

DROK 20050 (0-24V 0-20A Dual Display Current Adjustable)

DROK 0-24V 0-20A 480W Adjustable AC to DC Power Supply User Manual

Model: 20050 (0-24V 0-20A Dual Display Current Adjustable)

Brand: DROK

1. INTRODUCTION

This manual provides detailed instructions for the safe and efficient operation of your DROK 0-24V 0-20A 480W Adjustable AC to DC Power Supply. This buck converter is designed to convert AC 110V/220V input to a stable and adjustable DC output ranging from 0-24V, with an adjustable current up to 20A. It features a dual LED display for real-time voltage and current monitoring, a cooling fan for temperature control, and multiple protection mechanisms.

2. SAFETY INFORMATION

- **Input Voltage Selection:** Before connecting the power supply to an AC source, ensure the 110V/220V switch on the unit is set correctly according to your local mains voltage. Incorrect selection can cause severe damage to the unit and connected devices.
- **Professional Installation:** Installation and wiring should be performed by qualified personnel to prevent electrical shock or damage.
- **Proper Grounding:** Always ensure the power supply is properly grounded to prevent electrical hazards.
- **Ventilation:** Do not block the ventilation openings. Ensure adequate airflow around the unit to prevent overheating.
- **Environment:** Avoid operating the unit in wet, dusty, or high-temperature environments.
- **Overload Protection:** The unit includes over-load, over-voltage, and short-circuit protection. However, avoid intentionally overloading the power supply.
- **Output Current Limit:** The maximum output current is 20A. Ensure connected devices do not exceed this limit. The adjustable current potentiometer allows setting a lower current limit.

3. PRODUCT OVERVIEW

The DROK 0-24V 0-20A 480W Adjustable AC to DC Power Supply features a robust design with clear indicators and controls.



Image 3.1: Front view of the DROK Adjustable Power Supply showing terminals and displays.

Key Components:

- **Input Terminals (L, N, GND):** For connecting the AC mains power. 'L' for Live, 'N' for Neutral, 'GND' for Ground.
- **Output Terminals (+V, -V):** For connecting the DC load. '+V' for positive, '-V' for negative.
- **Voltage Adjustment Potentiometer:** A knob on the side of the unit used to precisely adjust the output DC voltage from 0V to 24V.
- **Current Adjustment Potentiometer:** A knob on the side of the unit used to adjust the output current limit.
- **Dual LED Display:** Clearly shows the real-time output voltage (red display) and output current (blue display).
- **Cooling Fan:** Automatically activates when the internal temperature rises to maintain optimal operating conditions.
- **110V/220V Switch:** Located on the side, this switch allows selection of the appropriate AC input voltage (110V or 220V).

4. SETUP

Follow these steps to set up your power supply:

1. **Verify Input Voltage Switch:** Locate the 110V/220V switch on the side of the power supply. Use a small tool (e.g., screwdriver) to slide the switch to match your local AC mains voltage (e.g., 110V for North America, 220V for Europe). **Failure to do so will damage the unit.**
2. **Connect AC Input:** Connect your AC mains power cable to the input terminals (L, N, GND). Ensure secure connections.
3. **Connect DC Output:** Connect your DC load to the output terminals (+V, -V). Observe correct polarity (+ to +, - to -).

4. **Initial Adjustment:** Before powering on, turn the voltage adjustment potentiometer counter-clockwise to its minimum setting (0V). Turn the current adjustment potentiometer clockwise to its maximum setting for initial testing, or to a desired limit if known.

5. **Power On:** Plug the AC power cable into a wall outlet. The LED displays should illuminate, showing the current voltage and current readings.

5. OPERATING INSTRUCTIONS

Once the power supply is set up and powered on, you can adjust its output parameters:

1. **Adjusting Output Voltage:** Rotate the voltage adjustment potentiometer clockwise to increase the output voltage, and counter-clockwise to decrease it. The red LED display will show the current output voltage with 0.1V precision.

2. **Adjusting Output Current:** Rotate the current adjustment potentiometer to set the maximum output current limit. The blue LED display will show the current flowing to the load. If the load attempts to draw more current than the set limit, the power supply will limit the current to the set value, and the voltage may drop.

3. **Monitoring:** Continuously monitor the voltage and current displays to ensure they are within the desired range for your application.

Your browser does not support the video tag.

Video 5.1: Official DROK video demonstrating the features and operation of the power supply, including voltage and current adjustment.

6. MAINTENANCE

- **Cleaning:** Keep the unit clean and free from dust. Use a dry, soft cloth for cleaning. Do not use liquid cleaners.

• **Ventilation:** Regularly check that the cooling fan and ventilation openings are not obstructed. Proper airflow is essential for preventing overheating and ensuring long-term reliability.

• **Cooling Fan:** The cooling fan operates automatically when the internal temperature reaches a certain threshold. This is normal operation. If the fan does not activate under load, or if the unit feels excessively hot, discontinue use and contact support.

• **Storage:** When not in use for extended periods, store the power supply in a cool, dry place away from direct sunlight and moisture.

7. TROUBLESHOOTING

Problem	Possible Cause	Solution
No power/LED display off	No AC input; Incorrect 110V/220V switch setting; Blown fuse (internal)	Check AC power connection; Verify 110V/220V switch position; Contact support for fuse replacement.
Output voltage is 0V or very low	Voltage potentiometer at minimum; Overload/Short circuit protection activated; Current limit set too low for load	Rotate voltage potentiometer clockwise; Check load for short circuits; Increase current limit.

Problem	Possible Cause	Solution
Output current is 0A or very low	No load connected; Current potentiometer at minimum; Load not drawing current	Connect a load; Rotate current potentiometer clockwise; Verify load functionality.
Unit gets excessively hot, fan not spinning	Blocked ventilation; Fan malfunction	Ensure clear airflow around the unit; Contact support if fan is faulty.
Voltage/Current display inaccurate	Measurement error; Unit malfunction	Compare with a calibrated multimeter; Contact support if discrepancy persists.

8. SPECIFICATIONS

Feature	Specification
Brand	DROK
Model Number	20050
Input Voltage	AC 110V/220V (Switchable)
Output Voltage	DC 0-24V (Adjustable)
Output Current	0-20A (Adjustable)
Rated Power	480W
Voltage Precision	0.1V
Display Type	Dual LED (Voltage: Red, Current: Blue)
Cooling	Heat sink and automatic cooling fan
Protection Features	Over Load Protection, Over Voltage Protection, Short Circuit Protection
Product Dimensions	8.46 x 4.45 x 1.97 inches
Item Weight	1.9 pounds
Certifications	FCC, UL (Specification Met)

9. WARRANTY AND SUPPORT

This DROK power supply comes with a **1-year warranty** from the date of purchase, covering manufacturing defects and quality issues. If you encounter any problems or require technical assistance, please contact DROK customer support through the retailer where you purchased the product or visit the official DROK website for contact information. For further assistance, please refer to the contact details provided with your purchase or visit the [DROK Store on Amazon](#).

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

you@example.com

After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. [Privacy details](#).

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