

## PowerMax PM3-50-24LK

# PowerMax PM3-50-24LK Power Supply Converter User Manual

Model: PM3-50-24LK | Brand: PowerMax

## 1. INTRODUCTION

This manual provides essential information for the safe and efficient operation of your PowerMax PM3-50-24LK Power Supply Converter. This unit is designed to provide a stable 24V DC power supply and features an integrated 3-stage microprocessor-controlled battery charger. It is suitable for various applications requiring reliable 24V power, including RVs, radio equipment, and pumps.

## 2. SAFETY INFORMATION

Please read and understand all safety instructions before installing or operating the PowerMax PM3-50-24LK. Failure to follow these instructions may result in electric shock, fire, or serious injury.

- **Electrical Hazard:** Ensure the unit is disconnected from AC power before making any connections or performing maintenance.
- **Ventilation:** Install the converter in a well-ventilated area to prevent overheating. Do not block ventilation openings.
- **Moisture:** Do not expose the unit to rain, moisture, or excessive humidity.
- **Flammable Materials:** Keep the unit away from flammable liquids or gases.
- **Qualified Personnel:** Installation and servicing should only be performed by qualified personnel.
- **Proper Grounding:** Ensure the unit is properly grounded according to local electrical codes.

## 3. PRODUCT FEATURES

The PowerMax PM3-50-24LK Power Supply Converter offers a range of features for reliable power management:

- **Continuous Power Output:** Provides a continuous maximum power output of 1460 Watts.
- **Current Capacity:** Delivers up to 50 Amps of 24V DC power.

- **Integrated 3-Stage Charger:** Features a microprocessor-controlled charger for optimal battery charging and extended battery life.
- **Wide Input Voltage Range:** Accepts AC input from 105 VAC to 135 VAC.
- **Protection Features:** Includes over voltage and short circuit protection for enhanced safety.
- **Stable Power Supply Mode:** Ensures a constant and clean power supply for sensitive electronics.
- **Lightweight Design:** Weighs approximately 11 pounds for easier handling and installation.



Figure 1: Front view of the PowerMax PM3-50-24LK Power Supply Converter.

## 4. SETUP AND INSTALLATION

The PM3-50-24LK is designed for straightforward installation. Ensure you have read the safety information before proceeding.

1. **Choose Location:** Select a well-ventilated area for installation, safe from environmental elements like direct moisture or extreme temperatures.
2. **Mounting:** Securely mount the converter using appropriate hardware. Ensure there is adequate space around the unit for air circulation.
3. **AC Input Connection:** Connect the AC input cord to a grounded 105-135 VAC power source. Ensure the circuit can handle the converter's maximum input current.
4. **DC Output Connection:** Connect the DC output terminals to your 24V DC system (e.g., battery bank,

load). Observe correct polarity: positive (+) to positive, negative (-) to negative. Use appropriately sized wiring for the 50 Amp output.

5. **Initial Check:** Double-check all connections for tightness and correct polarity before applying power.



Figure 2: Side and rear views illustrating connection points and cooling fan.

## 5. OPERATING INSTRUCTIONS

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Once installed, the PowerMax PM3-50-24LK operates automatically. It functions as both a power supply and a battery charger.

- **Power Supply Mode:** When connected to AC power and a DC load, the unit provides a stable 24V DC output to power your devices.
- **Battery Charging Mode:** If a 24V battery bank is connected, the integrated 3-stage charger will automatically manage the charging process. This includes bulk, absorption, and float stages to efficiently charge and maintain your batteries without overcharging.
- **Automatic Operation:** The unit automatically switches between power supply and charging functions as needed, based on the connected load and battery state.

## 6. MAINTENANCE

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Regular maintenance ensures optimal performance and longevity of your PowerMax PM3-50-24LK.

- **Keep Clean:** Periodically clean the exterior of the unit with a dry cloth. Ensure ventilation openings are free from dust and debris.
- **Check Connections:** Regularly inspect all AC and DC connections for tightness and signs of corrosion. Loose connections can lead to overheating and poor performance.
- **Ventilation:** Confirm that the installation area remains well-ventilated and that airflow to the unit is not obstructed.
- **Environmental Conditions:** Ensure the unit is not exposed to extreme temperatures or excessive moisture, which can degrade performance and lifespan.

## 7. TROUBLESHOOTING

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If you encounter issues with your PowerMax PM3-50-24LK, refer to the following common troubleshooting steps:

Problem	Possible Cause	Solution
No power output	No AC input; Blown fuse/breaker; Loose connections; Internal fault	Check AC power source; Inspect input fuse/breaker; Verify all connections are secure; Contact support if problem persists.
Unit overheating	Poor ventilation; Excessive load	Ensure adequate airflow around the unit; Reduce connected load if it exceeds specifications.
Battery not charging	Incorrect battery connection; Battery fault; Unit in power supply mode only	Verify battery polarity and connections; Test battery condition; Ensure unit is receiving AC power to enable charging.
Low output current/voltage	Input voltage too low; Excessive load; Faulty wiring	Check AC input voltage; Reduce load; Inspect DC wiring for proper gauge and connections.

If these steps do not resolve the issue, please contact PowerMax customer support.

## 8. SPECIFICATIONS

Detailed technical specifications for the PowerMax PM3-50-24LK Power Supply Converter:

- **Model:** PM3-50-24LK
- **Brand:** PowerMax
- **Continuous Power Output:** 1460 Watts
- **Current Capacity:** 50 Amps DC
- **Output Voltage:** 24V DC
- **Input Voltage:** 105-135 VAC
- **Charging Stages:** 3-stage microprocessor controlled
- **Cooling Method:** Air cooled
- **Power Supply Design:** Internal
- **Item Weight:** Approximately 11 pounds
- **Protection:** Over Voltage, Short Circuit
- **Compatible Devices:** Devices requiring 24V power conversion (e.g., RVs, radio equipment, pumps)

## 9. WARRANTY AND SUPPORT

For warranty information, please refer to the documentation included with your purchase or visit the official PowerMax website. If you require technical assistance or have questions not covered in this manual, please contact PowerMax customer support:

- **Manufacturer:** PowerMax
- **Website:** [Visit the PowerMax Store on Amazon](#)
- **Contact:** Refer to the PowerMax website for current contact information.

