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› PowerMax PM3-25-24LK 25 Amp 24 Volt Power Supply Converter User Manual

PowerMax PM3-25-24LK

PowerMax PM3-25-24LK Power Supply Converter User Manual

Model: PM3-25-24LK

1. INTRODUCTION

The PowerMax PM3-25-24LK is a robust 25 Amp, 24 Volt power supply converter designed for a wide range of applications, including charging various battery types such as Lithium, Lead Acid, and AGM. This unit provides stable and reliable DC power, featuring a fixed output mode voltage adjustable from 13.0 Vdc to 16.5 Vdc. It incorporates advanced protection features and a temperature-controlled cooling fan to ensure safe and efficient operation.



Figure 1: PowerMax PM3-25-24LK Power Supply Converter. This image shows the compact, grey metal casing of the converter with ventilation grilles on the sides, input/output terminals, and fuse holders visible on the front panel.

2. SAFETY INFORMATION

Important Safety Instructions: Read all instructions carefully before installation and operation. Failure to follow these instructions may result in electric shock, fire, or serious injury.

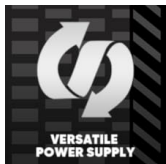
- Ensure the power supply is disconnected from the AC source before making any connections or performing maintenance.
- Install the unit in a well-ventilated area to prevent overheating. Do not block ventilation openings.

- This device is designed for indoor use or in a protected environment. Avoid exposure to water, moisture, or extreme temperatures.
- Use appropriate wire gauges for all connections to prevent overheating and ensure proper current flow.
- Verify correct polarity when connecting to batteries or DC loads to prevent damage to the unit and connected devices.
- The unit is equipped with reverse polarity, overload, and thermal protection. However, proper installation is crucial for safe operation.
- Do not attempt to open or repair the unit. Refer all servicing to qualified personnel.

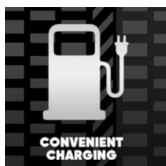
3. PRODUCT OVERVIEW

The PowerMax PM3-25-24LK is a versatile power supply converter designed for efficient and reliable power conversion. Key features include:

- **Lithium Compatible:** Optimized for use with Lithium batteries in fixed output mode, as recommended by leading Lithium battery manufacturers.
- **Wide Battery Compatibility:** Suitable for charging Lithium, Lead Acid, and AGM battery types.
- **Adjustable Fixed Output:** Output voltage can be set between 13.0 Vdc to 16.5 Vdc, indicated by an LED light.
- **Advanced Protection:** Features reverse polarity, overload, and thermal protection for enhanced safety and durability.
- **Efficient Cooling:** Equipped with a temperature-controlled quiet fan for optimal thermal management.
- **Scalable Power:** Multiple PM3 Series Converters can be wired in series or parallel for higher power output requirements.



Versatile Power Supply:
Adaptable for various power
needs.



Convenient Charging:
Simplifies battery charging
processes.



Automatic Thermal
Protection: Safeguards
against overheating.



Quick Installation: Designed
for straightforward setup.

4. SETUP AND INSTALLATION

Follow these steps for proper installation of your PowerMax PM3-25-24LK converter:

1. **Mounting:** Select a dry, well-ventilated location for mounting the converter. Ensure adequate clearance around the unit for airflow, especially near the fan and ventilation grilles. Use appropriate fasteners to secure the unit to a stable surface.
2. **AC Input Connection:** Connect the AC input cord to a grounded 120V AC outlet. Ensure the outlet is capable of supplying the required current for the converter (refer to specifications).
3. **DC Output Connection:**
 - Identify the positive (+) and negative (-) DC output terminals on the converter.
 - Connect the positive (+) terminal of the converter to the positive (+) terminal of your battery bank or DC load using appropriately sized wiring.
 - Connect the negative (-) terminal of the converter to the negative (-) terminal of your battery bank or DC load.
 - Ensure all DC connections are tight and secure to prevent voltage drop and overheating.
4. **Grounding:** Ensure the unit is properly grounded according to local electrical codes.
5. **Initial Power-Up:** Once all connections are secure, plug the AC input cord into the power source. The LED indicator light on the unit will illuminate, indicating power is supplied.

5. OPERATING INSTRUCTIONS

The PowerMax PM3-25-24LK operates automatically once connected. For specific applications, you may need to adjust the output voltage:

1. **Fixed Output Mode:** The converter has a fixed output mode. This mode is particularly recommended for Lithium battery charging.
2. **Voltage Adjustment:** Locate the voltage adjustment potentiometer (typically a small screw) on the unit. Use a small screwdriver to carefully turn the potentiometer to set the desired output voltage. It is recommended to use a multimeter to verify the exact output voltage.
3. **LED Indicator:** The LED indicator light provides status information. Refer to the label on the unit for specific LED indications (e.g., power on, fault).
4. **Cooling Fan:** The internal fan is temperature-controlled and will activate automatically when needed to maintain optimal operating temperature. Ensure the fan is not obstructed.

Parallel/Series Operation: For higher power requirements, multiple PM3 Series Converters can be wired in parallel or series. Consult a qualified electrician or the PowerMax support team for detailed instructions on such configurations.

6. MAINTENANCE

Regular maintenance ensures the longevity and optimal performance of your PowerMax converter:

- **Cleaning:** Periodically clean the exterior of the unit with a soft, dry cloth. Do not use liquid cleaners or solvents.

Ensure ventilation openings are free from dust and debris.

- **Connections:** Annually inspect all electrical connections (AC input and DC output) for tightness and corrosion. Tighten any loose connections.
- **Ventilation:** Ensure the area around the converter remains clear to allow for proper airflow and cooling.
- **Fuses:** The unit is equipped with internal fuses for protection. If the unit stops functioning, check the fuses. Replacement should only be done with fuses of the same type and rating. Refer to the unit's label for fuse specifications.

7. TROUBLESHOOTING

If you encounter issues with your PowerMax PM3-25-24LK, refer to the following common problems and solutions:

Problem	Possible Cause	Solution
No power output / LED off	No AC input power; Blown fuse; Internal fault.	Check AC power source and connections. Inspect and replace fuses if necessary (ensure correct rating). If problem persists, contact support.
Low or unstable output voltage	Loose DC connections; Overload; Incorrect voltage setting.	Check and tighten DC connections. Reduce load. Adjust voltage potentiometer to desired level.
Unit shuts down frequently	Overload protection activated; Overheating (thermal protection).	Reduce connected load. Ensure adequate ventilation and clear fan/grilles. Allow unit to cool down.
Fan is constantly running or very loud	High ambient temperature; Heavy load; Obstructed fan.	Ensure proper ventilation. Reduce load if possible. Clean any obstructions from the fan or grilles.

For issues not listed here or if solutions do not resolve the problem, please contact PowerMax customer support.

8. SPECIFICATIONS

Attribute	Value
Model Number	PM3-25-24LK
Brand	PowerMax
Input Voltage	120V AC (Standard Household)
Output Voltage	24V DC (Adjustable 13.0 Vdc to 16.5 Vdc)
Current Rating	25 Amps
Wattage	480 Watts
Dimensions (L x W x H)	10 x 8 x 4 inches
Item Weight	7.48 pounds
Cooling Method	Air (Temperature-controlled fan)

Attribute	Value
Protection Features	Reverse Polarity, Overload, Thermal Protection
Compatibility	Lithium, Lead Acid, AGM Batteries

9. WARRANTY AND SUPPORT

Warranty: The PowerMax PM3-25-24LK Power Supply Converter comes with **atwo-year warranty** from the date of purchase. This warranty covers defects in materials and workmanship under normal use. It does not cover damage caused by misuse, accident, unauthorized modification, or improper installation.

Customer Support: If you have any questions about your product, require technical assistance, or need to make a warranty claim, please contact PowerMax customer support. You can reach us by email. We are committed to providing prompt and effective solutions to ensure your satisfaction.

For the most up-to-date contact information, please visit the official PowerMax website or refer to your purchase documentation.

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Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page’s manual context to help answer it.

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Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question

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