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**NANKADF WPS1203H**

# NANKADF DC Regulated Power Supply User Manual

Model: WPS1203H (120V/3A, 360W)

## 1. Introduction

Thank you for choosing the NANKADF DC Regulated Power Supply. This device is a high-precision, digitally adjustable power supply designed for various applications including laboratory testing, electronic maintenance, and production use. It features a 4-digit LED display for precise voltage, current, and power readings, along with advanced protection mechanisms to ensure safe and reliable operation.

This manual provides detailed instructions for the safe and efficient use of your power supply. Please read it thoroughly before operation and keep it for future reference.

## 2. Safety Instructions

- Always connect the power supply to a grounded outlet.
- Do not operate the device in wet or damp conditions.
- Ensure proper ventilation; do not block the cooling fan or vents.
- Do not open the casing; there are no user-serviceable parts inside. Refer all servicing to qualified personnel.
- Verify the input voltage switch (115V/230V) on the rear panel matches your local power supply before connecting to mains.
- Before connecting or disconnecting loads, ensure the output is disabled using the OUTPUT button.
- Avoid short-circuiting the output terminals for extended periods, even with OCP enabled.

## 3. Product Overview




Figure 3.1: Front view of the NANKADF DC Regulated Power Supply, showing the display, control knobs, and output terminals.




Figure 3.2: Labeled components of the power supply, including the display, control knobs, output terminals, and rear panel features.

## Front Panel Components:

- **LED Display:** Shows Voltage (V), Current (A), and Power (W).
- **Voltage Knob:** Adjusts output voltage.
- **Current Knob:** Adjusts output current limit.
- **Output Button:** Enables/disables power output.
- **Power Button:** Turns the unit on/off.
- **USB Quick Charge Interface:** Provides 18W fast charging.
- **Output Terminals:** Positive (+, Red), Negative (-, Black), Ground (Green).

## Rear Panel Components:

- **AC Power Input:** For connecting the mains power cord.
- **Cooling Fan:** For heat dissipation.
- **Voltage Selector Switch:** Selects between 115V and 230V input.

- **Fuse Box:** Contains the protective fuse.

## 4. Setup

1. **Unpacking:** Carefully remove the power supply and all accessories from the packaging. Verify that all items listed in the packing list are present: 1 x DC Power Supply, 1 x Input Power Cord (UK type), 1 x Alligator Clip Output Cable, 1 x User Manual.
2. **Placement:** Place the power supply on a stable, flat surface with adequate ventilation around the unit. Ensure the cooling fan at the rear is not obstructed.
3. **Input Voltage Selection:** Locate the voltage selector switch on the rear panel. Set it to match your local mains voltage (115V or 230V). *Failure to do so may damage the unit.*




Figure 4.1: Rear panel with voltage selector switches.

4. **Power Connection:** Connect the provided input power cord to the AC power input on the rear panel of the power supply, then plug the other end into a grounded wall outlet.
5. **Initial Power On:** Press the POWER button on the front panel. The LED display should illuminate.

## 5. Operating Instructions

### 5.1. Setting Voltage and Current




Figure 5.1: Encoder adjustment for precise voltage and current setting.




Figure 5.2: Example of accurate power output measurement using an external multimeter.

1. **Adjusting Voltage:** Rotate the **VOLTAGE** knob to set the desired output voltage. Press the knob to cycle through the digits (0.01V precision) and then rotate to change the value of the selected digit.
2. **Adjusting Current Limit:** Rotate the **CURRENT** knob to set the desired current limit. Press the knob to cycle through the digits (0.001A precision) and then rotate to change the value of the selected digit. This sets the maximum current the power supply will deliver.
3. **CC/CV Automatic Switching:** The power supply automatically switches between Constant Voltage (CV) and Constant Current (CC) modes based on the load. If the load resistance is too low for the set voltage, the unit will operate in CC mode, limiting the current to the preset value. If the load resistance allows for the set current to be delivered without exceeding the voltage, it will operate in CV mode.

## 5.2. Output Enable/Disable




Figure 5.3: The Output button provides overload protection and controls power delivery.

Press the **OUTPUT** button to enable or disable the power output. It is recommended to disable the output before connecting or disconnecting any load to prevent accidental damage to the device or the load.

## 5.3. Overcurrent Protection (OCP)




Figure 5.4: The OCP indicator illuminates when overcurrent protection is active.

The power supply features an Overcurrent Protection (OCP) function. When an overcurrent condition or short circuit occurs, the power supply will automatically cut off the output and sound an alarm to protect the connected load.

- **Enabling/Disabling OCP:** Press and hold the **CURRENT** knob for 3 seconds to toggle the OCP function on or off.
- **Resetting OCP:** If OCP is triggered, press the **OUTPUT** button to clear the protection state and resume operation after resolving the overcurrent condition.

## 5.4. USB Quick Charge Interface




Figure 5.5: The integrated USB Quick Charge port for convenient device charging.

The power supply is equipped with an 18W USB fast charging interface. This port supports various fast charging protocols and automatically adapts to the charging requirements of the connected device. This feature can help save workbench space and power your electronic devices.

# 6. 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:** Regularly check that the cooling fan and vents are free from dust and debris to ensure proper airflow.
- **Fuse Replacement:** If the unit does not power on, check the fuse located in the fuse box on the rear panel. Replace it only with a fuse of the same type and rating.
- **Storage:** When not in use for extended periods, store the power supply in a cool, dry place, away from direct sunlight and extreme temperatures.

## 7. Troubleshooting

| Problem | Possible Cause | Solution |
|---|---|---|
| No power when turned on. | Power cord not connected, mains power issue, incorrect voltage selection, blown fuse. | Check power cord connection, verify wall outlet, ensure voltage selector matches mains, replace fuse if necessary. |
| No output voltage/current. | OUTPUT button disabled, OCP triggered, incorrect settings. | Press OUTPUT button to enable, check for OCP alarm and clear it, verify voltage/current settings. |
| OCP alarm sounds frequently. | Load current exceeds set limit, short circuit in load. | Increase current limit, check load for short circuits or excessive current draw. |
| Unit overheats. | Blocked ventilation, prolonged high load. | Ensure vents are clear, reduce load if operating continuously at maximum capacity. |
| Display shows erratic readings. | Loose connections, internal fault. | Check all connections. If problem persists, contact customer support. |

## 8. Specifications

| Parameter | Value |
|---|---|
| Model Number | WPS1203H |
| Output Voltage | 0-120V (Adjustable) |
| Output Current | 0-3A (Adjustable) |
| Output Power | 360W |
| Voltage Display Accuracy | 0.01V |
| Current Display Accuracy | 0.001A |
| Display Type | 4-digit LED |
| Input Voltage | 115V/230V AC (Switchable) |
| Weight | 1.54 kg |
| Dimensions (L x W x H) | Approx. 19 x 9 x 15 cm |

| Parameter | Value |
|---|---|
| USB Quick Charge Output | 18W |
| Protection Mechanisms | OVP (Over Voltage Protection), OCP (Over Current Protection), SCP (Short Circuit Protection), Temperature-controlled heat dissipation. |
| Certifications | CE, RoHS |

## 9. Warranty and Support

NANKADF products are designed and manufactured to the highest quality standards. This product comes with a standard manufacturer's warranty. Please refer to the warranty card included in your package for specific terms and conditions.

For technical support, troubleshooting assistance, or warranty claims, please contact NANKADF customer service through the retailer where you purchased the product or visit the official NANKADF website for contact information.

When contacting support, please have your product model number (WPS1203H) and purchase date ready.

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