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UPG UB121000

UPG UB121000 12V 100Ah AGM Sealed Lead Acid Deep Cycle Battery User Manual

Model: UB121000

1. OVERVIEW

The UPG UB121000 is a 12V 100Ah Absorbent Glass Mat (AGM) Sealed Lead Acid (SLA) battery designed for deep cycle applications. This maintenance-free, valve-regulated battery utilizes a high-strength calcium alloy grid for exceptional performance and extended service life in both float and cyclic uses. Its sealed design allows for safe operation in closed and indoor environments without leaks or the need for maintenance. It is suitable for a wide range of applications including consumer electronics, electric vehicles, motor starters, golf carts, hunting equipment, lawn & garden tools, medical mobility devices, motorcycles, power sports, portable tools, solar and wind energy systems, toys & hobbies, access control devices, emergency lighting, and security systems.



Figure 1: UPG UB121000 12V 100Ah AGM Battery, front view showing model number and specifications.

2. SAFETY INFORMATION

Always prioritize safety when handling batteries. This section outlines important warnings and precautions to ensure safe operation and prevent damage.

2.1. Warnings

- **Risk of fire, explosion, or burns:** Do not disassemble, heat above 60°C (140°F), or incinerate the battery.
- Do not short circuit the battery terminals.
- Do not charge in a sealed container.
- Avoid total discharging (deep discharge) below 10.5V under load.
- Keep away from sparks or open flame.

2.2. Precautions

- Keep out of reach of children.
- Follow all instructions on the battery label and in this manual.
- Replace every 3-5 years for optimal performance.
- This battery is non-spillable and designed for versatile mounting, including upside-down installation.
- Wear appropriate personal protective equipment (PPE) when handling.



Figure 2: Warning and precaution labels on the battery.

3. SPECIFICATIONS

The following table details the technical specifications of the UPG UB121000 battery:

| Feature | Specification |
|-----------------------------|--|
| Model Number | UB121000 (45978) |
| Voltage | 12V |
| Amperage | 100 Ah |
| Battery Type | Sealed Lead Acid (SLA), Absorbent Glass Mat (AGM), Deep Cycle, Valve Regulated |
| Dimensions (L x W x H) | 12.17 x 6.61 x 9.16 inches (309 x 168 x 233 mm) |
| Weight | 60 pounds |
| Terminal Type | M8 Bolt (Stainless Steel) |
| Standby Use Voltage | 13.6 - 13.8V (at 25°C) |
| Cycle Use Voltage | 14.5 - 14.9V (at 25°C) |
| Initial Current (Cycle Use) | 30A Max |
| UL Listed | Yes |
| Manufacturer | UPG (Universal Power Group) |



Figure 3: Battery dimensions (Length: 12.2", Width: 6.61", Height: 9.16").

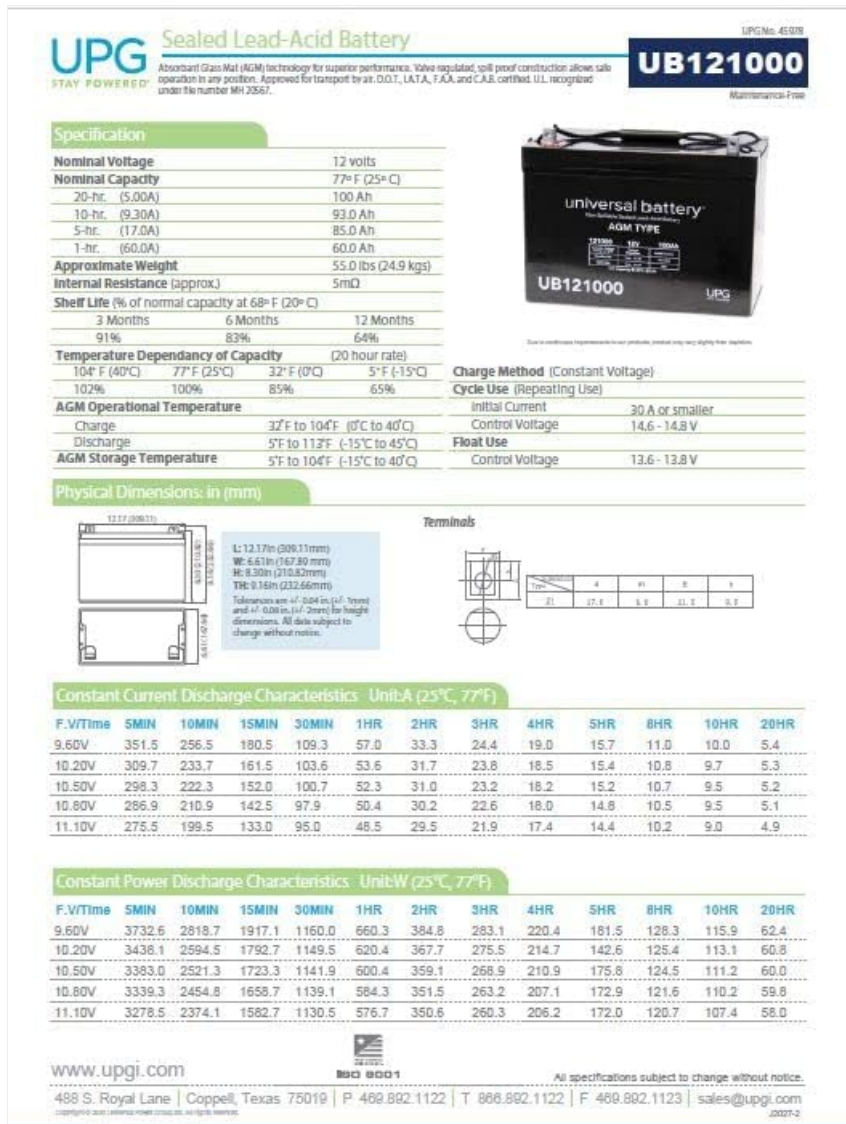


Figure 4: Excerpt from the UPG UB121000 datasheet, page 1, showing detailed specifications and charging parameters.

4. SETUP AND INSTALLATION

Proper setup and installation are crucial for the performance and longevity of your UPG UB121000 battery. Always ensure safety precautions are followed.

4.1. Unpacking and Inspection

- Carefully remove the battery from its packaging.
- Inspect the battery for any signs of physical damage. If damage is found, do not use the battery and contact customer support.
- The battery includes a carrying handle for easier transport.
- Verify that the M8 bolts for the terminals are included.



Figure 5: Top view of the battery showing the carrying handle and terminals.

4.2. Mounting

- The UPG UB121000 features Absorbent Glass Mat (AGM) technology and a valve-regulated design, making it non-spillable.
- This allows for versatile mounting options, including on its side or even upside down, without risk of leakage.
- Ensure the mounting location is secure and can support the battery's 60-pound weight.
- Provide adequate ventilation if installing in an enclosed space, although the battery is sealed.

4.3. Wiring

- Connect cables to the battery terminals using the provided M8 bolts. Ensure connections are tight and secure to prevent arcing and overheating.
- **Parallel Wiring:** Multiple UB121000 batteries can be wired in parallel to increase total amperage (Ah) while maintaining 12V. For example, two 12V 100Ah batteries in parallel create a 12V 200Ah bank.
- **Series Wiring:** For higher voltage systems (e.g., 24V, 36V, 48V, 60V), batteries can be wired in series. Ensure all batteries in a series bank are of the same type, age, and capacity.
- Always use appropriate gauge wiring for your application to handle the current safely.

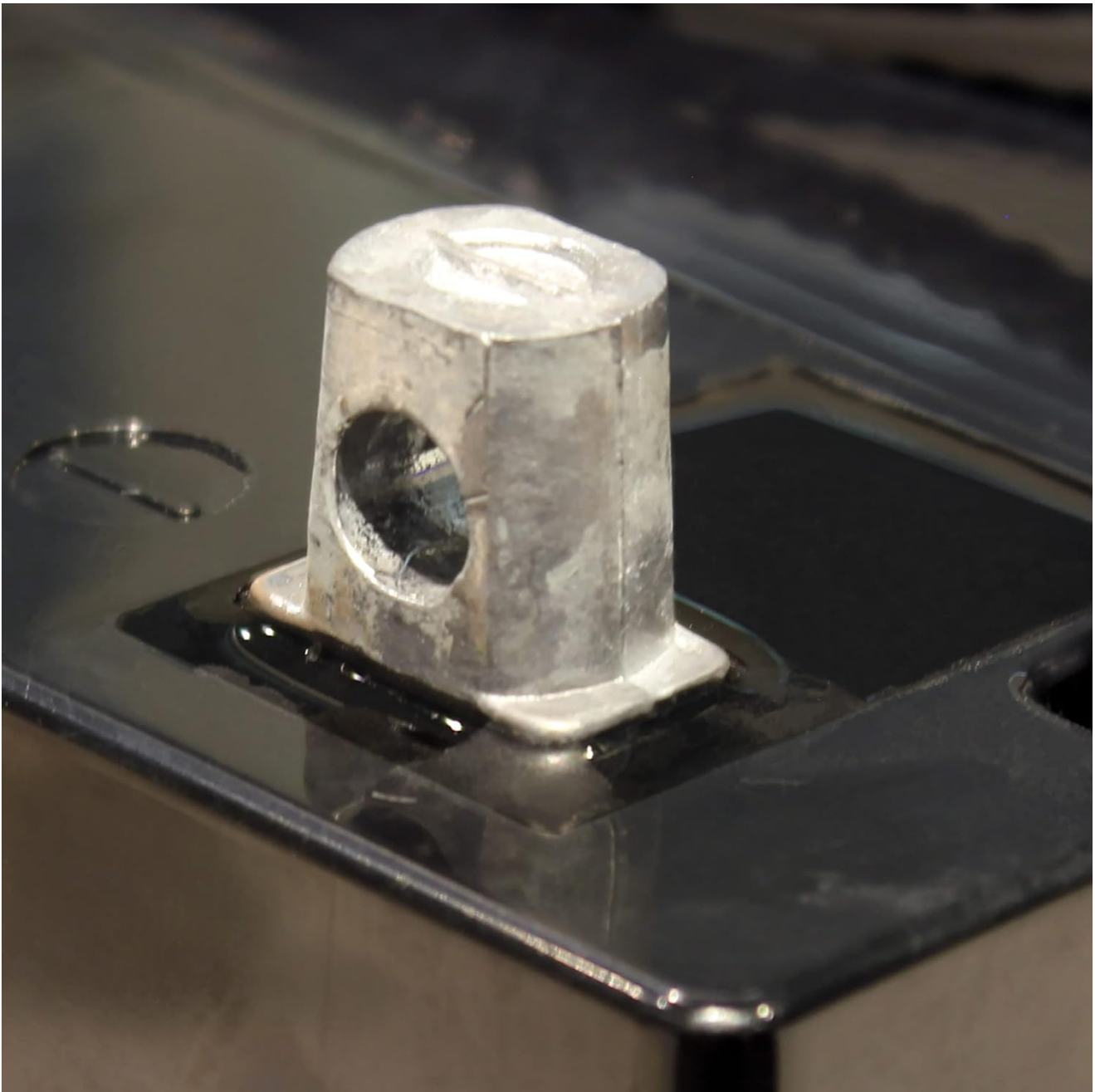


Figure 6: Close-up view of a battery terminal, showing the M8 bolt connection point.

5. OPERATING INSTRUCTIONS

The UPG UB121000 is designed for reliable performance across various conditions. Adhering to these operating guidelines will maximize its lifespan and efficiency.

5.1. Charging

- **Standby Use (Float Charge):** Maintain a constant voltage of 13.6V to 13.8V at 25°C. No current limit is specified for float charging.
- **Cycle Use:** For regular charging and discharging cycles, apply a constant voltage of 14.5V to 14.9V at 25°C. The initial charging current should not exceed 30A.
- Use a charger compatible with AGM batteries.
- Avoid overcharging, as this can reduce battery life.
- The battery can be charged by a vehicle or boat alternator, eliminating the need for a dedicated charger in many applications.

5.2. Discharge

- This is a deep cycle battery, designed to be discharged significantly. However, avoid discharging below 10.5V under load to prevent damage and prolong battery life.
- AGM batteries perform well in a wide range of temperatures, including below freezing, unlike some other battery chemistries.

5.3. Storage

- Store the battery in a cool, dry place.
- For extended storage, ensure the battery is fully charged before storing and periodically check its voltage. Recharge if necessary to prevent self-discharge below critical levels.

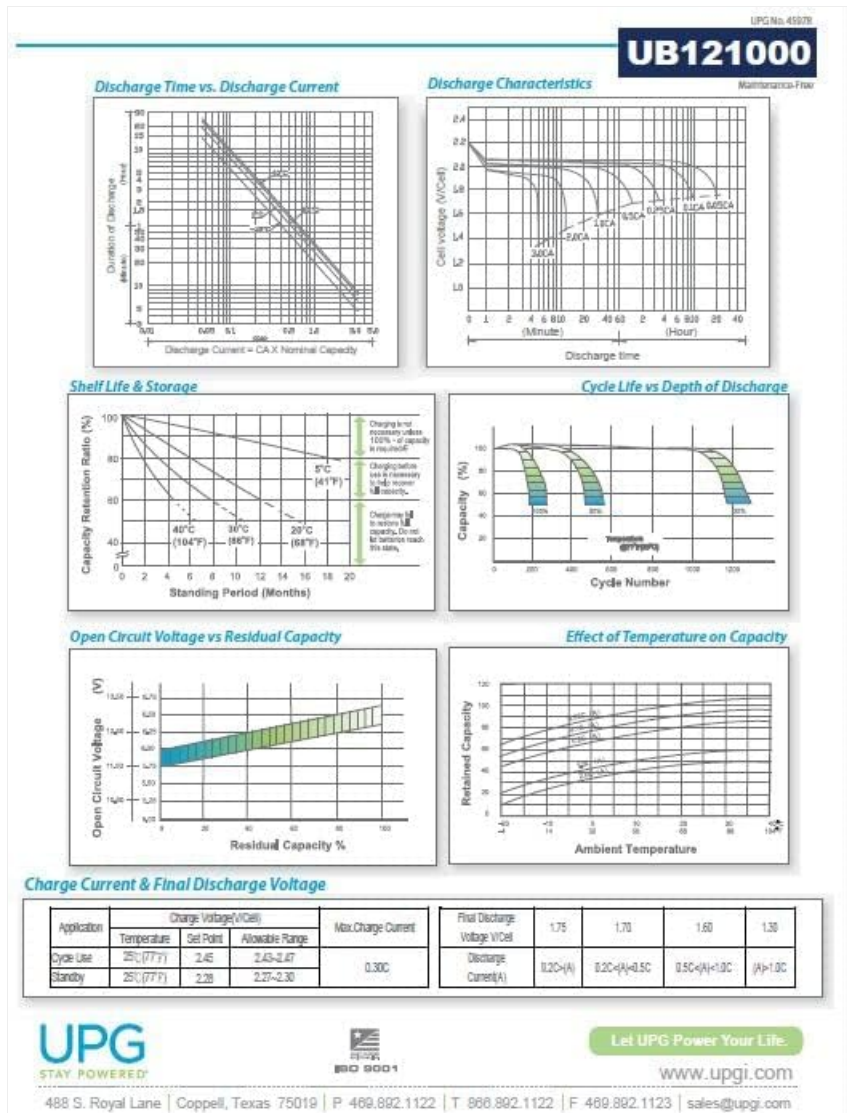


Figure 7: Excerpt from the UPG UB121000 datasheet, page 2, showing discharge characteristics and temperature effects.

6. MAINTENANCE

The UPG UB121000 is a maintenance-free battery, meaning it does not require electrolyte top-ups. However, some general care practices can help ensure its optimal performance and longevity:

- Keep the battery terminals clean and free of corrosion. Use a wire brush and a mixture of baking soda and water to clean any corrosion, then rinse with clean water and dry thoroughly.
- Ensure all cable connections to the terminals remain tight. Loose connections can cause resistance, heat, and reduced performance.
- Regularly inspect the battery casing for any cracks, bulges, or other signs of damage.
- Avoid exposing the battery to extreme heat sources.

- For applications with infrequent use, consider using a trickle charger or maintaining a float charge to prevent deep discharge during idle periods.

7. TROUBLESHOOTING

If you encounter issues with your UPG UB121000 battery, consider the following common troubleshooting steps:

- **Battery Not Holding Charge:**

- Check the charger settings to ensure they are appropriate for AGM deep cycle batteries (refer to Section 5.1).
- Inspect all wiring and connections for looseness or corrosion.
- Verify that the battery is not being consistently deep discharged below 10.5V.
- Test the battery voltage with a multimeter. A fully charged 12V AGM battery should read around 12.8V to 13.0V when at rest.

- **Reduced Performance/Capacity:**

- Ensure the battery is fully charged before use.
- Check for any excessive load that might be draining the battery too quickly.
- Verify the age of the battery. While designed for longevity, all batteries have a finite lifespan (typically 3-5 years for this type).

- **Overheating During Charge:**

- Ensure the charging current does not exceed the maximum recommended 30A for cycle use.
- Verify the charger is functioning correctly and is designed for AGM batteries.
- Ensure adequate ventilation around the battery.

For persistent issues or concerns not addressed here, please contact UPG customer support.

8. WARRANTY AND SUPPORT

The UPG UB121000 battery is UL listed and manufactured by a USA-based company, ensuring reliable power for critical applications with exceptional quality. A limited warranty applies to this product. For specific warranty terms, claims, or technical assistance, please refer to the documentation included with your purchase or contact UPG's dedicated U.S.-based customer support.