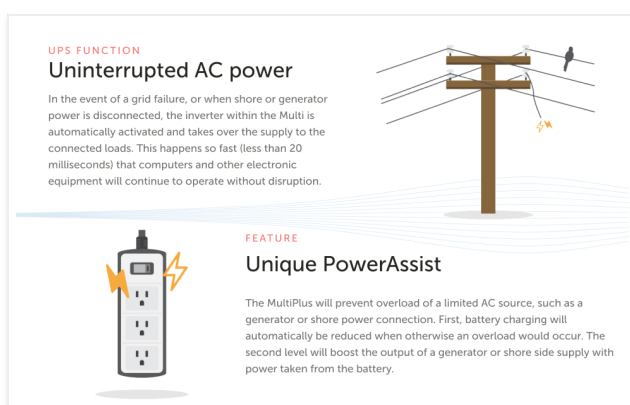


Figure 3.5: The MultiPlus-II as a key component in an Energy Storage System (ESS), integrating with MPPT Solar Chargers or Grid-tie PV Inverters.

## 4. INSTALLATION

The MultiPlus-II is designed for wall mounting. A wall mount plate is included to facilitate installation.

### 4.1 Wall Mounting

1. Securely mount the included wall mount plate to a suitable wall surface.
2. Align the hook at the back of the MultiPlus-II casing with the wall mount plate and carefully hang the unit.
3. Ensure the unit is firmly seated on the plate.

### 4.2 Wiring Connections

Before making any connections, ensure all power sources are disconnected. Always refer to the detailed wiring diagrams in the full product manual for specific instructions and safety guidelines.

1. Unscrew the fasteners at the bottom of the enclosure and remove the service panel to access the connection terminals.
2. **Battery Connections:** Connect the battery cables to the designated terminals. Use a torque wrench with an insulated box spanner to tighten the connections to a maximum of 7 Nm to prevent short circuits.
3. **AC Mains and Load Connections:** Connect the AC mains input and AC load outputs to their respective terminals. The MultiPlus-II features two AC outputs.
4. **Accessory Connections:** Connect any optional accessories such as a Venus GX, Color Control GX, or an external current transformer as required for your system.

5. Once all connections are secure, reattach the service panel and fasten the screws.

Your browser does not support the video tag.

Video 4.1: An introductory video to the Victron Energy MultiPlus-II, demonstrating its features and installation steps, including wall mounting and wiring connections.

## 5. OPERATION

### 5.1 Powering On/Off and Modes

The MultiPlus-II unit has a switch located at the bottom for controlling its operation modes:

- **Position 'I' (On):** The unit is fully operational, providing both inverter and charger functions.
- **Position 'O' (Off):** The unit is completely powered off.
- **Position 'II' (Charger Only):** The unit functions solely as a battery charger, without inverting AC power.

### 5.2 Monitoring and Control

For comprehensive monitoring and control of your MultiPlus-II and the entire energy system, Victron Energy offers several accessories:

- **BMV-712 Smart Battery Monitor:** Provides real-time battery voltage, current, power, consumed Ah, and state of charge. Features built-in Bluetooth for monitoring via the VictronConnect app.
- **Venus GX / Color Control GX:** These devices act as communication hubs, allowing for remote configuration and monitoring of your system when connected to the internet. Operational data can be stored and displayed on the free Victron Remote Management (VRM) website.
- **VictronConnect App:** Connects to Bluetooth-enabled devices like the BMV-712 for instant access to system data on your smartphone or tablet.
- **VRM Website:** A free online portal for remote monitoring, configuration, and data analysis of your Victron Energy system from anywhere in the world.

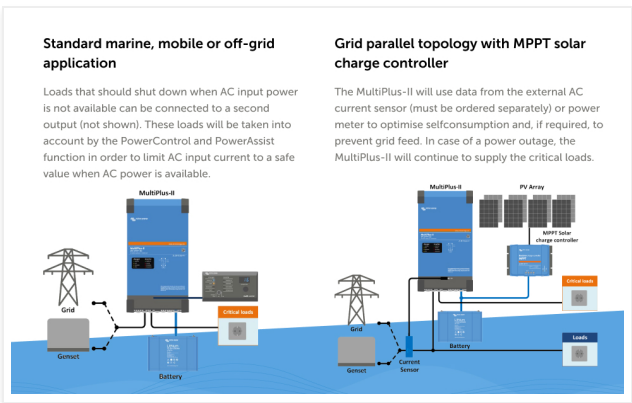


Figure 5.1: Remote configuring and monitoring setup using a GX device connected to the internet.

## 6. SPECIFICATIONS

Feature	Detail
Model Name	PMP122305102
Product Dimensions	6 x 11 x 23 inches

Feature	Detail
Item Weight	55.4 pounds
Input Voltage	12 Volts
Power Source	Battery Powered
Manufacturer	Victron Energy
First Available	December 23, 2022

## 7. TROUBLESHOOTING

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This section provides general guidance for common issues. For detailed troubleshooting, please refer to the comprehensive Victron Energy MultiPlus-II manual available on the official Victron Energy website or contact customer support.

### 7.1 Common Issues

- **No AC Output:** Check the input AC source, battery voltage, and the unit's operating mode (ensure it's not in 'Charger Only' mode). Verify all connections are secure.
- **Battery Not Charging:** Confirm AC input is present and stable. Check battery connections and the charger settings. Ensure the unit is in 'On' or 'Charger Only' mode.
- **Overload Warning:** Reduce the connected AC load. The PowerAssist feature should help prevent overloads, but excessive loads may still trigger a warning.
- **Unit Not Responding:** Power cycle the unit by switching it off and then back on. If the issue persists, check all wiring and consult the full manual.

## 8. MAINTENANCE

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Regular maintenance ensures the longevity and optimal performance of your MultiPlus-II inverter charger.

- **Regular Inspection:** Periodically inspect all wiring connections for tightness and signs of corrosion or damage.
- **Cleaning:** Keep the unit's ventilation openings clear of dust and debris to ensure proper airflow and cooling. Use a soft, dry cloth for cleaning the exterior.
- **Battery Health:** Monitor battery health regularly, especially if using lead-acid batteries. Ensure adequate ventilation during charging to prevent gas buildup.
- **Firmware Updates:** Check the Victron Energy website for available firmware updates to ensure your unit has the latest features and improvements.

## 9. WARRANTY AND SUPPORT

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Victron Energy products are known for their quality and reliability. For warranty information, technical support, or service, please contact Victron Energy directly or an authorized dealer.

- **Official Website:** Visit the [Victron Energy website](#) for product documentation, FAQs, and support resources.
- **Customer Support:** Refer to your purchase documentation for specific contact details for customer support or your local dealer.

