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› PACUM SPS-W605 Variable DC Power Supply Instruction Manual

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INTRODUCTION

Thank you for choosing the PACUM SPS-W605 Variable DC Power Supply. This high-precision switching DC lab power supply is designed for various applications requiring adjustable voltage and current. This manual provides essential information for the safe and efficient operation, setup, maintenance, and troubleshooting of your device. Please read this manual thoroughly before use and retain it for future reference.

SAFETY INSTRUCTIONS

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

- Always connect the power supply to a grounded outlet.
- Do not operate the device in wet or damp conditions.
- Ensure proper ventilation around the unit to prevent overheating.
- Do not open the casing; there are no user-serviceable parts inside. Refer servicing to qualified personnel.
- Avoid short-circuiting the output terminals.
- Disconnect power before making any connections or disconnections to the output terminals.
- Use only the specified input voltage ($230V \pm 10\%$ 50Hz or $115V \pm 10\%$ 60Hz).

PRODUCT OVERVIEW

Key Features

- Single output, high precision, high reliability, low ripple and noise.
- 3-LED digital display for voltage and current values, including mA.
- Voltage and current coarse/fine adjustment knobs for precise control.
- Constant Voltage (CV) and Constant Current (CC) operation modes with automatic conversion.
- Integrated current limiting protection.

Components and Controls

The PACUM SPS-W605 features an intuitive front panel for easy operation and a rear panel for power input and cooling.



Figure 1: Front Panel Controls. This image displays the front panel of the power supply, highlighting the digital display screen, current coarse and fine adjustment knobs, voltage coarse and fine adjustment knobs, 5V 2A USB port, power on/off button, output negative (-) terminal, GND terminal, and output positive (+) terminal. A protective film is also indicated on the display screen.

The front panel includes a digital display for real-time voltage, current, and power readings. Adjustment knobs allow for precise control over output voltage and current. Output terminals are provided for connecting your load, along with a 5V 2A USB port for convenience.



Figure 2: Rear Panel Features. This image illustrates the rear panel of the power supply, showing the radiator (cooling fan), the AC power input socket with an integrated fuse box, and the rubber pedestals for stability.

The rear panel houses the main power input, a fuse box for protection, and a cooling fan (radiator) to maintain optimal operating temperature.

Product Dimensions



Model Number:	SPS-W305	SPS-W3010	SPS-W605	SPS-W1203
Output Voltage:	0~30V	0~30V	0~60V	0~120V
Output Current:	0~5A	0~10A	0~5A	0~3A
Input Voltage:	230V+10%50Hz (115V+10% 60Hz)			
Working Temperature:	0°C~40°C;Relative Humidity:<80%RH			
Storage Temperature:	-10°C~70°C;Relative Humidity:<70%RH			
Constant voltage state:	Voltage stabilitys0.1%+3mV Low Voltage:0.2~0.3%+3mV			



Figure 3: Device Dimensions. This image provides the physical dimensions of the power supply: 252mm (9.9in) length, 170mm (6.6in) width, and 84mm (3.3in) height.

SETUP

Follow these steps for initial setup:

1. **Unpacking:** Carefully remove the power supply from its packaging and inspect for any signs of damage.
2. **Placement:** Place the unit on a stable, level surface with adequate ventilation around all sides, especially the rear cooling fan.
3. **Power Connection:** Ensure the power switch on the front panel is in the OFF position. Connect the provided AC power cord to the power input socket on the rear panel, then plug the other end into a grounded electrical outlet.
4. **Output Connections:** Connect your load to the output terminals (red for positive, black for negative) using appropriate test leads. Ensure connections are secure before powering on.

OPERATING INSTRUCTIONS

Powering On/Off

- To power on the device, press the power button on the front panel. The digital display will illuminate.
- To power off, press the power button again.

Adjusting Voltage and Current

The power supply operates in two main modes: Constant Voltage (CV) and Constant Current (CC). The device automatically switches between these modes depending on the load and set parameters.

- **Voltage Adjustment:** Use the 'Voltage Coarse' knob for large adjustments and the 'Voltage Fine' knob for precise tuning of the output voltage. The display will show the set voltage.
- **Current Adjustment:** Use the 'Current Coarse' knob for large adjustments and the 'Current Fine' knob for precise tuning of the output current limit. The display will show the set current limit.
- **Constant Voltage (CV) Mode:** When the load resistance is high, the output voltage remains constant at the set value, and the output current is determined by the load. The 'CV' indicator will be lit.
- **Constant Current (CC) Mode:** When the load resistance is low, the output current remains constant at the set limit, and the output voltage drops. The 'CC' indicator will be lit. This mode protects the load from excessive current.

Applications

This variable DC power supply is suitable for a wide range of applications, including:

- Teaching experiments and research in educational institutions.
- Testing and aging processes for electronic production line products.
- Repair and maintenance of communication equipment.
- Other fields requiring a stable and adjustable DC regulated power source.



Figure 4: Typical Applications. This image illustrates common uses for the power supply, such as in a laboratory setting, for computer maintenance, cell phone repair, and electronic equipment production.

MAINTENANCE

Proper maintenance ensures the longevity and reliable operation of your power supply.

- **Cleaning:** Regularly clean the exterior of the unit with a soft, dry cloth. Do not use abrasive cleaners or solvents. Ensure no liquids enter the device.
- **Ventilation:** Keep the ventilation openings clear of dust and obstructions. The internal cooling fan will activate automatically when the internal temperature exceeds 50°C (122°F) to prevent overheating.
- **Fuse Replacement:** If the unit does not power on, check the fuse located in the power input socket on the rear panel. Replace it with a fuse of the same type and rating if necessary.



Figure 5: Internal Cooling System. This image shows the internal components, including the intelligent temperature control fan designed for lower noise operation. The fan activates when the internal temperature exceeds 50°C (122°F) to ensure efficient cooling.

TROUBLESHOOTING

If you encounter issues with your power supply, refer to the following common problems and solutions:

- **No Power:** Check the power cord connection, the power switch, and the fuse on the rear panel. Ensure the wall outlet is functional.
- **No Output Voltage/Current:** Ensure the output terminals are correctly connected to the load. Verify that the voltage and current knobs are adjusted to desired levels and not set to zero. Check for short circuits in the load.
- **Overheating:** Ensure the cooling fan on the rear panel is not obstructed and that there is sufficient airflow around the unit. Reduce the load if operating at maximum capacity for extended periods.
- **Unstable Output:** Check all connections for looseness. Ensure the load is within the specified operating range of the power supply.

If the problem persists after attempting these solutions, please contact customer support.

SPECIFICATIONS

The following table details the technical specifications for various models, including the SPS-W605:

Parameter	SPS-W305	SPS-W3010	SPS-W605	SPS-W1203
Output Voltage:	0~30V	0~30V	0~60V	0~120V
Output Current:	0~5A	0~10A	0~5A	0~3A
Input Voltage:	230V±10% 50Hz (115V±10% 60Hz)			
Working Temperature:	0°C~40°C; Relative Humidity: <80%RH			
Storage Temperature:	-10°C~70°C; Relative Humidity: <70%RH			
Constant Voltage State:	Voltage stability 0.1% + 3mV; Low Voltage: 0.2~0.3% + 3mV			

Additional specifications:

- **Regulated State:** Voltage stability 0.01% + 3mV, Load stability 0.01% + 5mV, Recovery time 100us, Ripple noise 1mVrms, Temperature coefficient 300PPM/°C.
- **Steady Flow State:** Current stability 0.2% + 3mA, Load stability 0.2% + 3mA, Ripple noise 3mArms (effective value).
- **Package Dimensions:** 10.24 x 6.69 x 3.54 inches.
- **Item Weight:** 6.61 pounds (3000 Grams).
- **Model Number:** 172401389.

WARRANTY AND SUPPORT

This PACUM product is covered by a manufacturer's warranty. For specific warranty details, please refer to the documentation included with your purchase or contact your retailer. If you require technical assistance, troubleshooting, or have questions regarding your PACUM SPS-W605 Variable DC Power Supply, please contact PACUM customer support through the retailer's platform or the official PACUM website.

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

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Email

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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

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