

# SPS-9402 SWITCH MODE POWER SUPPLY

## USER'S MANUAL

### INTRODUCTION

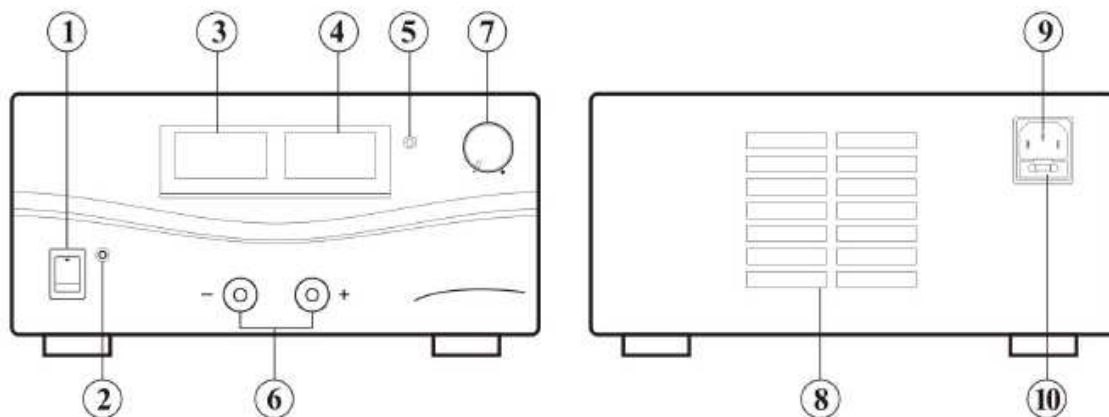
The SPS-9402 Switch Mode DC Power Supply provides high power output for its small size and weight. It is suitable for a variety of applications, for example operating low voltage radio equipment from an AC mains outlet, and provides 3 to 30 Volts at up to 20 Amps in continuous operation.

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. A front panel indicator will illuminate when overload conditions occur and the output is shutdown to around 4 Amps after a few seconds.
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 and the overload indicator illuminates.
5. Over Voltage Protection: The over voltage circuitry operates to protect the power supply and the load from excessively high output voltage. The overload indicator illuminates and the power supply must be cycled off and on again to operate normally.
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. Variable Voltage Output: The variable range of output voltage from 3V to 30V enables the power supply to be used in a wide variety of applications.

### PANEL DESCRIPTION



- |                                      |                           |
|--------------------------------------|---------------------------|
| 1. On/Off Switch                     | 2. Power On Indicator     |
| 3. Voltmeter                         | 4. Ammeter                |
| 5. Overload Indicator                | 6. Output Terminals       |
| 7. Output Voltage Adjustment control | 8. Cooling Fan Air Outlet |
| 9. Power Input Connector             | 10. Fuse Holder           |

**Note: A 13.8VDC output selector switch is located at the bottom of the unit. Activating this switch disables the 3-30V adjustable control (7) and sets the output voltage to a fixed 13.8 Volts.**

### 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 or lightning strike 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 in a location which provides unobstructed air circulation.
4. **DO NOT** place the unit close to TV sets or CRT monitors.
5. Connect the unit directly to the AC mains outlet. **DO NOT** use an extension lead or adapter as these may become overheated.
6. The SPS-8402 should be placed in a horizontal position for accurate meter readings.
7. Always use appropriate terminal lugs and tighten the screw terminals when operating at high currents to prevent arcing and overheating of the terminals.
8. 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.
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 external 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. The voltage regulation circuitry may have been disabled, resulting in high voltage and damage to your equipment.
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.
8. **ALWAYS** after switching off, wait 30 seconds before switching on again.

### CONNECTION AND OPERATION

1. Make sure the input AC power source is as per the label before plugging in the unit.
2. Turn ON the power supply and adjust the output voltage to match that of your equipment. Then turn OFF the power.
3. Connect your equipment to the unit. Positive polarity to red (+) and negative polarity to black (-).
4. When ready, turn ON the power supply and then turn ON your equipment.
5. When finished, turn OFF your equipment and then turn OFF the power supply.

### SPECIFICATIONS

### SPS-9402

OUTPUT VOLTAGE:	3-30V DC adjustable or fixed 13.8V DC (selectable)
OUTPUT CURRENT:	0-20A
RIPPLE AND NOISE:	50mV p-p
LINE REGULATION:	50mV ( $\pm 10\%$ variation)
LOAD REGULATION:	200mV (0~100% load)
POWER SOURCE:	230~240VAC/50Hz
METER TYPE:	Digital
METER ACCURACY:	1% + 2 digits
CE APPROVALS:	EN60950, EN61558, EN55011, EN55022
DIMENSIONS (W x H x D):	220 x 110 x 300 mm
WEIGHT:	Approx. 3.5Kg