

[Manuals.plus](#) /

› [MEAN WELL](#) /

› MEAN WELL RS-50-12 AC to DC Power Supply User Manual

MEAN WELL 323396

MEAN WELL RS-50-12 AC to DC Power Supply User Manual

Model: 323396

1. PRODUCT OVERVIEW

The MEAN WELL RS-50-12 is a 50.4W AC to DC enclosed switching power supply designed to convert alternating current (AC) to a stable 12-volt direct current (DC) output at 4.2 Amps. This compact unit is suitable for various industrial and electronic applications requiring a reliable power source.

Key features include a wide input voltage range, robust protection mechanisms, and compliance with international safety standards.



Figure 1: Front view of the MEAN WELL RS-50-12 AC to DC Power Supply, showing the input and output terminal blocks, ventilation holes, and product labeling with model number and certifications.

2. SAFETY INSTRUCTIONS

- Ensure proper grounding of the unit to prevent electrical shock.
- Do not operate the power supply in wet or excessively humid environments.
- Verify input voltage compatibility (88-264Vac) before connecting to a power source.
- Avoid obstructing ventilation holes to prevent overheating.
- All wiring should be performed by qualified personnel in accordance with local electrical codes.
- The unit is designed to withstand a 300Vac surge input for 5 seconds; however, prolonged exposure to excessive voltage should be avoided.

3. SETUP AND INSTALLATION

Follow these steps for safe and correct installation of your RS-50-12 power supply:

1. **Mounting:** Securely mount the power supply in a well-ventilated area, ensuring adequate clearance around the unit for airflow.
2. **Input Connection (AC):**
 - Connect the Live (L) wire to the 'L' terminal.
 - Connect the Neutral (N) wire to the 'N' terminal.
 - Connect the Earth Ground wire to the ' ' (Ground) terminal.
 - Ensure input voltage is within the specified range of 88-264Vac at 47-63Hz.
3. **Output Connection (DC):**
 - Connect the negative DC load wire to the '-V' terminal.
 - Connect the positive DC load wire to the '+V' terminal.
 - The output is 12V DC at 4.2 Amps. Do not exceed the maximum output current.
4. **Voltage Adjustment (Optional):** The 'V ADJ' terminal allows for fine adjustment of the output voltage. Use a small screwdriver to carefully turn the potentiometer if voltage adjustment is required. Refer to the specifications for the adjustable range.
5. **Power On:** Once all connections are secure and verified, apply AC power to the unit. The power supply should begin operation.

4. OPERATING INSTRUCTIONS

The RS-50-12 power supply is designed for continuous operation within its specified parameters. Once properly installed and powered, it will provide a stable DC output.

- **Load Management:** Ensure the connected load does not exceed the power supply's maximum output capacity (50.4W or 4.2 Amps at 12V). Overloading can trigger protection mechanisms or damage the unit.
- **Protection Features:** The unit incorporates built-in Short-Circuit, Overload, and Overvoltage Protection. In case of a fault, the power supply may shut down automatically to prevent damage. Remove the fault condition and cycle the power to reset the unit.
- **Environmental Conditions:** Operate the power supply within recommended temperature and humidity ranges to ensure optimal performance and longevity.

5. MAINTENANCE

The MEAN WELL RS-50-12 power supply requires minimal maintenance. Regular checks can help ensure its long-term reliability.

- **Cleaning:** Periodically clean the exterior of the unit with a soft, dry cloth to remove dust and debris. Ensure the ventilation holes remain clear. Do not use liquid cleaners or solvents.
- **Ventilation:** Confirm that the installation environment allows for adequate airflow around the power supply to dissipate heat effectively.
- **Connections:** Occasionally check all input and output terminal connections to ensure they remain tight and secure. Loose connections can lead to poor performance or safety hazards.
- **Vibration:** The unit is designed to withstand 5G vibration. However, avoid excessive or continuous vibration beyond this specification.

6. TROUBLESHOOTING

If you encounter issues with your RS-50-12 power supply, refer to the following common troubleshooting steps:

Problem	Possible Cause	Solution
No output voltage	No AC input power; Overload protection activated; Short-circuit detected; Overvoltage protection activated.	Check AC input connections and power source. Reduce load or remove short-circuit. Cycle power to reset the unit after resolving the fault.
Output voltage too low/high	Incorrect 'V ADJ' setting; Excessive load; Faulty load.	Adjust 'V ADJ' potentiometer. Verify load current is within specifications. Disconnect load to test power supply independently.
Unit overheating	Insufficient ventilation; Overload.	Ensure adequate airflow around the unit. Reduce load to within specified limits.

If the problem persists after attempting these solutions, contact qualified service personnel.

7. SPECIFICATIONS

Parameter	Value
Model Number	RS-50-12 (323396)
Input Voltage Range	88-264Vac
Input Frequency	47-63Hz
Output Voltage	12V DC
Output Current	4.2 Amps
Output Power	50.4W
Ripple and Noise (Mv P-P)	120mV
Load Regulation	0.5%
Line Regulation	0.5%
Surge Input Withstand	300Vac for 5 seconds
Vibration Resistance	5G
Protections	Short-Circuit, Overload, Overvoltage
Certifications	Ulf/Cull/Tuv/Ce/Cb
Dimensions (L x W x H)	3.9 x 3.8 x 1.4 inches (10.16 x 10.668 x 4.064 cm)
Weight	0.249 Kilograms (8.8 ounces)
Country of Origin	China

8. WARRANTY AND SUPPORT

Specific warranty terms and support contact information are not provided within this manual. For detailed warranty information, technical support, or service inquiries, please refer to the official MEAN WELL website or contact your authorized distributor. You may also find additional resources and FAQs on the manufacturer's product support pages.

© 2024 MEAN WELL. All rights reserved.

This manual is for informational purposes only. Specifications are subject to change without notice.