NANKADF 30V 5A

NANKADF 30V 5A Variable DC Power Supply Instruction Manual

1. Introduction

This manual provides detailed instructions for the safe and efficient operation of your NANKADF 30V 5A Variable DC Power Supply. This bench power supply features a high-precision encoder adjustment knob, an output enable/disable button, overcurrent protection (OCP), a precise 4-digit LED display, and a convenient USB fast charging port. Please read this manual thoroughly before use to ensure proper functionality and to prevent damage to the unit or connected devices.



Image 1.1: The NANKADF 30V 5A Variable DC Power Supply, a compact and precise power source for various electronic applications.

2. Safety Precautions

- Always ensure the power supply is connected to a grounded outlet.
- Do not operate the unit in wet or damp conditions.
- Before connecting or disconnecting any load, ensure the output is disabled.
- Verify the AC input voltage switch on the rear panel matches your local power supply (115V or 230V) before initial power-on. Incorrect setting can cause severe damage.
- Do not exceed the maximum voltage and current ratings of the power supply or the connected device.
- Keep ventilation openings clear to prevent overheating.

3. Package Contents

Please check the package contents upon receipt. If any items are missing or damaged, contact customer support.

- 1 x NANKADF DC Power Supply Unit
- 1 x Input Power Cord
- 1 x Output Cable (with alligator clips)
- 1 x Instruction Manual



Image 3.1: Contents of the NANKADF DC Power Supply package, including the unit, power cords, and manual.

4. Product Overview

Familiarize yourself with the front and rear panels of the power supply.



Image 4.1: Diagram illustrating the front and rear panels of the NANKADF DC Power Supply, labeling all controls and ports.

Front Panel Features:

- **Output Voltage Display:** Shows the set or actual output voltage.
- **Output Current Display:** Shows the set or actual output current.
- **Power Output Display:** Shows the calculated output power.
- **C.V. Indicator:** Lights up when in Constant Voltage mode.
- **C.C. Indicator:** Lights up when in Constant Current mode.
- **OCP Indicator:** Lights up when Overcurrent Protection is active.
- **Output Indicator:** Lights up when output is enabled.
- **Output Switch:** Button to enable or disable the power output.
- **Power Switch:** Main power on/off button for the unit.
- **USB Interface:** For quick charging external devices.
- **Voltage Regulation Knob:** Encoder knob for precise voltage adjustment.
- **Current Regulation Knob:** Encoder knob for precise current adjustment.

- **Output Positive (+):** Red terminal for positive output connection.
- **Output Negative (-):** Black terminal for negative output connection.
- **Ground Terminal Output:** Green terminal for chassis ground connection.

Rear Panel Features:

- **Cooling Fan:** Automatically activates to dissipate heat.
- **AC Power Input:** Connects to the main power cord.
- **Fuse Box:** Contains the protective fuse.
- **Voltage Selector Switch:** (Internal or external, depending on model) Ensures correct input voltage setting (115V/230V).

5. Setup

5.1 Unpacking and Inspection

Carefully remove the power supply from its packaging. Inspect the unit for any signs of physical damage. Retain the packaging for future transport or storage.

5.2 Power Connection

1. **Verify AC Input Voltage:** Before connecting the power cord, locate the voltage selector switch on the rear panel (if present). Ensure it is set to match your local AC mains voltage (e.g., 115V for North America, 230V for Europe). Incorrect setting can damage the unit.
2. Connect the provided AC power cord to the AC power input on the rear panel of the power supply.
3. Plug the other end of the AC power cord into a grounded electrical outlet.

5.3 Connecting the Load

1. Ensure the power supply is turned off and the output is disabled (Output indicator is off).
2. Connect the red output cable (positive) to the red (+) terminal on the power supply.
3. Connect the black output cable (negative) to the black (-) terminal on the power supply.
4. If grounding is required for your application, connect the green ground cable to the green terminal.
5. Connect the other ends of the output cables to your load device, ensuring correct polarity.

6. Operating Instructions

6.1 Powering On/Off

- To turn on the power supply, press the **POWER** button on the front panel. The display will illuminate.
- To turn off the power supply, press the **POWER** button again.

6.2 Adjusting Voltage and Current (Encoder Knob)

The NANKADF power supply features high-precision encoder knobs for setting voltage and current.

1. **Select Digit:** Press the **VOLTAGE** knob to select the digit you wish to adjust (e.g., tens, units, tenths, hundredths of a volt). The selected digit will blink.
2. **Adjust Value:** Rotate the **VOLTAGE** knob clockwise to increase the value or counter-clockwise to decrease it.

3. Repeat steps 1 and 2 for the **CURRENT** knob to set the desired current limit.
4. Once the desired voltage and current are set, the values will be stored automatically.



Image 6.1: Close-up view of the NANKADF DC Power Supply's encoder adjustment knob, demonstrating how to select and customize individual digits for precise voltage and current settings.

Video 6.1: Demonstration of the NANKADF DC Power Supply's programmable encoder adjustment for setting voltage and current values.

6.3 Output Enable/Disable Function

The **Output** button allows you to enable or disable the power output without turning off the entire unit. This prevents accidental damage to your load when adjusting settings.

- Press the **Output** button to toggle the power output on or off.
- When the output is enabled, the "OUT" indicator on the display will light up.



Image 6.2: The NANKADF DC Power Supply with its output enable/disable button clearly marked, indicating its function for controlling power delivery to the load.

Video 6.2: Official product video demonstrating the functionality of the NANKADF DC Power Supply's output button.

6.4 Overcurrent Protection (OCP)

The OCP function protects both the power supply and the connected load from damage due to excessive current. When OCP is enabled and an overcurrent condition occurs, the power supply will automatically stop output and sound a buzzer alarm.

1. To enable OCP, long-press the **CURRENT** knob. The "OCP" indicator will light up, and the display may show "OCP".
2. If an overcurrent event occurs, the output will shut off, and an alarm will sound.
3. To clear the OCP alarm and resume operation, resolve the overcurrent condition and then press the **Output** button to re-enable the output.



Image 6.3: Illustration of the OCP (Overcurrent Protection) feature on the NANKADF DC Power Supply, showing how it triggers an alarm and stops output during a short circuit.

Video 6.3: Official product video demonstrating the NANKADF DC Power Supply's OCP (Overcurrent Protection) mode in action.

6.5 USB Fast Charging Port

The power supply includes an 18W USB fast charging port on the front panel for convenient charging of compatible devices.

- Connect your USB-compatible device to the USB port using an appropriate charging cable.
- The port provides fast charging capabilities for devices that support 18W USB charging.



Image 6.4: The NANKADF DC Power Supply with a smartphone connected to its USB fast charging port, illustrating its capability to charge external devices.

6.6 Screen Brightness Adjustment

You can adjust the brightness of the display to suit your environment.

1. Press and hold the **Output** button to enter the system parameter setting interface.
2. Press the **VOLTAGE** knob to navigate to the brightness setting (usually item 3).
3. Rotate the **VOLTAGE** knob to select the desired brightness level (e.g., 0 for low, 1 for high).
4. Press the **Output** button to save the setting and exit the setting state.

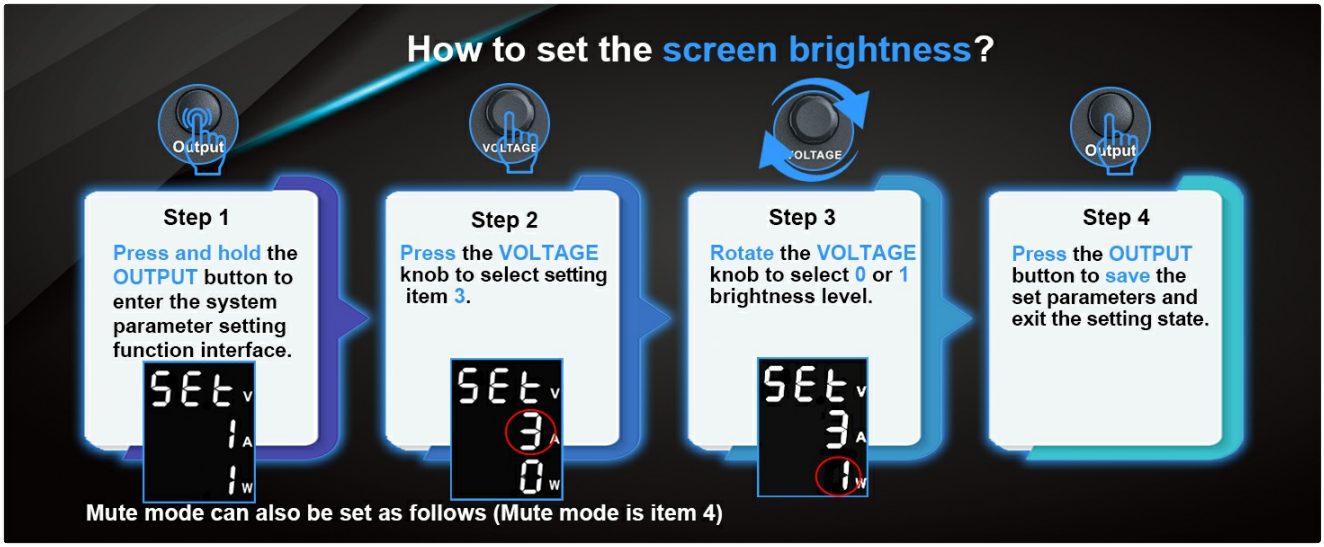


Image 6.5: Step-by-step guide on how to adjust the screen brightness of the NANKADF DC Power Supply using the control knobs.

7. Maintenance

- **Cleaning:** Disconnect the power supply from the mains before cleaning. Use a soft, dry cloth to wipe the exterior. Do not use abrasive cleaners or solvents.
- **Ventilation:** Ensure the cooling fan and ventilation openings on the sides and rear are free from dust and obstructions. Periodically clean with compressed air if necessary.
- **Storage:** When not in use for extended periods, store the power supply in a cool, dry place, away from direct sunlight and extreme temperatures.
- **Fuse Replacement:** If the unit does not power on, check the fuse in the fuse box on the rear panel. Replace with a fuse of the same type and rating if blown.

8. Troubleshooting

Problem	Possible Cause	Solution
Unit does not power on.	Power cord not connected; Power switch off; Blown fuse; Incorrect AC input voltage setting.	Check power cord connection; Press the POWER button; Check and replace fuse; Verify AC input voltage switch (115V/230V) on the rear panel.
No output voltage/current.	Output disabled; OCP triggered; Incorrect connections.	Press the OUTPUT button to enable output; Check for short circuits or overcurrent conditions, resolve, then re-enable output; Verify load connections.
Buzzer alarm sounds.	Overcurrent Protection (OCP) triggered.	Identify and resolve the overcurrent condition (e.g., short circuit in load); Press the OUTPUT button to clear the alarm and re-enable output.
Inaccurate current reading at low values.	Inherent limitation of the internal current measurement for very low currents.	For precise measurements of very low currents (e.g., below 10mA), use an external digital multimeter in series with the load.

9. Specifications

Feature	Specification
Model Name	30V 5A
Brand	NANKADF
Output Voltage	0-30V (Adjustable)
Output Current	0-5A (Adjustable)
Output Wattage	150W (Max)
Display	4-digit LED (0.01V, 0.001A resolution)
Input Voltage	115V / 230V (Switchable)
USB Quick Charge Port	18W
Protection Features	Overcurrent Protection (OCP), Short Circuit Alarm
Cooling Method	Air Cooling (Intelligent Fan)
Item Dimensions (L x W x H)	7.87 x 3.54 x 5.71 inches (20 x 9 x 14.5 cm)
Item Weight	2.5 pounds (1.13 kg)

10. Warranty Information

The NANKADF 30V 5A Variable DC Power Supply comes with a standard warranty. For specific details regarding warranty coverage and duration, please refer to the documentation included with your purchase or contact NANKADF customer support. General return policies typically allow for refunds or replacements within 30 days of purchase.

11. Customer Support

For technical assistance, troubleshooting, or warranty inquiries, please contact NANKADF customer support. You can often find support information on the official NANKADF website or through the retailer where you purchased the product.

Brand: NANKADF

Online Store: Visit the NANKADF 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.

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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