

Marstek 23221

Marstek VENUS E 5.12 kWh Energy Storage System User Manual

Model: 23221

1. INTRODUCTION

The Marstek Venus E 5.12 kWh is a powerful and flexible energy storage system designed for efficient energy management in residential and commercial settings. It is ideal for integration with balcony power plants and solar installations, offering a reliable solution for optimizing self-consumption and achieving greater energy independence. This system features a usable capacity of 5.12 kWh, utilizing long-lasting LiFePO4 battery technology, which ensures high efficiency and a lifespan exceeding 6,000 charge cycles. For increased energy demands, the Venus E can be expanded by connecting up to four units in parallel, reaching a total capacity of 20.48 kWh. Equipped with an integrated bidirectional inverter, the Venus E provides a maximum output power of 2,500 W, supporting both on-grid and off-grid operations. Its fast AC charging capability allows for a full charge within 1 to 2 hours at up to 2,500 W. The built-in Battery Management System (BMS) ensures optimal safety and extends the battery's operational life.



Figure 1: Marstek VENUS E 5.12 kWh Energy Storage System. This image shows the sleek, black exterior of the energy storage unit, highlighting its compact design suitable for various installations.

2. SAFETY INFORMATION

Please read all safety instructions carefully before installation and operation. Failure to follow these instructions may result in electric shock, fire, serious injury, or property damage.

- **Qualified Personnel:** Installation and maintenance should only be performed by qualified and certified electricians or technicians.
- **Ventilation:** Ensure adequate ventilation around the unit to prevent overheating. Do not block ventilation openings.
- **Location:** Install the unit in a dry, well-ventilated area, away from direct sunlight, heat sources, flammable materials, and corrosive substances.
- **Water Exposure:** Do not expose the unit to water, rain, or excessive humidity.
- **Grounding:** Ensure the unit is properly grounded according to local electrical codes.

- **Emergency Shutdown:** Familiarize yourself with the emergency shutdown procedures and location of the main disconnect switch.
- **Children and Pets:** Keep the unit out of reach of children and pets.
- **Damage:** Do not operate the unit if it is damaged. Contact customer support immediately.

3. PACKAGE CONTENTS

Verify that all items are present and undamaged upon unpacking. If any items are missing or damaged, contact your retailer or Marstek customer support.

- Marstek VENUS E 5.12 kWh Energy Storage System (1 unit)
- AC Connection Cable (1)
- User Manual (this document)
- Mounting Accessories (if applicable, refer to separate installation guide)
- Warranty Card

4. PRODUCT OVERVIEW

The Marstek Venus E is a sophisticated energy storage solution designed for seamless integration into your home's power system. Key components include:

- **Energy Storage Unit:** The main unit housing the LiFePO4 battery and integrated bidirectional inverter.
- **Control Panel/Indicators:** Front-facing indicators for system status, battery level, and connectivity (Wi-Fi, Bluetooth).
- **AC Input/Output Ports:** Connections for grid power and household loads.
- **Communication Ports:** For connecting to external devices or monitoring systems.
- **Cooling System:** Internal fans to maintain optimal operating temperature.

5. SETUP AND INSTALLATION

The Marstek Venus E features a plug-and-play design for easy integration. However, professional installation is recommended to ensure safety and optimal performance.

5.1 Site Selection

- Choose a location that is dry, well-ventilated, and protected from direct sunlight and extreme temperatures.
- Ensure the surface is stable and can support the unit's weight (approx. 68 kg).
- Allow sufficient clearance around the unit for ventilation and maintenance.

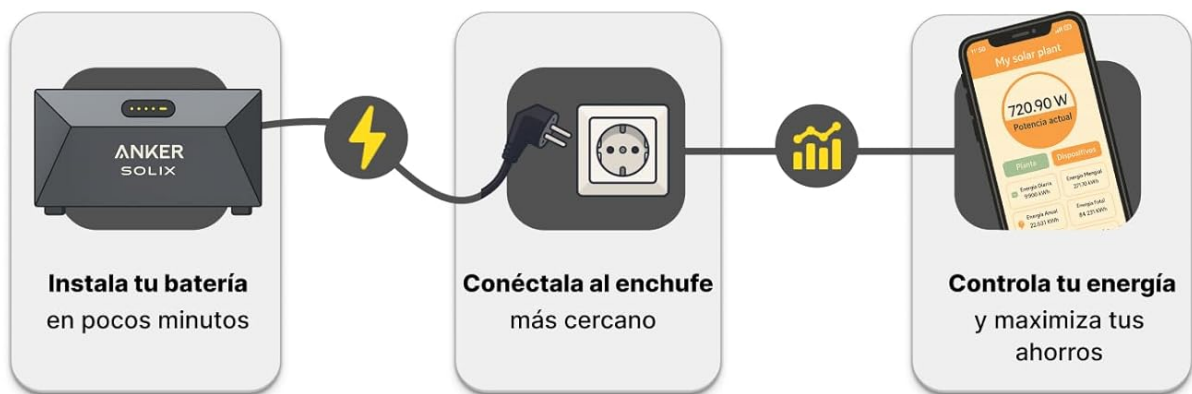
5.2 Physical Installation

1. Carefully unpack the unit and inspect for any shipping damage.
2. Place the unit in the selected location, ensuring it is level and stable.
3. Connect the AC input cable to a suitable power outlet or grid connection point.
4. Connect the AC output cable to your household electrical system or designated loads.
5. If expanding, connect additional Venus E units in parallel as per the expansion guide (sold separately).

Instala tu batería

Conecta el cable al enchufe

Controla tus ahorros



Con la confianza de los mejores medios:



EL PAÍS

EL ESPAÑOL

rtve

Figure 2: Simplified installation steps for the Marstek VENUS E. This diagram illustrates the process of setting up the battery, connecting it to a power outlet, and monitoring energy savings via a mobile application.

5.3 Initial Power-Up

1. Ensure all connections are secure and correct.
2. Turn on the main power switch on the unit.
3. Observe the indicator lights for proper system initialization. Refer to the troubleshooting section if any error indicators appear.

6. OPERATING INSTRUCTIONS

The Marstek Venus E is designed for automated operation, but can be monitored and controlled via the dedicated Marstek App.

6.1 System Operation Modes

- **On-Grid Mode:** The system charges from the grid or solar panels and discharges to power your home or feed excess energy back to the grid.
- **Off-Grid Mode (Emergency Power):** In case of a grid outage, the system automatically switches to off-grid mode, providing backup power to connected loads.
- **Self-Consumption Optimization:** Prioritizes using stored solar energy before drawing from the grid, reducing electricity bills.

6.2 Marstek App Control

The Marstek App allows for convenient monitoring and control of your energy storage system in real-time.

1. **Download the App:** Search for "Marstek App" on the App Store (iOS) or Google Play Store (Android) and install it on your smartphone or tablet.
2. **Account Registration:** Follow the in-app instructions to create a new user account.
3. **Device Pairing:** Use the app to connect to your Marstek Venus E unit via Wi-Fi or Bluetooth. Ensure your device is within range.
4. **Monitoring:** View real-time data on energy production, consumption, battery charge level, and system status.
5. **Settings:** Adjust operating parameters, set charging/discharging schedules, and configure emergency power settings.

Control total y datos en tiempo real



Mobile App Marstek App

- ✓ Configuración
- ✓ WIFI directo
- ✓ +Control



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App Store



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Figure 3: Screenshot of the Marstek Mobile App interface. The app provides total control and real-time data, including configuration options, direct Wi-Fi connectivity, and enhanced control features for the energy storage system.



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Figure 4: Illustration of solar energy integration with a home, demonstrating how the Marstek system can be part of a solar kit to generate positive energy and reduce electricity bills.

7. MAINTENANCE

Regular maintenance ensures the longevity and optimal performance of your Marstek Venus E system.

- **Cleaning:** Periodically clean the exterior of the unit with a soft, dry cloth. Do not use abrasive cleaners or solvents.
- **Ventilation:** Ensure ventilation openings are free from dust and debris. Use a soft brush or vacuum cleaner to clear any blockages.
- **Connections:** Regularly check all electrical connections for tightness and signs of corrosion.
- **Firmware Updates:** Keep the Marstek App and system firmware updated to benefit from the latest features and improvements.
- **Professional Inspection:** It is recommended to have the system inspected by a qualified technician annually.

8. TROUBLESHOOTING

This section addresses common issues you might encounter. For problems not listed here, please contact Marstek customer support.

Problem	Possible Cause	Solution
Unit not powering on	No power from grid; Main switch off; Loose connection	Check grid power; Ensure main switch is ON; Verify all cables are securely connected.
No power output	Overload; Battery low; Inverter fault	Reduce load; Check battery level and allow charging; Contact support if inverter fault persists.
App not connecting	Wi-Fi/Bluetooth off; Unit out of range; App not updated	Ensure Wi-Fi/Bluetooth is enabled; Move closer to the unit; Update the Marstek App to the latest version.
Red warning light (from review)	Internal fault; Short circuit warning; Overvoltage/undervoltage	Immediately disconnect power. Do not attempt to fix. Contact Marstek customer support with the exact error code or light pattern.

9. SPECIFICATIONS

Feature	Detail
Model Number	23221
Part Number	MARSTEK VENUS E
Usable Capacity	5.12 kWh
Battery Type	LiFePO4 (Lithium-Ion)
Max. Output Power	2,500 W
Max. AC Charging Power	2,500 W
Charge Cycles	> 6,000
Expandability	Up to 4 units (20.48 kWh total)
Dimensions (L x W x H)	56 x 69 x 20.1 cm
Weight	68 kg
Connectivity	Wi-Fi, Bluetooth (via Marstek App)
Special Features	Integrated Bidirectional Inverter, BMS, Emergency Power Function, Plug-and-Play

10. WARRANTY AND SUPPORT

The Marstek VENUS E comes with a manufacturer's warranty of up to 10 years, ensuring long-term reliability and peace

of mind. Please refer to the included warranty card for specific terms and conditions, including coverage details and claim procedures.

Customer Support

For technical assistance, troubleshooting, or warranty claims, please contact Marstek customer support. Have your model number (23221) and purchase information ready when contacting support.

Contact Information: Please refer to the Marstek official website or the warranty card for the most up-to-date contact details (phone, email, support portal).

Online Resources: Visit the Marstek website for FAQs, updated manuals, and software downloads.

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Documents - Marstek – 23221

no relevant documents