

## NICE-POWER R-SPS3010D

# NICE-POWER DC Power Supply Variable 60V 5A (300W) Instruction Manual

Model: R-SPS3010D

## 1. INTRODUCTION AND OVERVIEW

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This manual provides detailed instructions for the safe and efficient operation of your NICE-POWER DC Power Supply Variable 60V 5A (300W). Please read this manual thoroughly before using the device to ensure proper functionality and to prevent damage to the unit or connected equipment.

The NICE-POWER DC Power Supply is a high-precision, adjustable switching regulated power supply designed for bench and laboratory use. It features a 4-digit LED display, a 5V/2A USB port, and multiple protection functions including Over-Current Protection (OCP) and Over-Voltage Protection (OVP).

# PRODUCTION INTRODUCING



Figure 1: Front and Rear Panel Overview of the DC Power Supply.

- **Display Screen Protective Film:** Remove before use.
- **Current Display:** Shows the output current.
- **Power Display:** Shows the output power.
- **Voltage Display:** Shows the output voltage.
- **5V/2A USB Port:** Provides stable power for charging devices.
- **Current Coarse Adjustment (COARSE A):** For large adjustments of current.
- **Current Fine Adjustment (FINE A):** For precise adjustments of current.
- **Constant Current Indicator (C.C):** Lights up when the power supply is operating in constant current mode.
- **Power On/Off Button:** Controls the main power to the unit.
- **Negative Output Port (GND):** Connects to the negative terminal of the load.
- **Positive Output Port (+):** Connects to the positive terminal of the load.
- **Overcurrent Protection (OCP) Button:** Activates/deactivates overcurrent protection.
- **Overvoltage Protection (OVP) Button:** Activates/deactivates overvoltage protection.

- **Output Button:** Enables or disables the power output to the load.
- **Voltage Coarse Adjustment (COARSE V):** For large adjustments of voltage.
- **Voltage Fine Adjustment (FINE V):** For precise adjustments of voltage.
- **Constant Voltage Indicator (C.V):** Lights up when the power supply is operating in constant voltage mode.
- **Shock Absorber Rubber Feet:** Provides stability and reduces vibration.
- **Metal Body:** Durable enclosure.
- **Fuse Box:** Contains the main fuse for protection.

## 2. SETUP

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Follow these steps to set up your DC power supply:

1. **Unpacking:** Carefully remove the power supply from its packaging. Verify that all components listed in the packing list are present: Power Supply host, input power cord, two output power cords, and user manual.
2. **Placement:** Place the power supply on a stable, flat surface with adequate ventilation. Ensure that the side cooling holes are not obstructed.
3. **Power Connection:** Connect the provided input power cord to the power supply's AC input socket and then to a suitable AC power outlet.
4. **Initial Power On:** Press the Power On/Off button to turn on the unit. The LED displays will illuminate.
5. **Pre-setting Voltage/Current:** Before connecting any load, set the desired voltage and current limits using the coarse and fine adjustment knobs.
6. **Connecting Load:** Connect the positive (+) terminal of the power supply to the positive terminal of your load, and the negative (-) terminal (GND) to the negative terminal of your load using the provided output power cords. Ensure connections are secure.

**Warning: Always turn on the DC power supply first, set the voltage/current, and then connect the load. When setting the current, adjust the voltage below 3V before connecting output wires to avoid sparks.**

# MINI PORTABLE

Only 7.6 inches in length,  
smaller and more portable



Figure 2: Compact and Portable Design.

## 3. OPERATING INSTRUCTIONS

### 3.1 Adjusting Voltage and Current

The power supply features four high-precision encoder knobs for adjusting current and voltage:

- **Coarse Adjustment Knobs (COARSE A/V):** Use these for making large changes to the current (A) or voltage (V) values.
- **Fine Adjustment Knobs (FINE A/V):** Use these for making precise, small changes to the current (A) or voltage (V) values.

To adjust a value, press the corresponding encoder knob to toggle between digits. Rotate the knob to set each digit from 0-9. This allows for resolutions up to 0.01V and 0.001A.

The fine adjustment encoder knob also has a mute function: press and hold for five seconds to turn off the beep sound.

# HIGH PRECISION ENCODER ADJUSTMENT KNOB

Press the encoder knob to switch digits  
Rotate the encoder knob to adjust the value between 0 and 9



Figure 3: High Precision Encoder Adjustment Knobs.

## 3.2 Output Control

The **OUTPUT** button controls the power delivery to your connected load. Press this button to enable or disable the output. This function helps prevent unexpected damage to loads when switching between different voltage or current settings, a common issue during maintenance and testing.

# OUTPUT BUTTON

Helps you avoid unexpected damage to loads due to voltage and current changes.



Figure 4: Output Button for Load Protection.

## 3.3 Over-Current Protection (OCP) and Over-Voltage Protection (OVP)

The OCP and OVP buttons allow you to manually preset maximum output current and voltage values. If the output exceeds these preset values, the power supply will activate short-circuit protection to safeguard your equipment. These buttons can also be used to calibrate and improve overall accuracy.

# NICE-POWER

## HIGH PRECISION, LOW RIPPLE

4 adjusting knobs, easy to operate.

4-Digits LED display, visible easily.



Figure 5: OCP and OVP Buttons for Enhanced Safety.

### 3.4 USB Port Usage

A 5V/2A USB port is integrated into the front panel, providing a stable power output for charging various devices.

# 5V/2A USB PORT, FLASH CHARGE

Quickly charge for your device.

# 10W



Figure 6: USB Charging Port.

## 3.5 Video Demonstration: Current and Voltage Accuracy Test

This video demonstrates the accuracy of current and voltage measurements using the power supply in conjunction with a multimeter. It shows the steps for connecting the devices and adjusting the output to verify precision.

Your browser does not support the video tag.

Video 1: Current and Voltage Accuracy Test of the NICE-POWER DC Power Supply.

## 3.6 Video Demonstration: Full Power Output Test

This video illustrates the power supply's full output capability when connected to an electronic load. It demonstrates how the power supply maintains stable output under load conditions, adhering to Ohm's law in resistance mode.

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Video 2: Electronic Load Full Power Output Test of the NICE-POWER DC Power Supply.

## 4. MAINTENANCE

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- **Cleaning:** Ensure the power cord is removed before cleaning the DC power supply. Do not use solvents containing hydrocarbons, chlorides, or similar chemicals. Avoid detergents with abrasive ingredients.
- **Cooling Fan:** The internal cooling fan automatically activates when the operating temperature exceeds 122°F (50°C) to ensure effective heat dissipation and prolong equipment life. Ensure the fan vents are clear of obstructions.

## 5. TROUBLESHOOTING

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The NICE-POWER DC Power Supply is equipped with comprehensive operating protection functions to ensure safety and reliability:

- **Over-Voltage Protection (OVP):** Prevents output voltage from exceeding a safe limit.
- **Over-Current Protection (OCP):** Prevents output current from exceeding a safe limit.
- **Over-Heat Protection:** Shuts down the unit if internal temperature becomes too high.
- **Over-Load Protection:** Protects against excessive load conditions.
- **Short-Circuit Protection:** Automatically cuts off output in case of a short circuit.
- **Termination Protection:** Additional safety measure for connected devices.
- **Ground Protection:** Ensures safe grounding of the unit.

If the unit is not functioning as expected, check the following:

1. Ensure the power cord is securely connected and the unit is powered on.
2. Verify that the OUTPUT button is engaged (LED illuminated).
3. Check if OCP or OVP has been triggered. Adjust the current/voltage settings or load as necessary.
4. Inspect the output connections for any short circuits or loose connections.
5. If the unit feels excessively hot, ensure the cooling fan vents are clear and the fan is operating.

# MULTIPLE PROTECTION, SAFETY

Grounding protection Multiple protection methods to ensure your safety.



Over-voltage protection



Over current protection



Over-Temp Protection



USB 5V/2A Charging



Short circuit protection



Ground protection

Figure 7: Multiple Protection Features for Safety.

## 6. SPECIFICATIONS

### NICE-POWER DC Power Supply (Model R-SPS3010D) Specifications

| Feature        | Specification       |
|----------------|---------------------|
| Model Name     | R-SPS3010D          |
| Brand          | NICE-POWER          |
| Output Wattage | 300 Watts           |
| Form Factor    | Benchtop            |
| Cooling Method | Air (Automatic Fan) |

| Feature                      | Specification                                                                                                  |
|------------------------------|----------------------------------------------------------------------------------------------------------------|
| Item Dimensions (L x W x H)  | 6.6 x 9.9 x 3.3 inches                                                                                         |
| Power Supply Design          | External                                                                                                       |
| Connector Type Used on Cable | USB                                                                                                            |
| Connector Quantity           | 3 (Output terminals + USB)                                                                                     |
| Current Rating               | 10 Amps (Note: Product title specifies 5A for this variant, but general spec is 10A. Clarify for 60V 5A model) |
| Number of Fans               | 1                                                                                                              |
| Maximum Input Voltage        | 115 Volts                                                                                                      |
| Minimum Input Voltage        | 115 Volts                                                                                                      |
| Upper Temperature Rating     | 40 Degrees Celsius                                                                                             |
| UPC                          | 767581037763                                                                                                   |
| ASIN                         | B098N4M5F8                                                                                                     |

*Note: The current rating in the general specifications might refer to other variants. For this specific model (60V 5A), the maximum output current is 5 Amps.*

## 7. SAFETY WARNINGS

**Please observe the following safety warnings to prevent injury or damage to the device:**

- Because the DC power supply has an adjustment delay, please turn on the DC power supply first, set the voltage/current you need, and then connect the load.
- When setting the current, you need to first adjust the voltage of the DC power supply below 3V (to avoid sparks), and then connect the positive and negative output wires, and then you can set the desired current.
- Turn off the DC power supply when you are not using it, and remove the power cord.
- When cleaning the DC power supply, make sure that the power cord is removed.
- Do not use solvents containing hydrocarbons, chlorides, or similar chemicals, and do not use detergents containing abrasive ingredients.

## 8. SUPPORT

If you have any questions about your NICE-POWER DC power supply or require assistance, please contact our customer support. We aim to reply within 24 hours.

For more information and products, visit the [NICE-POWER Store](#).

**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