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› Universal UB1280 12V 8Ah Sealed Lead Acid Battery Instruction Manual

UPG UB1280ALT215

Universal UB1280 12V 8Ah Sealed Lead Acid Battery Instruction Manual

Model: UB1280ALT215

1. INTRODUCTION

This manual provides essential information for the safe and effective use of the Universal UB1280 12V 8Ah Sealed Lead Acid (SLA) Battery. Please read this manual thoroughly before installation and operation to ensure proper handling and to maximize battery life.

The Universal UB1280 is a maintenance-free, spill-proof battery designed for various applications requiring reliable 12V power. It utilizes Absorbent Glass Mat (AGM) technology, allowing it to be mounted in any position and providing resistance to shocks and vibrations.



Figure 1: Universal UB1280 12V 8Ah Sealed Lead Acid Battery. This image shows the top and front view of the black battery with "universal battery" and "AGM TYPE" labeling, along with basic voltage and capacity specifications printed on it.

2. SAFETY PRECAUTIONS

Always observe the following safety guidelines when handling or working with lead-acid batteries:

- Wear appropriate personal protective equipment (PPE), including safety glasses and gloves, to protect against accidental contact with battery terminals or potential acid residue.
- Do not short-circuit the battery terminals. This can cause severe burns, fire, or explosion.
- Keep the battery away from open flames, sparks, and heat sources.
- Ensure adequate ventilation when charging batteries to prevent the accumulation of hydrogen gas.
- Do not disassemble, puncture, or modify the battery.
- In case of accidental contact with battery acid, flush the affected area with plenty of water and seek medical attention immediately.
- Dispose of batteries according to local regulations. Do not dispose of batteries in household waste.

3. PRODUCT SPECIFICATIONS

The following table details the key specifications for the Universal UB1280 battery:

Specification	Value
Model Number	UB1280ALT215 (UB1280)
Brand	UPG
Voltage	12 Volt
Capacity	8 Amp Hours (8Ah)
Battery Cell Composition	Lead Acid (SLA/AGM)
Product Dimensions (L x W x H)	5.94 x 2.56 x 3.94 inches (15.08 x 6.50 x 10.00 cm)
Item Weight	4.62 pounds (2.1 kg)
Terminal Type	F1 (.187 TT)
Maintenance	Maintenance-free
Spill Proof	Yes
Mounting Position	Any position
Resistance	Shocks and vibration
Recommended Uses	Power Tool, Security Systems, UPS, Emergency Lighting, etc.

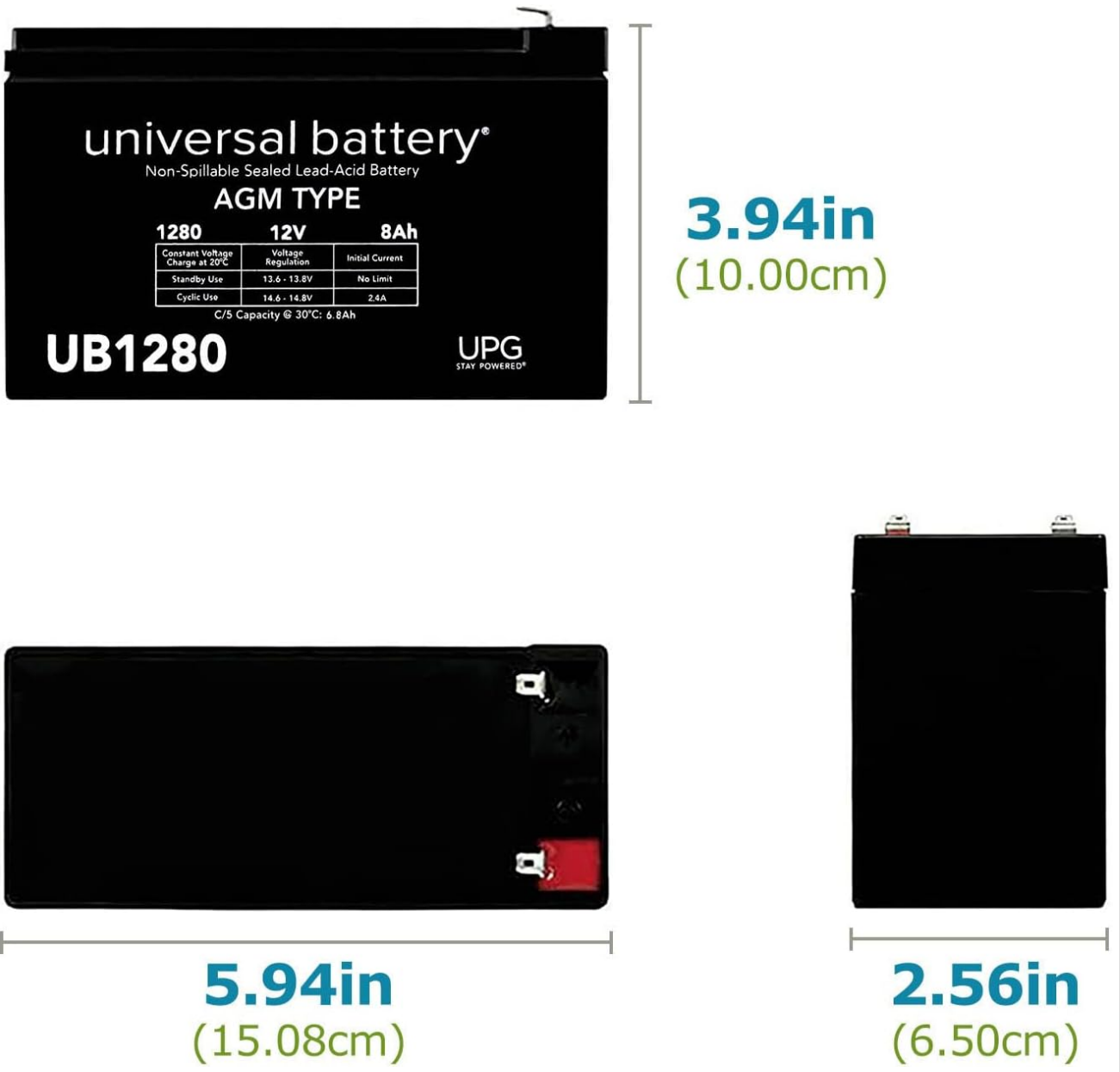


Figure 2: Physical dimensions of the Universal UB1280 battery, showing length (5.94 inches), width (2.56 inches), and height (3.94 inches).

Battery Specifications

Voltage	12 Volt
Capacity	8 Amp
Weight	4.74 lbs
Terminal	F1



Figure 3: Summary of key battery specifications including Voltage (12 Volt), Capacity (8 Amp), Weight (4.74 Lbs), and Terminal (F1).

Specification

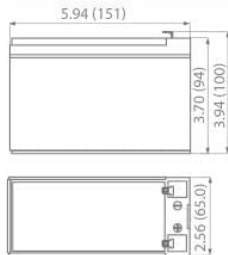
Nominal Voltage	12 volts		
Nominal Capacity	77° F (25° C)		
20-hr. (0.40A)	8.00 Ah		
10-hr. (0.74A)	7.44 Ah		
5-hr. (1.36A)	6.80 Ah		
1-hr. (4.80A)	4.80 Ah		
Approximate Weight	4.74 lbs (2.15 kgs)		
Internal Resistance (approx.)	23mΩ		
Shelf Life (% of normal capacity at 68° F (20° C)			
3 Months	6 Months	12 Months	
91%	83%	64%	
Temperature Dependency of Capacity	(20 hour rate)		
104° F (40° C)	77° F (25° C)	32° F (0° C)	5° F (-15° C)
102%	100%	85%	65%
AGM Operational Temperature			
Charge	32°F to 104°F (0°C to 40°C)		
Discharge	5°F to 113°F (-15°C to 45°C)		
AGM Storage Temperature	5°F to 104°F (-15°C to 40°C)		



Due to continuous improvements to our products, product may vary slightly from depiction.

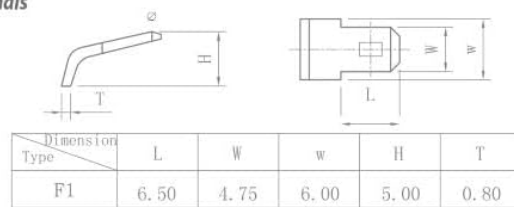
Charge Method (Constant Voltage)	
Cycle Use (Repeating Use)	
Initial Current	2.4 A or smaller
Control Voltage	14.6 - 14.8 V
Float Use	
Control Voltage	13.6 - 13.8 V

Physical Dimensions: in (mm)

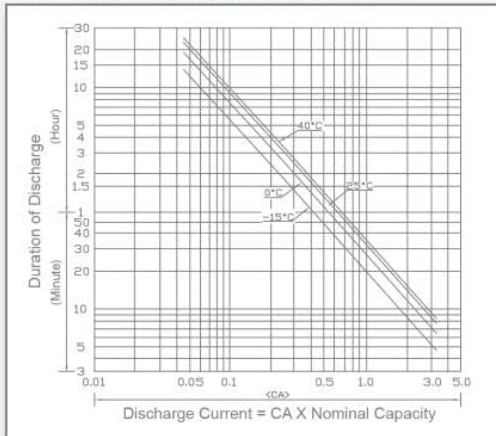


L: 5.94in (151 mm)
W: 2.56in (65.0 mm)
H: 3.70in (94.0 mm)
TH: 3.94in (100. mm)
 Tolerances are +/- 0.04 in. (+/- 1mm) and +/- 0.08 in. (+/- 2mm) for height dimensions. All data subject to change without notice.

Terminals



Discharge Time vs. Discharge Current



Discharge Characteristics

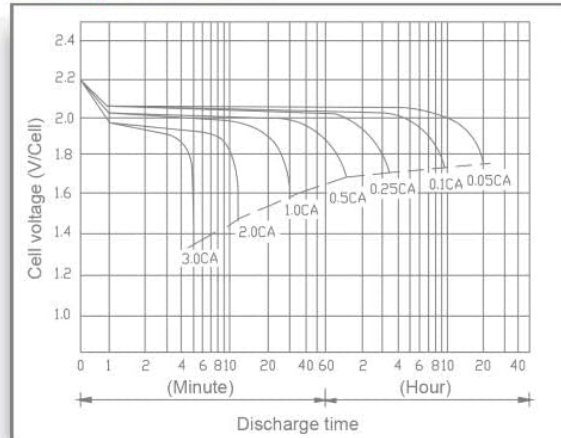
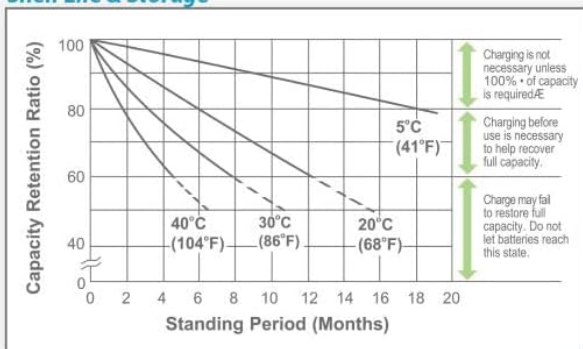
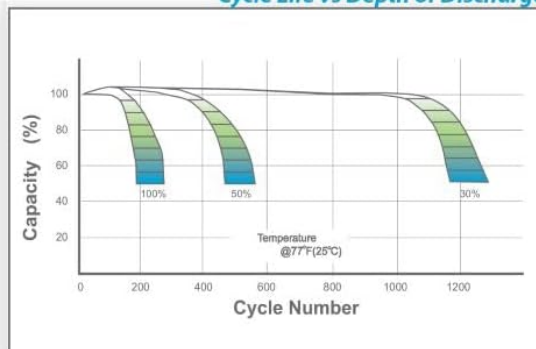


Figure 4: Detailed specification sheet for UPG Sealed Lead Acid Battery, model UB1280, including nominal voltage, capacity, approximate weight, internal resistance, temperature dependency, charge methods, physical dimensions, and terminal types.

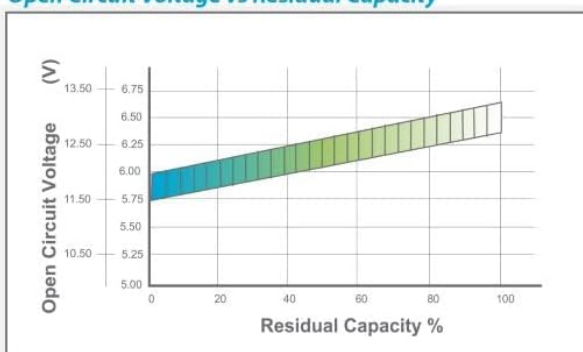
Shelf Life & Storage



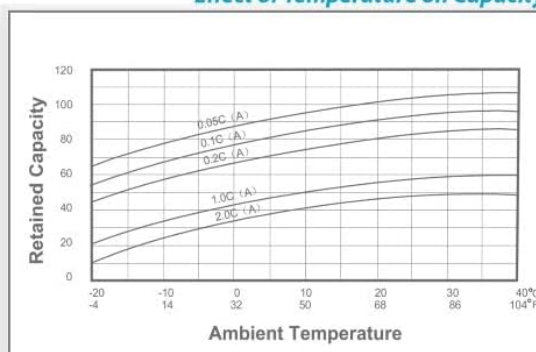
Cycle Life vs Depth of Discharge



Open Circuit Voltage vs Residual Capacity



Effect of Temperature on Capacity



Charge Current & Final Discharge Voltage

Application	Charge Voltage (V/Cell)		Max. Charge Current	Final Discharge Voltage V/Cell	1.75	1.70	1.60	1.30	
	Temperature	Set Point							Allowable Range
Cycle Use	25°C (77°F)	2.45	2.40~2.50	0.30C	Discharge Current (A)	0.2C > (A)	0.2C < (A) < 0.5C	0.5C < (A) < 1.0C	(A) > 1.0C
Standby	25°C (77°F)	2.28	2.27~2.30						

www.upgi.com

All specifications subject to change without notice.



UPG is ISO Certified

120 Dividend Dr. Ste 100
Coppell, TX 75019

Main 469.892.1122
Toll Free 866.892.1122

Fax 469.892.1123
sales@upgi.com

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Figure 5: Performance graphs for UPG UB1280 battery, illustrating shelf life & storage, cycle life vs. depth of discharge, open circuit voltage vs. residual capacity, and effect of temperature on capacity, along with charge current and final discharge voltage tables.

4. SETUP AND INSTALLATION

Before installation, ensure the battery is fully charged. Refer to the "Charging" section for details.

1. **Inspection:** Visually inspect the battery for any signs of damage, cracks, or leaks. Do not use a damaged battery.
2. **Mounting:** The UB1280 battery can be mounted in any position due to its sealed, spill-proof design. Ensure the mounting location is secure, well-ventilated, and free from excessive heat or direct sunlight.
3. **Terminal Connection:**
 - Identify the positive (+) and negative (-) terminals. The UB1280 uses F1 (.187 TT) terminals.
 - Connect the positive (+) terminal of the battery to the positive lead of your device/system.
 - Connect the negative (-) terminal of the battery to the negative lead of your device/system.
 - Ensure all connections are clean, tight, and secure to prevent arcing and ensure optimal performance. Loose connections can lead to overheating and power loss.
4. **Cable Sizing:** Use appropriately sized cables for your application to handle the current draw and prevent overheating. Consult your device's manual for recommended cable gauges.

5. OPERATING INSTRUCTIONS

The Universal UB1280 is designed for reliable power delivery in various applications. Follow these guidelines for optimal operation:

- **Initial Charge:** Although batteries are typically shipped with some charge, it is recommended to fully charge the battery before its first use to ensure maximum capacity and longevity.
- **Discharge:** Avoid deep discharges below 10.5V to prolong battery life. While the battery is designed to resist shocks and vibration, excessive physical stress should be avoided.
- **Temperature:** Operate the battery within its specified temperature range (typically 25°C / 77°F for optimal performance). Extreme temperatures can affect capacity and lifespan. Refer to the specification sheet (Figure 5) for detailed temperature performance curves.
- **Parallel/Series Connections:** If connecting multiple batteries, ensure they are of the same type, age, and capacity. Consult a qualified technician for complex battery bank configurations.

6. CHARGING

Proper charging is crucial for the lifespan of your SLA battery. Use a charger specifically designed for 12V Sealed Lead Acid (SLA) or AGM batteries.

Recommended Charging Parameters:

- **Constant Voltage Charge at 20°C (68°F):**
 - **Standby Use:** 13.6 - 13.8V
 - **Cyclic Use:** 14.6 - 14.8V
- **Initial Current:** No Limit (for standby use), 2.4A (for cyclic use)

- **Float Voltage:** 13.6 - 13.8V
- **Control Voltage:** 14.6 - 14.8V

Note: Overcharging or undercharging can significantly reduce battery life. Always follow the charger manufacturer's instructions and the battery's specifications.

7. MAINTENANCE AND STORAGE

The Universal UB1280 is a maintenance-free battery, meaning it does not require water replenishment. However, proper care and storage are essential for maximizing its lifespan:

- **Cleaning:** Keep the battery terminals and casing clean and free of dirt or corrosion. Use a dry cloth to wipe down the battery. If corrosion is present on terminals, clean with a wire brush and a solution of baking soda and water, then rinse and dry thoroughly.
- **Terminal Check:** Periodically check terminal connections to ensure they remain tight and secure.
- **Storage:** When storing the battery for extended periods, ensure it is fully charged. Store in a cool, dry place away from direct sunlight and extreme temperatures. Recharge the battery every 3-6 months during storage to prevent sulfation and capacity loss.
- **Shelf Life:** The battery's shelf life is affected by storage temperature. Refer to Figure 5 for detailed shelf life characteristics.

8. TROUBLESHOOTING

This section addresses common issues you might encounter with your UB1280 battery.

Problem	Possible Cause	Solution
Battery not holding charge	Undercharging; sulfation; end of life; faulty charger.	Ensure proper charging voltage and current. Use a compatible charger. If battery is old, consider replacement.
Low voltage output	Battery not fully charged; excessive load; internal short.	Fully charge the battery. Reduce load if possible. If problem persists, battery may be faulty.
Battery overheating during charge	Overcharging; faulty charger; internal damage.	Disconnect charger immediately. Check charger voltage settings. Replace faulty charger or battery.
Corrosion on terminals	Loose connections; environmental factors.	Clean terminals thoroughly. Ensure connections are tight. Apply anti-corrosion grease if desired.

If you experience issues not listed here or if solutions do not resolve the problem, please contact customer support.

9. WARRANTY INFORMATION

The Universal UB1280 12V 8Ah Sealed Lead Acid Battery comes with a **Full One Year Warranty** from the date of purchase. This warranty covers defects in materials and workmanship under normal use and service.

The warranty does not cover:

- Damage caused by improper installation, misuse, abuse, or neglect.
- Damage caused by overcharging, undercharging, or using an incompatible charger.
- Damage from freezing, fire, or other acts of nature.
- Batteries that have been opened, altered, or repaired by unauthorized personnel.

To make a warranty claim, please retain your proof of purchase and contact the seller or manufacturer's customer support.

10. CUSTOMER SUPPORT

For technical assistance, warranty claims, or any other inquiries regarding your Universal UB1280 battery, please contact UPG customer support.

Manufacturer: UPG

For contact information, please refer to the official UPG website or the contact details provided with your purchase documentation.

Note: Always provide your battery model number (UB1280ALT215) and purchase date when contacting support.