

NICE-POWER SPS-C605S

NICE-POWER SPS-C605S DC Power Supply Instruction Manual

Adjustable Regulated DC Bench Power Supply with Encoder, Output Switch, OCP/OVP, and USB Quick Charge

1. INTRODUCTION

This manual provides detailed instructions for the safe and efficient operation of your NICE-POWER SPS-C605S DC Power Supply. Please read this manual thoroughly before using the device and retain it for future reference.

The NICE-POWER SPS-C605S is an adjustable regulated DC bench power supply designed for various applications including electronics repair, anodizing, electrolysis, electroplating, aging tests, production line tests, DIY projects, laboratories, schools, and scientific research. It features a 4-digit LED display, encoder adjustment knobs for precise control, Over Current Protection (OCP), Over Voltage Protection (OVP), an output switch, and integrated USB-A and Type-C fast charging ports.

2. SAFETY INSTRUCTIONS

To ensure safe operation and prevent damage to the device or injury to yourself, observe the following safety precautions:

- Ensure the power supply is connected to a grounded outlet.
- Do not operate the device in wet or damp conditions.
- Do not open the casing; there are no user-serviceable parts inside. Refer all servicing to qualified personnel.
- Verify the input voltage (110V for US standard) before connecting to power. This model does not support 220V input.
- Always disconnect the power supply from the main power source before making any connections or disconnections to the output terminals.
- Do not exceed the maximum voltage and current ratings of the device or the connected load.
- Use appropriate cables and connectors for your application.
- Keep the ventilation openings clear to prevent overheating.

3. PRODUCT OVERVIEW

Familiarize yourself with the components and controls of your DC power supply.

3.1 Front Panel Layout



Figure 3.1: Front Panel Layout. This image displays the front panel of the NICE-POWER SPS-C605S DC Power Supply, highlighting the digital displays for voltage, current, and power, along with the control knobs for coarse and fine adjustments, OCP/OVP buttons, output switch, and USB charging ports.

- **Voltage Display:** Shows the output voltage in Volts (V).
- **Current Display:** Shows the output current in Amperes (A).
- **Power Display:** Shows the output power in Watts (W).
- **C.V. / C.C. Indicators:** Constant Voltage (C.V.) and Constant Current (C.C.) mode indicators.
- **V-COARSE Knob:** Coarse adjustment for output voltage.
- **V-FINE/Mute Knob:** Fine adjustment for output voltage. Press and hold for 5 seconds to mute/unmute the beeping sound.
- **A-COARSE Knob:** Coarse adjustment for output current.
- **A-FINE Knob:** Fine adjustment for output current.

- **OCP Button:** Over Current Protection activation/deactivation.
- **OVP Button:** Over Voltage Protection activation/deactivation.
- **OUTPUT Switch:** Toggles the DC power output on/off.
- **USB-A Quick Charge Port:** 18W USB-A fast charging port.
- **USB-C Quick Charge Port:** 18W USB-C fast charging port.
- **Output Terminals:** Positive (+), Negative (-), and Ground (GND) terminals for connecting loads.

3.2 Rear Panel Layout



Figure 3.2: Rear Panel Layout. This image shows the rear panel of the NICE-POWER SPS-C605S DC Power Supply, indicating the intelligent temperature control fan and the power input socket with a fuse box.

- **Cooling Fan:** Intelligent temperature-controlled fan for heat dissipation.
- **Power Input Socket:** For connecting the AC power cord.
- **Fuse Box:** Contains a replaceable fuse for protection.

4. SETUP AND INITIAL OPERATION

1. **Unpacking:** Carefully remove the power supply from its packaging. Inspect for any signs of damage.
2. **Placement:** Place the power supply on a stable, level surface with adequate ventilation around the unit, especially the rear cooling fan.
3. **Power Connection:** Connect the provided power cable to the power input socket on the rear panel and then to a grounded 110V AC outlet.
4. **Power On:** Press the **POWER** button on the front panel to turn on the device. The LED display will illuminate.
5. **Setting Voltage and Current:**
 - Use the **V-COARSE** knob for large voltage adjustments and the **V-FINE** knob for precise voltage adjustments.
 - Use the **A-COARSE** knob for large current adjustments and the **A-FINE** knob for precise current adjustments.
 - Pressing the coarse or fine adjustment knobs allows you to switch between digits for more granular control (0-9).
6. **Connecting Load:** Ensure the output is OFF (OUTPUT switch is disengaged) before connecting your load. Connect the positive (+) terminal of the load to the red output terminal and the negative (-) terminal of the load to the black output terminal. Use the green GND terminal for grounding if required by your application.
7. **Activating Output:** Once the desired voltage and current limits are set and the load is connected, press the **OUTPUT** switch to enable the power output.

5. OPERATING INSTRUCTIONS

5.1 Voltage and Current Adjustment

The power supply uses encoder knobs for precise voltage and current settings. You can adjust the values before or after enabling the output.

NEW UPGRADE **PRECISE ENCODER**

Coarse Adjustment, **Fine** adjustment



Press the knob to
switch the digits

Rotate the knob to
set the values



Set by **COARSE** adjustment knob

Set by **FINE** adjustment knob

Figure 5.1: Encoder Knob Adjustment. This image illustrates how to use the encoder knobs for coarse and fine adjustment of voltage and current. Pressing a knob switches the digit being adjusted, and rotating it changes the value.

- Rotate the **V-COARSE** or **A-COARSE** knobs for significant changes.
- Rotate the **V-FINE** or **A-FINE** knobs for minor, precise adjustments.
- To adjust a specific digit, press the corresponding coarse or fine knob. The active digit will be highlighted, allowing you to rotate the knob to set its value (0-9).

Video 5.1: Function Introduction - NICE-POWER DC Power Supply. This video demonstrates the various functions of the power supply, including voltage and current adjustment using the encoder knobs, and the operation of OCP/OVP and output switch.

5.2 Over Current Protection (OCP) and Over Voltage Protection (OVP)

The OCP and OVP features protect your load and the power supply from damage due to excessive current or voltage.

POWERFUL **OCP** SHORT CIRCUIT ALARM

On OCP activation status, when the power supply is short-circuited or overcurrent, the output will stop and OCP flashing on screen



Figure 5.2: OCP Short Circuit Alarm. This image illustrates the OCP feature, showing the display flashing "OCP" and an alarm symbol when a short circuit or overcurrent condition is detected, automatically stopping the output.

- **Activating OCP/OVP:** Press the **OCP** or **OVP** button to activate the respective protection. The corresponding indicator on the display will light up.
- **Setting OCP/OVP Limits:**
 - To set the OCP limit, press and hold the **OCP** button for 5 seconds. The current display will show "OCP". Use the current adjustment knobs to set the maximum allowable current. Briefly press **OCP** again to save and exit.
 - To set the OVP limit, press and hold the **OVP** button for 5 seconds. The voltage display will show "OVP". Use the voltage adjustment knobs to set the maximum allowable voltage. Briefly press **OVP** again to save and exit.
- **Triggering Protection:** If the output current exceeds the OCP limit or the output voltage exceeds the OVP limit (e.g., due to a short circuit), the power supply will automatically stop output, sound an alarm, and flash "OCP" or "OVP" on the display.
- **Resetting Protection:** To clear the alarm and resume operation, resolve the fault condition (e.g., remove short circuit, reduce load) and then press the **OCP** or **OVP** button.

5.3 Output Switch

The **OUTPUT** switch allows you to enable or disable the DC power output without turning off the entire unit or disconnecting the load.



Figure 5.3: Output ON/OFF Button. This image highlights the OUTPUT button, which allows users to easily turn the power output on or off, preventing accidental damage to connected loads during adjustments.

- Press the **OUTPUT** button to toggle the power output. The button will illuminate when the output is active.
- Always ensure the output is OFF before connecting or disconnecting any load to prevent potential damage.

5.4 USB Quick Charge Ports

The power supply includes 18W USB-A and Type-C fast charging ports for convenience.

18W USB & TYPE-C FAST CHARGING

Built-in fast charging protocol identification chip, charge your devices efficiently



Figure 5.4: USB-A and Type-C Fast Charging Ports. This image shows the integrated USB-A and USB-C ports on the front panel, capable of 18W fast charging for compatible devices.

- Connect your USB-compatible devices to the **USB-A** or **USB-C** ports for fast charging.
- These ports operate independently of the main DC power output.

5.5 Mute Function

The encoder knobs produce a beeping sound during adjustment by default. This can be muted if preferred.

- To mute the beeping sound, press and hold the **V-FINE** encoder knob (the second knob from the top) for 5 seconds. A "bi" sound will confirm the mute status.
- To reactivate the beeping sound, press and hold the **V-FINE** knob for 5 seconds again, or turn the power supply off and then back on.

6. MAINTENANCE

- **Cleaning:** Disconnect the power supply from the main power source 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 ventilation holes are free from dust and obstructions to ensure proper heat dissipation.
- **Fuse Replacement:** If the power supply does not turn on, check the fuse located in the fuse box on the rear panel. Replace it with a fuse of the same type and rating (refer to specifications).
- **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
Device does not power on.	No power from outlet; power cable loose; blown fuse.	Check power outlet; ensure power cable is securely connected; replace fuse if blown.
No output voltage/current.	OUTPUT switch is OFF; OCP/OVP triggered; incorrect settings.	Press OUTPUT switch to ON; check and reset OCP/OVP; verify voltage/current settings.
"OCP" or "OVP" flashing with alarm.	Overcurrent or overvoltage condition detected.	Identify and resolve the fault in the load circuit; press OCP/OVP button to reset.
Beeping sound during adjustment is annoying.	Buzzer is active by default.	Press and hold the V-FINE knob for 5 seconds to mute.
Unit overheats.	Blocked ventilation; prolonged high load operation.	Ensure clear airflow around the unit; reduce load or operating time if necessary.

8. SPECIFICATIONS

- **Model:** SPS-C605S
- **Output Voltage:** 0-60V
- **Output Current:** 0-5A
- **Output Wattage:** 300 Watts
- **Input Voltage:** 110V (US Standard)
- **Display:** 4-Digit LED
- **Protection Features:** OCP (Over Current Protection), OVP (Over Voltage Protection), Leakage, Grounding Terminal, Over-Power, Over-Load, Over-Temperature, Short-Circuit Protection.
- **USB Charging:** 18W USB-A and Type-C Fast Charging Ports
- **Cooling Method:** Intelligent Temperature Control Fan
- **Product Dimensions:** 3.3 x 8.4 x 5.5 inches
- **Item Weight:** 2.64 pounds
- **Manufacturer:** NICE-POWER

9. WARRANTY AND SUPPORT

NICE-POWER provides quality assurance and efficient after-sales service for this product. If you encounter any issues or

have questions regarding your SPS-C605S DC Power Supply, please contact NICE-POWER customer service for technical support and assistance.

Refer to your purchase documentation or the official NICE-POWER website for specific warranty terms and contact information.

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