DC POWER SUPPLY

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（300W）| USER MANUAL

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:
A:Failures caused by improper use, such as improper handling and improper repair, modification or adjustment of the device.
B:Consumable materials are not covered by the warranty.
C: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

CONTENTS

SAFETY BRIEF

Congratulations on your purchase of the adjustable programmable DC power supply(hereinafter referred as Power Supply), which produced by Ningbo Kaijia Electronic Commerce Co., Ltd. To fully utilize this power supply, please keep this manual for reference carefully, especially on the safety contents, to avoid personal injury or damage on the power supply.

This user manual includes the operation procedure and the storage environmental conditions on this adjustable programmable DC power supply SPS3010V series.

Please make the necessary checking once you get this new power supply and make sure it can be worked well.

1- Whether there are any damages during the transportation.
2- Whether the standard accessories are all packed.
3- Whether the power supply is compliant with the actual input voltage before power on
4- Whether the output voltage and current works normal after power on

If any problems were found, please contact your local distributor for assistance.

SAFETY SYMBOL

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


Attention


High Voltage


Grounding

PRODUCT BRIEF

The model SPS3010V is the programmable switch mode DC power supply with digital display, which shows the values of voltage, current and power simultaneously. This power supply is widely applied for product aging, R&D research, education and manufacturing, and so on. The outputs of voltage and current can be adjusted between 0 to reference value through encoder knob continuously.

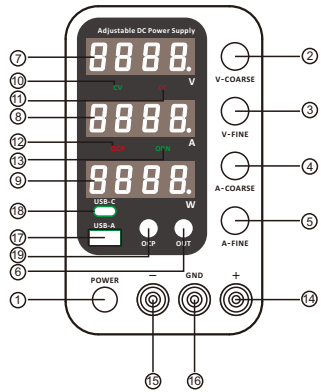
The SPS3010V is excellent on stability and ripple coefficient, as well as the circuit protections on short-circuit , over-voltage, over-current and over-temperature. With stylish design, user-friendly operation to enable SPS3010V for longer time full-load working. In addition, the inbuilt USB port for charging function, all of these features make SPS3010V is an ideal power supply for you.

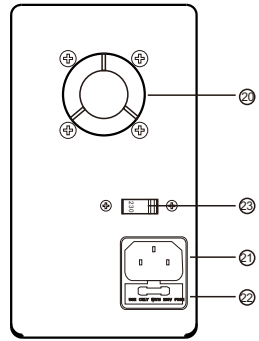
SPECIFICATION

1.Switchable DC regulated power supply

Model Number	SPS-3005V	SPS-3010V	SPS-6005V	SPS-12003V
Output Voltage	0-30V	0-30V	0-60V	0-120V
Output Current	0-5A	0-10A	0-5A	0-3A
Output Power	150W	300W	300W	360W
Input Voltage: AC115V/230V±5% 50/60Hz				
Auxiliary Functions: Output OCP short-circuit protection, USB charging port				
Operating Temperature: 0℃~40℃ Relative humidity: <80%RH				
Storage Temperature: -10℃~70℃ Relative humidity: <70%RH				
Constant Voltage Status	Voltage Stability: ≤0.5%+3mV Load Stability: ≤0.5%+3mV Ripple Noise: ≤0.5%V P-P			
Constant Current Status	Current Stability: ≤0.5%+3mV Load Stability: ≤0.5%+3mV Ripple Noise: ≤0.5%V P-P			
Protection Mode: Short-Circuit, Over-Voltage, Over-Current, Over-Temperature				
Display: Four-digit tube, 3-group display on voltage, current, power				
Display Accuracy: 0.5%+5digit				
Display Resolution:Voltage 0.01V, Current: 0.001A (>100V at 0.1V ; >10A at 0.01A)				
Product Dimension: 200×90×160mm(L×W×H)				
Product Weight: 1.13Kg				
Fuse Standard	T4A/T6A	T5A/T8A	T5A/T8A	T5A/T8A

PANEL INSTRUCTION





① Power button
② Voltage Coarse
③ Voltage Fine
④ Current Coarse
⑤ Current Fine
⑥ Output push button
⑦ Voltage value display
⑧ Current value display
⑨ Power value display
⑩ CV (constant voltage) indicator
⑪ CC (constant current) indicator
⑫ OCP short circuit indicator
⑬ OPN indicator
⑭ Positive output terminal
⑮ Negative output terminal
⑯ Grounding bolt
⑰ USB charging port
⑱ TYPE-C charging port
⑲ OCP button

⑳ Cooling Fan
㉑ Input power socket
㉒ Fuse Box
㉓ Transfer switch:115V/230V

NOTICE

When operating the power supply, please ensure the power cord is grounded well, if the power socket has no grounding, you can connect the housing case of power supply with the wire to ground. Good grounding can prevent power supply leakage and reduce output ripple interference.

CAUTIONS

1- Please use the power cord which is compliant with the rated power of this device.
2- Before operating, the device must be grounded in order to conduct the week leakage current, which caused by the anti-electromagnetic interference circuit inside the power supply, into the earth. Otherwise the false leakage might be occurred, and it can damage the loading deices or decrease the capacity of anti-interference of this power supply.
3- Once use the power supply to charge the rechargeable battery (like lead-acid battery), ensure that the positive and negative poles of the power supply are connected to positive and negative poles of battery respectively, if not, it might damage the internal rectifying parts of power supply or the load devices.
4- Do not operate this power supply in the environments such as flammable, explosive, corrosive gas.
5- Do not block the vent and keep the power supply to be operated at ventilation environment.
6- Based on the output current value to select the suitable output wire and keep the connection tightly, to avoid damages on terminals, load devices, or fire in serious case, please keep contact surface is clean and rust-free.
7- If malfunction occurred, please consult with your local A/S for assistance, or return the defective unit for repairing. Since there is high voltage inside of device (even power off, the high voltage is still remains in circuit for a certain of period), please do not tempt to repair or modify by yourself.
8- Make sure the rating voltage, there are two type of input voltage: AC230V±5% or AC 115V±5%

NOTICE

Make sure input the correct AC voltage, the wrong AC voltage will damage the device.

FEATURES

1- CV (constant voltage) and CC (constant current) shift mode automatically, both CV value and CC value can be preset through encoder, which is convenient to use.
2- Press the OUTPUT push button to activate or exit output of power supply, and the preset voltage value and current value will be displayed once exit output.
3- Once there is short circuit in load device, the OCP (short-circuit protection) will be activated and power supply will exit output and OCP alarmed twinkly. Once load device is without short-circuit and press OUTPUT button to restore the output. This function can protect the load device.
4- The setting voltage and current and actual voltage and current are displayed in 4-digit.
5- Adopt low noise and thermal controlled cooling fan to guarantee the suitable operating temperature.
6- CV value and CA value can be stored automatically once power supply powered off (or shut down), after power on again, the previous stored values will be used.

OPERATION

1-POWER ON
Press the POWER to switch on power supply and display shows both voltage and current values were set when the device powered off last time.

2-VOLTAGE SETTING
Press the V-COARSE or V-FINE knobs to switch between digits on the voltage display, the value of the selected digit will blink. (COARSE knob controls the first 2 digits and FINE knob controls the last 2 digits.)
Turn the V-COARSE or V-FINE knob to change the value of the blinking digit. Turn the knobs clockwise to increase and counterclockwise to decrease the value.
After the voltage setting is complete, wait 3 second for the current display to stop blinking and the setting is stored.

3-CURRENT SETTING
Press the A-COARSE or A-FINE knobs to switch between digits on the current display, the value of the selected digit will blink. (COARSE knob controls the first 2 digits and FINE knob controls the last 2 digits.)
Turn the A-COARSE or A-FINE knob to change the value of the blinking digit. Turn the knobs clockwise to increase and counterclockwise to decrease the value.
After the current setting is complete, wait 3 second for the current display to stop blinking and the setting is stored.

4-OUTPUT PUSH BUTTON
To press OUTPUT push button to activate or exit output of power supply.

5-OCP SHORT CITCUIT PROTECTION
Press the OCP(over-current protection) button to enter(or exit) the OCP setting screen.In the OCP setting screen, press and turn the A-COARSE or A-FINE knob to change the OCP trip point.

Turn the V-COURSE knob clockwise, the OCP indicator will light and the OCP status on the display change from 0(Disable) to 1(Enable). Press the OCP button again to store and exit the OCP setting screen. And now the OCP is enable and the OCP indicator is on.When the power supply detects a short-circuit or the actual output current exceeds the set OCP trip point, the OCP will be activated. The power supply will turn off the output immediately and the OCP indicator blinks to indicate an alarm has occurred.
Fix the problem that caused the OCP alarm and press the OUTPUT button to resume the output.

1-Turn the V-COARSE or V-FINE knob to preset the voltage value to 12.00V
2-Turn the A-COARSE or A-FINE knob to preset the current value to 3.000A

6-OPN SETTING
Press “OUTPUT” button for 3 seconds to activate (or exit) OPN mode, and slight press “OUTPUT” button and the display shows from 0 to 1. After that, press “OUTPUT” button for 3 seconds and system returns original interface, the OPN mode is activated and indicator is lighted up.
NOTE: In order to exit OPN mode, once under OPN mode interface, slightly press “OUTPUT” button and display shows from 1 to 0 and OPN indicator lights off, after that, press “OUTPUT” button for 3 seconds, the system returns original interface and OPN model is exited.

EXAMPLE

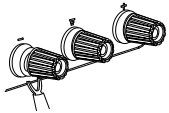
To set the power supply as voltage as 12V and current as 3A. Operating is as follows:
1-Switch on the power supply
2-Rotate “VOLTAGE” knob to preset the voltage value as 12.00V.
3-Rotate “CURRENT” knob to preset the current value as 3.000A.
4-Connect the output terminals of power supply with the loading device firmly.
5-Slightly press “OUTPUT” push button and “ON” indicator lights up and power supply activate the output working
6-By press “CURRENT” knob to activate OCP or OPN mode at desired time.

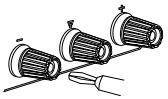
Attention

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 or increase the current set value to restore the CV output state.

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





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.

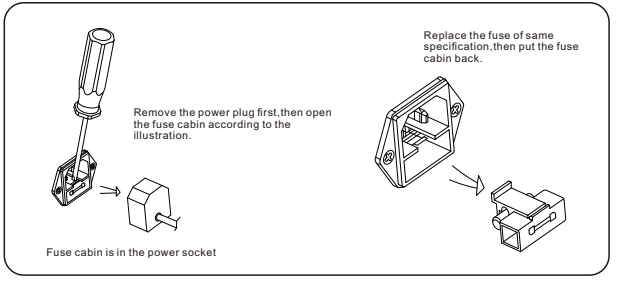
CONSTANT VOLTAGE/CONSTANT CURRENT CHARACTERISTICS

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.



HIGH VOLTAGE!
DANGER!

For effective safety protection, it is only necessary to 4replace 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.