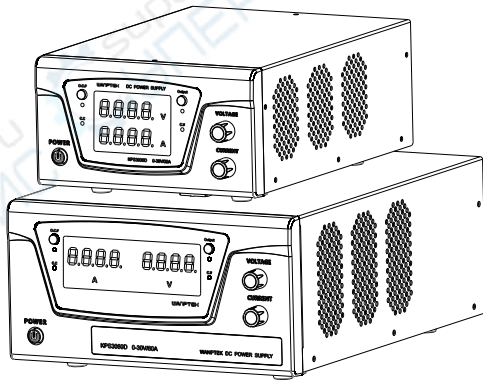


WANPTEK

DC power supply

KPS series programmable DC power supply

Operating Instructions



Shenzhen Wanptek Electronic Technology Co., Ltd.

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Safety summary

Welcome to use the high-power program-controlled switch-mode DC stabilized power supply (referred to as the power supply in the following text) produced by Shenzhen Wanptek Electronic Technology Co., Ltd. Please read this manual in detail before use, especially about the safety aspects to avoid personal injury Or, damage to the power supply and other electronic equipment connected to the power supply. This manual contains important safety instructions that must be followed for the operation, use and storage environment of the KPSxxxx series of high-power programmable DC stabilized power supplies.

When you get a brand new power supply, you need to carry out the necessary checks to ensure that the instrument can be used normally.

1. Check whether there is any damage caused by transportation.
2. Check whether the accessories and accessories are complete and complete.
3. Before powering on, please be sure to check whether the product meets your actual input voltage.
4. Check the machine after power on, whether the output voltage and current are normal.

If the above inspection finds problems, please contact the dealer in time.

Safety symbol

The following safety symbols will appear in the manual or machine



Connect to Earth Sign



High voltage danger sign



Attention warning sign

product description

KPS series product is a high-power digital display program-controlled switching DC stabilized power supply, which can display voltage and current at the same time. The products are widely used in product aging, R&D tests, schools and production lines. The output voltage and output current are adjusted by the encoder knob, which can be continuously adjusted between 0 and the nominal value. The stability and ripple coefficient of the power supply are very good, with a variety of protection circuits such as short circuit protection, over voltage protection, over current protection, and over temperature protection.

The product is beautiful in design, easy to operate, and can work at full load for a long time, which is very popular among users.

parameter

model	KPSxxxx series (see product label for details)
output voltage:	0-nominal value voltage is continuously adjustable
Output current:	0-nominal current is continuously adjustable
output power:	Voltage V*Current A
Auxiliary functions:	OUTPUT output switch, OCP short circuit protection switch
Input voltage:	AC230V \pm 10% (customizable: AC115V \pm 10%)
Operating temperature:	0 $^{\circ}$ C \sim 40 $^{\circ}$ C;Relative humidity:<80%RH
storage temperature:	-10 $^{\circ}$ C \sim 70 $^{\circ}$ C;Relative humidity:<70%RH
c.v status:	Voltage stability \leq 0.5%+3mV
	Load stability \leq 0.5%+3mV
	Ripple noise \leq 0.5%V P-P
c.c status:	Current stability \leq 0.5%+3mA
	Load stability \leq 0.5%+3mA
	Ripple noise \leq 0.5%A P-P
Protection method:	Overvoltage protection, overcurrent protection, overtemperature protection, short circuit protection
display:	Four digital tubes, dual display of voltage and current
Display accuracy:	0.5%+5digit
display resolution:	Voltage: 0.01V, Current: 0.01A (more than 100V: 0.1V, more than 100A: 0.1A)

Model list 1

1KW Model

型号	规格
KPS1530D	0-15V/0-30A
KPS1540D	0-15V/0-40A
KPS1550D	0-15V/0-50A
KPS1560D	0-15V/0-60A
KPS3020D	0-30V/0-20A
KPS3030D	0-30V/0-30A
KPS6010D	0-60V/0-10A
KPS1005D	0-100V/0-5A
KPS10010D	0-100V/0-10A
KPS15005D	0-150V/0-5A
KPS2003D	0-200V/0-3A
KPS2005D	0-200V/0-5A
Product size: L275mm x W200mm x H105mm	
Package size: L355mm x W250mm x H165mm	
Net weight: 3 Kg; gross weight: 3.6 Kg	

2KW Model

型号	规格
KPS1580D	0-15V/0-80A
KPS15100D	0-15V/0-100A
KPS3040D	0-30V/0-40A
KPS3050D	0-30V/0-50A
KPS3060D	0-30V/0-60A
KPS6020D	0-60V/0-20A
KPS6030D	0-60V/0-30A
KPS10020D	0-100V/0-20A
KPS15010D	0-150V/0-10A
KPS20010D	0-200V/0-10A
KPS3003D	0-300V/0-3A
KPS3005D	0-300V/0-5A
Product size: L335mm x W260mm x H130mm	
Package size: L425mm x W340mm x H215mm	
Net weight: 5.5 Kg; gross weight: 6.2 Kg	

Note: Non-standard specifications can be customized according to customer needs!

Model list 2

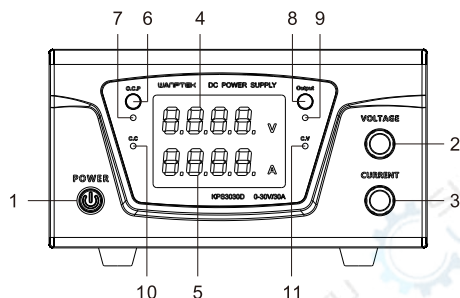
3KW Model

型号	规格
KPS15150D	0-15V/0-150A
KPS15200D	0-15V/0-200A
KPS3080D	0-30V/0-80A
KPS30100D	0-30V/0-100A
KPS6040D	0-60V/0-40A
KPS6050D	0-60V/0-50A
KPS6060D	0-60V/0-60A
KPS10030D	0-100V/0-30A
KPS30010D	0-300V/0-10A
Product size: L335mm x W260mm x H130mm	
Package size: L425mm x W340mm x H215mm	
Net weight: 7 Kg; gross weight: 7.7 Kg	

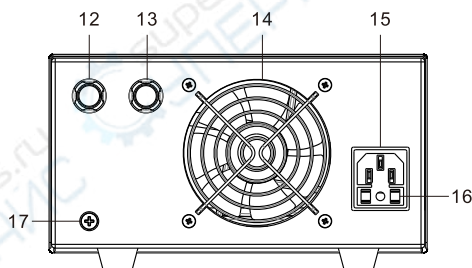
Note: Non-standard specifications can be customized according to customer needs!

1KW model appearance description

Front panel



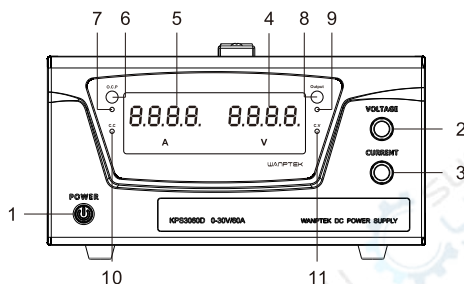
Rear panel



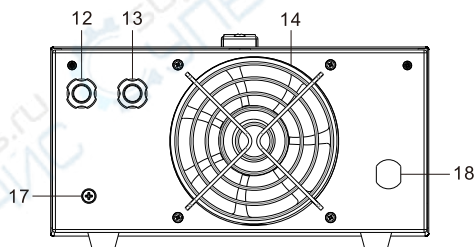
- | | |
|--|--|
| 1. Power switch | 10. Constant current status indicator |
| 2. Voltage regulation encoder | 11. Constant pressure status indicator |
| 3. Current regulation encoder | 12. Negative output terminal |
| 4. Voltage display | 13. Positive output terminal |
| 5. Current display | 14. Cooling fan |
| 6. OCP short circuit protection switch | 15. Input power socket |
| 7. OCP switch indicator | 16. Fuse box |
| 8. Output switch | 17. Grounding bolt |
| 9. Output switch indicator | |

2KW/3KW model appearance description

Front panel



Rear panel



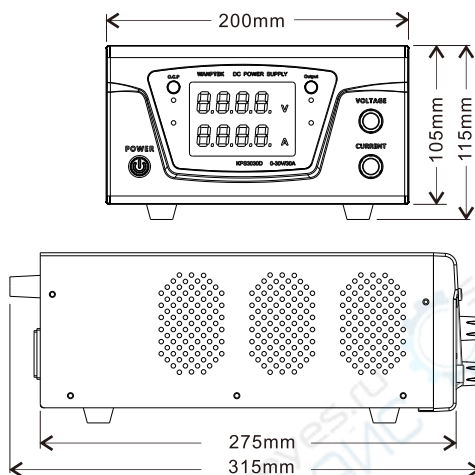
- | | |
|--|--|
| 1. Power switch | 10. Constant current status indicator |
| 2. Voltage regulation encoder | 11. Constant pressure status indicator |
| 3. Current regulation encoder | 12. Negative output terminal |
| 4. Voltage display | 13. Positive output terminal |
| 5. Current display | 14. Cooling fan |
| 6. OCP short circuit protection switch | 17. Grounding bolt |
| 7. OCP switch indicator | 18. Input power port |
| 8. Output switch | |
| 9. Output switch indicator | |

Function Description

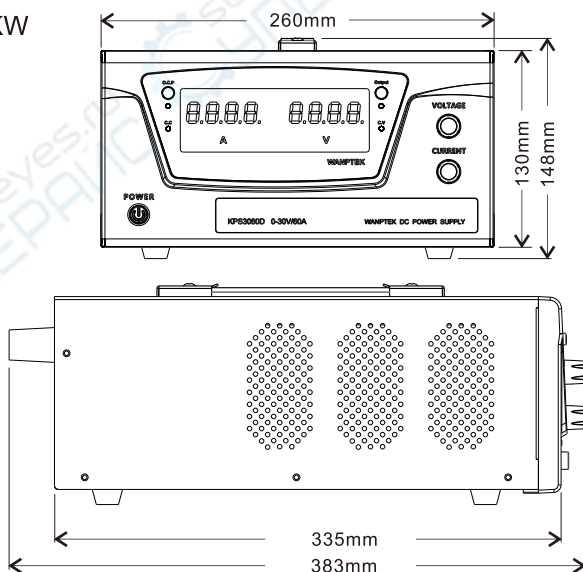
1. Power switch
Used to turn the power on or off.
2. VOLTAGE voltage regulation encoder:
Used to adjust the set voltage. Turn clockwise to increase the value; turn counterclockwise to decrease the value. Press the coding switch to shift to the left. 5 seconds after the voltage setting operation is completed, the flashing stops and the current setting value is stored. The default setting of the machine is in the "100mV position" to prevent damage to the load equipment due to excessive voltage caused by misoperation.
3. CURRENT current regulation encoder:
Used to adjust the set current. Turn clockwise to increase the value; turn counterclockwise to decrease the value. Press the coding switch to shift to the left. 5 seconds after the current setting operation is completed, the flashing stops and the current setting value is stored. The default setting of the machine is "100 mA" to prevent over-current damage to the load equipment caused by misoperation.
4. Voltage display:
Used to display voltage output value or set value. When the power output is turned off, the display shows the set voltage value. When the power output is turned on, the actual output voltage value is displayed.
5. Current display:
Used to display the current output value or set value. When the power output is turned off, it displays the set current value. When the power output is turned on, the actual output current value is displayed.
6. OCP short circuit protection switch:
Used to switch whether to enable the OCP function. When it is not enabled, when the actual output current is greater than the set current value, the power supply enters a constant current state. According to the load, the power supply changes the output voltage to keep the output current unchanged. When the OCP function is enabled, the power supply will cut off the output immediately after entering the constant current state. After 5 seconds, the power supply will automatically restart the output; if it is still in the constant current state, repeat the above process to prevent the output current from overcurrent when the electrical appliance has a short circuit. Large damage to the electrical appliances.
7. OCP switch indicator:
Used to prompt whether the OCP function is enabled. On means that OCP function is enabled.
8. OUTPUT output switch:
Used to turn the power output on or off.
9. Output switch indicator:
The indicator light is on when the power output is turned on, and the indicator light is off when the power output is turned off.
10. CC constant current status indicator:
The CC indicator lights up and the machine is working in a constant current state.
11. CV constant voltage status indicator:
The CV indicator lights up, and the machine is operating at a constant voltage.
12. Negative output terminal:
"-" Negative output terminal, used to connect the negative pole of the load device.
13. Positive output terminal:
"+" Positive output terminal, used to connect the positive pole of the load device.
14. Cooling fan:
Used for chassis heat dissipation, temperature control type, when the temperature needs to be dissipated, the fan is started.
15. Input power socket:
The 1KW model uses a product-shaped socket, which is convenient for power input connection.
16. Fuse box:
Used to store 5*20 fuses, easy to replace.
17. Grounding bolt:
Used for wire connection to earth.
18. Input power port:
2KW/3KW models use power input snap holes for cable connection.

Product size

1KW



2KW/3KW



Requirements



1. Please use a power cord that meets the power requirements of this product.
2. Before use, the power supply must be reliably grounded, and lead the weak leakage current caused by the internal anti-electromagnetic interference circuit of the power supply to the ground, otherwise a "false leakage" phenomenon may occur, which may cause damage to the load equipment or cause the power supply to resist interference. Decrease in ability.
3. When using this power supply to charge reusable batteries (such as lead-acid batteries), make sure that the positive and negative poles of the power supply are correctly connected to the positive and negative poles of the battery. If the connection is reversed, the internal rectifier parts of the power supply will be burned out, or damage the load equipment.
4. Do not use this product in an environment with flammable or explosive materials; do not use this product in an environment with humid or corrosive gases.
5. When this product is working, it will generate a large amount of heat, especially under full power usage. Therefore, please use this product in an environment with good ventilation and heat dissipation conditions, and ensure that there are no other obstacles in the vicinity of the cooling fan and ventilation holes of this product.
6. When using this power supply, please select the output wire with sufficient wire diameter according to the output current of the product. The connection area between the wire and the power supply, the wire and the load device is large enough, the contact surface is clean and free of rust, and the connection must be firm to avoid heat damage to the terminal or load device. In serious cases, it may cause a fire.
7. If you encounter product use problems and quality problems, please consult our after-sales personnel, if necessary, you must send the power supply to the company's maintenance department for repair. Because there is high voltage inside the machine (even if the power is off, the circuit still has high voltage for a certain period of time), please do not repair or modify it by yourself, otherwise it may cause the fault to expand or cause personal injury.

Features

1. Constant pressure and constant current automatic switching function. The constant voltage value and constant current value can be preset by the coding switch, which is convenient for use.
2. There is a separate power output switching button, through which the power output can be easily turned on or off. When the output is stopped, the screen displays the set voltage value and set current value for easy setting.
3. Short circuit protection alarm function (OCP), when this function is enabled, the power supply will stop output when the load device has a short circuit, and there will be a buzzer sound to remind. After the external short circuit is released, the power supply will automatically resume output. Can effectively protect the load equipment.
4. The set voltage, set current, actual voltage and actual current are displayed with four digits, the display resolution is 0.01V, 0.01A, and the display accuracy is high.
5. High-power, low-noise, temperature-controlled cooling fan is used to ensure that the power supply works within the proper temperature.
6. The power supply has overheat protection function. When the internal temperature of the power supply reaches 75 degrees or more, the power supply will be prohibited from outputting. After the temperature drops, the output will restart automatically. Avoid damage to the machine due to overheating.
7. The constant voltage and constant current values are automatically memorized when the power is turned off (or power off), and the setting values of the last power off (or power off) will be used when the power is turned on again.

Method of operation

1. Power on

Press the POWER button to turn on the power, and the screen will display the voltage and current values that were set at the last shutdown.

2. Voltage setting

Regardless of whether the power supply is in the output state, you can rotate the "VOLTAGE" coding switch to set the voltage. When you enter the voltage setting state, the currently set "bit" flashes to prompt; rotate clockwise to increase the value, and counterclockwise to decrease the value. Press the coding switch to shift to the left. 5 seconds after the voltage setting operation is completed, the flashing stops and the current setting value is stored. The default voltage setting of the machine is in the "100mV position" to prevent the excessive voltage from damaging the load equipment due to misoperation.

3. Current setting

Regardless of whether the power supply is in the output state, you can turn the "CURRENT" coding switch to set the current. When you enter the current setting state, the currently set "bit" prompts by flashing; rotate clockwise to increase the value, and counterclockwise to decrease the value. Press the coding switch to shift to the left. 5 seconds after the current setting operation is completed, the flashing stops and the current setting value is stored. The default current setting of the machine is in the "100 mA position" to prevent excessive operation and damage to the load equipment caused by excessive current.

4. Voltage output switch

Press the "OUTPUT" output button on the front panel to switch the power output on and off. The OUTPUT indicator indicates the current output status. When the indicator is on, it indicates that the power supply is output. When the indicator is off, it indicates that the power output is turned off.

5. OCP function

Press the "OCP" button on the front panel. The short circuit protection (overcurrent protection) function can be enabled. The indicator light indicates that the function is enabled, and the indicator light off indicates that the function is not enabled. When this function is not enabled, when the actual output current is greater than the set current value, the power supply enters a constant current state. According to the weight of the load, the power supply changes the output voltage to keep the output current unchanged. When the OCP function is enabled and the constant current state is entered, the power will be cut off and accompanied by a buzzer alarm. After 5 seconds, the power output will be automatically restarted; if it is still in the constant current state, repeat the above process to prevent any use. When the electrical appliance has a fault and short circuit, the output current is too large to damage the electrical appliance.

E.g:

Set the power supply to 24.5V and the current to 20.5A

The operation is as follows:

1. Turn on the power switch,
2. Turn the "VOLTAGE" coding switch to preset the voltage to "24.50" V.
3. Turn the "CURRENT" coding switch to preset the current to "20.50" A.
4. Connect the output terminals on the rear panel of the machine to the load equipment properly and securely with appropriate wires.
5. Press the "OUTPUT" output button, the indicator lights, and the machine outputs normally.
6. If you need to enable the short-circuit protection (overcurrent protection) function, you can press the "OCP" button at any time to turn on this function.



Be careful

1. In actual CV operation, if the output current increases to the set current value when the load resistance decreases, the power supply will automatically switch to CC mode. When the load resistance continues to decrease, the current will remain at the current setting Value, the voltage drops proportionally ($I=V/R$). At this time, increase the load resistance or increase the current setting value to restore the CV output state.

2. The machine judges whether the output is short-circuited, based on whether the output current is greater than the current set by the user. Therefore, when the OCP short-circuit protection function is enabled, the machine cannot be used in constant current mode.

Terminal operation method

1. Turn counterclockwise to loosen the binding post knob
2. Put the output wire terminal into the terminal screw according to the positive and negative
3. Turn clockwise to tighten the terminal knob
4. Connect the other end of the wire firmly to the positive and negative poles of the load equipment

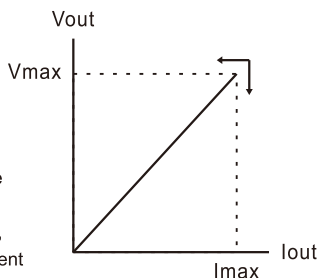


be careful

Incorrect connection may cause damage to the power supply and the load equipment connected to the power supply. When connecting a battery load, do not reverse the "+" and "-" poles, as this may damage the power supply.

Constant voltage/constant current characteristics:

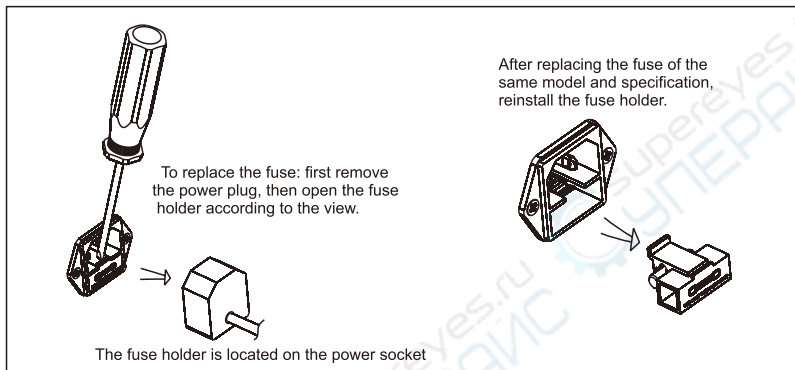
The working characteristics of this series of power supply are constant voltage/constant current automatic conversion type. It can automatically change between constant voltage and constant current state with the change of load. The intersection between constant voltage and constant current mode is called the conversion point. For example, if the load operates the power supply in a constant voltage mode, a constant voltage is output. As the load increases, the output voltage will remain stable 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 further increases. The conversion of constant voltage and constant current is indicated by the LED on the front panel. The CV indicator lights up at constant voltage, and the CC indicator lights up at constant current.



Fuse replacement

If the fuse blows, the machine will stop working. To find out and correct the cause of the blown fuse, Then replace it with a fuse of the same specification.

1KW model fuse replacement method



The 2KW/3KW model fuse is built into the main board and needs to be disassembled and replaced.



High voltage hazard

For effective safety protection, it is limited to the replacement of a fuse of a specific specification. Before replacing the fuse, you must turn off the power and unplug the power cord from the power outlet

Product Maintenance

1. Please disconnect the power when the machine is not in use.
2. Unplug the power plug before cleaning the machine.
3. Do not use hydrocarbons, chlorides or similar solvents, and do not use detergents containing abrasive ingredients.

Product warranty

1. This product enjoys free maintenance service within one year from the date of purchase.

Except for the following situations:

- a. Failure to show this product warranty card;
 - b. Failures caused by abnormal use, such as improper human operation 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.:
2. Repairs beyond the warranty period will be charged a repair fee, and users will be responsible for the costs incurred due to maintenance.

Packing list

1. One machine;
2. One power cord;
3. One output load line;
4. A copy of the instruction manual;
5. A certificate of warranty card;

common problem

The power cannot be turned on:

Check to verify that the power cord has AC power and that the fuse is intact.

No output:

Check whether the output button is turned on and the wire is in good condition.

Whether the voltage or current adjusts the output.

What is the constant voltage mode (C.V):

The power supply is output at a constant voltage set by the user, and the current will be supplied according to the actual needs of the load.

What is constant current mode (C.C):

When the current required by the load exceeds the limit current value set by the user, the power supply automatically switches to constant current mode to work. At this time, the current remains unchanged, and the voltage will be output according to the needs of the load.

The power supply cannot be output according to the current size set by the user:

The current value set by the user refers to the maximum limit current value allowed by the power supply. The actual output current value is supplied according to the actual needs of the load, but it will not exceed the current limit value set by the user.



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