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NANKADF 0-30V 0-10A

NANKADF 30V 10A DC Power Supply Instruction Manual

Model: 0-30V 0-10A

1. Introduction

This manual provides detailed instructions for the safe and efficient operation of your NANKADF 30V 10A DC Power Supply. This device is designed for precision voltage and current output, featuring an encoder knob for fine adjustments, an output enable/disable button, overcurrent protection, and integrated USB/Type-C quick charging ports. Please read this manual thoroughly before use to ensure proper functionality and safety.

2. Safety Precautions

- Always connect the power supply to a grounded outlet.
- Ensure the input voltage switch (located on the rear panel) is set correctly for your region (115V or 230V) before powering on. Incorrect setting can cause damage.
- Do not operate the device in wet or damp conditions.
- Avoid blocking ventilation openings to prevent overheating.
- Do not attempt to disassemble or modify the unit. Refer all servicing to qualified personnel.
- Always disconnect power before making or changing connections to the output terminals.

3. Package Contents

- 1 x NANKADF 30V 10A DC Power Supply
- 1 x Output Power Cord (test leads)
- 1 x Input Power Cord
- 1 x User Manual

4. Product Overview

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



Figure 4.1: Front and Rear Panel Layout

This image displays the front panel with the digital display, encoder knob, V/A button, OUT button, OCP button, USB-A and Type-C ports, and output terminals (positive, ground, negative). The rear panel shows the cooling fan, power input interface, and fuse box.

Front Panel Controls and Indicators:

- **Digital Display:** Shows Voltage (V), Current (A), and Power (W). Also indicates Constant Voltage (C.V), Constant Current (C.C), and Overcurrent Protection (OCP) status.
- **Encoder Knob:** Used to adjust voltage and current values. Press to select a digit, rotate to change its value.
- **V/A Button:** Toggles between voltage and current adjustment modes.
- **OUT Button:** Enables or disables the power output to the terminals.
- **OCP Button:** Activates or deactivates the Overcurrent Protection function.
- **USB-A & Type-C Ports:** 5V/3.6A quick charging outputs.
- **Output Terminals:** Red (+) for positive, Green (GND) for ground, Black (-) for negative.

Rear Panel Features:

- **Cooling Fan:** Automatically activates to maintain optimal operating temperature.
- **Power Input Interface:** Connects to the main power supply.
- **Fuse Box:** Contains the protective fuse.

5. Setup

5.1 Initial Power Connection

1. Ensure the power supply is placed on a stable, well-ventilated surface.
2. Locate the input voltage switch on the rear panel. Set it to match your local mains voltage (115V or 230V).**Failure to do so can damage the unit.**
3. Connect the provided input power cord to the power input interface on the rear panel and then to a grounded wall outlet.

5.2 Connecting a Load

1. Ensure the power supply is turned off (power switch on the rear panel) and the output is disabled (OUT button LED is off).
2. Connect the positive (+) terminal of your load to the red output terminal of the power supply using the provided output power cord (test leads).
3. Connect the negative (-) terminal of your load to the black output terminal of the power supply.
4. If grounding is required for your application, connect the green ground terminal to the appropriate ground point on your circuit.

6. Operating Instructions

6.1 Power On/Off

Flip the power switch on the rear panel to the 'ON' position to power on the unit. The display will illuminate. Flip it to 'OFF' to power down.

6.2 Adjusting Voltage and Current

The NANKADF power supply features a high-precision encoder knob for setting output values.



Figure 6.1: Encoder Knob Adjustment

This image illustrates the process of adjusting voltage or current. Press the encoder knob to move the cursor between digits, then rotate the knob to change the value of the selected digit (0-9).

- Press the **V/A** button to switch between setting voltage (V) and current (A). The active parameter will be highlighted on the display.
- Press the **Encoder Knob** to select the digit you wish to adjust. The selected digit will blink.
- Rotate the **Encoder Knob** to change the value of the blinking digit.
- Repeat the process to set all desired digits for voltage and current.

Video 6.1: Voltage and Current Adjustment Demonstration

This video demonstrates the one-touch switching and encoder knob operation for precise voltage and current adjustments. It shows how to press the V/A button to select the parameter and rotate the knob to change values.

6.3 Output Enable/Disable

The **OUT** button controls the power output to the connected load.



Figure 6.2: Output Control

This image illustrates how to use the OUT button to enable or disable the power output. Pressing the button toggles the output status, indicated by an LED.

- After setting the desired voltage and current, press the **OUT** button to enable the output. The OUT indicator on the display will light up.
- Press the **OUT** button again to disable the output. The OUT indicator will turn off.

6.4 Overcurrent Protection (OCP)

The OCP function protects both the power supply and the connected load from damage due to excessive current.

- Press the **OCP** button to activate or deactivate the overcurrent protection. When active, the OCP indicator on the display will light up.
- If an overcurrent condition occurs while OCP is active, the power supply will automatically stop output and emit an audible alarm. The OCP indicator will flash.
- To clear an OCP alarm, resolve the overcurrent condition (e.g., disconnect the faulty load), then press the **OCP** button or the **OUT** button to reset.

Video 6.2: Overcurrent Protection Demonstration

This video shows the OCP function in action. When a short circuit is simulated, the power supply automatically interrupts the output and issues an alarm, displaying 'OCP' on the screen.

6.5 Mute Mode

You can mute the audible feedback (e.g., OCP alarm sound) by long-pressing the encoder knob.

Video 6.3: Mute Function Demonstration

This video illustrates how to activate and deactivate the mute mode by long-pressing the adjustment knob, silencing the unit's audible alerts.

6.6 USB-A and Type-C Quick Charging

The power supply includes dedicated USB-A and Type-C ports for quick charging external devices.



Figure 6.3: USB-A/Type-C Quick-Charge Interface

This image highlights the USB-A and Type-C ports on the front panel, indicating their function as quick charging interfaces with a built-in fast charging identification chip, outputting up to 18W.

- Connect your compatible device (e.g., smartphone, tablet, power bank) to either the USB-A or Type-C port using an

appropriate charging cable.

- These ports provide 5V/3.6A output for fast charging.

Video 6.4: USB/Type-C Charging Demonstration

This video shows the USB-A and Type-C 18W fast charging ports in use, demonstrating their ability to charge various electronic devices like cell phones and power banks.

7. Maintenance

7.1 Cleaning

- Disconnect the power supply from the mains before cleaning.
- Use a soft, dry cloth to wipe the exterior of the unit.
- Do not use abrasive cleaners or solvents.
- Periodically check and clean the ventilation openings to ensure proper airflow.

7.2 Storage

- Store the power supply in a cool, dry place away from direct sunlight and extreme temperatures.
- Keep it away from dust and corrosive gases.

8. Troubleshooting

8.1 No Power/Display

- Check if the power cord is securely connected to both the unit and the wall outlet.
- Ensure the power switch on the rear panel is in the 'ON' position.
- Verify the input voltage switch on the rear panel is set correctly (115V or 230V) for your region.
- Check the fuse in the fuse box on the rear panel. Replace if blown (use a fuse of the same rating).

8.2 No Output to Load

- Ensure the **OUT** button has been pressed and its indicator LED is lit, enabling the output.
- Check if the OCP function is active and has been triggered (OCP indicator flashing, audible alarm). Resolve any short circuit or overcurrent condition and reset OCP.
- Verify that the output leads are correctly and securely connected to the load and the power supply terminals.

8.3 Inaccurate Readings

- Ensure proper connection of test leads for external measurement devices (e.g., multimeter).
- If comparing with an external meter, ensure both devices are properly calibrated.

9. Specifications

Feature	Specification
Model Number	0-30V 0-10A
Output Voltage	0-30 Volts DC
Output Current	0-10 Amps

Feature	Specification
Output Wattage	300 Watts
Input Voltage	100-120 Volts AC (switchable to 220-240V AC)
USB-A Output	5V/3.6A (Quick Charge)
Type-C Output	5V/3.6A (Quick Charge)
Display	4-digit LED (Voltage, Current, Power)
Protection Features	Overcurrent Protection (OCP), Overvoltage Protection (OVP), Over Temperature Protection
Cooling Method	Air (with 1 fan)
Item Weight	3.34 pounds (approx. 1.51 kg)
Package Dimensions	11.81 x 7.6 x 5.12 inches

10. Warranty and Support

NANKADF provides technical support for its products. For any questions, issues, or technical assistance, please refer to the contact information provided with your purchase or visit the official NANKADF website. Please retain your proof of purchase for warranty claims.

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