

PowerMax PMBC-100-SE

PowerMax PMBC-100-SE 12V Battery Maintainer & Charger User Manual

Model: PMBC-100-SE | Brand: PowerMax

INTRODUCTION

The PowerMax PMBC-100-SE 12 Volt Battery Maintainer & Charger is an advanced unit designed for efficient battery management. It utilizes state-of-the-art switch-mode technology and an integrated controller to deliver a 3-stage battery charge profile at up to 100 amps. This unit also features a user-selectable adjustable voltage power supply mode, making it suitable for various applications, including RVs and automotive systems.

SAFETY INFORMATION

Please read all instructions carefully before installation and operation. Failure to follow these instructions may result in personal injury or product damage.

- **WARNING:** Risk of electric shock. Do not open the unit. Refer servicing to qualified personnel.
- **CAUTION:** Provide adequate ventilation. Do not cover or obstruct ventilation openings. Overheating may result.
- **NOTICE:** This unit is designed for use with 120 VAC input and 12 VDC output. Ensure proper voltage and current ratings are observed.
- Always ensure proper polarity when connecting to batteries.
- Do not install in a zero-clearance compartment.
- Avoid contact with water or other liquids.

PACKAGE CONTENTS

Upon opening the package, verify that all items are present and in good condition:

- PowerMax PMBC-100-SE Converter/Charger Unit
- AC Power Cord
- Instruction Manual

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Video: Unboxing the PowerMax PMBC-100-SE. This video demonstrates the contents of the product packaging, including the main unit, power cord, and instruction manual.

PRODUCT OVERVIEW

The PowerMax PMBC-100-SE is a robust and compact unit designed for reliable power conversion and battery charging. Key components and features include:

- **Input/Output Terminals:** Clearly marked positive (red) and negative (black) terminals for DC output.
- **Fuses:** Four 40-amp fuses provide protection for the unit.
- **Cooling Fan:** A large fan on the rear ensures efficient heat dissipation during operation.
- **Mode Selector:** A dial on the side allows selection between "3 Stage" charging mode and "Fixed output" power supply mode.
- **Voltage Adjustment (Fixed Output):** A separate dial allows adjustment of the fixed output voltage from 13V to 16.5V.



Image: Top view of the PowerMax PMBC-100-SE unit, showcasing its compact design and integrated handle.



Image: Front view of the PowerMax PMBC-100-SE, highlighting the positive (red) and negative (black) output terminals and the four 40-amp fuses for protection.



Image: Side view of the PowerMax PMBC-100-SE, showing the "3 Stage" / "Fixed output" selector dial and the voltage adjustment dial for fixed output (13V to 16.5V).

SETUP

1. **Placement:** Position the unit in a well-ventilated area, ensuring that the cooling fan and ventilation openings are not obstructed. Avoid enclosed spaces.
2. **AC Power Connection:** Connect the provided AC power cord to the unit's AC input and then to a standard 120 VAC outlet.
3. **DC Output Connection:** Connect your 12V battery or DC load to the positive (red) and negative (black) output terminals. Ensure correct polarity to prevent damage. If using alligator cables, ensure a secure connection.

4. **Initial Check:** Before powering on, double-check all connections for security and correct polarity.

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SUPERIOR LEVEL OF PERFORMANCE



Image: Example of alligator cables, commonly used for connecting the charger to a battery. Ensure secure and correct polarity connections.

OPERATING INSTRUCTIONS

The PowerMax PMBC-100-SE offers two primary operating modes:

1. 3-Stage Charging Mode

This mode is ideal for charging and maintaining 12V batteries, including lithium profiles. The unit automatically cycles through three stages to optimize battery health and longevity:

- **Bulk Stage:** Delivers maximum current to rapidly charge the battery to approximately 80% capacity.
- **Absorption Stage:** Charges the battery to 100% at a decreasing current, ensuring a full charge without overcharging.
- **Float Stage:** Maintains the battery at a safe voltage, compensating for self-discharge and keeping it fully charged.

To activate this mode, set the mode selector dial to "3 Stage".

2. Fixed Output Power Supply Mode

In this mode, the unit functions as a stable DC power supply, providing a constant voltage output. This is useful for powering 12V devices directly or for specific applications requiring a precise voltage.

- **Voltage Adjustment:** The output voltage can be adjusted from 13V to 16.5V using the dedicated dial.
- **Applications:** Suitable for automotive programming, running 12V accessories, or other applications requiring a stable, adjustable DC power source.

To activate this mode, set the mode selector dial to "Fixed output". Adjust the voltage as needed using the voltage adjustment dial.

MAINTENANCE

- **Cleaning:** Keep the unit clean and free from dust and debris. Use a dry, soft cloth for cleaning. Do not use liquid cleaners.
- **Ventilation:** Regularly check that the cooling fan and all ventilation openings are clear and unobstructed.
- **Connections:** Periodically inspect all electrical connections for tightness and corrosion.
- **Fuse Replacement:** If a fuse blows, replace it with a fuse of the same type and rating (40-amp). Refer to the safety warnings before attempting fuse replacement.
- **Storage:** When not in use for extended periods, store the unit in a cool, dry place.

TROUBLESHOOTING

Problem	Possible Cause	Solution
Unit does not power on.	No AC input power; Blown fuse; Faulty power cord.	Check AC outlet and power cord connection. Inspect and replace blown fuses (40-amp).
No DC output.	Incorrect mode selection; Loose DC connections; Blown fuses.	Ensure correct mode ("3 Stage" or "Fixed output") is selected. Check positive and negative terminal connections. Inspect and replace blown fuses.
Overheating.	Obstructed ventilation; Excessive load.	Ensure clear airflow around the unit. Reduce the connected load.
Battery not charging in 3-stage mode.	Battery deeply discharged; Incorrect battery type selected (if applicable); Faulty battery.	Allow more time for charging. Verify battery health.

SPECIFICATIONS

Feature	Detail
Brand	PowerMax
Model Number	PMBC-100-SE
Input Voltage	115 Volts AC
Output Voltage	12 Volts DC (Adjustable in Fixed Output Mode: 13V - 16.5V)
Current Rating / Amperage	100 Amps
Product Dimensions (D x W x H)	11" x 8" x 4"
Item Weight	10.3 Pounds
Connector Type	Alligator Cables (not included with unit, but compatible)
Battery Charge Time	10 minutes (Note: This may refer to a specific charging stage or maintenance function.)

Feature	Detail
UPC	701236795752

WARRANTY AND SUPPORT

For warranty information, technical support, or service inquiries, please refer to the documentation included with your product or visit the official PowerMax website. Keep your purchase receipt for warranty claims.

Official Website: powermaxconverters.com