

Marstek Venus E GEN 3.0

Marstek Venus E GEN 3.0 AC Battery System

USER MANUAL

1. Introduction

This manual provides essential information for the safe and efficient use of your Marstek Venus E GEN 3.0 AC Battery System. Please read this manual thoroughly before installation and operation, and retain it for future reference. This system is designed to provide reliable energy storage and backup power for your home or business, integrating seamlessly with existing AC grids and PV systems.

2. Safety Instructions

Always adhere to the following safety guidelines to prevent injury, damage, or malfunction:

- Installation must be performed by qualified personnel in accordance with local electrical codes and regulations.
- Do not attempt to open, disassemble, or modify the battery system. There are no user-serviceable parts inside.
- Ensure the system is installed in a well-ventilated area, away from direct sunlight, heat sources, and flammable materials.
- Keep children and pets away from the battery system.
- In case of fire, use a Class D fire extinguisher (for lithium-ion batteries). Do not use water.
- Avoid contact with liquids. If the system comes into contact with water, disconnect power immediately and contact support.
- Proper grounding is essential for safe operation.

3. Product Overview

The Marstek Venus E GEN 3.0 is an advanced AC-coupled battery system featuring LiFePO4 technology for enhanced safety and longevity. It offers significant improvements over previous generations in size, weight, and efficiency.

Key Features:

- New compact design: 38.5% smaller and 7.4% lighter than previous models.
- Premium die-cast aluminum housing for durability and heat dissipation.
- Dual RJ45 ports for RS485 communication and Ethernet connectivity.
- Integrated PCB technology for reduced wiring complexity and improved round-trip efficiency.
- 100% compatibility with existing PV (Photovoltaic) systems.
- Up to 2500 W AC input/output power.
- Expandable capacity up to 15.36 kWh for single-phase systems.
- Long-life LiFePO4 battery with over 6000 cycles and a 10-year warranty.

Components:

The system consists of the main battery unit and associated connection ports. Indicators on the front panel provide status information.



Figure 3.1: Front view of the Marstek Venus E GEN 3.0 AC Battery System with its compact design.



Figure 3.2: Detailed view of the connection panel, showing the power button and various ports.



Figure 3.3: Close-up of the AC input/output port and other connections.



Figure 3.4: Visual comparison highlighting the smaller, lighter, and more efficient design of Venus E 3.0 compared to Venus E 2.0.

4. Setup and Installation

Proper installation is crucial for the performance and safety of your Marstek Venus E GEN 3.0 system. It is recommended that installation be performed by a certified electrician.

4.1 Unboxing and Inspection

- Carefully remove the battery system from its packaging.
- Inspect the unit for any signs of physical damage. If damage is found, do not proceed with installation and contact your supplier immediately.
- Verify all components listed in the packing list are present.

4.2 Placement

- Install the unit on a flat, stable, and non-flammable surface.
- Ensure adequate clearance around the unit for ventilation (minimum 20 cm on all sides).
- Avoid locations with extreme temperatures, high humidity, or direct exposure to water. The unit is designed for indoor or protected outdoor environments.

4.3 Electrical Connections

The Venus E GEN 3.0 is an AC-coupled system, meaning it connects directly to your home's AC electrical panel. It is 100% compatible with existing PV systems.

- **AC Grid Connection:** Connect the system to your main electrical panel via the designated AC input/output port. Follow local electrical codes for wiring and circuit breaker sizing.
- **PV System Integration:** The system can be integrated with your solar PV inverter to optimize energy usage and storage. Consult the detailed wiring diagrams provided in the full installation guide for specific configurations.
- **Grounding:** Ensure the system is properly grounded to prevent electrical hazards.

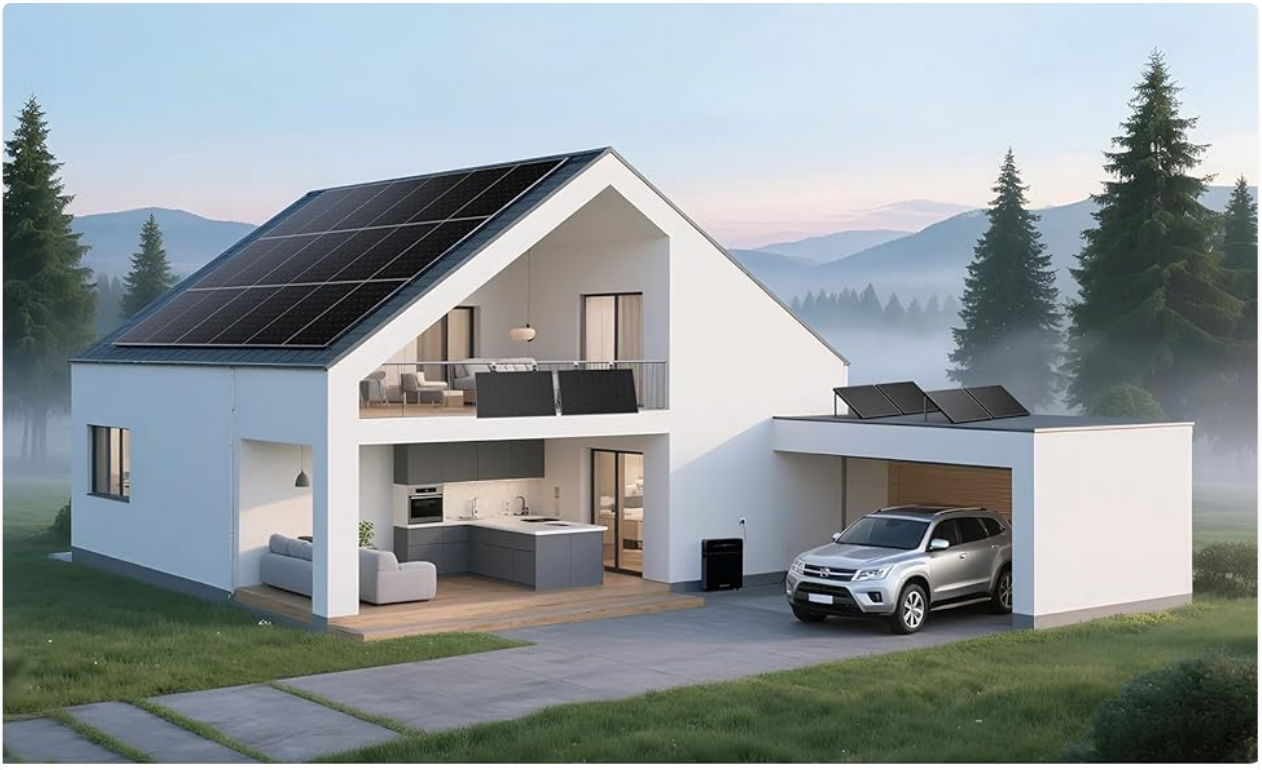


Figure 4.1: Illustration of the AC power connection point on the Marstek Venus E GEN 3.0.

4.4 Network Configuration (LAN/WiFi)

The system supports both LAN (Ethernet) and WiFi connectivity for monitoring and control via a smartphone application.

- **LAN Connection:** Connect an Ethernet cable to one of the RJ45 ports for a stable wired network connection.
- **WiFi Connection:** Follow the instructions in the dedicated mobile app to connect the device to your home WiFi network.
- **Smartphone App:** Download the official Marstek app (compatible with smartphones) from your app store to monitor system status, energy flow, and adjust settings.



Figure 4.2: Detail of the LAN port for wired network connectivity.

4.5 System Configuration Examples

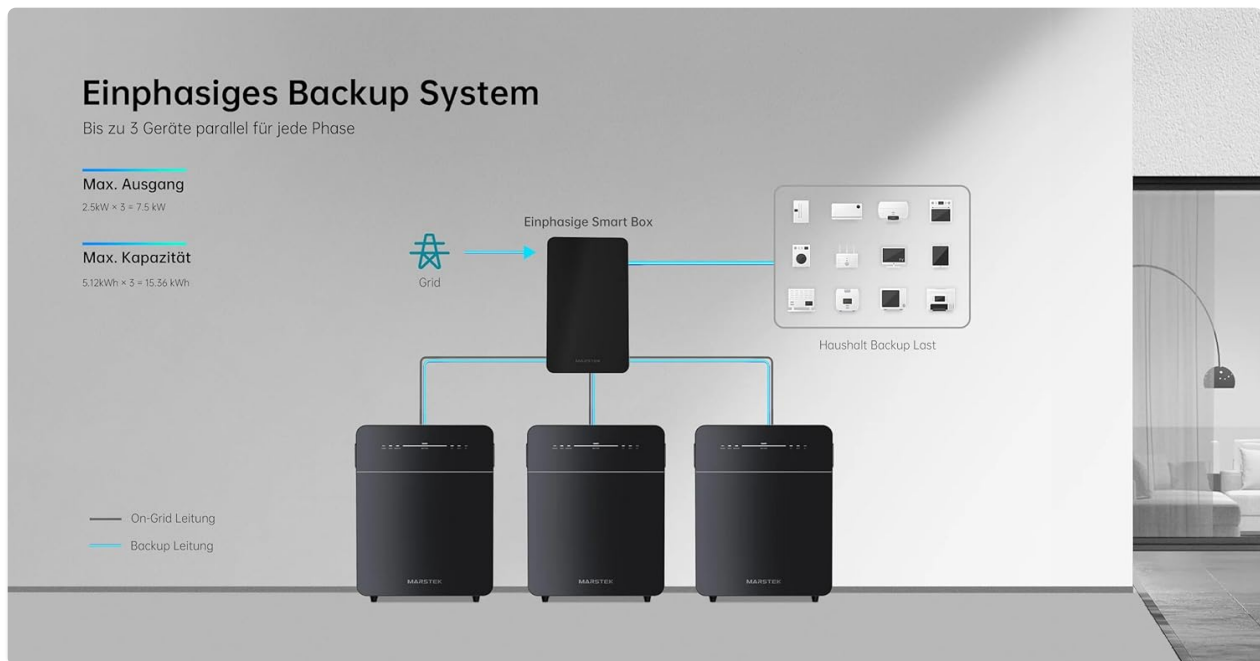


Figure 4.3: Diagram illustrating a single-phase backup system configuration with the Marstek Venus E GEN 3.0.

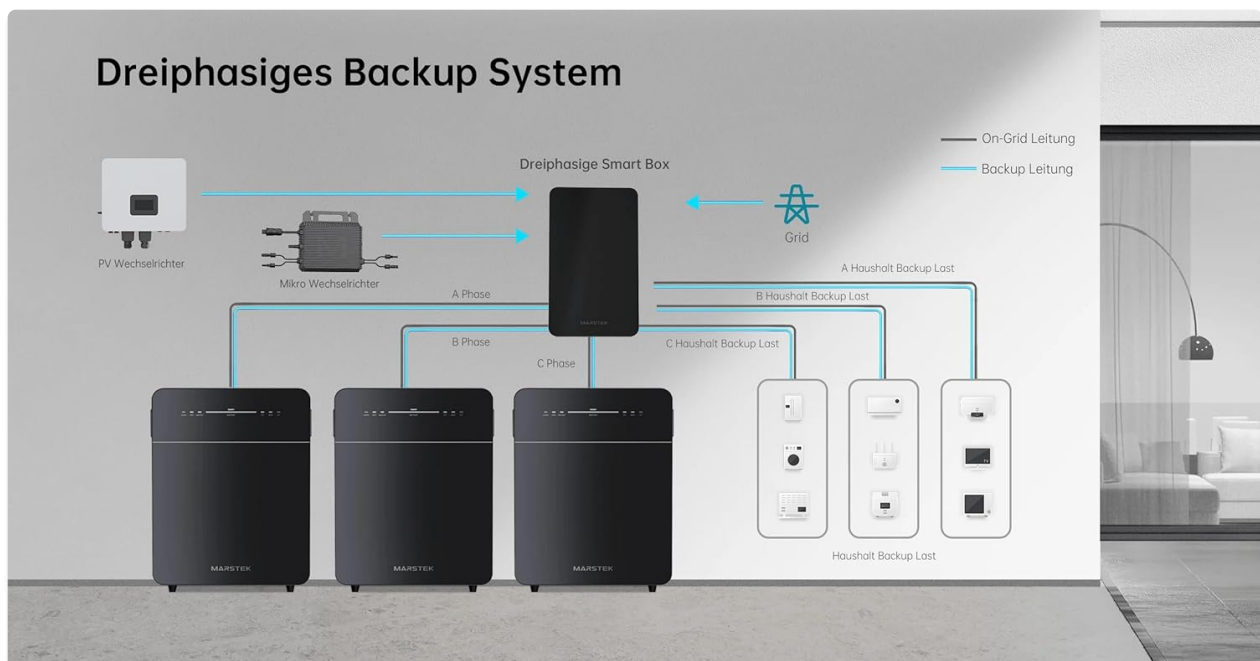


Figure 4.4: Diagram illustrating a three-phase backup system configuration with multiple Marstek Venus E GEN 3.0 units.

5. Operation

Once installed and connected, the Marstek Venus E GEN 3.0 operates largely automatically, managing energy flow based on your settings and grid conditions.

5.1 Powering On/Off

- **Power On:** Press and hold the power button on the unit for approximately 3 seconds until the indicator lights illuminate.
- **Power Off:** Press and hold the power button for approximately 5 seconds until all indicator lights turn off. Ensure no critical loads are relying on the battery before powering off.

5.2 Status Indicators

The front panel features LED indicators for system status:

- **WARN:** Indicates a warning or fault condition. Refer to the troubleshooting section.
- **GRID:** Indicates connection to the utility grid.
- **BACKUP:** Indicates the system is providing backup power to connected loads.
- **BATTERY:** Displays the current battery charge level.
- **CT:** Indicates current transformer status.
- **WIFI/BT:** Indicates WiFi or Bluetooth connectivity status.

5.3 Monitoring and Control

Use the Marstek smartphone application to:

- View real-time energy production and consumption.
- Monitor battery charge status and health.
- Set charging and discharging schedules.
- Configure backup power settings.
- Receive alerts and notifications.

5.4 System Expansion

The Marstek Venus E GEN 3.0 system is expandable. Multiple units can be connected in parallel to increase total energy storage capacity up to 15.36 kWh for single-phase systems. Refer to the advanced installation guide for multi-unit configurations.

6. Maintenance

The Marstek Venus E GEN 3.0 is designed for minimal maintenance. Regular checks can help ensure optimal performance and longevity.

6.1 Cleaning

- Ensure the system is powered off and disconnected from the AC supply before cleaning.
- Use a soft, dry cloth to wipe the exterior of the unit. Do not use liquid cleaners, solvents, or abrasive materials.
- Keep ventilation openings clear of dust and debris.

6.2 Battery Care

The LiFePO4 battery technology requires no specific user maintenance. The internal Battery Management System (BMS) handles cell balancing and protection. Avoid fully discharging the battery frequently to maximize its lifespan.

6.3 Firmware Updates

Periodically check the Marstek app for available firmware updates. Updates can improve performance, add features, or address security vulnerabilities. Follow the in-app instructions for safe firmware updates.

7. Troubleshooting

If you encounter issues with your Marstek Venus E GEN 3.0, refer to the following common problems and solutions. For persistent issues, contact customer support.

7.1 Common Issues and Solutions

- **System Not Powering On:**
 - Check AC power connection.
 - Ensure the power button is pressed and held correctly.
 - Verify the circuit breaker is not tripped.
- **No Grid Connection (GRID LED off):**
 - Check the AC input cable and connections.
 - Verify utility grid power is available.
 - Consult an electrician if the issue persists.
- **WARN LED Illuminated:**
 - This indicates a system warning or fault. Check the Marstek app for specific error codes or messages.
 - Common warnings include over-temperature, under-voltage, or communication errors.
 - Power cycle the unit (turn off, wait 1 minute, turn on). If the warning persists, contact support.
- **No Network Connectivity (WIFI/BT LED off or blinking):**
 - For WiFi, ensure the unit is within range of your router and the network credentials are correct in the app.
 - For LAN, check the Ethernet cable connection.
 - Restart your router and the Marstek unit.
- **Battery Not Charging/Discharging:**
 - Check system settings in the Marstek app (e.g., charge/discharge schedules).
 - Ensure the PV system or grid connection is active and providing power.
 - Verify no fault conditions are present (WARN LED).

8. Specifications

The following table outlines the key technical specifications for the Marstek Venus E GEN 3.0 AC Battery System:

| Feature | Specification |
|-----------------------|--------------------------------|
| Model | Venus E GEN 3.0 |
| Battery Type | LiFePO4 |
| Nominal Capacity | 5120 Wh |
| Expandable Capacity | Up to 15.36 kWh (single-phase) |
| AC Input/Output Power | Up to 2500 W |
| Communication Ports | Dual RJ45 (RS485, Ethernet) |
| Wireless Connectivity | WiFi, Bluetooth |
| Compatible Devices | Smartphone (for app control) |
| Item Weight | 60 Kilograms |
| Warranty | 10 Years |

9. Warranty Information





The Marstek Venus E GEN 3.0 AC Battery System comes with a **10-year limited warranty** from the date of purchase. This warranty covers defects in materials and workmanship under normal use and service conditions. Please retain your proof of purchase for warranty claims. The warranty does not cover damage caused by improper installation, misuse, unauthorized modifications, or acts of nature.


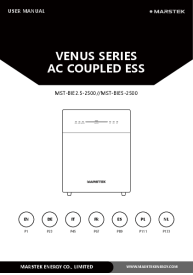
10. Customer Support

For technical assistance, warranty claims, or any questions regarding your Marstek Venus E GEN 3.0 system, please contact your authorized dealer or Marstek customer support. Have your product model and serial number ready when contacting support.

You can typically find support contact information on the official Marstek website or through the mobile application.

Related Documents - Venus E GEN 3.0

| | |
|---|---|
|  | MARSTEK VENUS Series FAQs Frequently Asked Questions (FAQs) for the MARSTEK VENUS Series, covering installation, firmware/APP upgrades, smart meter configuration, grid power settings, operational modes, multiple device management, and troubleshooting connection issues. |
|  | Marstek ENERGIEWÜRFEL Venus-Serie Benutzerhandbuch MST-BIE2.5-2500 / MST-BIE5-2500 Benutzerhandbuch für das Marstek ENERGIEWÜRFEL der Venus-Serie. Enthält Anleitungen zur Installation, zum Betrieb, zur Wartung und zur Fehlerbehebung der Modelle MST-BIE2.5-2500 und MST-BIE5-2500. |
|  | MARSTEK VENUS - C/E User Manual: Installation, Operation, and Maintenance Guide Comprehensive user manual for the MARSTEK VENUS - C/E AC-coupled energy storage system. Covers product overview, installation, app control, maintenance, troubleshooting, technical specifications, and safety information for Venus-C (2.5 kWh) and Venus-E (5 kWh) models. |
|  | Marstek Venus-Serie ENERGIEWÜRFEL Benutzerhandbuch Umfassende Anleitung zur Installation, Bedienung und Wartung des Marstek Venus-Serie ENERGIEWÜRFEL Energiespeichersystems. Enthält wichtige Sicherheitshinweise, technische Daten und Fehlerbehebung. |

| | |
|---|--|
|  | <p>Marstek Venus 2.56/5.12 kWh Installation Manual</p> <p>Comprehensive installation guide for the Marstek Venus 2.56/5.12 kWh home battery system, covering setup, app configuration, and usage modes.</p> |
|  | <p>Marstek Venus Series AC Coupled ESS User Manual</p> <p>User manual for the Marstek Venus Series AC Coupled ESS, covering installation, operation, safety, troubleshooting, and technical specifications for models MST-BIE2.5-2500 and MST-BIE5-2500.</p> |