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Victron Energy CMP242200100

Victron Energy MultiPlus Compact 2000VA 24-Volt Inverter Charger User Manual

Model: CMP242200100

1. INTRODUCTION

The Victron Energy MultiPlus Compact is a versatile device combining a powerful pure sine wave inverter, a sophisticated battery charger with adaptive charge technology, and a high-speed AC transfer switch in a single compact enclosure. This manual provides essential information for the safe and efficient installation, operation, and maintenance of your MultiPlus Compact unit.





Figure 1: Front view of the Victron Energy MultiPlus Compact Inverter Charger.

2. SAFETY INFORMATION

Important: Incorrect installation can be hazardous. Always consult a licensed professional and follow all applicable electrical codes during installation. This device contains high voltage components and should only be serviced by qualified personnel.

- Ensure the unit is disconnected from all power sources before performing any installation or maintenance.
- Do not expose the unit to water or excessive moisture.
- Do not operate the unit if it has been damaged.
- Charge lead-acid or Li-Ion batteries only. Ensure adequate ventilation during charging.

3. PRODUCT OVERVIEW

3.1 Key Features

- **Pure Sine Wave Inverter:** Provides high-quality AC power suitable for sensitive electronics.
- **Adaptive Battery Charger:** Features a sophisticated multi-stage charging algorithm to optimize battery life.
- **High-Speed AC Transfer Switch:** Ensures uninterrupted power supply by switching between AC sources within 20 milliseconds.
- **PowerAssist Feature:** Prevents overload of a limited AC source (e.g., generator or shore power) by supplementing with power from the battery.
- **Parallel and Three-Phase Operation:** Up to six units can operate in parallel for increased power output, and three units can be configured for three-phase output.

3.2 Dimensions and Weight

The MultiPlus Compact is designed for efficient space utilization.



Figure 2: Dimensions and weight of the MultiPlus Compact unit. The unit measures approximately 520 mm (20.4 inches) in height, 225 mm (8.8 inches) in width, and 125 mm (4.9 inches) in depth, with a weight of 15 kg (33.1 lbs).

- **Product Dimensions:** 5 x 10 x 20.5 inches (approx. 127 x 254 x 521 mm)
- **Item Weight:** 33.1 pounds (approx. 15 kg)

4. SETUP AND INSTALLATION

Installation should be performed by a qualified professional. Ensure all local and national electrical codes are followed.

4.1 Mounting

- Mount the unit in a dry, well-ventilated area, protected from direct sunlight and extreme temperatures.
- Ensure sufficient clearance around the unit for proper airflow and cooling.
- Securely fasten the unit to a sturdy surface using appropriate mounting hardware.

4.2 Electrical Connections

Connect the MultiPlus Compact to your battery bank, AC input (shore power or generator), and AC output (loads) according to the wiring diagrams provided in the full product manual. Pay close attention to polarity and proper grounding.

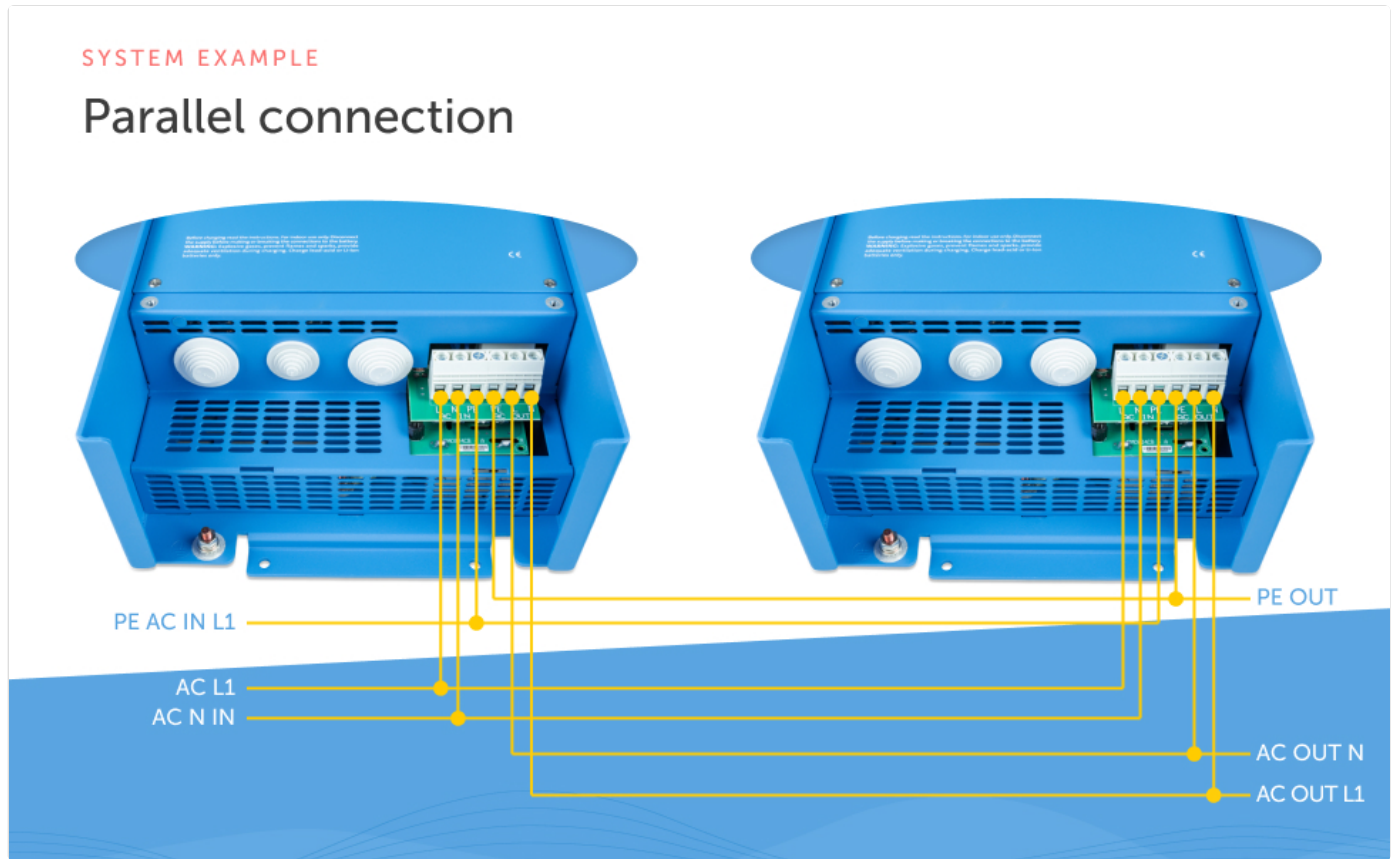


Figure 3: Example wiring diagram for parallel connection of MultiPlus Compact units. This diagram illustrates how multiple units can be connected to achieve higher power output and three-phase operation.

4.3 Initial Configuration

After physical installation, the unit requires configuration. This can often be done via the VictronConnect app or other Victron monitoring devices.



VictronConnect

Monitor, operate & configure.

When coupled with a GX device you can monitor and control your Multi straight from our free VictronConnect app or the Victron Remote Monitoring platform. Easily adjust the AC input current limit to prevent shore power overload, or any setting to prevent issues from happening and maximise your system's performance.

 **Download the app.**

Available for most devices. VictronConnect can connect to Victron products via Bluetooth, USB and WiFi/LAN/Internet.

Figure 4: The VictronConnect app allows for monitoring, operation, and configuration of the MultiPlus Compact.

For detailed configuration, refer to the VictronConnect app video below:

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Video 1: Demonstrates the VictronConnect App for monitoring performance, configuration, and firmware updates. This app allows users to instantly check monitoring data, see device performance, and manage settings.

5. OPERATING INSTRUCTIONS

5.1 Basic Operation

Once installed and configured, the MultiPlus Compact operates largely automatically. It will convert DC battery power to AC power when no external AC source is available and charge batteries when an AC source is connected.

5.2 PowerAssist Function

The PowerAssist feature prevents overloading of a limited AC source, such as a generator or shore power connection. If the AC load exceeds the capacity of the external source, the MultiPlus will automatically draw additional power from the battery to supplement the supply. When the load decreases, excess power from the AC source will be used to recharge the battery.



FEATURE

Unique PowerAssist

The MultiPlus will prevent overload of a limited AC source, such as a generator or shore power connection. First, battery charging will automatically be reduced when otherwise an overload would occur. The second level will boost the output of a generator or shore side supply with power taken from the battery.

SPLIT PHASE OPTIONS

Up to 6 units per phase

Up to 6 Multis can operate in parallel to achieve higher power output. Three phase or split phase operation is also possible. Please check our datasheets to see which models have paralleling, three phase and split phase capabilities.



Figure 5: Illustration of the PowerAssist feature, showing how the MultiPlus supplements a limited AC source with battery power.

5.3 Uninterrupted AC Power (UPS Function)

In the event of a grid failure or disconnection of shore/generator power, the inverter within the MultiPlus automatically activates within 20 milliseconds. This rapid transfer ensures that connected loads, including sensitive electronic equipment, continue to operate without interruption.

UPS FUNCTION

Uninterrupted AC power

In the event of a grid failure, or when shore or generator power is disconnected, the inverter within the Multi is automatically activated and takes over the supply to the connected loads. This happens so fast (less than 20 milliseconds) that computers and other electronic equipment will continue to operate without disruption.

INTELLIGENT CHARGING

Four-stage adaptive

If, in order to quickly charge a battery, a high charge current in combination with a high absorption voltage has been chosen, the Multi Compact / MultiPlus Compact will prevent damage due to excessive gassing by automatically limiting the rate of voltage increase once the gassing voltage has been reached. The Battery Safe Mode is part of the calculated absorption time.

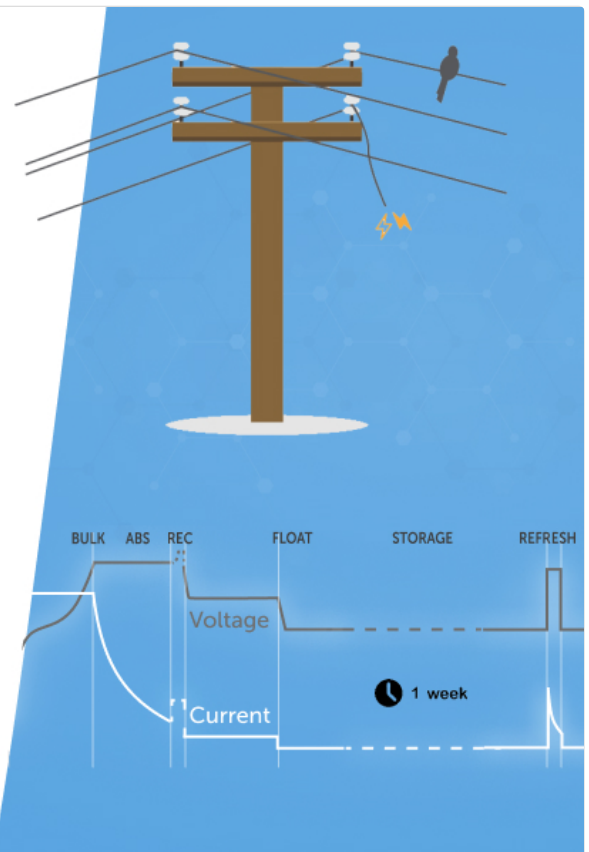


Figure 6: Diagram illustrating the UPS function, where the inverter seamlessly takes over power supply during an AC source interruption.

5.4 Adaptive Charging

The MultiPlus Compact features a four-stage adaptive charging process (Bulk, Absorption, Float, Storage) to ensure optimal battery health and longevity. The BatterySafe Mode is integrated into the absorption time calculation, preventing excessive gassing by limiting the rate of voltage increase once the gassing voltage is reached.



Figure 7: Graph depicting the four-stage adaptive charging process with BatterySafe mode, optimizing battery charging.

5.5 Remote Monitoring and Management

The Victron Remote Management (VRM) portal allows for comprehensive monitoring and management of your system from anywhere. This includes checking system performance, managing devices, and setting up alerts.

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Video 2: Overview of the VRM (Victron Remote Management) portal, demonstrating how to monitor system performance, manage devices, and set up alerts and alarms remotely.

6. MAINTENANCE

Regular maintenance ensures the longevity and optimal performance of your MultiPlus Compact.

- **Cleaning:** Keep the unit clean and free from dust and debris. Use a dry cloth for cleaning. Do not use liquid cleaners.

- **Ventilation:** Ensure ventilation openings are not obstructed. Periodically check for dust buildup in cooling fins.
- **Connections:** Periodically inspect all electrical connections for tightness and signs of corrosion. Tighten any loose connections.
- **Battery Health:** Monitor battery voltage and temperature, especially during charging, to ensure proper operation.

7. TROUBLESHOOTING

This section addresses common issues. For more complex problems, consult the full product manual or contact Victron Energy support.

Problem	Possible Cause	Solution
No AC output from inverter	Low battery voltage, overload, or thermal shutdown.	Check battery voltage and charge if low. Reduce AC load. Allow unit to cool down if overheated.
Batteries not charging	No AC input, AC input breaker tripped, or charger settings incorrect.	Verify AC input connection and power. Check AC input breaker. Review charger settings via VictronConnect.
Unit making loud humming noise	Normal operation under heavy load or during charging, or loose mounting.	Ensure unit is securely mounted. Some noise is normal, especially during high current operation. If excessive, consult support.
Overload alarm	Connected AC loads exceed the unit's capacity.	Reduce the total AC load connected to the inverter.

8. SPECIFICATIONS

Key technical specifications for the Victron Energy MultiPlus Compact 2000VA 24-Volt Inverter Charger (Model: CMP242200100).


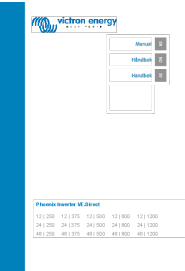
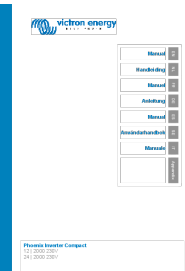


- **Model Number:** CMP242200100
- **Input Voltage:** 24-Volt DC (Battery Powered)
- **Output Power (VA):** 2000VA
- **Output Power (Watts):** 2000 watts
- **Battery Capacity (Recommended):** 50 Amp Hours (minimum for optimal performance)
- **Product Dimensions:** 5 x 10 x 20.5 inches
- **Item Weight:** 33.1 pounds
- **Manufacturer:** Victron Energy
- **Date First Available:** February 12, 2019

9. WARRANTY AND SUPPORT

For detailed warranty information, please refer to the official Victron Energy website or the warranty card included with your product. Technical support can be accessed through the Victron Energy global network of professionals. Always provide your model number (CMP242200100) and serial number when seeking support.

You can also visit the [Victron Energy Store on Amazon](#) for additional product information and resources.

Related Documents - CMP242200100

	<p>Victron Energy MultiPlus Compact 2000VA 230V User Manual</p> <p>Comprehensive user manual for the Victron Energy MultiPlus Compact 2000VA 230V, covering safety instructions, product description, operation, and installation.</p>
	<p>Victron Energy Phoenix Inverter VE.Direct Manual</p> <p>User manual for Victron Energy's Phoenix Inverter VE.Direct series (models 12/250 to 48/1200). Covers safety, installation, operation, technical data, and troubleshooting for these pure sine wave DC to AC power inverters. Includes guidance for various applications like solar, off-grid, marine, and RV.</p>
	<p>Victron Energy Phoenix Inverter Compact User Manual</p> <p>User manual and installation guide for the Victron Energy Phoenix Inverter Compact series, covering safety, operation, configuration, and technical specifications. Includes details on models 12/2000 230V and 24/2000 230V.</p>
	<p>Victron MultiPlus 500 VA - 2000 VA Inverter/Charger Datasheet</p> <p>Detailed specifications, features, and technical overview of the Victron MultiPlus 500 VA to 2000 VA inverter/charger series, including PowerControl, PowerAssist, adaptive charging, and connectivity options.</p>
	<p>Victron Energy MultiPlus-II Inverter/Charger Manual PMP482305000, PMP482505000</p> <p>Comprehensive user manual and installation guide for the Victron Energy MultiPlus-II 48V inverter/charger series (models 3000VA and 5000VA). Covers safety, features, installation, configuration, and technical specifications.</p>



[Manuale Inverter Victron Energy VE.Direct 120V](#)

Manuale utente completo per l'inverter Victron Energy VE.Direct 120V (modelli HW15), che copre installazione, configurazione, funzionamento, dati tecnici e risoluzione dei problemi. Include specifiche dettagliate, guide alla connessione e informazioni di sicurezza.