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Mighty Max Battery ML12-6F300010

Mighty Max Battery ML12-6F2 6V 12AH SLA Battery Instruction Manual

Model: ML12-6F2 | Brand: Mighty Max Battery

1. Introduction

This manual provides essential information for the safe and effective use of your Mighty Max Battery ML12-6F2 6V 12AH Sealed Lead Acid (SLA) battery. This maintenance-free battery is designed for various applications requiring reliable 6-volt power. Please read this manual thoroughly before installation and operation.

1.1. Product Overview

- **Model:** ML12-6F2
- **Voltage:** 6V
- **Capacity:** 12AH
- **Terminal Type:** F2
- **Battery Type:** Sealed Lead Acid (SLA) / Absorbent Glass Mat (AGM)
- **Features:** Spill-proof, high discharge rate, wide operating temperatures, long service life, rechargeable, mountable in any position, resists shocks and vibration.

1.2. What's in the Box

- One (1) Mighty Max Battery ML12-6F2 6V 12AH SLA Battery



Image: Mighty Max Battery ML12-6F2 6V 12AH SLA Battery. This image shows the exterior of the Mighty Max Battery ML12-6F2, a sealed lead acid battery.

2. Safety Information

Please observe the following safety precautions to prevent injury or damage to the battery and connected equipment.

- **Risk of Fire, Explosion, or Burns:** Do not short circuit the battery terminals.
- **Do Not Disassemble:** Do not disassemble, heat above 40°C (104°F), or incinerate the battery.
- **Storage Temperature:** The storage temperature should not exceed 50°C (122°F).
- **Recycling:** Batteries must be recycled or disposed of properly. Do not dispose of with household waste.
- **Non-Spillable:** This is a non-spillable battery, but proper handling is always recommended.
- **Ventilation:** Ensure adequate ventilation during charging to prevent gas accumulation.
- **Eye Protection:** Always wear eye protection when working with batteries.

3. Setup and Installation

The Mighty Max ML12-6F2 battery is designed for easy installation. Follow these steps for proper setup.

3.1. Physical Dimensions

- **Length:** 5.94 inches (15.08 cm)
- **Width:** 2.01 inches (5.11 cm)
- **Height (including terminal):** 3.94 inches (10 cm)
- **Height (battery only):** 3.70 inches (9.4 cm)



Image: Mighty Max Battery ML12-6F2 6V 12AH SLA Battery with dimensions. This image displays the Mighty Max Battery ML12-6F2, highlighting its dimensions: 5.94 inches (15.08 cm) length, 2.01 inches (5.11 cm) width, and 3.94 inches (10 cm) height including terminals.

3.2. Terminal Connection

The battery features F2 terminals. Ensure a secure and clean connection to prevent power loss and potential damage.

ML12-6*(6V12Ah/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	F2	Fiberglass	Sulfuric acid

General Feature

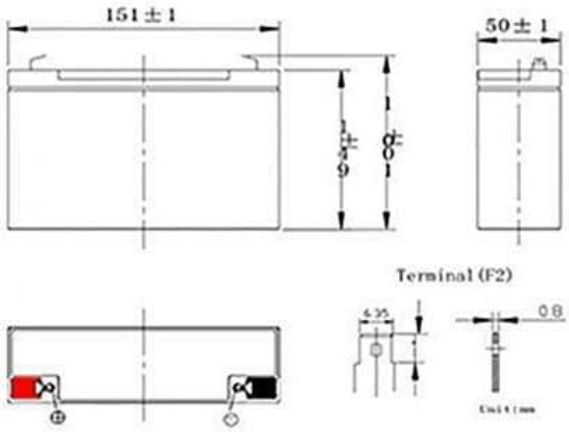
- Absorbent Glass Mat(AGM) technology for efficient gas recombination of up to 99% and freedom from electrolyte maintenance or water adding.
- Computer designed lead, calcium tin alloy grid for high power density.
  Long service life, float or cyclic applications.
  Maintenance-free operation.
- Low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

Performance Characteristics

Capacity 77°F(25℃)	20 hour rate (0.6A、5.25V)	12Ah
	10 hour rate (1.14A、5.25V)	11.4Ah
	5 hour rate (2.05A、5.25V)	10.2Ah
	1 hour rate (7.5A、4.8V)	7.5Ah
Internal Resistance	Full charged Battery77°F(25℃):20mΩ	
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℃): 180A(5S)		
Charge (Constant Voltage)	Float: 6.80~6.90 V/77° F/(25℃)	
	Cycle:7.25~7.45 V/77°F/(25℃) Max. Current: 3.6A	

SPECIFICATION

Nominal voltage ····· 6V
Number of cell 3
Length(mm/inch) ····· 151/5.94
Width(mm/inch ····· 50/1.97
Height(mm/inch) ····· 94/3.70
Total Height(mm/inch) ····· 100/3.94
Approx. Weight (kg/lbs) ····· 1.7/3.75



Discharge Constant Current (Amperes at 77° F25 ℃)

End Point Volts/Cell	5min	10min	15min	30min	1h	3h	5h	10h	20h
1.60V	45.6	31.0	24.3	13.3	7.50	3.15	2.12	1.18	0.61
1.65V	44.2	30.1	23.8	12.9	7.43	3.12	2.10	1.17	0.61
1.70V	42.7	29.2	23.2	12.6	7.37	3.09	2.07	1.16	0.61
1.75V	41.3	28.3	22.7	12.3	7.30	3.06	2.05	1.14	0.60
1.80V	39.8	27.5	22.1	12.0	7.23	3.03	2.02	1.12	0.59

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

End Point Volts/Cell	5min	10min	15min	30min	45min	1h	2h	3h	5h
1.60V	88.0	59.2	47.7	28.2	21.0	15.6	9.78	6.52	4.24
1.65V	82.5	55.7	45.1	26.8	20.0	14.9	9.49	6.36	4.17
1.70V	77.1	52.3	42.5	25.3	19.0	14.2	9.17	6.19	4.09
1.75V	71.7	48.8	39.8	23.9	18.0	13.5	8.81	6.00	4.00
1.80V	66.4	45.4	37.2	22.4	17.0	12.8	8.43	5.80	3.90

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

Image: Close-up view of the F2 terminal on the Mighty Max Battery ML12-6F2. This detailed view shows the F2 terminal, designed for secure electrical connections.

3.3. Mounting

This SLA/AGM battery is spill-proof and can be mounted in any position (horizontal, vertical, or side) without affecting performance. However, avoid mounting upside down.

Your browser does not support the video tag.

Video: Mighty Max Battery Overview. This video provides a general overview of Mighty Max batteries, highlighting their mounting versatility, maintenance-free design, and ease of use. It showcases various battery sizes and applications.

4. Operating Instructions

The ML12-6F2 is a rechargeable battery. For optimal performance and longevity, ensure proper charging and discharge practices.

4.1. Charging

Use a charger specifically designed for 6V Sealed Lead Acid (SLA) batteries. Refer to the battery's technical specifications for recommended charging voltages and currents.

- **Float Use:** 6.80V - 6.90V (77°F/25°C)
- **Cycle Use:** 7.25V - 7.45V (77°F/25°C)
- **Max. Charge Current:** 3.6A

4.2. Discharge

Avoid deep discharges to prolong battery life. The battery is designed for high discharge rates and performs well across a wide range of operating temperatures.



Image: Charge and discharge characteristic curves, temperature effects, and self-discharge rates for Mighty Max Battery ML12-6F2. This page presents various graphs illustrating the battery's performance, including charge characteristic curves, discharge characteristics at 25°C, temperature effects on float life, cycle service life, relationship between charging voltage and temperature, self-discharge characteristics, and temperature effects on capacity.

5. Maintenance

The Mighty Max ML12-6F2 is a maintenance-free battery, meaning it does not require water additions. However, proper care ensures maximum lifespan.

- **Cleaning:** Keep battery terminals clean and free of corrosion. Use a wire brush and a mixture of baking soda and water if corrosion is present.
- **Storage:** If storing the battery for an extended period, ensure it is fully charged and store it in a cool, dry place. Recharge periodically (every 3-6 months) to prevent self-discharge below critical levels. The optimal storage temperature should not exceed 50°C (122°F).
- **Inspection:** Periodically inspect the battery case for any signs of damage, cracks, or swelling.

6. Troubleshooting

If you encounter issues with your battery, consider the following common troubleshooting steps.

Problem	Possible Cause	Solution
Battery not holding charge	Improper charging, old battery, excessive discharge, faulty charger.	Ensure correct charger is used. Check charger functionality. Avoid deep discharges. If battery is old, consider replacement.
Low voltage output	Battery not fully charged, internal cell damage, high load.	Fully charge the battery. Reduce load if possible. If problem persists, battery may be faulty.
Corroded terminals	Exposure to moisture or acid fumes.	Clean terminals with a wire brush and baking soda solution. Apply anti-corrosion grease.
Battery swelling/deformation	Overcharging, excessive heat, internal fault.	Immediately discontinue use. This indicates a serious internal issue. Replace the battery.

If troubleshooting steps do not resolve the issue, please contact Mighty Max Battery customer support.

7. Specifications

Detailed technical specifications for the Mighty Max Battery ML12-6F2.



Image: Technical specifications and performance characteristics for Mighty Max Battery ML12-6F2. This document page details the battery construction, general features, performance characteristics (capacity, internal resistance, temperature effects), and detailed specifications including nominal voltage, number of cells, dimensions, and weight.

Specification	Value
Model Number	ML12-6F300010
Voltage	6 volts
Battery Capacity	12 amp_hours
Amperage	6 A
Battery Cell Composition	Lead Acid
Battery Cell Type	Lead Acid
Number of Batteries	1 (6V battery required)

Specification	Value
Reusability	Rechargeable
Item Dimensions (LxWxH)	5.94 x 2.01 x 3.94 inches
Battery Weight	4 pounds
Manufacturer	Mighty Max Battery
UPC	810185376230, 730052522211

8. Warranty and Support

8.1. Warranty Information

The Mighty Max Battery ML12-6F2 comes with a**1 Year Manufacturer's Warranty**. This warranty covers defects in materials and workmanship under normal use. Please retain your proof of purchase for warranty claims.

8.2. Customer Support

For technical assistance, warranty claims, or any other inquiries, please contact Mighty Max Battery customer support. You can find more information and contact details on the official Mighty Max Battery website or through their Amazon Brand Store.

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