NICE-POWER DC Power Supply Variable User Manual

Contents

NICE-POWER

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Product Information

Specifications

- **Series:** SPPS-D Series
- **Output:** 3.15A (230V), 5A (110V)
- **Automatic Switching:** CV to CC mode
- **Overload Protection:** Yes
- **Output Adjustment Range:** 2.15A – 5A (230V), 5A – 8A (110V)

Product Usage Instructions

Initial Setup

1. Ensure the power supply is connected to a suitable power source.
2. Connect the load to the output terminals of the power supply.

Operating Modes

- Constant Voltage (CV) Mode: Used when maintaining a constant voltage output.
- Constant Current (CC) Mode: Automatically activated when load resistance decreases.

Adjusting Output

- To adjust the output current, use the provided controls to set the desired value.
- If the load resistance decreases, the power supply will switch to CC mode.

Overload Protection

- The power supply has built-in overload protection to prevent damage to the unit or connected devices.
- If an overload occurs, the power supply will automatically adjust to protect the circuit.

Troubleshooting
If the output voltage decreases due to load resistance, increase the load resistance or adjust the current set value to restore CV output.

FAQ (Frequently Asked Questions)

- **How do I know if the power supply is in CV or CC mode?**
  The power supply will automatically switch to CC mode when load resistance decreases, indicated by a change in output behavior.
- **What should I do in case of an overload?**
  The power supply is equipped with overload protection. In case of an overload, the unit will automatically adjust to protect the circuit.

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 ensures 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.
  1. To check whether there are damages caused during transportation.
  2. To check whether all the accessories are complete.
  3. 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.


Attention


High Voltage


Grounding

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 valueContinuously 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.

SPECIFICATION

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	3. 15A (230V)	3. 15A (230V)	3. 15A (230V)	3. 15A (230V)
(Input Voltage)	5A (110V)	5A (110V)	5A (110V)	5A (110V)
Input Voltage:	230V±10% 50Hz/115V±10% 60Hz			
Working Temperature:	0℃~40℃; Relative Humidity: ＜80%RH			
Storage Temperature:	-10℃~70℃; 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:00.01V Current:0.001A			
Product Dimension:	Length240mm X Width125mm X Height133mm			
Product Weight	1.4Kg	1.4Kg	1.4Kg	1.4Kg

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 (230V) 5A (110V)	3. 15A (230V) 5A (110V)	2. 15A (230V) 5A (110V)	5A (230V) 8A (110V)
Input Voltage:	230V±10% 50Hz/115V±10% 60Hz			
Working Temperature:	0℃~40℃; Relative Humidity: ＜80%RH			
Storage Temperature:	-10℃~70℃; 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			
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Product Dimension:	Length240mm X Width125mm X Height133mm			
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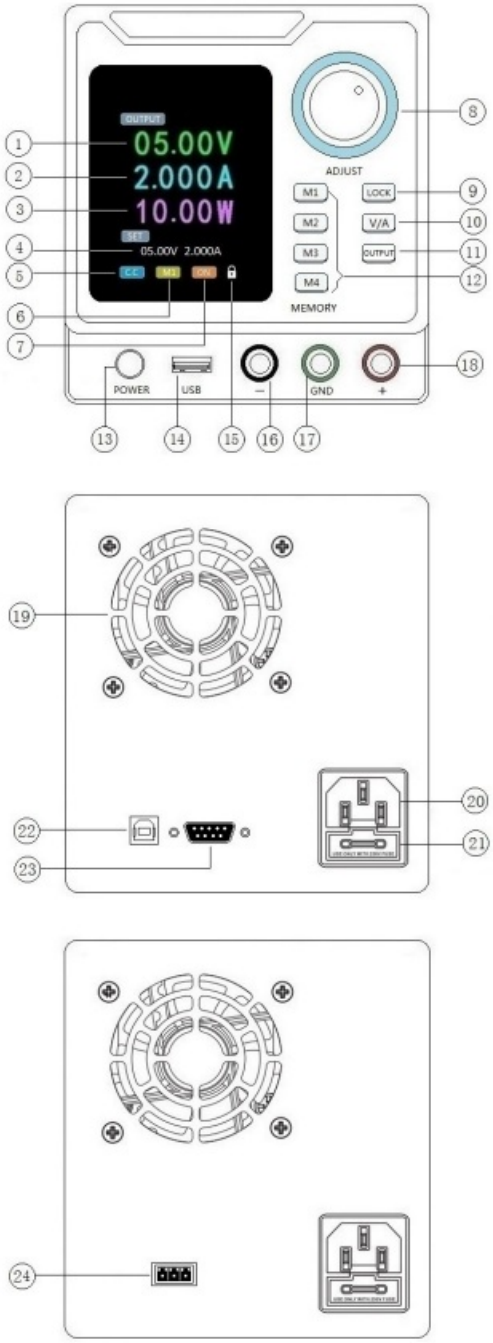
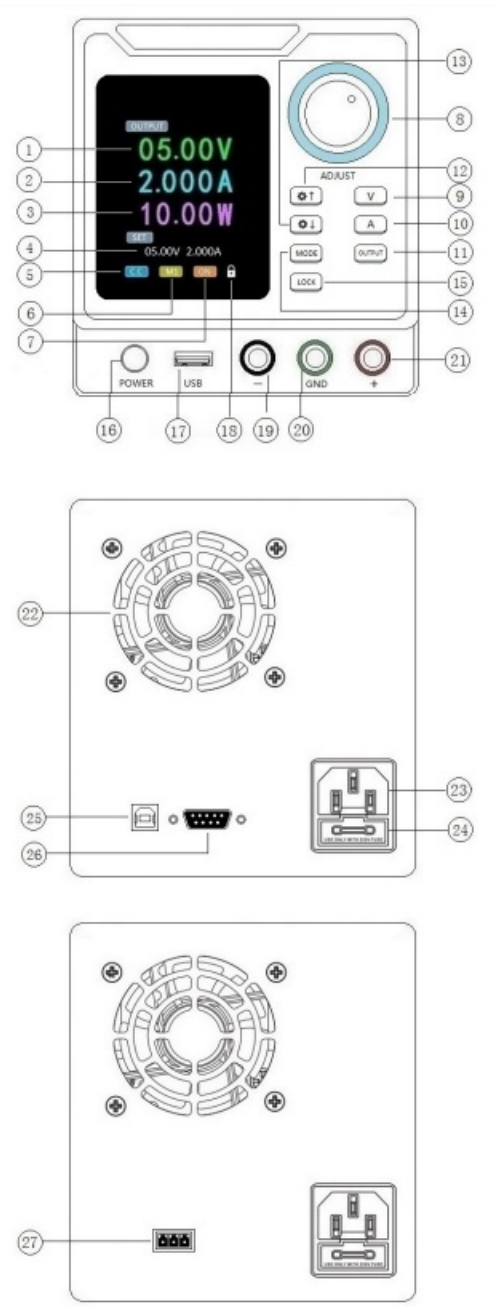
PANEL INSTRUCTION



1. Output Voltage Display / Set Voltage Display
2. Output Current Display / Set Current Display
3. Output Power Display
4. Voltage/ Current Set Value
5. Constant Voltage State / Constant Current State
6. Memory Recall/Save Number
7. Output Status
8. Voltage and Current Tuner | Coarse Tuner
9. Front Panel Lock Button
10. Voltage and Current Adjustment Switch Button
11. Output ON/OFF Button
12. Memory Recall/Save Button
13. Power Switch
14. USB Charging Socket (5V2A)

15. Lock Status Symbol
16. -Negative Polarity(Black)
17. Grounding(Green)
18. + Positive Polarity Red)
19. Cooling Fan
20. Power Socket
21. Fuse Box
22. USB Port (Selection)
23. RS-232 Port (Selection)
24. RS-485 Port (Selection)



1. Output Voltage Display / Set Voltage Display
2. Output Current Display / Set Current Display
3. Output Power Display
4. Voltage / Current Set Value

5. Constant Voltage State / Constant Current State
6. Memory Recall/Save Number
7. Output Status
8. Voltage and Current Tuner | Coarse Tuner
9. Voltage Adjustment Switch Button
10. Current Adjustment Switch Button
11. Output ON/OFF Button
12. Menu up Selection Button
13. Menu Down selection Button
14. Mode Selection Button
15. Front Panel Lock Button
16. Power Switch
17. USB Charging Socket (5V2A)
18. Lock Status Symbol
19. -Negative Polarity(Black)
20. Grounding(Green)
21. + Positive Polarity Red)
22. Cooling Fan
23. Power Socket
24. Fuse Box
25. USB Port (Selection)
26. RS-232 Port (Selection)
27. RS-485 Port (Selection)

OPERATION INSTRUCTIONS

- POWER **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:**
  - C.V Constant voltage output indicator. The indicator is on when the power supply is working in constant voltage mode.
  - C.C Constant current indicator, this indicator is on when the power supply is working in constant current mode.
- **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. Ify ou 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.

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

1. Turn on the power switch
2. Ajust the voltage adjustment knob to 5V the current value is set to 5A
3. Press OUTPUT Button to the OFF state ,then adjust the current to 5A;
4. Press OUTPUT Button to the ON state, Connect Load to use.

   Attention

   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 orincrease the current set value to . restore the CV output state.

WORK REQUIEMENT

1. AC input: Please make sure the input voltage of this product
2. 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.

   Warning

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

CONNECT THE LOAD

1. Rotate the terminal knob by turning it counterclockwise
2. Insert the load terminal
3. Turn the terminal knob clockwise
4. Banana plug can be directly inserted into the terminal hole

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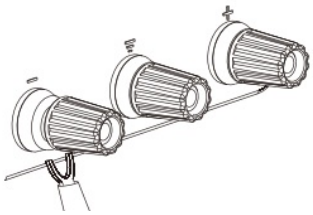
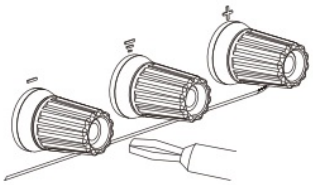




Attention

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.

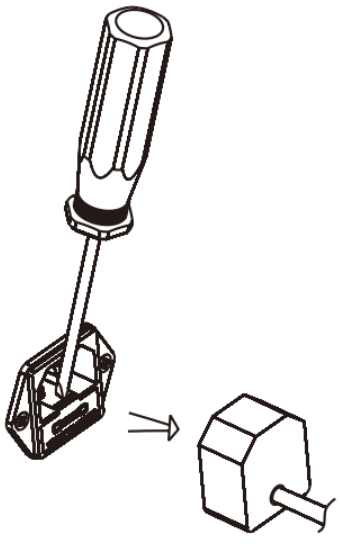
CONSTANT VOLTAGE / CONSTANT CURRENT CHARACTERISTICS

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

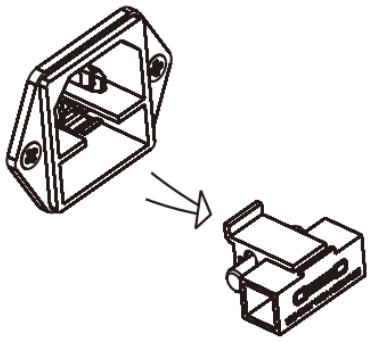
If the fuse blows, the power supply will stop working. To find and correct the cause of the blown fuse, then replace it with a fuse of the same specification.

- Remove the power plug first, then open the fuse cabin according to the illustration.



Fuse cabin is in the power socket.

- Replace the fuse of same specification, then put the fuse cabin back.



PRODUCT MAINTANCE

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

PRODUCT WARRANTY

1. This product is offered free maintenance service within one year from the date of purchase. Except in the following cases:
    - Lack of this product warranty card
    - Failures caused by improper use, such as improper handling and improper repair, modification or adjustment of the device.
    - Consumable materials are not covered by the warranty.
    - Naturally irresistible disasters such as floods, fires, earthquakes, etc.
2. 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

1. 1x Power Supply
2. 1x Power Cord
3. 1x Output Load Cord
4. 1x User’s Manual
5. 1x Warranty Card

ABOUT COMPANY

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Documents / Resources

	NICE-POWER DC Power Supply Variable [pdf] User Manual SPPS-D Series, DC Power Supply Variable, DC, Power Supply Variable, Supply Variable, Variable

References

- User Manual