Larson Electronics LLC www.LarsonElectronics.com sales@larsonelectronics.com
9419 E US HWY 175, Kemp, TX 75143 - P: (800) 369-6671 - F: (903) 498-3364

S-23-13.8V

IMPORTANT SAFETY INSTRUCTIONS: Please read before using your power supply.

1. It is recommended that you return your supply to a qualified dealer for any service or repair. Incorrect assembly may result in electric shock or fire.
2. To reduce the risk of electric shock, unplug the power supply from the outlet before attempting any maintenance or cleaning. Turning off controls will not reduce this risk.
3. An extension cord should not be used unless absolutely necessary. IF AN EXTENSION CORD MUST BE USED MAKE SURE THAT THE PINS ON THE PLUG ARE THE SAME NUMBER, SIZE AND SHAPE AS THOSE OF THE ORIGINAL POWER SUPPLY PLUG.
4. Place the unit in an area that will allow air to flow freely around the unit. DO NOT block or obstruct vent openings on the side/bottom of the unit.
5. Keep unit away from moisture and water.
6. **NEVER OPERATE THE UNITS IN PARALLEL**

WARNING: Your power supply should be grounded to reduce the risk of electric shock. The power supply is equipped with grounding conductor and grounding plug. The cord must be plugged into an outlet that is properly installed and grounded in accordance with all local codes and ordinances. Never alter the AC cord or plug provided. If the cord will not fit the outlet, have a proper outlet installed by a qualified electrician. Improper connection can result in risk of electric shock.

DO NOT USE THE POWER SUPPLY FOR DIRECT CHARGING OF BATTERY OR DIRECT CONNECTION TO A BATTERY FOR BATTERY BACK-UP. (Please read the section on battery back-up).

DESCRIPTION

S-23-13.8V is a switched mode power supply which converts 120 VAC, 60 HZ to regulated 13.8VDC based width modulation (PWM) control.

FEATURES

- BASED ON SWITCHED MODE TECHNOLOGY AND PWM CONTROL
- COMPACT AND LIGHTWEIGHT
- HIGH EFFCIENCY AND LESS HEAT DISSPATION
- PROTECTED AGAINST SHORT CIRCUIT, OVER CURRENT AND OVER VOLTAGE (THROUGH PWM CONTROLLER)
- UL LISTED & APPROVED
- COMPLIES WITH FCC PART 15B FOR RADIATED & CONDUCTED NOISES FOR CLASS-B DIGITAL DEVICES

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CONNECTION AND OPERATION

WARNING: Before plugging the unit to the AC outlet, please check that your local supply voltage is 120 VAC.

NOTE: The DC output connector (RED + & BLACK-) has a tubular hole of dia. 0.2"(5mm) with a set screw. For a firm connection, crimp a pin type copper terminal on the cable ends of your 12VDC device.

1. Ensure that the power supply's ON/OFF switch is off and it is unplugged from the AC outlet.
2. Switch off your 12 VDC device and connect its positive and negative to the RED and BLACK terminals respectively. Ensure that the connections are secure and tight.
3. Plug the power supply into the AC outlet.
4. Press the ON/OFF switch of the power supply to ON and observe that the neon indicator in the switch illuminates. If the indicator fails to light, recheck the connection, AC outlet and the fuse inside the power supply.
5. Your 12VDC device may now be switched on.

COOLING AND FAN CONTROL/THERMAL SHUT DOWN

- S-23-13.8V is cooled by convection and forced air.
- A temperature controlled fan has been provided to improve cooling at higher loads.
- The fan is controlled by a sensor mounted on the power transformer. **THE FAN WILL BE OFF AT LOWER LOADS.**
- It will come on only when the temperature of the power transformer is above 70°C due to higher loads. In case the fan fails or the air flow is blocked, a second temperature shut down at 100°C.
- The output voltage will be automatically resumed once the unit cools down.

OPERATE THE UNIT IN A WELL VENTILATED, OPEN AND COOL AREA. DO NOT BLOCK THE OPENINGS AT THE FAN DISCHARGE ON THE BOTTOM AND THE SUCTION OPENINGS ON THE SIDES.

BATTERY CHARGING AND BATTERY BACK-UP

WARNING: THESE UNITS ARE POWER SUPPLIES AND NOT BATTERY CHARGERS. DO NOT CONNECT THESE UNITS DIRECTLY TO A BATTERY

- These units should **NOT BE DIRECTLY CONNECTED TO A BATTERY** for charging or for battery back-up.
- Battery charging and battery back-up may be undertaken only when the battery is connected through suitable external isolating diodes and charge limiting resistor.
- The isolating diode will ensure that the battery does not back power the power supply.

- When a battery is deeply discharged, it will initially draw a very large charging current and thus, will force the power supply into current limit mode for prolonged periods. This is harmful for the power supply.
- The charge limiting resistor will limit the charging current, thereby, ensuring that the maximum charging current is well below the current limit value of the power supply.
- It is recommended that optional battery back-up module may be used to convert S-23-13.8V for battery back-up application.

TROUBLESHOOTING

PROBLEM: Power ON/OFF switch does not illuminate when turned on.

PROBABLE CAUSE: No power in the AC outlet: AC side fuse inside the power is blown

SUGGESTED REMEDY: Check there is power in the outlet: replace the fuse inside the unit.

PROBLEM: AC side fuse blows as soon as power is turned on.

PROBABLE CAUSE: Unit is defective

SUGGESTED REMEDY: Call Tech support

PROBLEM: The output voltage is 0 V or very low.

PROBABLE CAUSE: Input voltage is very low; the unit is in current limit condition due to overload caused by large reactive loading or by the output being short circuited