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Mighty Max Battery ML7-12

ML7-12 12 Volt 7.2 AH SLA Battery Instruction Manual

Brand: Mighty Max Battery

Product Overview

The Mighty Max ML7-12 is a 12 Volt 7.2 Amp Hour (Ah) Sealed Lead Acid (SLA) rechargeable battery. This maintenance-free battery is designed for a wide range of applications requiring reliable and consistent power.

Key features include:

- Sealed Lead Acid (SLA) technology for maintenance-free operation.
- Rechargeable design, allowing for multiple charge and discharge cycles.
- Can be mounted in any position, offering installation flexibility.
- Resistant to shocks and vibrations, ensuring durability.
- Provides long-lasting, high performance across various temperatures.



Figure 1: Mighty Max ML7-12 12 Volt 7.2 AH SLA Battery. This image shows the front view of the black battery with the Mighty Max Battery logo and model number ML7-12, 12 Volt 7.2 Amp Hr. Rechargeable Sealed Lead-Acid Battery, along with warning labels and certifications.

Product Components and Design

The ML7-12 battery incorporates advanced design elements for optimal performance and safety. Understanding its internal structure can aid in proper handling and application.

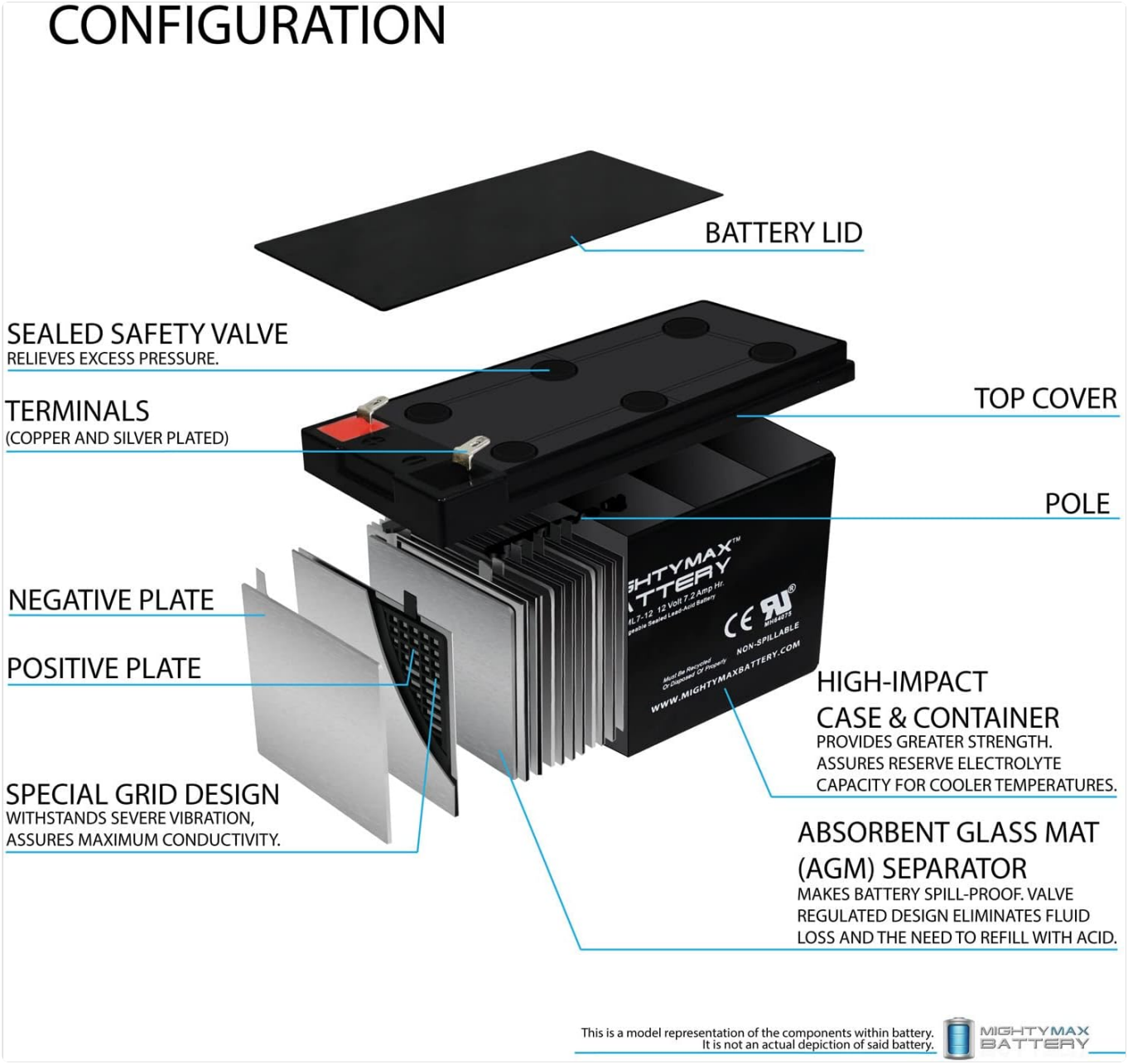


Figure 2: Internal Configuration of Mighty Max SLA Battery. This diagram illustrates the internal components including the sealed safety valve, terminals (copper and silver plated), negative and positive plates, special grid design, high-impact case and container, and absorbent glass mat (AGM) separator.

- **Sealed Safety Valve:** Relieves excess pressure, enhancing safety.
- **Terminals:** Copper and silver plated for efficient conductivity. The battery features F1 terminals.
- **High-Impact Case & Container:** Provides greater strength and ensures electrolyte capacity for cooler temperatures.
- **Absorbent Glass Mat (AGM) Separator:** Makes the battery spill-proof. The valve-regulated design eliminates fluid loss and the need to refill with acid.



Figure 3: Close-up of F1 Terminal on Mighty Max Battery. This image provides a detailed view of the F1 terminal, which is a common type for this battery model, ensuring compatibility with various connectors.

Setup and Installation

Before installing your ML7-12 battery, ensure you have the correct tools and understand the safety precautions. This battery is designed for easy integration into various systems.

Dimensions and Fit

It is crucial to verify the battery dimensions against the space available in your device or application. The ML7-12 has specific measurements to ensure proper fit.

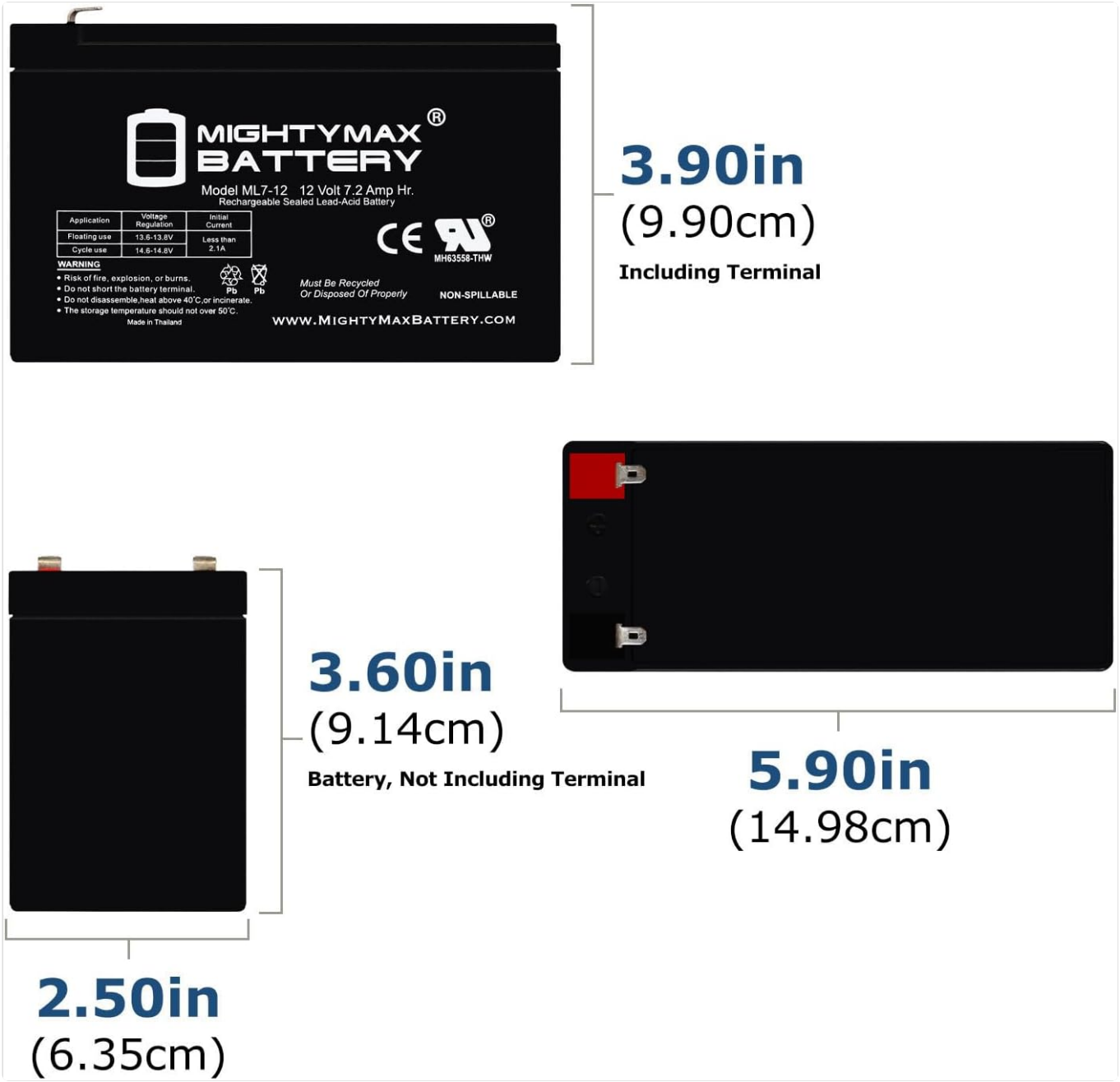


Figure 4: Mighty Max ML7-12 Battery Dimensions. This image displays the precise measurements of the battery: 5.94 inches (14.98 cm) length, 2.56 inches (6.35 cm) width, and 3.94 inches (9.90 cm) height including terminals, or 3.60 inches (9.14 cm) without terminals.

- **Dimensions:** 5.94 inches (Length) x 2.56 inches (Width) x 3.94 inches (Height including terminal).
- **Terminal Type:** F1. Ensure your connectors are compatible with F1 terminals.

Installation Steps

1. **Safety First:** Always wear appropriate personal protective equipment (PPE), such as safety glasses and gloves, when handling batteries.
2. **Disconnect Power:** Before removing an old battery or installing a new one, ensure the device or system is completely powered off and disconnected from any power sources.
3. **Remove Old Battery (if applicable):** Carefully disconnect the existing battery, noting the polarity (positive and negative terminals).
4. **Insert New Battery:** Place the ML7-12 battery into the designated compartment. Ensure it fits securely and does not move freely.
5. **Connect Terminals:** Connect the positive (+) terminal of the battery to the positive terminal of the device, and the negative (-) terminal to the negative terminal. Ensure connections are secure and tight to prevent arcing or poor

performance.

6. **Verify Installation:** Double-check all connections before restoring power to the device.

Note: This listing is for the battery only. No wire harness or mounting accessories are included.

Operating Guidelines

The ML7-12 battery is designed for reliable performance in both float and cyclic applications. Understanding its operational characteristics is key to maximizing its lifespan and efficiency.

Charging Recommendations

Proper charging is essential for the longevity of your SLA battery. Refer to the technical specifications for detailed charging parameters.

- **Float Use Voltage Regulation:** 13.6-13.8V.
- **Cycle Use Voltage Regulation:** 14.5-14.9V.
- **Initial Current:** Less than 2.1A.

Always use a charger specifically designed for Sealed Lead Acid batteries to prevent overcharging or undercharging, which can damage the battery.

Typical Applications

This battery is suitable for a variety of uses, including but not limited to:

- Computer Back-UPS (Uninterruptible Power Supplies)
- Children's Ride-On Toys
- Alarm Systems
- Emergency Lighting
- Portable Electronic Devices
- Solar Applications (small scale)

Maintenance and Storage

While the ML7-12 is a maintenance-free battery, proper care and storage practices will significantly extend its service life.

General Maintenance

- **Cleaning:** Keep the battery terminals and casing clean and free from dirt or corrosion. Use a dry cloth for cleaning.
- **Periodic Charging:** For optimal performance and longevity, especially when not in constant use, charge the battery periodically.
- **Inspection:** Regularly inspect the battery for any signs of physical damage, swelling, or leaks.

Storage Recommendations

- **Temperature:** Store the battery in a cool, dry place. The recommended storage temperature should not exceed 40°C (104°F).
- **Charge Level:** Store the battery in a fully charged state. Recharge every 3-6 months if stored for extended periods to prevent deep discharge, which can permanently damage the battery.

- **Position:** The battery can be stored in any position due to its sealed, non-spillable design.

Troubleshooting

If you encounter issues with your ML7-12 battery, refer to the following common problems and their potential solutions.

Problem	Possible Cause	Solution
Battery not holding charge	Improper charging (over/undercharging) Battery has reached end of life High internal resistance	Ensure charger is compatible and functioning correctly. Consider battery replacement if it's old (typical lifespan 3-5 years depending on usage). Consult a professional for testing if internal resistance is suspected.
Battery not fitting in device	Incorrect dimensions for the application.	Verify the dimensions of the battery against the device's battery compartment before purchase. Refer to Figure 4.
Device not powering on with new battery	Incorrect terminal connection Loose connections Battery not charged	Ensure positive (+) and negative (-) terminals are connected correctly. Tighten all connections. Charge the battery fully before first use.

For issues not covered here, or if troubleshooting steps do not resolve the problem, please contact Mighty Max Battery customer support.

Specifications

Detailed technical specifications for the ML7-12 battery are provided below to assist with compatibility and performance assessment.

Specification	Value
Model Number	ML7-12
Nominal Voltage	12 Volt
Battery Capacity	7.2 Amp Hours (Ah)
Battery Cell Composition	Sealed Lead Acid (SLA)
Product Dimensions (L x W x H)	5.94 x 2.56 x 3.94 inches (15.09 x 6.50 x 10.01 cm)
Item Weight	4.5 pounds (2.04 kg)
Terminal Type	F1
Maintenance	Maintenance Free
Rechargeable	Yes
Mounting Position	Any position





ML7.2-12 *(12V7.2Ah/20hr)*



The rechargeable batteries are lead-lead dioxide systems. The dilute sulfuric acid electrolyte is absorbed by separators and thus immobilized. Should the battery be accidentally overcharged producing bydrogen and oxygen, Special one-way valves allow the gases to escape thus avoiding excessive pressure build-up. Otherwise, the battery is completely sealed and is, therefore, maintenance-free, leak proof and usable in any position.

Battery Construction

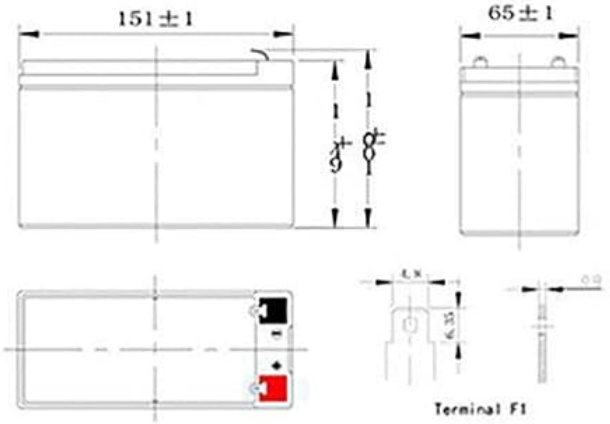
Component	Positive plate	Negative plate	Container	Cover	Safety valve	Terminal	Separator	Electrolyte
Raw material	Lead dioxide	Lead	ABS	ABS	Rubber	F1	Fiberglass	Sulfuric acid

General Feature

- Absorbent Glass Mat(AGM) technology for efficient gas recombination of up to 99% and freedom from electrolyte maintenance or water adding.
- Computer designed lead, calcium tin alloy grid for high power density.
  Long service life, float or cyclic applications.
  Maintenance-free operation.
- Low self discharge.

SPECIFICATION

Nominal voltage ····· 12V
Number of cell 6
Length(mm/inch) ····· 151/5.94
Width(mm/inch ····· 65/2.56
Height(mm/inch) ····· 94/3.70
Total Height(mm/inch) ····· 100/3.94
Approx. Weight(kg/lbs) ····· 2.05/4.51



Performance Characteristics

Capacity 77°F(25℃)	20 hour rate (0.36A、10.5V)	7.2Ah
	10 hour rate (0.68A、10.5V)	6.8Ah
	5 hour rate (1.24A、10.5V)	6.2Ah
	1 hour rate (4.56A、9.6V)	4.56Ah
Internal Resistance	Full charged Battery77°F(25℃):25mΩ	
Capacity affected by Temperature (20 hour rate)	104° F(40℃)	102%
	77° F(25℃)	100%
	32° F(10℃)	85%
	5° F(-15℃)	65%
Self-Discharge 68°F(20℃)	Capacity after 3 month storage	90%
	Capacity after 6 month storage	80%
	Capacity after 12month storage	60%
Max. discharge current77°F(25℃): 108A(5S)		
Charge (Constant Voltage)	Float: 13.6~13.8 V/77° F/(25℃)	
	Cycle:14.5~14.9 V/77°F/(25℃) Max. Current: 2.1A	

Discharge Constant Current (Amperes at 77° F25 ℃)

End Point Volts/Cell	5min	10min	15min	30min	1h	3h	5h	10h	20h
1.60V	29.4	18.4	14.8	8.30	4.56	1.91	1.30	0.70	0.37
1.65V	27.5	17.5	14.2	7.90	4.40	1.86	1.28	0.69	0.37
1.70V	26.0	16.7	13.6	7.62	4.22	1.80	1.26	0.69	0.36
1.75V	24.4	15.7	13.0	7.24	4.04	1.73	1.24	0.68	0.36
1.80V	22.8	14.8	12.4	7.03	3.84	1.67	1.21	0.66	0.35

Discharge Constant Power (watts at 77° F 25℃)

End Point Volts/Cell	5min	10min	15min	30min	45min	1h	2h	3h	5h
1.60V	52.5	35.3	28.5	15.8	11.8	9.30	5.31	3.68	2.38
1.65V	49.6	33.5	27.2	15.2	11.3	8.90	5.15	3.59	2.34
1.70V	46.7	31.8	25.8	14.5	10.9	8.52	4.97	3.49	2.30
1.75V	43.5	29.6	24.6	13.8	10.4	8.13	4.83	3.38	2.25
1.80V	40.2	27.5	23.2	13.2	10.0	7.75	4.68	3.27	2.19

(Note)The above characteristics data are average values obtained Within three charge/discharge cycles not the minimum values.

Figure 5: Mighty Max ML7.2-12 Technical Data Sheet. This document provides comprehensive details on battery construction, general features, performance characteristics (including discharge rates and temperature effects), and detailed specifications.

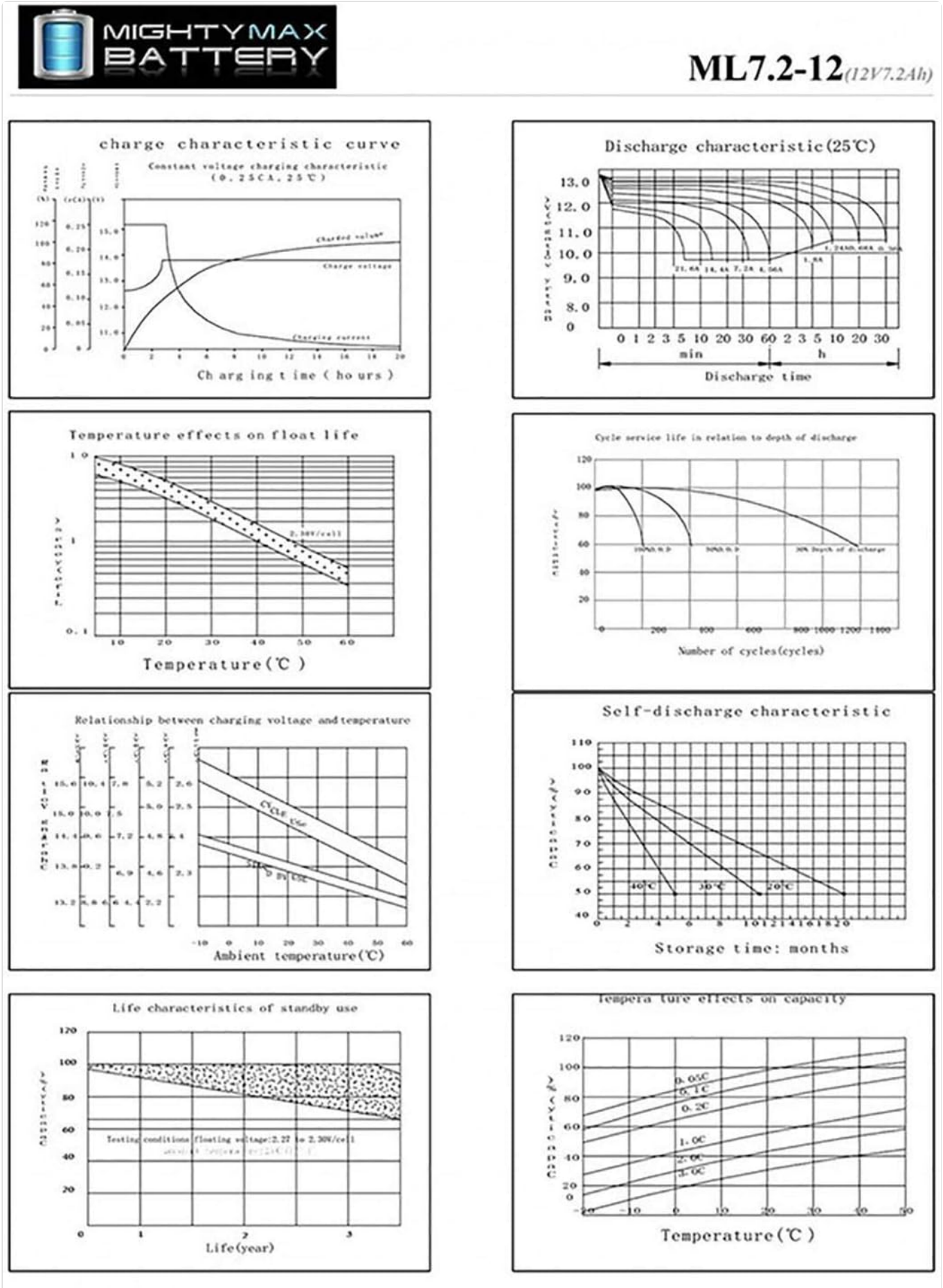


Figure 6: Mighty Max ML7.2-12 Performance Charts. These graphs illustrate various performance aspects such as charge characteristic curves, discharge characteristics, temperature effects on float life, cycle service life, self-discharge characteristics, and life characteristics

of standby use.

Warranty and Support

Mighty Max Battery products are designed for durability and performance. For specific warranty details and customer support, please refer to the official Mighty Max Battery website or contact their customer service directly.

- **Warranty Information:** Please consult the manufacturer's official website or the product packaging for the most current warranty terms and conditions.
- **Customer Support:** For technical assistance, troubleshooting beyond this manual, or warranty claims, contact Mighty Max Battery customer support. Contact details are typically available on their official website or product documentation.

Recycling Information

This battery contains lead and must be recycled or disposed of properly. Do not dispose of with household waste. Please follow local regulations for battery recycling to protect the environment.

Look for battery recycling centers in your area or contact your local waste management authority for guidance on proper disposal.

Safety Information

Please read and understand all safety warnings before using this battery.

- **Risk of Fire, Explosion, or Burns:** Do not short the battery terminals.
- Do not disassemble, heat above 40°C (104°F), or incinerate.
- Keep out of reach of children.
- Do not expose to water or excessive moisture.
- Use only with compatible charging equipment.

Official Product Videos

No official product videos from the seller were found for this product in the provided data. For additional product information or visual guides, please check the manufacturer's official website or authorized retailers.

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