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› MEAN WELL SP-240-12 Switching Power Supply User Manual

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MEAN WELL SP-240-12 Switching Power Supply User Manual

Model: SP-240-12

INTRODUCTION

This manual provides essential instructions for the safe and efficient installation, operation, and maintenance of your MEAN WELL SP-240-12 Switching Power Supply. Please read this manual thoroughly before installation and retain it for future reference.



An overhead view of the MEAN WELL SP-240-12 switching power supply, showing its metallic enclosure, cooling fan, and terminal block connections.

SAFETY PRECAUTIONS

- **Electrical Hazard:** Installation must be performed by qualified personnel only.
- Ensure proper grounding to prevent electric shock.
- Do not operate the unit in environments with high humidity or extreme temperatures.
- Disconnect power before any installation, maintenance, or troubleshooting.
- Verify input voltage compatibility before connecting the power supply.

SETUP AND INSTALLATION

1. Mounting

- Mount the power supply in a well-ventilated area to ensure adequate heat dissipation.

- Maintain sufficient clearance around the unit for airflow.
- Use appropriate screws and mounting hardware to secure the unit firmly.

2. Wiring Connections

Refer to the terminal block diagram on the unit for correct wiring. Ensure all connections are secure and properly insulated.

- **Input (AC):** Connect the AC input lines (L, N) and Ground (FG) to the designated terminals. The input voltage range is 88~264 VAC or 124~370 VDC.
- **Output (DC):** Connect the DC output lines (+V, -V) to your load. Observe polarity.
- Ensure wire gauges are appropriate for the current draw.

OPERATING INSTRUCTIONS

1. Power On/Off

- After all connections are verified, apply input power. The unit's indicator light should illuminate.
- To power off, disconnect the input power source.

2. Output Voltage Adjustment

The SP-240-12 features an adjustable output. Locate the **V.ADJ** potentiometer on the unit. Use a non-conductive screwdriver to carefully turn the potentiometer clockwise to increase the output voltage or counter-clockwise to decrease it within the specified range (typically $\pm 10\%$ of the nominal output).

3. DC Fan Operation

The integrated DC fan operates automatically based on the internal temperature to maintain optimal operating conditions. Ensure the fan's intake and exhaust vents are unobstructed.

MAINTENANCE

- **Cleaning:** Periodically clean the exterior of the unit and fan vents to prevent dust accumulation, which can impede cooling. Use a soft, dry cloth. Do not use liquid cleaners.
- **Inspection:** Regularly inspect wiring for signs of wear, damage, or loose connections.
- Ensure the operating environment remains within specified temperature and humidity limits.

TROUBLESHOOTING

Problem	Possible Cause	Solution
No output voltage / Unit not powering on	No input power; Incorrect wiring; Blown fuse; Internal fault.	Check input power source and connections. Verify wiring. Inspect internal fuse (if accessible and safe). If problem persists, contact support.
Output voltage unstable or incorrect	Overload; Incorrect V.ADJ setting; Loose connections.	Reduce load. Adjust V.ADJ potentiometer. Check output wiring.

Problem	Possible Cause	Solution
Fan not operating or making unusual noise	Fan obstruction; Fan failure; Unit not hot enough for fan to activate.	Ensure fan vents are clear. Note that the fan operates based on temperature. If noise persists or fan never activates under load, contact support.
Overheating	Insufficient ventilation; Overload; High ambient temperature.	Ensure proper airflow around the unit. Reduce load. Operate within specified ambient temperature range.

SPECIFICATIONS

Feature	Detail
Model	SP-240-12
Output Wattage	240 Watts
Output Voltage	12V (Adjustable)
Output Current	20A
Input Voltage Range	88~264 VAC, 124~370 VDC
Power Factor Correction (PFC)	Yes
Switching Frequency	90KHz
Cooling	DC Fan (ON-Off control)
Enclosure Type	Enclosed
UPC	725330366366

WARRANTY INFORMATION

MEAN WELL products are designed and manufactured to high-quality standards. For specific warranty terms and conditions, please refer to the warranty card included with your product or visit the official MEAN WELL website. This warranty typically covers defects in materials and workmanship under normal use.

CUSTOMER SUPPORT

If you encounter any issues or have questions regarding the MEAN WELL SP-240-12 Switching Power Supply that are not addressed in this manual, please contact your authorized MEAN WELL distributor or visit the official MEAN WELL support website for assistance.