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> [NANKADF DC Power Supply Variable 0-30V 0-20A User Manual](#)

## NANKADF 0-30V 0-20A

# NANKADF DC Power Supply Variable 0-30V 0-20A User Manual

Model: 0-30V 0-20A | Brand: NANKADF

## INTRODUCTION

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This user manual provides detailed instructions for the safe and efficient operation of your NANKADF DC Power Supply Variable 0-30V 0-20A. This bench power supply is designed for precise voltage and current control, featuring an encoder knob for accurate adjustments, an output enable/disable button for safety, and an OCP (Over Current Protection) switch for enhanced protection. Please read this manual thoroughly before use to ensure proper functionality and to prevent damage to the unit or connected devices.

## PRODUCT FEATURES

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- **High Precision Encoder Knob:** Allows direct and accurate setting of voltage and current by pressing to switch digits and rotating to adjust values.
- **Output Switch:** Enables or disables power output with a single button, preventing accidental damage to the load and enhancing safety.
- **OCP Short Circuit Alarm:** Automatically stops output and emits an audible alarm upon short circuit or overload, protecting both the power supply and the load.
- **High Power 4-digit Display:** Provides stable and continuously adjustable output from 0-30V and 0-20A, with automatic conversion between Constant Voltage (C.V.) and Constant Current (C.C.) modes.
- **Multiple Circuit Protection:** Includes OVP (over-voltage protection), OCP (over-current protection), OPP (overload protection), and OTP (over-temperature protection) for reliable and safe operation.

## PACKAGE CONTENTS

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Please verify that all items listed below are included in your package:

- 1 x NANKADF DC Power Supply Unit (Model: 0-30V 0-20A)
- 1 x Output Power Cord
- 1 x Input Power Cord

- 1 x User Manual (this document)

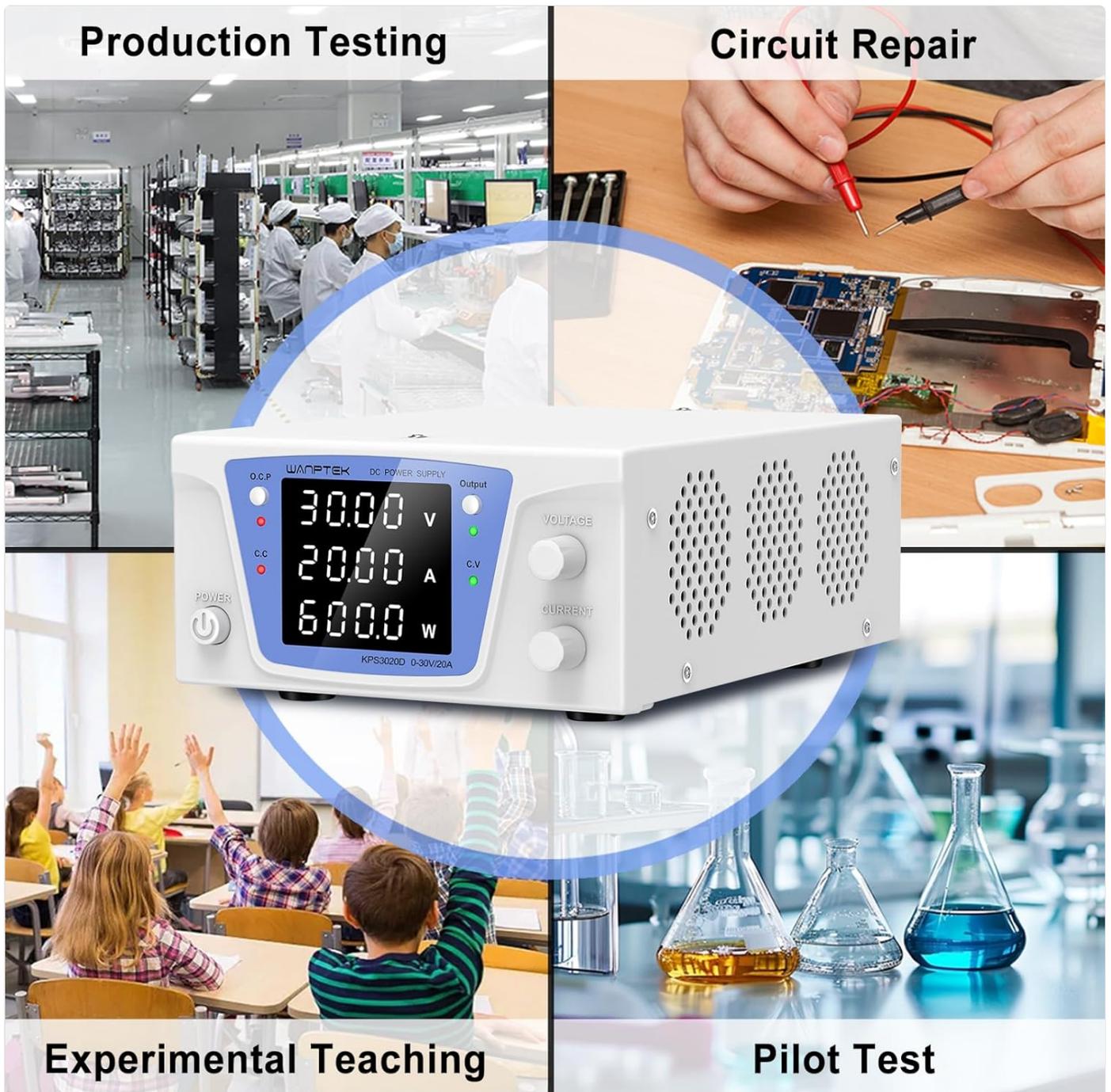


Figure 1: Contents of the NANKADF DC Power Supply package.

## SETUP

### Front Panel Overview

# Function introduction



Figure 2: Front and Rear Panel Components.

Refer to Figure 2 for the location of the following components:

- **Voltage Display:** Shows the current output voltage.
- **Current Display:** Shows the current output current.
- **Power Display:** Shows the current output power (Watts).
- **O.C.P. Button:** Over Current Protection activation button.
- **Output Button:** Enables or disables the power output.
- **Power Switch:** Main power on/off switch.
- **Voltage Knob:** Adjusts the output voltage.
- **Current Knob:** Adjusts the output current.
- **C.C. Indicator Light:** Illuminates when in Constant Current mode.
- **C.V. Indicator Light:** Illuminates when in Constant Voltage mode.
- **Short Circuit Protection Indicator Light:** Illuminates when OCP is triggered.
- **Output Indicator Light:** Illuminates when output is enabled.

## Rear Panel Overview

Refer to Figure 2 for the location of the following components:

- **Negative Output Terminal:** Connects to the negative terminal of your load.
- **Positive Output Terminal:** Connects to the positive terminal of your load.
- **Grounding Terminal:** For safety grounding.
- **Intelligent Cooling Fan:** Activates automatically to dissipate heat.
- **Power Input Socket:** Connects to the AC input power cord.
- **Fuse Box:** Contains the main fuse for protection.
- **RS232/RS485 Communication Interface (Customizable):** For advanced control and monitoring (if applicable to your model).

## Initial Connection

1. Ensure the power supply is turned off and the power cord is disconnected from the wall outlet.
2. Connect the provided input power cord to the Power Input Socket on the rear panel and then to a suitable AC power outlet.
3. Connect the output power cord to the Positive Output Terminal (red) and Negative Output Terminal (black) on the rear panel.
4. Connect the other end of the output power cord to your load. Ensure correct polarity (+ to + and - to -).
5. For safety, connect the Grounding Terminal to an appropriate ground source if available.

## OPERATING INSTRUCTIONS

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### Power On/Off

1. To power on the unit, press the **Power Switch** on the front panel. The display will illuminate.
2. To power off the unit, press the **Power Switch** again.

### Adjusting Voltage and Current

The NANKADF DC Power Supply features a high-precision encoder knob for setting values.

# Upgrade Encoder To Adjust Voltage And Current



Figure 3: Encoder Knob Operation.

1. **Select Digit:** Press the **Voltage Knob** or **Current Knob** to select the digit you wish to adjust (e.g., tens, units, tenths, hundredths). The selected digit will typically blink or be highlighted.
2. **Adjust Value:** Rotate the knob clockwise to increase the value or counter-clockwise to decrease the value of the selected digit.
3. Repeat steps 1 and 2 until the desired voltage and current limits are set.

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Video 1: Demonstration of encoder knob adjustments for voltage and current, and the output enable/disable function.

## Output Enable/Disable

The output button provides a safe way to connect or disconnect your load without powering down the unit.

# OCP short circuit protection function

## OUT One-click output function

### Short-Circuit Protection Switch

A short circuit will trigger an alarm and stop output.

### Output Switch

Turn output on/off



Figure 4: OCP and Output Buttons.

1. After setting the desired voltage and current, press the **Output Button** to enable power output to your load. The Output Indicator Light will illuminate.
2. To disable the output, press the **Output Button** again. The Output Indicator Light will turn off.

### Over Current Protection (OCP)

The OCP function protects the power supply and your load from short circuits or excessive current draw.

# Product List

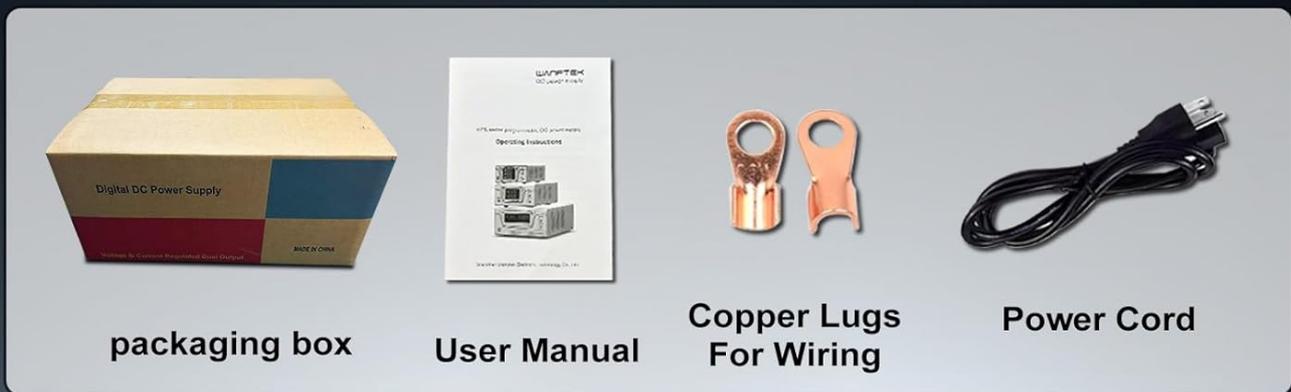


Figure 5: Multiple Circuit Protection.

1. To activate OCP, press the **O.C.P. Button**. The Short Circuit Protection Indicator Light will illuminate.
2. If a short circuit or overcurrent condition occurs while OCP is active, the power supply will automatically stop output and emit an audible alarm. The display will show "OCP".
3. To reset the OCP, resolve the short circuit or overcurrent condition, then press the **O.C.P. Button** again or cycle the power.

## MAINTENANCE

- **Cleaning:** Regularly clean the exterior of the power supply with a soft, dry cloth. Do not use abrasive cleaners or solvents. Ensure ventilation openings are free from dust and debris.
- **Ventilation:** Ensure adequate airflow around the unit. Do not block the cooling fan or ventilation grilles.
- **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.

## TROUBLESHOOTING

Problem	Possible Cause	Solution
Unit does not power on.	No power from outlet; Blown fuse; Loose power cord.	Check power outlet; Replace fuse (same type/rating); Ensure power cord is securely connected.
No output voltage/current.	Output disabled; OCP triggered; Incorrect settings.	Press the Output Button; Check for short circuit/overload and reset OCP; Verify voltage/current settings.
Output voltage/current is unstable or fluctuates.	Poor load connection; Overload condition; Internal fault.	Check all connections; Reduce load; Contact technical support if problem persists.
Unit makes unusual noise (e.g., loud fan).	Dust in fan; Fan malfunction; High internal temperature.	Clean fan vents; Ensure proper ventilation; If noise persists and affects operation, contact support.
Display shows "OCP" or alarm sounds.	Overcurrent or short circuit detected.	Immediately disconnect load. Identify and resolve the short circuit or overcurrent issue. Press OCP button to reset.

## SPECIFICATIONS

Parameter	Value
Model Number	0-30V 0-20A
Brand	NANKADF
Output Voltage Range	0-30V
Output Current Range	0-20A
Output Wattage	600 Watts
Item Weight	5.46 pounds (2.48 Kilograms)
Cooling Method	Air (Intelligent Cooling Fan)
Display Type	4-digit LED Display
Protection Features	OVP, OCP, OPP, OTP
Date First Available	February 2, 2023

### Constant Voltage (C.V.) Mode Specifications:

- Voltage Stability:  $<0.5\% + 3\text{mV}$
- Load Stability:  $<0.5\% + 3\text{mV}$
- Ripple Noise:  $<0.5\%V$  P-P

### Constant Current (C.C.) Mode Specifications:

- Current Stability:  $<0.5\% + 3\text{mA}$
- Load Stability:  $<0.5\% + 3\text{mA}$

- Ripple Noise: <math><0.5\%</math>A P-P

*Note: Display accuracy is 0.5% + 5 digits. For critical applications, verify output with a calibrated external meter.*

## WARRANTY AND SUPPORT

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NANKADF provides technical support for this product. If you encounter any issues or have questions regarding the operation, maintenance, or troubleshooting of your DC Power Supply, please contact NANKADF customer service. Refer to the product packaging or the official NANKADF website for contact information.

Please retain your purchase receipt as proof of purchase for any warranty claims.