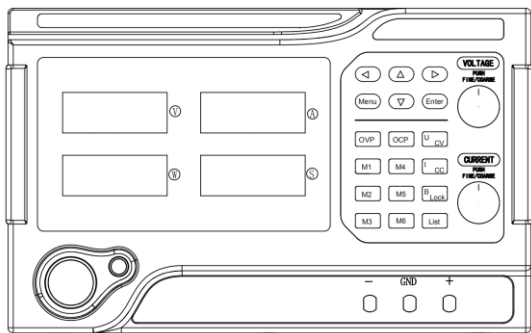


DC power supply



Product specifications

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Performance indicators are subject to change without prior notice.

. Safety summary

.This section contains important safety instructions that must be followed by operating power and storage environments. In order to ensure your safety, please read the following instructions before operation to ensure that the power supply in the best working environment.

. Safety guide

General



注意

- .do not place heavy objects on the casing.
- ...To avoid severe impact or improper disposal cause damage to the machine
- ..Measures to prevent electrostatic discharge should be taken when connecting the instrument.
- Do not block or isolate the fan vent.
- Please do not open the machine unless

your are a professional.

. Power supply

- AC input voltage: 220V.10%.50Hz (110V input or 100V/220V manual switching)



- The ground wire of the source line needs to be connected to the ground to avoid electric shock

.Fuse



- Ensure to use the correct fuse model before the startup.
 - ...To prevent fire, the fuse conforming to the model and rated value should be replaced.
 - Before replacing the fuse, firstly cut the power to troubleshoot the causes for damaging the fuse.
-

Cleaning machine

- .Firstly cut the power before cleaning.
 - ...Wet the soft cloth with the warm Detergent and water. Do not spray the detergent directly.
 - do not use chemical or cleaning agent
-

	containing abrasive products, such as Benzene, toluene, xylene and acetone.
Operating environment	●Application place.: indoor, prevent direct sunlight, dust and strong magnetic field ● Relative humidity.: <80% ● Elevation.: <2000m ● Temperature.: 5° .- 40° .
.Storing environment	● Position.: indoor ● Relative humidity.: <70% ● Temperature.: 0° .- 70°

Chapter I Overview

This series of products is a single-output DC regulated power supply with LED digital display, which can simultaneously display voltage, current, power and output time, and the

voltage and current are continuously adjustable.

1.1 Functional features

- LED digital display, simple and intuitive display of power output voltage, current, power and time.
- Automatic switching of voltage and current stabilization, one-key output on-off switch, more flexible output control.
- Five powerful protection functions of overvoltage, overcurrent, over-power, over-temperature and short-circuit protection
- 6 groups of quick parameter callback and storage functions
- Programmable sequence output with hardware list.

- Standard RS-485 serial port, supporting Modbus programming instruction set.
- Standard SENSE compensation interface
- Switch and select output timing off and output timing function
- The voltage value and current value can be preset in the output off state, which is convenient for operation
- Temperature control fan, energy saving and power saving
- One-key lock keyboard to prevent misoperation

1.2 .Front and rear panel

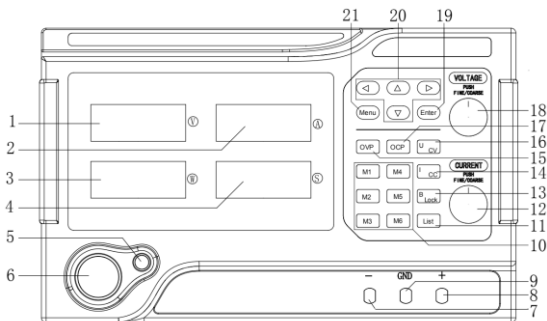


Diagram of front panel

1. Voltage display: the current output voltage (unit: V) will be displayed when opening the power output. The output status will be displayed pre-set voltage when cutting down the output.

2. Current display: display the current output current value when turning on the power output, unit: ampere (A), display the set current value when turning off the output, and display the function menu name when entering the MENU

menu.

3.Power/status display/menu: display the current output power value when the power output is turned on, unit: Watt (W); "OFF" is displayed when the power output is turned off; When entering the MENU menu, the switch status of the current function is displayed as "ON"/"OFF", indicating that it is on/off; When the power supply enters the voltage, current, overvoltage protection and overcurrent protection setting interface, the menu names displayed are "S-U", "S-C", "OVP" and "OCP" respectively. When the power supply enters the protection state, the status values displayed are as follows:

Status	Display content
Overvoltage protection	“OVP”
Overcurrent protection	“OCP”
Overpower protection	“OPP”
Over-temperature protection	“OTP”

4. Time/status display: when the power output is turned on, the time value of output timing is displayed in the timing output mode, and the time value of countdown is displayed in the timing off output mode, in seconds (S); When entering the shortcut parameter editing status, the time value of the current group of parameters will be displayed, and the decimal point will be fixed at the far right, in seconds (S); When entering the "OVP" or "OCP" editing status, "ON/OFF" is displayed, indicating that the corresponding protection function is "ON/OFF".

When entering the MENU menu, the parameter value corresponding to the current menu is displayed;

5.Output ON/OFF key: it may directly control the power output on/off status. The green indicates the output status is on; red indicates the current output status is off.

6.Power switch: it is used to open or close the power. The status is on after pressing the switch.

7.Output negative pole: power output negative pole; Output current range: 0~10A. If the output current will be greater than 10A, select the back-end output. This port is not available for models above 2400W (included).。

8.Output positive pole: power output positive pole; Output current range: 0~10A. If the output current will be greater than 10A, select the back-end output. Models above 2400W (included) do not have this port

9.Grounding terminal: safety grounding terminal, which is connected to the power supply housing. Models above 2400W (included) do not have this port;

10."M1"~"M6" six groups of shortcut parameter storage keys: in normal mode, press briefly to enter the preview/edit mode of this group of shortcut parameters, and edit the voltage value, current value and time value of this group of shortcut parameters through the direction keyboard or rough voltage adjustment shuttle or "ENTER" confirmation key. Press the "B Lock" key to directly exit and save the set value in editing status or after 5s without editing operation, the system will timeout to exit the mode and save the set value; Press twice in succession to set the voltage value and current value of the shortcut parameter key to the current output voltage setting value and current

setting value of the power supply

11. "List" mode key: press and hold 2S to enter or exit the hardware list function mode, and the "List" key light is always on in the hardware list function mode; In the List function mode, when the output status is disconnected, short press the shortcut key in the six groups of "M1" to "M6" to select or delete whether the shortcut parameter of this group performs cyclic output, and the key backlight corresponding to the selected express parameter group to be executed is always on; The order of list output execution shortcut parameters is the selected shortcut parameter group from "M1" to "M6". Press the "ON/OFF" key to start the List function output.

12. Current adjustment shuttle: used to

adjust the current value during current stabilization. Press to move the current edit bit

13."B Lock" exit/keyboard lock: short press to return to the main interface of power supply in normal mode; Press and hold 2S to exit or enter the lock keyboard, and the operation of all function keys on the panel (excluding the ON/OFF key) is invalid. At this time, the "B Lock" light is always on.

14."I CC" current setting key: in normal mode, short press to enter the power supply current setting interface, and the current data setting bit will flash. The "I CC" light is on, indicating that the current output is in a steady state.

15. "OVP" overvoltage setting key: in normal mode, short press to enter the power overvoltage function editing mode, and the current overvoltage threshold data setting bit flashes;

Press this key again briefly in the overvoltage function editing mode to switch the overvoltage function ON/OFF.

16. "U CV" voltage setting key: in normal mode, short press to enter the power supply voltage setting interface, and the current data setting bit flashes. The "U CV" light is on, indicating that the current output is in stable state;

17. "OCP" overcurrent setting key: in normal mode, short press to enter the power overcurrent function editing mode, and the current overcurrent threshold data setting bit flashes; Press this key again briefly in the overcurrent function editing mode to switch the overcurrent function ON/OFF.

18. Voltage regulation shuttle: used to adjust the voltage value during voltage stabilization. Press to move the current edit bit.

19. "Enter" confirmation key: when entering the

MENU function menu, press the confirmation key to save the current options and data; When entering M1~M6 fast parameter editing mode, press the confirmation key to save the current option data and switch to edit voltage value or current value or time value.

20. Direction key: when entering the editing mode, press the left or right direction key briefly, move the cursor flashing position in the corresponding direction, press the up or down direction key briefly, and the value of the corresponding cursor flashing position will increase or decrease by 1.

21."MENU" function menu key: short press to enter or switch the function menu. The corresponding function menu is as follows:

NO.1: Output timing off function menu "Time", adjust the current value through voltage adjustment shuttle or direction key or select the

function status on (ON) or off (OFF); Briefly press the "Enter" key to save the value or status, and switch the editing function menu status and parameter values at the same time.

NO.2: The function menu of the first output state when the power is powered on is "OUT". Select the function state on (ON) or off (OFF) through the voltage regulation shuttle or the direction key; Briefly press the "Enter" key to save the status.

NO.3: Output compensation function menu "SENS", select the function status on (ON) or off (OFF) through voltage adjustment shuttle or direction key; Briefly press the "Enter" key to save the status.

NO.4: key sound function menu "BELL", select the function status on (ON) or off (OFF) through voltage adjustment shuttle or direction key; Briefly press the "Enter" key to save the status.

NO.5: serial communication address function

menu "Addr", adjust the current value through voltage adjustment shuttle or direction key or select the function status on (ON) or off (OFF); Briefly press the "Enter" key to save the value or status, and switch the editing function menu status and parameter values at the same time.

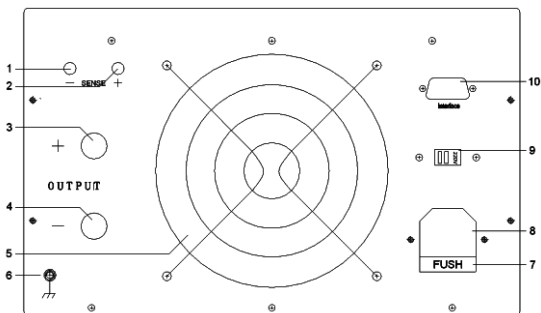


Diagram of rear panel

1. SENSE input negative pole: the remote

sampling point of the negative pole of the power output voltage;

2. SENSE input positive pole: remote sampling point of positive pole of power output voltage;

3. Output positive pole: power output positive (+) pole; Output current range: 0~maximum rated value.

4. Output negative pole: power output negative (-) pole; Output current range: 0~maximum rated value.

5.Cooling fan vent: It is used for power supply air cooling. According to current output consumption, intelligently adjust the fan speed, effectively reduce the fan noise and prolong the fan noise.

6.Ground terminal: The safety ground wire terminal is connected with the power supply shell.

7. Fuse seat: the power fuse is installed inside and may be replaced with screwdriver. For models above 2400W (including) without fuse and built-in circuit breaker.

8. Power input socket: AC power input port. For models above 2400W (including), a cable is led here to input AC power.

9. Input power switch: AC110V/220V input switch (without this switch by default).

10. Communication interface: standard RS485 communication serial port, supporting optional RS232/USB interface. Support MODBUS communication protocol to read or control the output value of power supply;

1.3 . First use

1.3.1. Connecting power

(1) input power demand

.The details of input power should refer to chapter IV Performance Indicators.

(2) check the fuse

The proper fuse has been installed when the instrument is delivered. Please use the correct fuse model before startup.

(3) Connect the instrument power cord

Please connect the instrument to the AC power supply with the power cord provided in the accessory. For models above 2400W (included), connect the cable from the power supply directly to the AC power supply.



警告 In order to avoid electric shock, please confirm that the instrument has been properly grounded.

1.3.2. Power-on check

Press the power switch front panel, connect the power. The back light of .ON/OFF. key

displays the red. The power output is in the off status. Press .ON/OFF. key and the back light of .ON/OFF. key displays green. The power has opened output.

Hint: please restart after shutdown. Please guarantee the interval of two startups is larger than 5s.

1.3.3. Output check

The output check may ensure the instruments to correctly respond to the operation of front panel and output the rated value. The output check includes the voltage output of channel load and the current output of short circuit.

(1) Output switch

To open the power output, press .on/off. key and the back light will turn to green. And then press the key to close the output and the back light will turn to red.

(2) voltage output check

- a. When the instrument is in empty load, open the power key and confirm the constant current of current knob is 0;
- b. Press .ON/OFF. key and open the output. When the back light turns to green, the channel is in constant voltage output status (CV light is on). Check whether the voltage is adjusted to the maximum rated value from 0.

(3) Power output check

- a. Open power key;
- b. Adjust the power knob to make the power output voltage as 3-5V. and then press .ON/OFF. key to cut the output;
- c. Use one wire to connect the output terminal of front panel;
- d. Press .ON/OFF. key to open the voltage. When the back light turns to green, the channel

will be in constant current output status (CC indicator is on). Check whether the current is adjusted to the maximum rated value from 0.

Chapter II Operating specifications

Chapter II Operating specifications

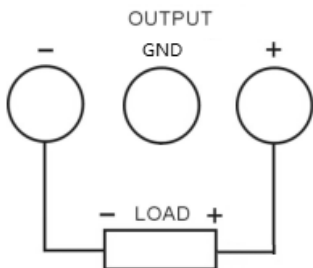
2.1 . Constant voltage output

The power supply provides two kinds of power output modes: constant voltage output (CV) and constant current output (CC).

In CV mode, the output voltage is directly controlled by the voltage regulating shuttle; In CC mode, the output current is controlled by the current regulating shuttle. For example, the voltage is set to 16V, the current is set to the maximum rated value, and the connected load is $8\ \Omega/300W$. $16V/8\ \Omega=2A < \text{the maximum rated value}$, so the power supply of 16V and 2A is

stabilized.

Operation steps:



- (1) Turn on the power: press the power button to start the instrument and enter the working state.
- (2) Voltage setting: adjust the voltage to adjust the shuttle to set the voltage value to 16V.
- (3) Current setting: adjust the current to adjust the shuttle to make the current stable value reach the maximum rated value.
- (4) Connect the output lead: connect the instrument output terminal to the load as shown in the following figure.

(5) Turn on output: press the "ON/OFF" key (the corresponding backlight is green), and the instrument will work in the stabilized output mode.

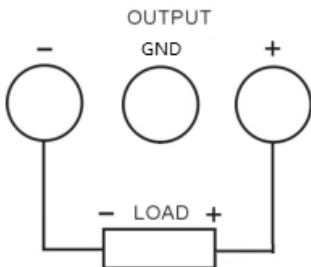
Hint: under CA mode, if the load changes cause the output current exceed the setting value, the instrument will be switched to CC mode according to the setting current, and the output voltage will be reduced proportionally. At this time, the current setting value will be increased and CV output will be recovered.

2.2 . Constant current output

For example, the voltage is set as 16V. the current is set as the maximum rated value 5A (MY-K3005). The access load is 1./300W. because $1..5A = 5V < 16V$ and $16V/1. = 16A > 5A$, the channel constant current will output 5V and 5A power.

Operating steps:

- (1) Connect output lead: connect the instrument output terminal to load in the mode shown in the following figure.



注意 Incorrect connection may cause damage to the product or equipment connected to this product.

- (2) Open power supply: press the power key and the starting instrument will enter the working status.
- (3) Voltage setting: adjust two knobs of fine

and coarse voltage adjustment and set the voltage as 16V.

- (4) Current setting: adjust two knobs of fine and coarse voltage adjustment to set the constant current value as the maximum rated value.
- (5) Open output: press .ON/OFF. Key (backlight will be green) and the instrument will work under the constant current output mode.

Hint: under CC mode, if the load changes cause the output voltage cause the setting value, the instrument will be switched to CV mode according to current voltage, and the output current will be reduced proportionally. At this time, the voltage setting value may be increased and CC output will be recovered.

Chapter III Maintenance

3.1 Regular check

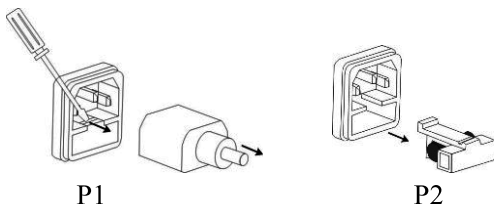
- In the product use process, in order to ensure the product to achieve the best working conditions, please do check regularly.
- Check the power supply power input socket is burned. Check the power supply output terminal is loose.

3.2 Replacement of fuse

Step:

(1) Remove the power cord, and then remove the fuse box with a small screwdriver. As shown in Figure 1:

(2) Replace the fuse. As shown in Figure 2:



Fuse specification:

Models with power $\leq 1200\text{W}$:

220V: F10A/250V

110V: F20A/250V

Models with $1200\text{W} < \text{power} < 2400\text{W}$:

220V: F20A/250V

Note: The model with power $\geq 2400\text{W}$ does not have this fuse and has a built-in circuit breaker.

Chapter IV Performance indicators

4.1 Display resolution:

Voltage resolution	<100V: 10mV
	≥100V: 100mV
Current resolution	<100A: 10mA
	≥100A: 100mA
Power resolution	<10W: 1mW
	≥10W: 10mW
	≥100W: 0.1W
	≥1000W: 1W
Time resolution	S

4.2 Output parameters (when using this specification, please ensure that the power is turned on for more than 10s)

Voltage stability: $\leq 2\%$

Current stability: $\leq 0.5\%$

Load stability: $\leq 0.5\%$

Ripple and noise: $\leq 1\%$ (effective value)

4.3 Preset accuracy of voltage and current value

Preset accuracy of output voltage: $\pm 0.1V$

Preset accuracy of output current stabilization:
 $\pm 0.1A$

4.4 4.4 Operating environment:

Indoor use

Altitude: $\leq 2000m$

Ambient temperature: $5^{\circ}C \sim 40^{\circ}C$

Relative humidity: $< 80\%$

4.5 Storage environment:

Indoor storage

Ambient temperature: $0 - 70^{\circ}C$

Relative humidity: $< 70\%$

4.6 Power input

AC220V $\pm 10\%$, 50Hz (or AC110V input or
AC100V/220V manual switch)

4.7 Attachments:

1 copy of instructions; 1 certificate of conformity; 1 power cord (models below 2400W)

4.8 Bare metal size

$< 2400W$ model: 330 (D) $\times$ 250 (W) $\times$ 155 (H) mm

$\geq 2400W$ model: 410 (D) $\times$ 250 (W) $\times$ 155 (H) mm

4.9 Package size:

$< 2400W$ model: 420 (D) $\times$ 310 (W) $\times$ 220 (H) mm

$\geq 2400W$ model: 497 (D) $\times$ 310 (W) $\times$ 220 (H) mm

4.10 Communication parameters:

Baud rate: 9600

Start bit: 1

Data bit: 8

Check digit: none

Stop bit: 1

4.11 Weight:

Type	<2400W	≥2400W
Net weight	Around 5Kg	Around 7.5Kg

Chapter V Declaration of toxic and hazardous substances in the product

Part name	Toxic or hazardous substances or elements					
	(Pb)	(Hg)	(Cd)	(Cr(VI))	(PBB)	(PBDE)
Lead	Lead	Mercury	Cadmium	Six valence chromium	Polybrominated biphenyl	Polybrominated Diphenyl Ethers

· printed circuit module	X	O	O	O	O	O
· Transfor mer	X	O	O	O	O	O
· Connect ing line	X	O	O	O	O	O
· Hardwar ebox	X	O	O	O	O	O
· Power line	X	O	O	O	O	O
Electric material	O	O	O	O	O	O

Rubber panel	O	O	O	O	O	O
Packing material	O	O	O	O	O	O

O: indicate the content of poisonous and harmful materials in the homogeneous materials is less than the limit specified in SJ/T11363-2006.

X: indicate the content of poisonous and harmful materials in the homogeneous materials exceeds the limit specified in SJ/T11363-2006.

Specifications: This table shows that the product may contain these substances. However, this information may be updated with the development of Technology. The causes for labeling .X.: the alternative technology and parts conforming to *Measures for the Administration of Pollution Control of Electronic Information Products* are not provided currently.

Chapter VI Warranty service

1. thank you for choosing this power. Our

company will strictly implement the national .three warranty. policy. If the product quality problem is not caused by the artificial elements, you may repair, exchange or return the product against the invoice or .three warranty certificate.. If the project exceeds the warranty period, we only charge the expenses for replacing parts.

2. The following conditions are exempted from the warranty scope:

- (1) Exceeding the effective term of .three warranty.
- (2) Alter .three guarantee. certificate without authorization.
- (3) The improper use, maintenance and safeguarding of product cause the damages.
- (4) The natural disasters, grid fault or other

force majeure causes the product damages.

- (5) The accessories are not in the warranty scope.
- (6) The product model or number on .three guarantee. certificate are not consistent with the physical commodity.

3. The products to be repaired should be packed and transported properly. In case of damage or missing in the transporting process, our company will not assume any responsibility.

4. The warranty card should affix the seal of after-sales unit and the date to ensure your rights.

.Warranty card

.The card is the product warranty card. Please
safe keep the card properly.

Product name (product model)	
.Purchase date	
.Sales unit	
.Customer name	
Customer address	
.Customer Tel.:	
.Fault description	

