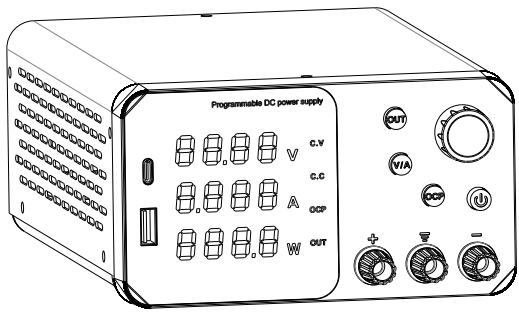

TPS Series DC Power Supply

Operation manual

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Security Profile

This manual contains the important safety that TPSxxxx series products must follow in operating, using and storage environments.Instructions. To ensure your personal safety, you should read this manual well before using it to ensure that the product works in the best environment.

When you get a brand new power supply, you need to make the necessary checks to ensure the normal use of the instrument.

1、Check for damage caused by transportation.

2、Check whether the random accessories are complete or not.

3、Before switching on, please check the input power switch located behind the machine to see if it meets your actual input voltage.

4、Check the machine by electrifying, whether the output voltage and current are normal.

If any problems are found in the above inspection, please contact the distributor in time.

Safety Symbol

The following safety symbols appear in the manual or on the machine

Warning

High Voltage Danger

Earthing

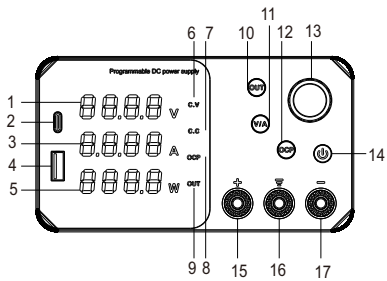
Product Overview

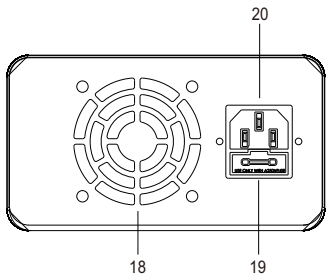
TPS series products are a three window four position display high-precision switching DC regulated power supply, which can display voltage, current and power simultaneously. The product is widely used in mobile phone maintenance, computer maintenance, schools and production lines. Its output voltage and current can be continuously adjusted between 0 and the nominal value. The stability and ripple coefficient of the power supply are very good, with perfect short circuit protection circuit.
Auxiliary with USB-A/Type-C fast charging function
The utility model has the advantages of small size, beautiful design, convenient operation, and can work for a long time under full load, which is loved by the majority of users.

Specification Parameter

Model	TPS305	TPS3010	TPS605	TPS1203	TPS1602
Output voltage	0～30V	0～30V	0～60V	0～120V	0～160V
Output current	0～5A	0～10A	0～5A	0～3A	0～2A
Output power	150W	300W	300W	360W	320W
Auxiliary output	USB-A/Tpye-C Quick Charging , Supports multiple quick charging protocols				
Input voltage	AC230V±10% 50Hz （AC115V±10% 60Hz）				
Working TEMP	0℃～40℃；Humidity:<80%RH				
Storage TEMP	-10℃～70℃；Humidity:<70%RH				
C.V	Voltage stability≤0.1%+3mV				
	Load stability≤0.1%+3mV				
	Ripple noise:≤20mVrms（Effective value）				
C.C	Current stability≤0.1%+3mA				
	Load stability≤0.2%+3mA				
	Ripple noise:≤5mArms（Effective value）				
Protection mode	Current limiting protection/short-circuit alarm stop output				
Display	Four-digit digital tube, three-window display				
Accuracy	0.5%+3digit				
Resolution	Voltage:0.01V/0.1V current:0.001A/0.01A				
Product size	L210mm x W145mm x H80mm				
Weight	1.2Kg				

Panel Description





1	Voltage output display
2	Tpye-C fast charging interface
3	Current output display
4	USB-A fast charging interface
5	Output power display
6	Voltage stabilization indicator
7	Constant current indicator
8	OCP protection indicator
9	Output indicator
10	Output switch
11	V/A setting switch button
12	OCP switch
13	Voltage/current setting knob
14	Power switch
15	Positive polarity (red)
16	Ground terminal (green)
17	Negative polarity (black)
18	Cooling fan
19	Fuse box
20	Power input socket

Work requirements

1、AC Input：
Please confirm the AC voltage allowed by this machine first.
AC 230V±10% or AC 115V±10%


warning

The wrong input of AC voltage will cause serious damage to the machine. Please confirm the input voltage required by the machine.

2、Do not use in places where the ambient temperature exceeds 40 C.The exhaust fan is located at the back of the instrument. There should be enough space for heat dissipation.

3、Positive and negative output terminals need to be properly connected and in good contact, otherwise the connection will heat and damage the machine.

Operation instructions

There are two modes of power output: constant voltage output (C.V) and constant current output (C.C). The output mode is determined by the voltage and current values set by the user and the load that the user receives. The output voltage or current value of the power supply will not exceed the voltage and current value set by the user.
In the constant voltage mode, the output voltage is equal to the voltage set by the user.
In constant current mode, the output current value is equal to the current value set by the user.

Voltage regulation

1. Press the voltage/current switching setting button (11) to switch the current setting to the voltage setting,The voltage display LED will flash. Turn the adjustment knob to the required voltage.
2. When adjusting the voltage, press the adjusting knob to move the character position.

Current regulation When the user needs to adjust the limiting current output：

1. Press the voltage/current switching setting button (11) to switch the current setting to the current setting,The current display LED will flash. Turn the adjustment knob to the required current value.
2. When adjusting the current, press the adjusting knob to move the character position.

For Example

Voltage value is set to 5V and current value is set to 5A.

Operation steps：

1. Turn on the power switch
2. Adjust the voltage adjusting knob to 5V
3. Adjust the current adjusting knob to 5A
4. Connect the load to use.


warning

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 continues to decrease, the current will remain at the set current value, and the voltage will decrease proportionally (I = V/R). At this time, the output state of CV can be restored by increasing load resistance or current setting value.

Short Circuit Alarm

The machine has short circuit alarm interrupt output function (OCP).

Usage method:

1. Press the OCP button to turn on this function, and the indicator light will light up. At this time, when there is a short circuit (overcurrent) in the output, the machine will stop output and emit a beep and OCP character prompt. When the output short circuit is cleared, press the OUT button to resume output.
2. Press the OCP button again to turn off this function, and the indicator light will go out. At this time, when the output is short circuited (overcurrent), the machine will output the maximum current constant current set by the user.
3. The machine judges 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.

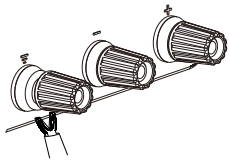
USB Quick Charging

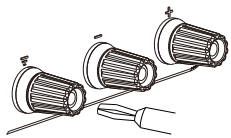
The machine supports USB-A/Tpye-C fast charging function, built-in fast charging protocol identification chip, and the output power is up to 18W. It can provide fast charging for mobile phones, PADs, power packs and other devices with fast charging function. Automatically adjust the output voltage and current according to the fast charging protocol of the charged equipment. When electronic equipment without fast charging function is used, it will be charged according to standard 5V..

Supporting fast charging protocols include:
Qualcomm QC2.0, QC3.0, APPLE, Huawei FCP, SCP Samsung AFC and other fast charging protocols

Connection load

1. Rotate counterclockwise to loosen the terminal knob
2. Insert Load Terminal
3. Turn and tighten the knob of the connecting post clockwise
4. Banana plug can be directly inserted into connection post hole



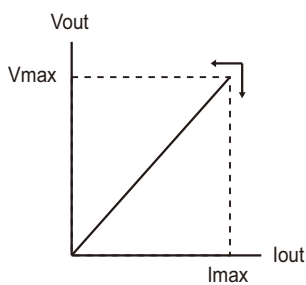


Warning

The wrong connection may cause damage to the power supply and load. When connecting the battery and other loads, do not connect the'+','-'poles in reverse, which may damage the power supply.

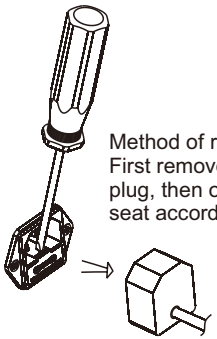
Constant Pressure/Current Characteristics:

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 state with the change of load. The intersection point between constant voltage and constant current mode is called conversion point. For example, if the load makes the power supply work 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, the power supply will automatically be converted to constant current mode. The output current remains stable and the output voltage decreases proportionally with the further increase of the load. The conversion between constant voltage and constant current is indicated by the LED of the front panel. CV indicator is on at constant voltage and CC indicator is on at constant current.



Fuse replacement

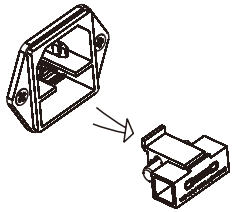
If the fuse burns out, the machine will stop working. To find out and correct the cause of fuse burnout, and then use the same specifications of the fuse replacement.



Method of replacing fuse: First remove the power plug, then open the fuse seat according to the view.

The fuse is seated on the power outlet.

After replacing the fuses of the same type and specifications, the fuse holder is reinstalled back.



HIGH VOLTAGE DANGER

For effective safety protection, it is limited to the replacement of fuses of specified specifications. Before the replacement of fuses, the power supply must be switched off and the power cord must be pulled out of the power socket.

Product Maintenance

1. When the machine is not in use, please disconnect the power supply.
2. Pull out the power plug before cleaning the machine.
3. Do not use hydrocarbons, chlorides or similar solvents, or detergents containing abrasive ingredients.

Product Warranty

1. The product will enjoy free maintenance service within one year from the date of purchase. Except for the following:
   a. Failure to produce the warranty card for this product:
   b. Faults arising from abnormal use, such as improper manual operation and improper repair, modification or adjustment of devices:
   c. Consumable materials are not covered by warranty.
   d. Natural irresistible disasters, such as floods, fires, earthquakes, etc.
2. Maintenance fees are charged for repairs that exceed the warranty period. Users will take care of the maintenance fees.

Packing List

1、The whole machine *1

2、Power cord*1

3、Output Load Line*1

4、Instructions for Use*1

5、Guarantee Card Qualification Certificate*1

Common Problem

Power can't be turned on
Check and verify whether the power cord has alternating current and the fuse is in good condition.

Power supply not output
Check that the output line is in good condition. Whether the voltage or current is turned up or not.

What is Constant Voltage (C.V)
The power supply output is constant according to the voltage set by the user, and the current will be supplied according to the actual needs of the load.

What is Constant Current (C.C)
When the current required by the load exceeds the limit current set by the user, the power supply automatically turns to the constant current mode. At this time, the current remains unchanged, and the voltage will be supplied according to the demand of the load.

The power supply can not 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 that allows the power supply to output, while the actual output current value is supplied according to the actual needs of the load, but it will not exceed the current limit set by the user.

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