SDRGEEK DC 24V 50A 1200W

SDRGEEK DC Power Supply 24V 1200W Instruction Manual

Model: DC 24V 50A 1200W

1. Introduction

This manual provides essential instructions for the safe and efficient operation of your SDRGEEK DC Power Supply 24V 1200W. Please read this manual thoroughly before installation and use, and retain it for future reference. This power supply is designed for indoor use only.

2. Product Overview

The SDRGEEK DC Power Supply is a universal regulated switching AC to DC converter, providing a stable 24V DC output. It features built-in protection mechanisms and an efficient cooling system, making it suitable for various applications.

Key Features:

- **Input Voltage:** AC 100-110V / 220-240V (selectable via switch).
- **Output Voltage:** DC 24V, adjustable by ±0.5%.
- **Output Current:** 0A~50A, 1200W maximum.
- **Protection Functions:** Shortage protection, overload protection, over voltage protection.
- **Cooling:** Built-in cooling fan for efficient heat dissipation.
- **Design:** PWM design for stability and high efficiency; anti-jamming (EMC tested, wave less than 20MV).
- **Applications:** Widely used in LED lighting, home appliances, instrumentation, office automation, telecom, process, and engineering industries.

Product Dimensions:

Image 2.1: The power supply measures approximately 9.7 inches in length, 4.7 inches in width, and 2.5 inches in height.

3. Setup and Installation

3.1. Voltage Selection

This power supply supports dual input voltages: AC 100-110V and AC 220-240V. A voltage selector switch is located on the side of the unit. **It is crucial to set this switch to the correct voltage (110V or 230V) before connecting the power supply to an AC source to prevent damage.** The unit is typically adjusted to AC 220-240V by default. If you intend to use AC 100-110V, ensure the switch is moved to the 110V position.

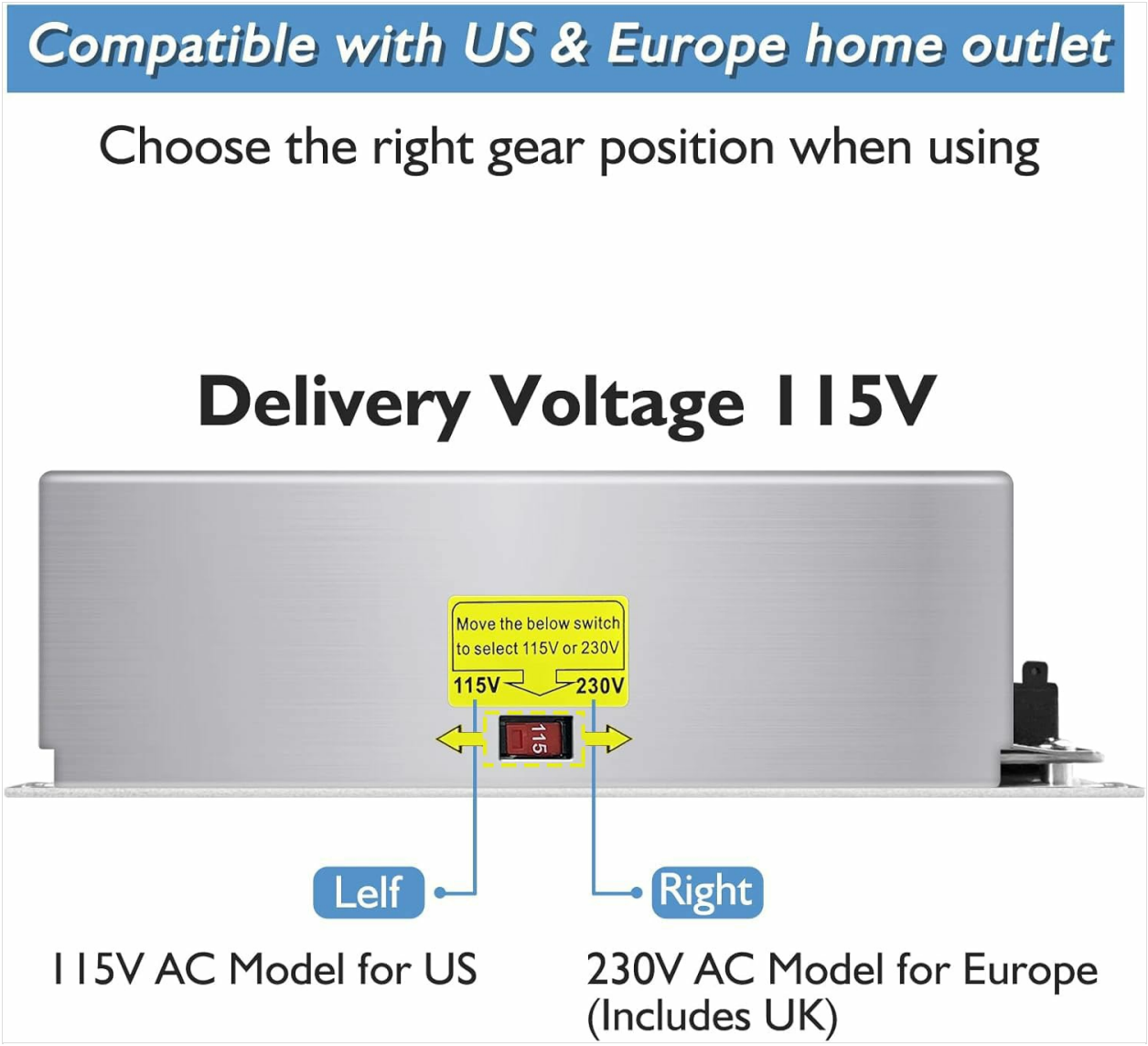

Image 3.1: The voltage selector switch must be correctly set to 115V for US outlets or 230V for European outlets before use.

3.2. Wiring Instructions

Refer to the diagram below for proper wiring connections. Ensure all connections are secure and correctly polarized.

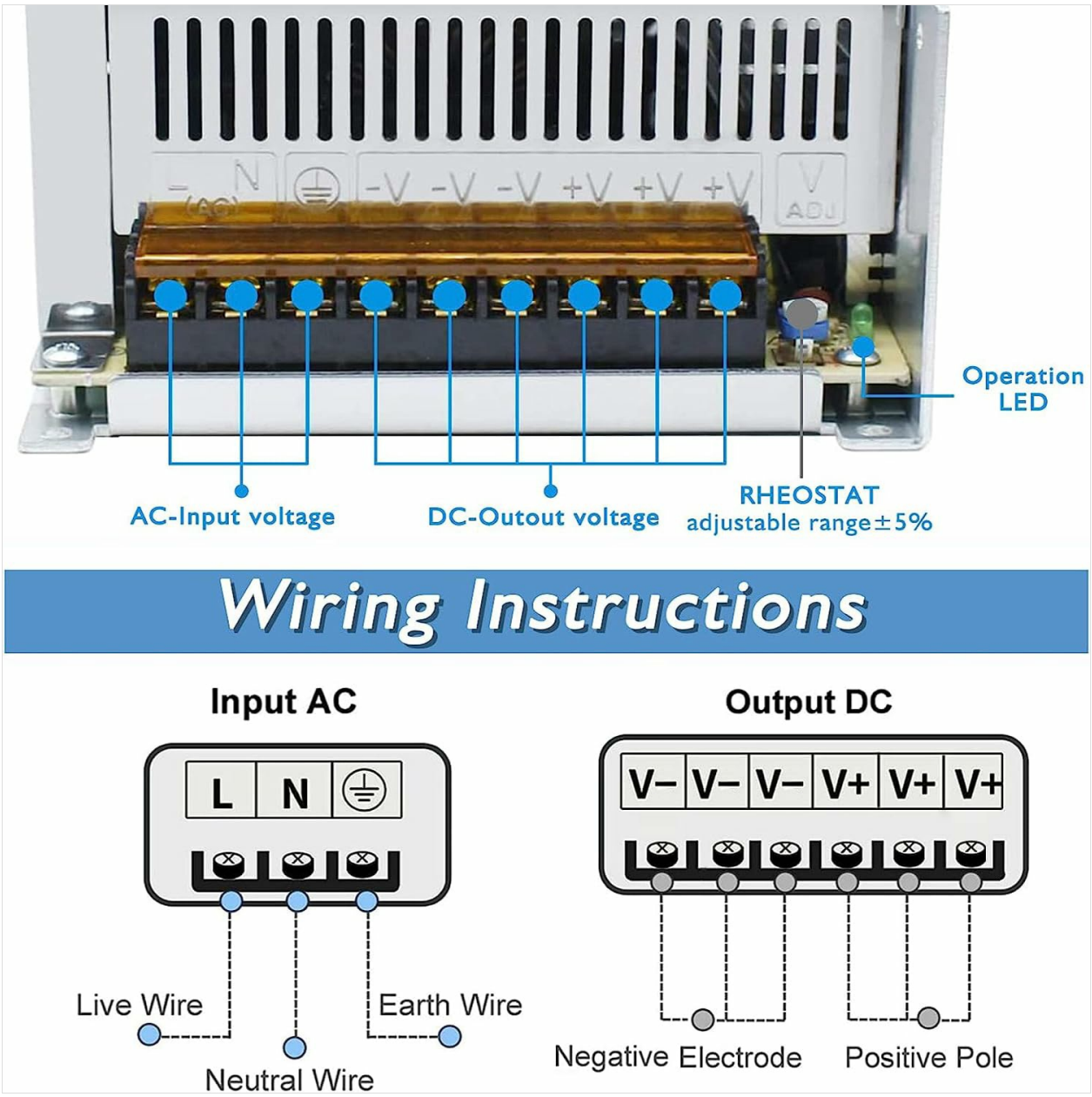

Image 3.2: Detailed wiring instructions for AC input and DC output terminals.

- **L, N:** AC power input terminals (Live and Neutral).
- ⊥ **:** Ground terminal.
- **-V:** DC power output negative terminal.
- **+V:** DC power output positive terminal.
- **+V ADJ:** Knob to adjust the DC output voltage (up to ±15%).

Warning: Incorrect wiring can lead to electric shock, fire, or damage to the unit and connected devices. Always ensure power is disconnected before making any wiring changes.

4. Operation

4.1. Initial Power-Up

1. Verify the voltage selector switch is set to the correct input voltage (110V or 230V).
2. Ensure all AC input and DC output connections are secure.
3. Connect the AC power cord to a suitable power outlet.
4. The operation LED will illuminate, indicating the unit is powered on. The built-in cooling fan will also start

running.

4.2. Adjusting Output Voltage

The output voltage can be finely adjusted using the +V ADJ knob. This allows for a ±15% adjustment range around the nominal 24V DC output. Use a multimeter to verify the output voltage when making adjustments.

4.3. Load Considerations

To ensure optimal performance and longevity of the power supply, observe the following load limits:

- When the input voltage is **220V**, the connected load power should not exceed**80%** of the rated power (1200W).
- When the input voltage is **110V**, the connected load power should not exceed**70%** of the rated power (1200W).

5. Maintenance

5.1. Cooling Fan

The power supply includes a built-in temperature-controlled cooling fan. This fan activates automatically upon power-up to prevent overheating and ensure stable operation. Ensure that the fan vents are not obstructed to allow for proper airflow.

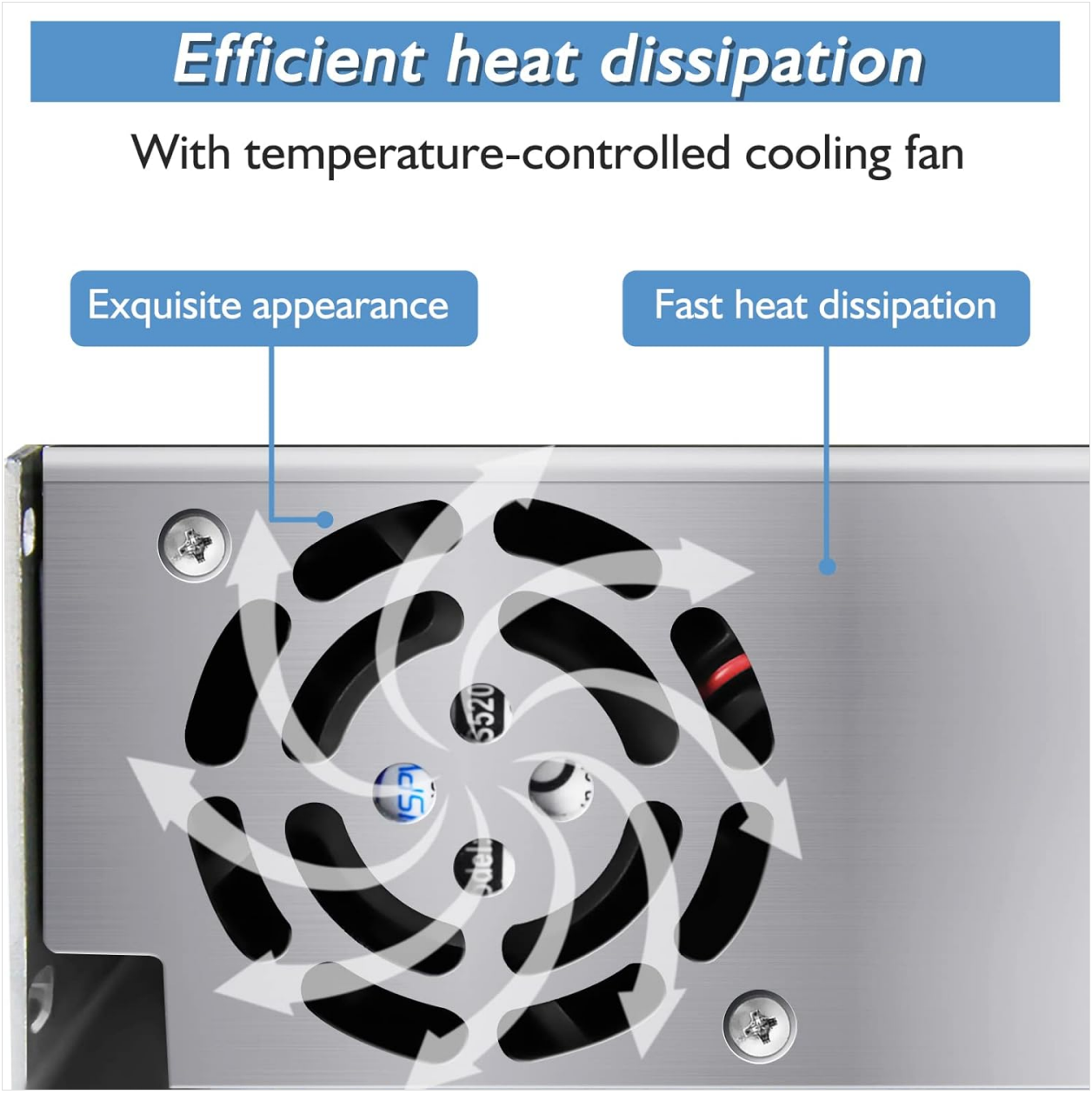

Image 5.1: The integrated cooling fan ensures efficient heat dissipation.

5.2. General Care

- Keep the unit in a clean, dry environment.
- Avoid exposing the unit to excessive dust, moisture, or extreme temperatures.
- Regularly inspect wiring for any signs of damage or loose connections.

6. Troubleshooting

The SDRGEEK power supply is designed with multiple protection features to ensure reliable operation. If you encounter issues, consider the following:

- **No Output Power:**
    - Check AC input power connection.
    - Verify the voltage selector switch is set correctly.
    - Ensure the power supply is not in a protection state (e.g., due to short circuit, overload, or over voltage). Disconnect load and restart.
- **Output Voltage Unstable:**

    - Check load current to ensure it does not exceed the recommended limits (70% for 110V input, 80% for 220V input).
    - Ensure proper ventilation for the cooling fan.

- **Overload Protection:** The unit will automatically cut off power if the load exceeds its capacity. Reduce the load and restart the power supply.
- **Short Circuit Protection:** In case of a short circuit, the power supply will shut down to prevent damage. Identify and resolve the short circuit, then restart the unit.
- **Over Voltage Protection:** If the output voltage exceeds a safe limit, the unit will activate protection.

7. Specifications

Parameter	Value
Input Voltage	AC 100-110V / 220-240V (selectable)
Output Voltage	DC 24V
Output Current	50 Amps
Rated Power	1200W
Output Voltage Adjustment	±15%
Working Condition	0~45℃, 0~95% Non-Condensation
Storage Condition	-20℃ ~80℃, 10%~95%RH
Protection Functions	Shortage, Overload, Over Voltage
Cooling Method	Built-in Cooling Fan
Compliance	CE, FCC
Dimensions	11.3 x 6.34 x 3.5 inches
Weight	3.09 Pounds

8. Safety Precautions

- **Indoor Use Only:** This power supply is designed exclusively for indoor environments. Do not expose it to rain, moisture, or direct sunlight.
- **Correct Voltage Selection:** Always ensure the input voltage selector switch is set to the correct voltage (110V or 230V) before connecting to AC power. Failure to do so will damage the unit.
- **Proper Grounding:** Ensure the unit is properly grounded to prevent electrical hazards.
- **Ventilation:** Maintain adequate clearance around the power supply for proper airflow to the cooling fan. Do not block ventilation openings.
- **Professional Installation:** Installation and wiring should be performed by qualified personnel to ensure safety and compliance with local electrical codes.
- **Disconnect Power:** Always disconnect the AC power before performing any wiring, maintenance, or troubleshooting.
- **Load Limits:** Adhere to the specified load limits (70% for 110V input, 80% for 220V input) to prevent

overload and ensure stable operation.

9. Warranty and Support

SDRGEEK products are manufactured to high-quality standards. For warranty information or technical support, please refer to the product packaging or contact SDRGEEK customer service through their official channels. You can also visit the SDRGEEK Brand Store for more information.