

USER MANUAL

(SPPS-D Series)

VER:01

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SAFETY BRIEF

This manual contains important safety instructions that must be followed in the operation and storage environment of the SPPS-D series. To ensure your personal safety, and ensure that this product works in the best environment, please read this manual carefully before using.

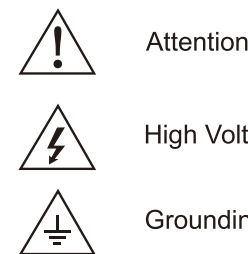
When you get a brand-new power supply, you need to do the necessary checks to make sure the instrument is working properly.

- To check whether there are damages caused during transportation.
- To check whether all the accessories are complete.
- To check whether the output voltage and output current are normal after turning on the device.

If finding out any problems, please contact the merchant immediately.

SAFETY SYMBOL

The safety symbols below will appear in this manual or on the DC power supply.



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PRODUCT BRIEF

SPPS-D Series adjustable DC regulated power supply is specially designed for laboratories, schools and students. The output voltage and current can be between 0 and nominal value continuously adjustable.

The stability and ripple factor of the power supply are very good and have a perfect protection circuit. Can work at full load for a long time. This power supply can be used as both a regulated power supply and a regulated current supply.

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SPECIFICATION

1. Switchable DC regulated power supply

Model Number	SPPS-D305	SPPS-D3010	SPPS-D605	SPPS-D1203
Output Voltage	0-30V	0-30V	0-60V	0-120V
Output Current	0-5A	0-10A	0-5A	0-3A
Fuse Standard (Input Voltage)	3.15A ^(250V) 5A ^(110V)	3.15A ^(250V) 5A ^(110V)	3.15A ^(250V) 5A ^(110V)	3.15A ^(250V) 5A ^(110V)

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≤1%+3mV

Load stability≤1%+3mV

Ripple noise≤50mVrms

Constant Current State: Current stability≤1%+3mA

Load stability≤1%+3mA

Ripple noise≤50mArms (valid value)

Display Accuracy: 1%+5digits

Display Resolution: Voltage:0.01V Current:0.001A

Product Dimension: Length240mm X Width125mm X Height133mm

Product Weight 1.4Kg 1.4Kg 1.4Kg 1.4Kg

The above parameters are measured at an ambient temperature of 25±5°C, relative humidity: <80%RH, and preheated for 30 minutes. The actual parameters will vary slightly.

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SPECIFICATION

2. Switchable DC regulated power supply

Model Number	SPPS-D2001	SPPS-D3001	SPPS-D4001	SPPS-D10001
Output Voltage	0-200V	0-300V	0-400V	0-1000V
Output Current	0-1A	0-1A	0-1A	0-1A
Fuse Standard (Input Voltage)	3.15A ^(250V) 5A ^(110V)	3.15A ^(250V) 5A ^(110V)	2.15A ^(250V) 5A ^(110V)	8A ^(110V)

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≤1%+3mV

Load stability≤1%+3mV

Ripple noise≤50mVrms

Constant Current State: Current stability≤1%+3mA

Load stability≤1%+3mA

Ripple noise≤50mArms (valid value)

Display Accuracy: 1%+5digits

Display Resolution: Voltage:0.01V Current:0.001A

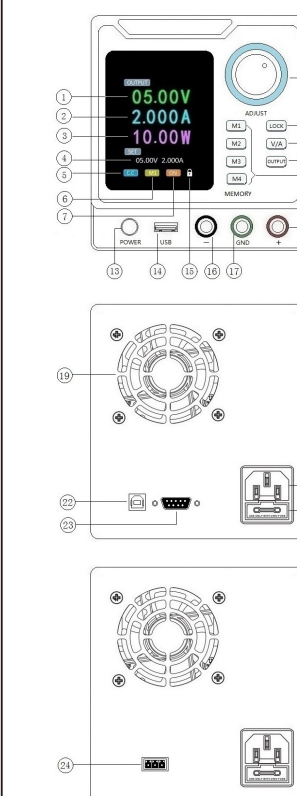
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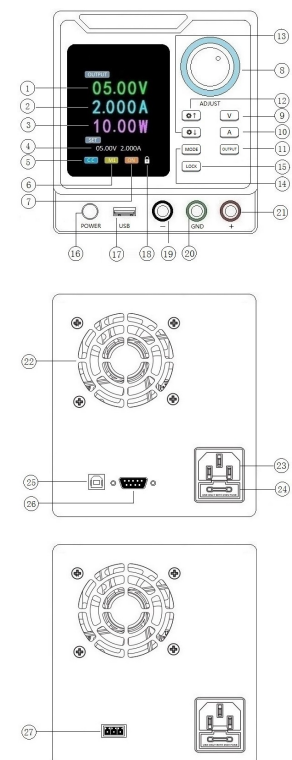
PANEL INSTRUCTION



- Output Voltage Display / Set Voltage Display
- Output Current Display / Set Current Display
- Output Power Display
- Voltage / Current Set Value
- Constant Voltage State / Constant Current State
- Memory Recall/Save Number
- Output Status
- Voltage and Current Tuner | Coarse Tuner
- Front Panel Lock Button
- Voltage and Current Adjustment Switch Button
- Output ON/OFF Button
- Memory Recall/Save Button
- Power Switch
- USB Charging Socket (5V2A)
- Lock Status Symbol
- Negative Polarity(Black)
- Grounding(Green)
- + Positive Polarity(Red)
- Cooling Fan
- Power Socket
- Fuse Box
- USB Port (Selection)
- RS-232 Port (Selection)
- RS-485 Port (Selection)

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PANEL INSTRUCTION



- Output Voltage Display / Set Voltage Display
- Output Current Display / Set Current Display
- Output Power Display
- Voltage / Current Set Value
- Constant Voltage State / Constant Current State
- Memory Recall/Save Number
- Output Status
- Voltage and Current Tuner | Coarse Tuner
- Voltage Adjustment Switch Button
- Current Adjustment Switch Button
- Output ON/OFF Button
- Menu Up Selection Button
- Menu Down selection Button
- Mode Selection Button
- Front Panel Lock Button
- Power Switch
- USB Charging Socket (5V2A)
- Lock Status Symbol
- Negative Polarity(Black)
- Grounding(Green)
- + Positive Polarity(Red)
- Cooling Fan
- Power Socket
- Fuse Box
- USB Port (Selection)
- RS-232 Port (Selection)
- RS-485 Port (Selection)

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OPERATION INSTRUCTIONS

Power On/Off :

- Press the power swith, the display screen is initialized, and the device displays the parameter settings before the last shutdown.Press the power switch again, the power supply is off.

Status Indicator:

- Constant voltage output indicator. The indicator is on when the power supply is working in constant voltage mode.
- Constant current indicator, this indicator is on when the power supply is working in constant current mode.

Output parameter setting:

- Connect the load to the front panel terminals.
- Set the output voltage and current.

Press **[V/A]** button to swith between voltage adjument and current adjustment, adjust the voltage and current by tuner. Normally, the voltage and current work in fine tuning mode, switch to coarse tuning mode by pressing **[ADJUST]**. Every press of **[ADJUST]**, the cursor moves one place to the left.

Save/Call settings:

Save Settings

Background: The front panel settings can save 4 groups of internal memories.

Panel operation: Press the corresponding memory keys M1~M4 to set the corresponding voltage and current values, press the corresponding memory key again,the power supply will save the set voltage and current values automatically.

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Call settings:

Background: The front panel can directly call any of the 4 groups of internal memory.

Panel operation: Press the corresponding memory keys M1~M4, take M1 for example, to call the parameter value saved in M1. The corresponding key lights of M1~M4 on the panel are lit, it indicates the number of memory groups currently called.

Output On/Off:

Panel operation: Press **[OUTPUT]** to turn on the output, The output key light is on. Press the output button again to turn off the power output,the output key light is off.

Note: When recalling other settings from the memory, that is, when recalling the memory parameters, the output will be automatically turned off.

Locking the front panel:

Panel operation: Press **[LOCK]**, the button light is on, all buttons and knob operations on the front panel except **[OUTPUT]** will be locked. If you need to release the lock, press **[LOCK]** again, the button light is off, and the panel operation resumes.

There are two types of power output modes: constant voltage output (CV) and constant current output (CC). The output mode is determined by the voltage and current values set by the user and the load connected by the user. The output voltage or current value of the power supply won't exceed the voltage and current values set by the user. In constant voltage mode, the output voltage value is equal to the user-set voltage value. In constant current mode, the output current value is equal to the user-set current value.

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For example: the voltage value is set to 5V and the current value is set to 5A.

Steps

- Turn on the power switch
- Adjust the voltage adjustment knob to 5V the current value is set to 5A

- Press **[OUTPUT]** Button to the OFF state ,then adjust the current to 5A;
- Press **[OUTPUT]** Button to the ON state,Connect Load to use.

In actual CV operation, if the load resistance decreases and the output current increases to the set current value, the power supply will automatically switch to CC mode. When the load resistance value continues to decrease, the current will remain at the current set value. The voltage is proportionally reduced. At this time, increase the load resistance or increase the current set value to restore the CV output state.

WORK REQUIREMENT

- AC input: Please make sure the input voltage of this product
- Do not use in an environment where the ambient temperature exceeds 40 degrees Celsius. The cooling fan is located at the rear of the device and should have enough space for cooling.

Incorrect AC voltage input will cause serious damage to the device. Please make sure the required input voltage value.

CONNECT THE LOAD

- Rotate the terminal knob by turning it counterclockwise
- Insert the load terminal
- Turn the terminal knob clockwise
- Banana plug can be directly inserted into the terminal hole

Improper connection may result in damage to the power supply and the load connected to the power supply. When connecting the battery load, do not reverse the polarity of the "+" and "-" as this may damage the power supply.

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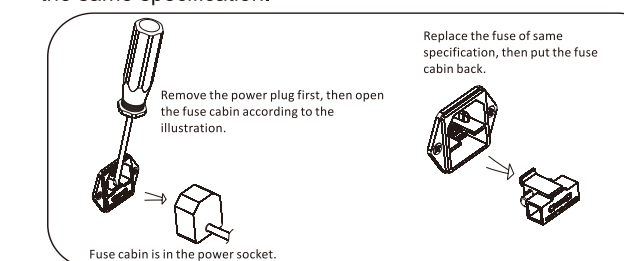
CONSTANT VOLTAGE / CONSTANT CURRENT CHARACTERISTICS

The working characteristics of this series of power supplies are constant voltage/constant current automatic conversion type, which can automatically change between constant voltage and constant current states with load changes. The intersection between constant voltage and constant current mode is called conversion point.For example, if the load causes the power supply to operate in a constant voltage mode, a constant voltage is output. As the load increases, the output voltage will remain constant and the output current will increase. When the current value reaches the set current limit value, the power supply will automatically switch to constant current mode. The output current remains stable and the output voltage decreases proportionally as the load increases further. The conversion of constant voltage and constant current is indicated by the LED on the front panel.

CV indicator light is on during constant voltage, CC indicator is on when constant current.

FUSE REPLACEMENT

If the fuse blows, the power supply will stop working. To find and correct the cause of the blown fuse, then replace it with a fuse of the same specification.



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For effective safety protection, it is only necessary to replace the fuse of a specific specification. Before replacing the fuse, the power must be turned off and the power cord must be unplugged from the power outlet.

PRODUCT MAINTANCE

- Disconnect the power when the product is not in use.
- Unplug the power supply before cleaning.
- Do not use hydrocarbons, chlorides or similar solvents, or use abrasive cleaners.

PRODUCT WARRANTY

- This product is offered free maintenance service within one year from the date of purchase. Except in the following cases:
A: Lack of this product warranty card
B: Failures caused by improper use, such as improper handling and improper repair, modification or adjustment of the device.
C: Consumable materials are not covered by the warranty.
D: Naturally irresistible disasters such as floods, fires, earthquakes, etc.

- Maintenance costs are charged for repairs that exceed the warranty period, and the costs incurred for maintenance are the responsibility of the user.

PACKING LIST

- 1x Power Supply
- 1x Power Cord
- 1x Output Load Cord
- 1x User's Manual
- 1x Warranty Card

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