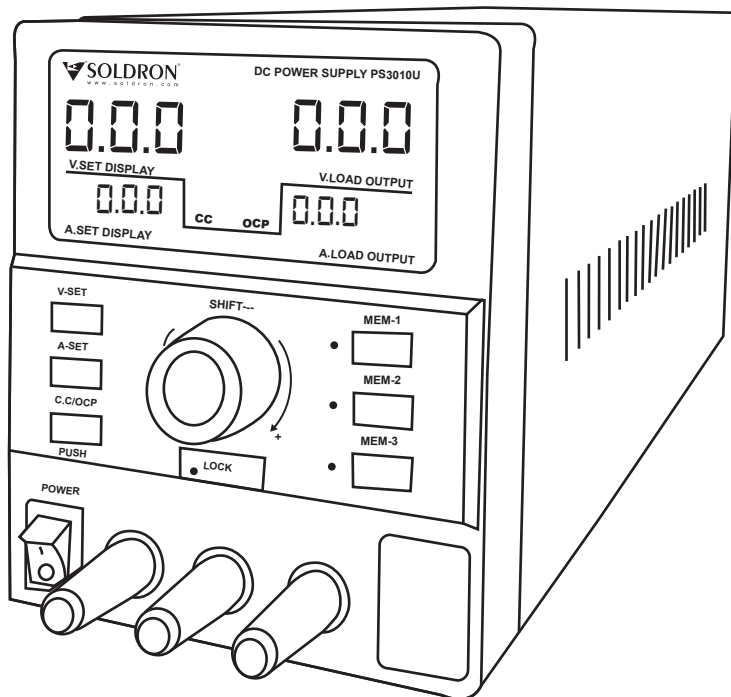




DC Power Supply



Safety Summary

This manual contains important safety instructions that must be followed for the operation, use and storage environment of PS series products. In order to ensure your personal safety, you need to read this manual before operation and use to ensure that this product works in the best environment.

When you get a new power supply, you need to make 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 attached accessories are complete.
3. Before powering on, be sure to check whether the input power switch at the back of the machine conforms to your actual input voltage. (PS3010U only) and PS15030 is the intelligent identification input voltage.
4. Power on and check whether the output voltage and current of the machine are normal.

(Due to the resistance of the wire from the output terminal to the consumer, there will be errors in the measurement.)

If any problem is found in the above inspection, please contact the dealer in time.

Safety symbol

The following safety symbols will appear in the manual or in the machine.



Warning



High voltage hazard



Grounding sign

Importants

Please assume that the ground earthing pin is used for safety and to avoid getting leakage current on the body of the unit as it has EMI protection which needs earth to function.

Product overview

DH series products are a four-window three-position display high-precision switching DC regulated power supply, which can display voltage and current at the same time. The product is widely used in mobile phone maintenance, computer maintenance, school and production line. Its output voltage and output current can be continuously adjustable between 0 and nominal value.

The stability and ripple coefficient of the power supply are very good, with USB charging function (PS1503U) and perfect short circuit protection circuit.

Its small size, beautiful design, convenient operation, can work at full load for a long time, and is deeply loved by users.

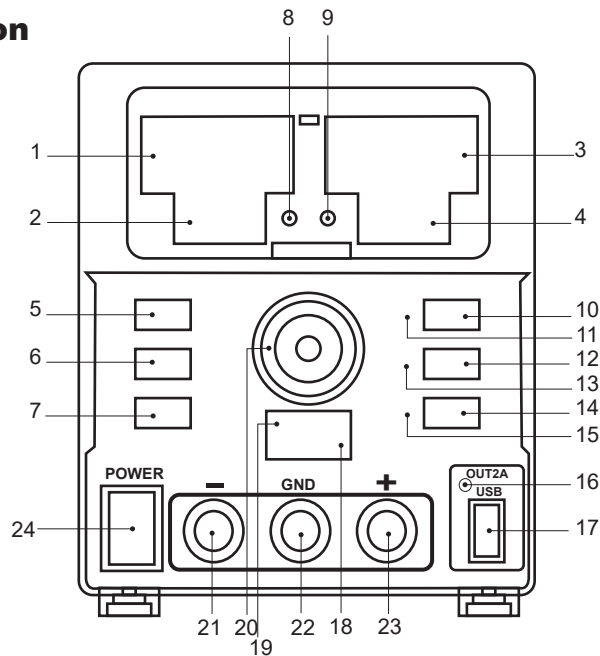
Parameter specification

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Model	PS1503U		PS3010U
Output voltage:	0~15V		0~30V
Output current:	0.01~3A		0.10~10A
Output power:	50W		300W
Input circuit	IE low frequency all-copper transformer (1503) IE low frequency all-SMPS base (3010)		
USB output :	5V/2A constant voltage charging/3.3V battery		
Input voltage:	AC220V/AC110V automatic conversion ±		
Voltage stability::	≤0.01%		
Load stability:	≤0.01% (non constant current state)		
Ripple stability:	≤10mv rms （Comax>1A） constant current state		
Protection mode:	current limit protection, short circuit alarm stop		
Display:	three-digit nixie tube, four-window display		
Display accuracy:	0.1%+2 words		
Display resolution	0.01V, current: 0.01A		
Working	-10℃ -40℃		
Working humidity:	<90%		
Storage	-20℃~40℃		
Storage humidity:	<80%		
Product size:	24cm×13cm×16.5cm		
Product weight:	2.13		2.3
Fuse size	1A		3A

Panel Description



- | | |
|---|--|
| 1. Voltage setting/output display | 13. Position 2 stored value indicator |
| 2. Current setting/output display | 14. USB output voltage selection key 5V/3.3V |
| 3. USB voltage output display | 15. USB OUT 3.3V indicator |
| 4. USB real-time current display | 16. USB OUT 5V indicator |
| 5. Voltage setting key | 17. USB OUT seat |
| 6. Current setting key | 18. Disable adjustment key |
| 7. Constant current and overcurrent selection key | 19. Do not adjust the lamp |
| 8. Constant current indicator C.C flashes | 20. Voltage and current adjustment knob (press in to select coarse adjustment/fine adjustment) |
| 9. Overflow indicator OCP flashes | 21. Negative output terminal base |
| 10. Storage key (position 1) | 22. Earth terminal base |
| 11. Position 1 stored value indicator | 23. Positive output terminal base |
| 12. Storage key (position 2) | 24. Power switch |

1. AC input:

Please determine the allowable AC voltage of this machine first. The machine can realize two AC voltage inputs through the change-over switch on the rear panel: AC 230V \pm 10% or AC 115V \pm 10%

When "230V" can be seen, allowable input voltage: AC230V \pm 10%

When "115V" can be seen, allowable input voltage: AC115V \pm 10%



Warning

AC voltage input error will cause serious damage to the machine.
Please determine the input voltage value required by the machine.

2. Do not use it in places where the ambient temperature exceeds 40 °C. The exhaust fan is located at the rear of the instrument, and enough space should be reserved for heat dissipation.

3. The positive and negative pole output terminals should be connected correctly and in good contact, otherwise the connection will heat up and damage the machine.

Operating Instructions

There are two power output modes: constant voltage output (C.V) and constant current output (C.C). The output mode is determined by the voltage value and current value set by the user and the load connected by the user. The voltage or current value of the power output will not exceed the voltage and current value set by the user.

In constant current mode, the output current value is equal to the current value set by the user.

1. Voltage regulation: (0~30V)

Press the V-SET key, the display ① flashes, and adjust the SHFT knob to increase the voltage clockwise and decrease the voltage counterclockwise. You can also press the knob to move the cursor to achieve coarse and fine adjustment, and adjust to the required output voltage value.

2. Current regulation: (0.01~10A)

Press the A-SET key, the display ② will flash, adjust the SHFT knob, the clockwise current will rise, and the counterclockwise current will fall. You can also press the knob to move the cursor to achieve coarse and fine adjustment, and adjust to the required output current value. It is recommended that the output current is greater than the load current.



Warning

In the actual CV operation, if the load resistance value is to be reduced so that 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, and the voltage will decrease

Storage function: PS1503U has two storage locations and PS3010U has three storage locations (respectively MEM-1, MEM-2, MEM-3)

For example, when the voltage and current are adjusted properly, press and hold the MEM-1 key to move 3, and then the [11] indicator flashes, indicating that the storage is successful. If it is necessary to store the value as output, press (MEM-1) directly, and then the [11] indicator light and the [19] inhibit adjustment light are on at the same time. This means that the output voltage and current are locked to the stored value. The display screen ① and ② display the output values respectively. To exit, just press the (MEM-1) key briefly.



Warning

If the load is to exit the use of the stored value, the load appliance must be disconnected first

1 Disable adjustment key

After pressing the LOCK key for a short time, the [19] (SHIFT) knob of the inhibit regulation lamp will lose its regulation function. Although the voltage and current are prohibited from regulation, press this key again to release.

Short circuit alarm

This machine has the function of short circuit alarm interrupt output and automatic recovery output.

usage method:

1. Select to OCP by PUSH key, and the OCP light is always on, that is, the overcurrent function is turned on. At this time, when the output is short-circuited (overcurrent), the machine will stop output, and send out a beep and OCP light flashing prompt. When the output short circuit is removed, the machine will automatically resume normal output.
2. Select CC through PUSH key. At this time, the CC light is always on, that is, the constant current function is turned on. At this time, when the output is short-circuited (overcurrent), the machine will output the maximum constant current set by the user, and the CC light will flash at this time.
3. The machine determines whether the output short circuit is based on whether the output current is greater than the current set by the user. Therefore, the machine cannot be used in constant current mode under this function.

USB fast charging function (providing 2A)

This machine supports USB charging function, and the output power is up to 10W. It can provide charging for mobile phones, PADs, power banks and other devices. Automatically adjust the output voltage and current according to the charged equipment, and display the charging current in real time.

Connecting load

1. Turn counterclockwise to release the terminal knob
2. Insert load terminal block
3. Turn and tighten the terminal knob clockwise
4. The banana plug can be directly inserted into the terminal hole
5. After the load is connected, under constant voltage, The real-time voltage is displayed in ③,

Actual current is displayed in ④. (SP3010U)



Warning

Incorrect connection may cause damage to the power supply and the load connected to the power supply. When connecting the battery and other loads, do not connect the "+" and "-" poles reversely, This may damage the power supply.

Constant voltage/constant current characteristics:

The operating 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 states as the load changes.

The intersection point between constant pressure and constant current is called the conversion point. For example, such as

If the load makes the power supply work in constant voltage mode, the output voltage is constant,

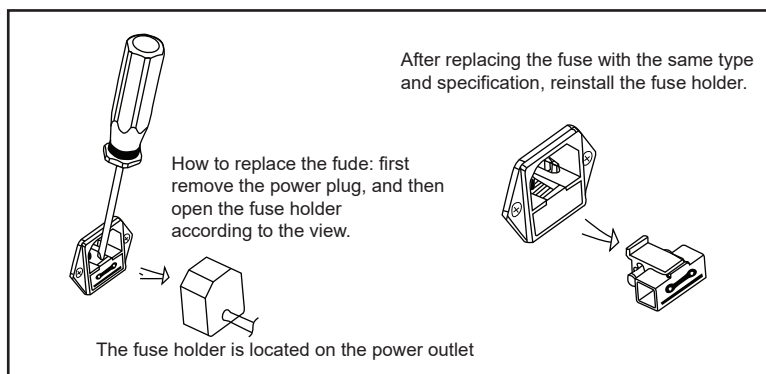
As the load increases, the output voltage will remain stable and the output The current increases. When the current value reaches the set current limit, the power supply Automatically switch to constant current mode, output current remains stable, output power

The pressure decreases proportionally with the further increase of load, constant voltage and constant current

The conversion of is indicated by the LED on the front panel. The CV indicator light is on at constant pressure, CC indicator lights up at constant current..

Fuse replacement

If the insurance certificate fails, the machine will stop working. Find out and correct the cause of safety burning. Then use the same specification of insurance agency for replacement



High voltage
hazard

For effective safety protection, it is limited to replacing fuses with specific specifications, Turn off the power supply and unplug the power cord from the power socket before replacing the fuse

Product maintenance

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

Product warranty

1. This product enjoys free maintenance service within one year from the date of purchase. Except for the following cases;
 - A. Failure to show the product warranty card;
 - B. Faults caused by abnormal use, such as improper manual operation and improper repair, modification or adjustment of devices;
 - C. Consumable materials are not covered by the warranty;
 - D. Natural and irresistible disasters, such as flood, fire, earthquake, etc.
2. The repair fee will be charged for the repair beyond the warranty period, and the user will bear the expenses arising from the maintenance.

Common problem

Power supply does not turn on

Check and verify whether the power line has AC power and whether the fuse is intact.

No power output

Check whether the output line is in good condition. Whether the voltage or current is adjusted to output.

What is constant pressure mode (C.V)

The power supply is constant output according to the voltage set by the user, and the current will be output and supplied according to the actual demand 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 will automatically switch to the constant current mode for operation. At this time, the current will remain unchanged, and the voltage will be output and supplied according to the demand 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 to be output by the power supply. The actual output current value is supplied according to the actual demand of the load, but will not exceed the current limit value set by the user.

Packing list

- 1 X Complete machine
- 1 X Power cord;
- 1 X Output load line
- 1 X Copy of operation manual