VMAXTANKS SLR100

VMAX SLR100 12V 100Ah Solar Storage Battery User Manual

Model: SLR100

1. Introduction

This manual provides essential information for the safe and efficient use of your VMAX SLR100 12V 100Ah AGM Deep Cycle Solar Storage Battery. Please read this manual thoroughly before installation and operation to ensure optimal performance and longevity of your battery.

The VMAX SLR100 is a heavy-duty 12V 100Ah AGM (Absorbed Glass Mat) sealed maintenance-free battery designed for deep cycle applications. It offers reliable power storage for various uses, including solar systems, RVs, marine applications, and more.

Image 1.1: VMAX SLR100 12V 100Ah AGM Deep Cycle Battery. This image shows the main product, a black rectangular battery with a VMAX Charge Tank label on the front, indicating it's a 12V SLR-100 model.

Key Features:

- 12 Volt 100Ah AGM sealed maintenance-free high performance battery.

- Heavy-duty deep cycle design with a float service life span of 8 to 10 years.
- Non-hazardous and vibration resistant.
- Suitable for both outdoor and indoor use.
- Includes carrying handles and 8MM terminal posts for easy installation.

Image 1.2: VMAX SLR100 Key Features. This graphic highlights the battery's specifications (12V, 100Ah, 1350Wh) and benefits such as long lifespan, maintenance-free operation, non-hazardous nature, vibration resistance, and suitability for outdoor and indoor use.

2. Setup and Installation

Proper installation is crucial for the safety and performance of your VMAX SLR100 battery. Always ensure you have the correct tools and safety equipment before beginning.

2.1 Unpacking and Inspection

- Carefully remove the battery from its packaging.
- Inspect the battery for any signs of physical damage, such as cracks, bulges, or leaking terminals. Do not use the battery if damage is observed.
- Verify that all components, including carrying handles and 8MM terminal posts, are present.

2.2 Physical Dimensions and Weight

The VMAX SLR100 battery has the following approximate dimensions and weight:

- **Dimensions:** 12.1 inches (L) x 6.7 inches (W) x 8.2 inches (H)
- **Weight:** Approximately 68 pounds

Image 2.1: VMAX SLR100 Battery Dimensions. This image displays the battery with its length (12"), width (6.7"), and height (8.2") clearly marked.

Due to its weight, it is recommended to use proper lifting techniques or seek assistance when moving the battery.

2.3 Mounting and Ventilation

- Mount the battery in a clean, cool, and dry location.
- Ensure adequate ventilation around the battery to prevent heat buildup, even though AGM batteries are sealed.
- Avoid installing the battery in direct sunlight or near heat sources.
- The battery can be installed in any orientation except inverted (upside down).

2.4 Electrical Connections

- Always connect the positive (+) terminal to the positive (+) cable and the negative (-) terminal to the negative (-) cable. Reversing polarity can cause severe damage to the battery and connected equipment.
- Use appropriate cable gauges for your application to minimize voltage drop and ensure efficient power transfer.
- Ensure all connections are clean, tight, and free of corrosion. Loose connections can lead to overheating and poor performance.
- It is recommended to install an appropriate fuse or circuit breaker in the positive line as close to the battery as possible for circuit protection.

3. Operating Instructions

The VMAX SLR100 is designed for deep cycle applications, meaning it can be discharged and recharged repeatedly over a long period. Understanding proper charging and discharge practices is key to maximizing its lifespan.

3.1 Charging Methods

VMAX AGM batteries can be charged using various methods:

- **Solar Chargers:** Ideal for off-grid applications, ensuring the solar charge controller is compatible with AGM batteries and set to the correct charging profile.
- **Vehicle Alternators:** Can charge the battery while driving, often requiring a battery isolator or DC-DC charger for optimal charging.
- **Smart Chargers:** Dedicated multi-stage battery chargers designed for AGM batteries provide the most efficient and safest charging.
- **RV Converters:** Ensure your RV's converter has an AGM charging mode or is suitable for AGM batteries.

Sealed AGM technology allows for safe charging indoors, but good ventilation is always recommended.

Image 3.1: VMAX SLR100 Charging Methods and Life Cycle. This graphic illustrates the battery's long life cycle based on Depth of Discharge (DOD), its low self-discharge rate (long shelf life), and various compatible charging methods including solar, vehicle alternators, smart chargers, and RV converters.

3.2 Depth of Discharge (DOD) and Cycle Life

The lifespan of a deep cycle battery is directly related to its Depth of Discharge (DOD). Deeper discharges reduce the overall cycle life of the battery.

- **3,500+ Cycles** at 10% DOD
- **1,500 Cycles** at 25% DOD
- **900 Cycles** at 50% DOD
- **300 Cycles** at 100% DOD

For optimal battery life, avoid consistently discharging the battery to 100% DOD. Aim for shallower discharges whenever possible.

3.3 Multiple Uses

The VMAX SLR100 battery is versatile and suitable for a wide range of applications:

- **Solar Power Systems:** Ideal for energy storage in off-grid or grid-tied solar installations.
- **Recreational Vehicles (RVs):** Provides reliable power for onboard appliances and systems.
- **Marine Applications:** Suitable for boats, yachts, and other marine vessels.
- **Mobility Scooters:** Powers electric mobility devices.
- **Golf Carts:** Provides sustained power for electric golf carts.

Image 3.2: VMAX SLR100 Multiple Uses. This image displays various applications for the battery, including RVs, solar panels, marine vessels, mobility scooters, and golf carts.

4. Maintenance

One of the significant advantages of AGM batteries like the VMAX SLR100 is their maintenance-free design. However, some general care practices can further extend their life.

4.1 General Care

- Keep the battery terminals clean and free of corrosion. Use a wire brush and a mixture of baking soda and water to clean any buildup, then rinse with clean water and dry thoroughly.
- Ensure all cable connections remain tight. Periodically check and tighten if necessary.
- Keep the battery surface clean and dry.

4.2 Storage

If storing the battery for an extended period:

- Store the battery in a cool, dry place, ideally between 50°F and 70°F (10°C and 21°C).
- Ensure the battery is fully charged before storage.
- The self-discharge rate of new VMAX batteries at room temperature is approximately 1-2% per month, significantly lower than most other battery types.
- For very long storage periods, a trickle charger or maintenance charger can be used to keep the battery topped off.

5. Troubleshooting

If you encounter issues with your VMAX SLR100 battery, consider the following common troubleshooting steps:

5.1 Battery Not Holding Charge

- **Check Connections:** Ensure all terminal connections are clean and tight. Loose or corroded connections can impede charging and discharge.
- **Verify Charger:** Confirm that your charger is functioning correctly and is compatible with AGM batteries. An

undersized or faulty charger may not fully charge the battery.

- **Charging Profile:** Ensure the charger is set to the correct voltage and current limits for a 12V AGM battery.
- **Over-Discharge:** Repeated deep discharges (especially to 100% DOD) can reduce battery capacity over time. Avoid leaving the battery in a discharged state for extended periods.
- **Age of Battery:** Like all batteries, the VMAX SLR100 has a finite lifespan. If the battery is nearing the end of its expected life (8-10 years float service life), its capacity may naturally diminish.

5.2 Low Voltage Output

- **Check Load:** Ensure the connected load is not exceeding the battery's discharge capabilities.
- **Battery State of Charge:** A low state of charge will result in lower voltage output. Recharge the battery fully.
- **Cable Sizing:** Inadequate cable gauge for the current draw can lead to significant voltage drop.

5.3 Swollen Battery Case

- A swollen battery case typically indicates overcharging or excessive heat. Immediately disconnect the battery from all charging sources and loads.
- Do not attempt to recharge or use a swollen battery. It may be permanently damaged and pose a safety risk.

If troubleshooting steps do not resolve the issue, please contact VMAXTANKS customer support for further assistance.

6. Specifications

Detailed technical specifications for the VMAX SLR100 12V 100Ah Solar Storage Battery:

Specification	Value
Model Number	SLR100
Voltage	12V
Capacity	100Ah
Energy	1.35 kWh
Group Size	27
Dimensions (L x W x H)	12.1 x 6.7 x 8.2 inches
Item Weight	68 pounds
Battery Type	AGM Deep Cycle
Terminal Type	8MM Terminal Posts
UPC	730669377136

7. Support

For any questions, technical assistance, or support regarding your VMAX SLR100 battery, please contact VMAXTANKS customer service. Refer to the official VMAXTANKS website or your purchase documentation for the most current contact information.

When contacting support, please have your battery model number (SLR100) and any relevant purchase details ready.