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› MICROTEK M-sun 1235 Solar Inverter UPS (935 VA, 12V Pure Sine Wave) Instruction Manual

MICROTEK M-sun 1235 / UPS SOLAR 935VA/12V

MICROTEK M-sun 1235 Solar Inverter UPS Instruction Manual

Model: M-sun 1235 / UPS SOLAR 935VA/12V

1. INTRODUCTION

This manual provides essential information for the safe and efficient operation of your MICROTEK M-sun 1235 Solar Inverter UPS. Please read this manual thoroughly before installation and use to ensure proper functioning and to prevent damage to the unit or connected equipment. This inverter is designed to provide reliable power backup and utilize solar energy for enhanced efficiency.

2. SAFETY INSTRUCTIONS

- **Electrical Safety:** Always ensure the inverter is properly grounded. Do not open the inverter casing; refer servicing to qualified personnel.
- **Ventilation:** Install the inverter in a well-ventilated area to prevent overheating.
- **Water Exposure:** Keep the inverter away from water, moisture, and corrosive environments.
- **Battery Safety:** Batteries contain corrosive acid. Wear protective gear when handling. Ensure proper battery connections to avoid short circuits.
- **Children and Pets:** Keep the inverter and batteries out of reach of children and pets.
- **Overload Protection:** Do not overload the inverter beyond its specified capacity.

3. PRODUCT OVERVIEW

The MICROTEK M-sun 1235 is a 935 VA, 12V pure sine wave solar inverter UPS designed for home use. It integrates solar charging capabilities with traditional inverter functions to provide an efficient power solution.

3.1 Key Features

- Elegant and ergonomic design.
- Advanced seven-segment digital display for input and output voltage.

- Energy-efficient with power-saving technology.
- Automatic low and high cut-off for grid supply during fluctuations.
- Pure Sine Wave Output.
- Multiple protections: Short-Circuits, Over-Voltage, Over-Current.
- Solar and Grid Power operation modes.
- Eco-friendly operation.

3.2 Components and Display

The inverter features a digital display that provides real-time information about its operational status.



Figure 1: Angled view of the MICROTEK M-sun 1235 Solar Inverter UPS.



Figure 2: Front view of the inverter, highlighting the digital display and power button.



Figure 3: Overview of the inverter's protective features and technology, including short-circuit, over-voltage, and over-current protection, PWM technology, pure sine wave output, and solar/grid operation.

POWER YOUR HOME
WITH SOLAR ENERGY



SOLAR PCU

Models : 1235N-12V, 1435N-12V
2035N-24V, 2335N/24V

USER FRIENDLY, LCD DISPLAY, Shows Following Parameters

Grid Unit Saved(KWH)

Solar Power Avail. (WATT)

PV Voltage

Output Load Percentage

Grid Charging Current

Grid Voltage

Battery Voltage

Output Voltage

PV Current

Figure 4: The user-friendly LCD display shows various parameters such as Grid Unit Saved (KWH), Solar Power Available (WATT), PV Voltage, Output Load Percentage, Grid Charging Current, Grid Voltage, Battery Voltage, Output Voltage, and PV Current.

4. SETUP AND INSTALLATION

Installation of the MICROTEK M-sun 1235 Solar Inverter UPS should be performed by a qualified technician to ensure safety and optimal performance. The following steps provide a general overview:

- Location:** Choose a dry, well-ventilated area, away from direct sunlight, heat sources, and flammable materials. Ensure sufficient clearance around the unit for airflow.
- Battery Connection:** Connect the battery terminals to the inverter's battery input terminals, ensuring correct polarity (positive to positive, negative to negative). Use appropriate gauge cables.
- Solar Panel Connection:** Connect the solar panel array to the designated solar input terminals on the inverter. Verify correct polarity and ensure the solar panel voltage and current are within the inverter's specifications.
- AC Input Connection:** Connect the main AC power supply to the inverter's AC input terminal.

5. **Load Connection:** Connect your appliances and loads to the inverter's AC output sockets.
6. **Initial Power-Up:** After all connections are secure, switch on the inverter. Observe the digital display for status indicators.

5. OPERATION

5.1 Powering On/Off

- **To Power On:** Press and hold the power button until the display illuminates.
- **To Power Off:** Press and hold the power button until the display turns off.

5.2 Understanding the Digital Display

The digital display provides critical information about the inverter's status:

- **Input/Output Voltage:** Shows the current AC input and output voltage.
- **Battery Status:** Indicates battery charge level and voltage.
- **Load Level:** Displays the percentage of connected load.
- **Solar Charging:** Indicates when solar charging is active and the power being generated.
- **Error Codes:** In case of a fault, specific codes will be displayed to assist in troubleshooting.

5.3 Operating Modes

The inverter operates in different modes based on power availability and settings:

- **Mains Mode:** When grid power is available and stable, the inverter charges the battery and passes grid power to the load.
- **UPS Mode (Battery Mode):** During a power outage or grid fluctuation, the inverter automatically switches to battery power to supply the connected loads.
- **Solar Mode:** The inverter prioritizes solar power to charge the battery and/or power the load, reducing reliance on grid electricity.

6. MAINTENANCE

Regular maintenance ensures the longevity and optimal performance of your inverter.

- **Cleaning:** Keep the inverter's exterior clean and free from dust. Ensure ventilation openings are not blocked. Use a dry cloth for cleaning.
- **Battery Inspection:** Periodically check battery terminals for corrosion. Clean them if necessary. Ensure battery water levels (for lead-acid batteries) are maintained.
- **Cable Connections:** Regularly inspect all cable connections for tightness and signs of wear or damage.
- **Environmental Check:** Ensure the installation environment remains dry and well-ventilated.

7. TROUBLESHOOTING

If you encounter issues, refer to the following common problems and solutions. For complex issues, contact customer support.

Problem	Possible Cause	Solution
Inverter not turning on	No battery connection, low battery voltage, faulty power button.	Check battery connections and charge level. Ensure main power is available.
No output power	Overload, short circuit, inverter in fault mode.	Reduce load. Check for short circuits in connected appliances. Restart inverter.
Battery not charging	Mains power not present, solar panels not connected/faulty, charging mode incorrect.	Verify mains supply. Check solar panel connections and sunlight. Ensure correct charging mode is selected.
Unusual noise or smell	Internal fault, overheating.	Immediately turn off the inverter and disconnect from power. Contact service.

8. SPECIFICATIONS

The following table details the technical specifications for the MICROTEK M-sun 1235 Solar Inverter UPS (Model: UPS SOLAR 935VA/12V).

Feature	Specification
Model Name	UPS SOLAR 935VA/12V
Manufacturer	Microtek International Pvt. Ltd.
Product Dimensions (LxWxH)	38.7 x 39.6 x 20.7 cm
Item Weight	10 kg 300 g
Power Source	AC
Wattage	600 Watts
Recommended Use	Home
Included Components	Inverter
Input Voltage Range (Wide)	100V~280V
Input Voltage Range (Narrow)	170V~260V
Output Voltage on Mains Mode	Same as Input Voltage
Output Voltage on UPS Mode	210V ± 10%
Output Frequency on UPS Mode	50Hz ± 0.1Hz
Switching (Mains to UPS & vice versa)	Automatic
Output Waveform on Mains Mode	Same as Input

Feature	Specification
Output Waveform on UPS Mode	Pure Sinewave
Battery Charging Current (Mains)	Constant Charging approx 10% of the Rated Battery Current in AH
Maximum Solar Panel Current	30A
Solar Over Current Capacity	20%
Mains Mode Charger	Power Factor Controlled Boost Technology
Peak Efficiency	>80%
UPS Overload / UPS Short Circuit	110% / 300%
UPS Transfer Time	≤ 15 msec.
Technology	DSPIC Micro Controller Based Design
Auto Reset Feature	Yes
Reverse Panel Protection	Yes
Charging Profile with Solar	Complete
Solar Charger / Normal Charger Modes	Slide Switch to Select Charger Mode
Battery Deep Discharge Pickup Capability	Yes
Thermal Protection	Both in Grid Charging & Backup Mode
Cooling Fan Control	Both by Load & Temperature and in Charging Mode too
Output Voltage Fluctuation (Backup Mode)	Not at All
Display Indications	LCD (16x2) for Display
Grid Units Saved Till Date Info	KWH Indication Present
Solar Power Available at the moment info	WATT Indication Present
DC Input Volt. High Cut Protection/Recover	Yes
Maximum Solar Power Rating	45W to 600W
Operating Temperature	0–45°C

9. WARRANTY AND SUPPORT

Your MICROTEK M-sun 1235 Solar Inverter UPS comes with a standard manufacturer's warranty. Additionally, a 2-year extended warranty plan by Onsitego may be available for purchase.

For warranty claims, technical assistance, or service requests, please contact MICROTEK customer support. Keep your purchase receipt and product serial number handy for faster service.

Manufacturer: Microtek International Pvt. Ltd.

ASK A QUESTION ABOUT THIS MANUAL

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.

Name

Anonymous

Email

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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

Answered questions about this manual

Why is my MICROTEK M-sun 1235 Solar Inverter making noise?

According to the MICROTEK M-sun 1235 instruction manual, unusual noise or smells are serious indicators of potential issues. Please follow these steps immediately: Safety First: If the inverter is making an unusual noise, it may...

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