

SPA-8230 SWITCH MODE POWER SUPPLY

USER'S MANUAL

INTRODUCTION

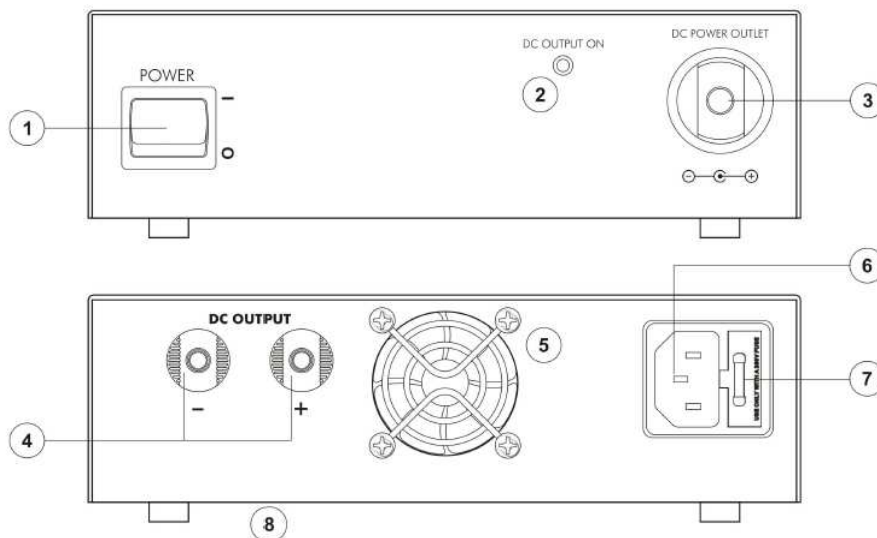
The SPA-8230 Switch Mode DC Power Supply provides high power output for its small size and weight. It is suitable for a variety of applications, for example operating low voltage automotive and radio equipment from an AC mains outlet, and provides 13.8Volts (trim pot adjustable 12V to 15V) at up to 25 Amps peak.

Please read these instructions carefully and follow them to prevent abuse or misuse of the power supply. These instructions must be kept for future reference.

FEATURES

1. Lightweight and small in size: This switch mode power supply has the advantage of small size and weight in comparison to linear mode power supplies.
2. High Efficiency: This unit operates with efficiency greater than 80% under normal conditions.
3. Overload Protection: Current limiting circuitry is used to prevent overloading of the power supply. The front panel 'DC OUTPUT ON' indicator will dim when an overload condition occurs.
4. Over Temperature Protection: To prevent damage to the unit when high temperature conditions occur, the over temperature circuitry operates to reduce the power supplies output to a safe level.
5. Over Voltage Protection: The over voltage circuitry operates to protect the power supply and the load from excessively high output voltage. Remove any external voltage and then switch off the power supply for 30 seconds or more before switching it on again to restore operation.
6. High RFI Stability: Protection circuitry is provided against RFI (Radio Frequency Interference) that ensures stable operation of the power supply in adverse conditions.
7. Output Voltage Adjustment: A variable trim pot adjusts the output voltage from 12V to 15V (+/- 0.5V) enabling the power supply to be used in a variety of applications.

PANEL DESCRIPTION



- | | |
|---------------------------------|--------------------------------|
| 1. Power On/Off Switch | 2. Power On LED Indicator |
| 3. Overload LED Indicator | 4. Output Terminals |
| 5. Cooling Fan (Variable speed) | 6. AC Input Socket (IEC) |
| 7. Fuse Holder | 8. Trim pot voltage adjustment |

INSTALLATION

1. Ensure that the unit is properly grounded through the AC mains plug. This will prevent electric shock due to leakage should a high voltage surge occur.
2. **DO NOT** place the unit in dusty or highly humid locations. **DO NOT** place the unit in direct sun-light or locations subjected to high temperatures.
3. Place the unit on a flat surface in a location which provides unobstructed air circulation. Allow at least 50mm space between the sides and back and do not obstruct the vents at the bottom of the power supply.
4. **DO NOT** place the unit close to TV sets or CRT monitors.
5. Always use appropriate terminal lugs and tighten the screw terminals when operating at high currents to prevent arcing and overheating of the terminals.
6. The unit is for **Indoor Use only**.

CAUTION

1. **DO NOT** use the unit for powering devices that require higher current than the maximum - otherwise damage may occur to the unit.
2. **DO NOT** use the unit for lamps or motorized equipment which requires higher current than the maximum at startup. Damage to the unit may occur. Protective devices should be used with highly inductive loads!
3. **DO NOT** replace the fuse and operate the unit before rectifying the problem that caused it to fail. Always replace the fuse with the same rated type. Always unplug the unit before attempting to replace the fuse.
4. If the mains power cable or cord of this unit is damaged, it must be replaced by the same or equivalent unit from the manufacturer or service agent.

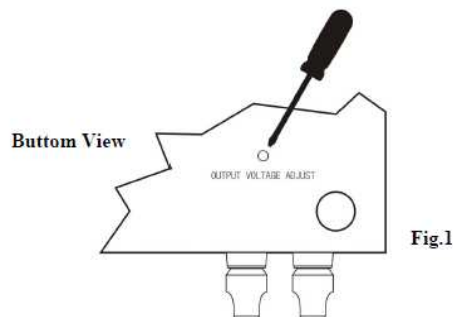
SAFETY PRECAUTIONS

1. **NEVER** remove the metal cover of the power supply with the AC power connected. Allow the unit to cool before opening the cover. Some components may burn your hand in the event of a component failure. Only qualified personal should open the cover.
2. **NEVER** touch the unit with wet hands or allow it to become wet.
3. **NEVER** operate the unit if foreign materials such as metallic objects, liquids or other debris have fallen inside. Return to the manufacturer or dealer for checking and repair.
4. **NEVER** operate the unit if it has been damaged.
5. **NEVER** allow foreign objects to come into contact with the DC output terminals.
6. **NEVER** block the vents - including the cooling fan outlet.
7. **ONLY** connect to the AC mains outlet when in use, at all other times disconnect the power supply from the AC mains outlet.

CONNECTION AND OPERATION

1. Make sure the input AC power source is as per the label before plugging in the unit.
2. This power supply outputs a fixed 13.8V, ensure that the equipment accepts this voltage.
3. Connect your equipment to the output terminals. Positive polarity to red (+) and negative polarity to black (-).
4. When ready, turn ON the power supply and check that the power-on LED indicator lights up.
5. Then turn ON your equipment and check that the power-on LED indicator remains on.
6. When finished, turn OFF your equipment and then turn OFF the power supply.

ADJUSTING THE SET VOLTAGE



1. Switch on the power supply with no load connected and allow it to warm up for 15 minutes.
2. Turn over the power supply and connect a DMM with, at least, 3 digit voltage readout to the output terminals (4).
3. Using a slim flat head screwdriver, locate the fine tune access hole (Fig. 1) and insert the screwdriver.
4. Carefully and slowly rotate the screwdriver to adjust the voltage to the required setting.
5. Finally check the output voltage again, to re-confirm your new setting, after returning the power supply to the normal position.

SPECIFICATIONS

SPA-8230

OUTPUT VOLTAGE:	13.8V DC (adjustable 12 – 15V +/-0.5V)
OUTPUT CURRENT:	0-23A (25A peak 50% 1min duty cycle)
RIPPLE AND NOISE:	50mVp-p, 5mVrms
LINE REGULATION:	<50mV
LOAD REGULATION:	<100mV
POWER SOURCE:	200-240VAC/50Hz or 100-120VAC on request
OPERATING TEMPERATURE:	0 – 40°C
CE APPROVALS:	CE EMS - EN55022 LVD – EN60950
DIMENSIONS (W x H x D):	181 x 63 x 190 mm
WEIGHT:	Approx. 1.7Kg