

MPS-D+ Series

Single-channel DC Power Supply User Manual

MATRIX TECHNOLOGY INC.

I. Overview

The MPS-D+ series single-channel adjustable DC stabilized power supply is a high-quality and highly stable economical linear DC power supply, widely used in laboratories, schools, and production lines. Within each range, the output voltage and current values can be continuously adjusted within the range through a coarse potentiometer and a fine potentiometer. The output voltage and current have accurate readings on the voltmeter and ammeter heads, respectively. Modern circuit design allows this instrument to be used as both a stable voltage source and a stable current source.

II. Panel Features

2.1 Introduction to Front Panel



- ① Voltage value display
- ② Current value display
- ③ Power switch
- ④ Current coarse adjustment potentiometer
- ⑤ Current fine adjustment potentiometer
- ⑥ Voltage coarse adjustment potentiometer
- ⑦ Voltage fine adjustment potentiometer
- ⑧ Output switch
- ⑨ Output terminal positive pole (red)
- ⑩ Ground terminal GND (green)
- ⑪ Output terminal negative (black)
- ⑫ Output status indicator light, which lights up when the power supply is in the output on state
- ⑬ CC steady current working steady state indicator light: This light is lit in steady current working steady state
- ⑭ CV stable voltage working status indicator light: This light is lit up in stable voltage working status

2 .2 Introduction to Rear Panel



- ① Cooling fan
- ② Power supply voltage input conversion switch
- ③ Machine serial number
- ④ Power voltage input socket
- ⑤ Fuse holder

III. Instructions and protective measures for use

1. Place the POWER switch in the off state and connect the power cord attached to this power supply. The L-end of the power cord plug should be connected to the live wire of the power socket as much as possible. The grounding wire in the power cord should ensure a good connection to the ground.
2. MPS series single channel adjustable DC stabilized power supply must be grounded
3. When using the MPS series single channel adjustable DC stabilized power supply, attention should be paid to ventilation. A 10cm gap should be maintained between the top, bottom, left, and right and other objects to ensure smooth ventilation. Do not expose this power supply to environments with dust, corrosive gases, and other harmful substances.
4. When measuring the technical indicators of this power supply, it should be turned on and preheated for 15 minutes before proceeding.
5. Before powering on, check whether the voltage input conversion switch of the MPS series single channel adjustable DC stabilized power supply matches the mains voltage, otherwise it may cause serious faults.

IV. Packing list

1. One complete machine.
2. One power cord.
3. One user manual.

V. Maintenance

1. When the power supply voltage is normal and the digital display meter does not light up after startup, it may be due to a burnt fuse or other malfunction. Disconnect the power switch, unplug the power cord, replace the fuse, or ask a professional to check;
2. When using the MPS series single channel adjustable DC stabilized power supply, if the output current is greater than the predetermined value and the CC light is on, it is a current protection. The machine automatically switches to the stable current working state. At this time, the load should be checked or the maximum current should be increased according to the usage situation (adjust the current potentiometer 4 or 7 clockwise);
3. When using the MPS series single channel adjustable DC stabilized power supply to stabilize the current, if the output current is less than the predetermined value and the CV light is on, it is an open circuit voltage protection. The machine automatically switches to the stabilized working state. At this time, the load should be checked or the maximum voltage should be increased according to the usage situation (adjust the voltage potentiometer 3 or 8 clockwise)
4. If the malfunction is severe and cannot be resolved, please contact your local dealer or our company.

VI. Parameter

Model		MPS-3003D+	MPS-3005D+	MPS-3010D+	MPS-6003D+	MPS-6005D+	MPS-1510D+	MPS-1515D+
Rated input voltage		AC220V/110V±10%						
Rated output	Voltage	0-30V	0-30V	0-30V	0-60V	0-60V	0-15V	0-15V
	Current	0-3A	0-5A	0-10A	0-3A	0-5A	0-10A	0-15A
	Power	90W	150W	300W	180W	300W	150W	225W
Load regulation rate	Voltage	<0.02%+5mV	<0.02%+6mV	<0.02%+10mV	<0.02%+5mV	<0.02%+6mV	<0.02%+10mV	<0.02%+12mV
	Current	<0.2%±1digits	<0.2%±1digits	<0.2%±1digits	<0.2%±1digits	<0.2%±1digits	<0.2%±1digits	<0.2%±1digits
Line regulation rate	Voltage	<0.02%+5mV	<0.02%+6mV	<0.02%+10mV	<0.02%+5mV	<0.02%+6mV	<0.02%+10mV	<0.02%+12mV
	Current	<0.2%±1digits	<0.2%±1digits	<0.2%±1digits	<0.2%±1digits	<0.2%±1digits	<0.2%±1digits	<0.2%±1digits
Display resolution	Voltage	100mV						
	Current	<10A:10mA,>10A:100mA						
Display accuracy		≤0.2%+2 digits(Environment temperature:23°C±5°C)						
Ripple	Voltage	≤2mVrms	≤2mVrms	≤3mVrms	≤2mVrms	≤2mVrms	≤2mVrms	≤2mVrms
	Current	5mArms	5mArms	10mArms	5mArms	5mArms	10mArms	10mArms
Temperature Coefficient		300ppm/°C						
Max.output voltage		31.5V±0.5V	31.5V±0.5V	31.5V±0.5V	61.5V±0.5V	61.5V±0.5V	15.5V±0.5V	15.5V±0.5V
Max.output current		3.15A±0.05A	5.20A±0.05A	10.1A±0.05A	3.15A±0.05A	5.20A±0.05A	10.1A±0.05A	15.1A±0.05A
Input voltage		AC 220V/110V±10%50Hz/60Hz						
Working condition		Temperature 0°C~40 °CRelative humidity<80%						
Storage condition		Temperature -15°C~70 °CRelative humidity<80%						
Cooling method		Smart air cooling						
Size (WxHxD)	mm	280*130*160						320*130*160
Net weight	kg	4.9	5.7	7.0	5.7	7.0	5.7	8.4