

## User Manual

### SR250K

#### AC/DC FLOAT CHARGER FOR LEAD ACID BATTERIES IN MOTOR HOMES



## **General**

The **SR250K** has been specifically designed as a float battery charger in motor homes and the 12V model has no cooling fan for reduced noise levels during operation. It must be installed with adequate ventilation with an ambient of less than 35°C.

The 24V model may be used up to 50°C ambient.

## **Connection polarity**

It is critical to check the polarity carefully when connecting DC devices. The SR250K has an internal fuse which needs to be replaced if the battery is connected in reverse. Usually, however, a reverse polarity connection results in instant destruction of the device, especially if there is a battery involved.

## **Safety**

The user is responsible for ensuring that input and output wiring segregation complies with local standards and that in the use of the equipment, access is confined to operators and service personnel. A low resistance earth connection is essential to ensure safety and additionally, satisfactory EMI suppression (see below).

**HAZARDOUS VOLTAGES EXIST WITHIN A POWER SUPPLY ENCLOSURE AND ANY REPAIRS MUST BE CARRIED OUT BY A QUALIFIED SERVICEPERSON.**

## **Electrical Strength Tests**

Components within the power supply responsible for providing the safety barrier between input and output are constructed to provide electrical isolation as required by the relevant standard. However EMI filtering components could be damaged as result of excessively long high voltage tests between input, output and ground. Please contact our technicians for advice regarding electric strength tests.

## **Earth Leakage**

The EMI suppression circuits causes earth leakage currents which may be to the maximum allowable of 3.5mA.

## **Ventilation**

High operating temperature is a major cause of power supply failures, for example it has been well documented that a 10°C rise in the operating temperature of a component will halve its expected life. Therefore always ensure that there is adequate ventilation for the equipment. Batteries and cooling fans also suffer shortened lifetimes if subjected to high ambient temperatures - both should be included in a routine maintenance schedule to check for signs of reduced efficiency.

## **Water / Dust**

Every effort must be made in the installation to minimise the risk of ingress of water or dust. Water will almost always cause instant failure; the effects of dust are slower in causing failure of electronic equipment. All electrical equipment should be cleaned free of any dust accumulation at regular intervals.

## **Electromagnetic Interference (EMI)**

Switching power supplies and converters inherently generate electrical noise. Power supply wiring should be as short as practicable and segregated from all equipment wiring which is sensitive to EMI. Residual noise can be reduced by looping DC wiring through ferrite cable sleeves. These are most effective as close to the power supply as possible and as many turns of the wire taken through the core (+ and - in the same direction) as the core will accommodate.

## **Fuses**

The charger is fitted with AC and DC fuses but external fuses may be used by the installer for added protection.



Float Charger for lead acid batteries

- Industrial quality AC/DC float charger
- Convection cooled
- Conservative design for long life
- Standalone - bench top or fixed mounting
- Fuse for reverse polarity protection
- Design features aimed at increasing reliability:
  - ◊ Double sided PCB construction
  - ◊ Extra ventilated case
  - ◊ High temperature rated components
  - ◊ Efficient heat sinking of power components
- Precise voltage and current control
- Efficient switch mode design
- ISO9001 design management system

◆ 24 Month Warranty

**SPECIFICATIONS** All specifications are typical at nominal input, full load and at 20°C unless otherwise stated.

ELECTRICAL	
<b>Input Voltages</b>	
▪ standard	180 - 264V, 45-65Hz
▪ optional	88 - 132V , 45-65Hz (internal link select)
<b>Fusing</b>	Internal input fuse, output fuse
<b>Overcurrent Protection</b>	Constant current limit under overload and short circuit conditions
<b>Reverse battery connection protection</b>	Blows output fuse
<b>Isolation</b>	1KV DC input - output / earth
<b>Efficiency</b>	≥ 85%
<b>Inrush current</b>	Soft start circuit
<b>Output Power</b>	250W
<b>Line Regulation</b>	<0.2% over AC input range
<b>Load Regulation</b>	<0.4% open circuit to 100% load
<b>Thermal Protection</b>	Yes
<b>OVP</b>	130% of nominal output voltage

PHYSICAL	
<b>AC Input connector</b>	IEC320 socket
<b>DC Connections</b>	'Phoenix combicon' plug-in / screw terminal block
<b>Enclosure</b>	Steel, powder coat/ zinc plate
<b>Dimensions</b>	150W x 61H x 242D (excl. terminals)
<b>Weight</b>	1.7 Kg
<b>Indication LED</b>	<b>Green</b> : Power On

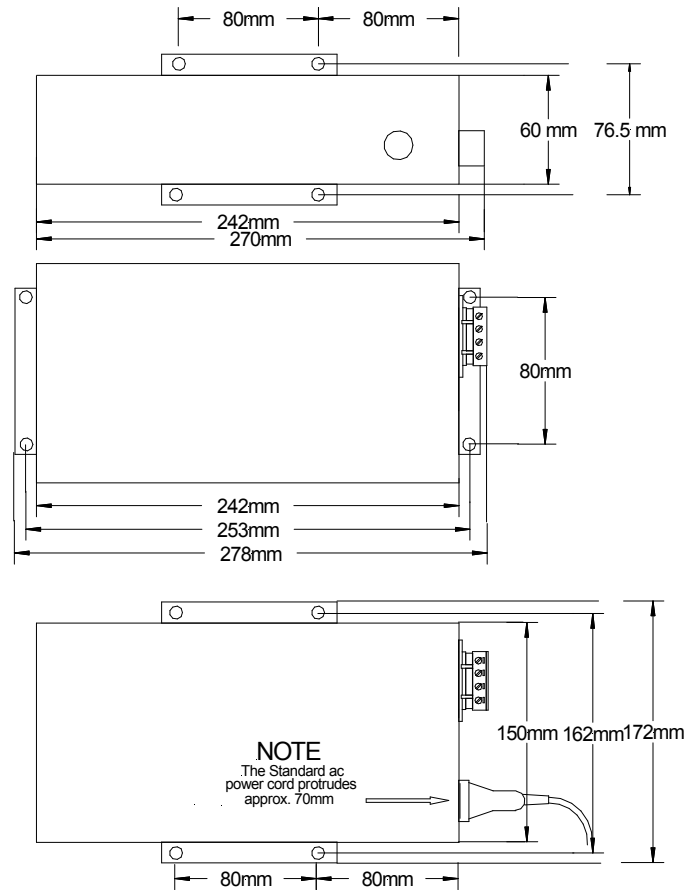
ENVIRONMENTAL	
<b>Operating temperature</b>	<b>12V:</b> 0 to + 35°C ambient <b>24V:</b> 0 to + 50°C ambient
<b>Storage temperature</b>	-10 to 85 °C ambient
<b>Humidity</b>	0 - 95% relative humidity non-condensing
<b>Cooling</b>	Convection cooled

ACCESSORIES SUPPLIED	
Mounting feet together with screws	
AC power cord 1.5m with IEC320 socket and NZ/Aust plug	
DC screw terminal plug-in connector	

STANDARD MODEL TABLE		
MODEL CODE	Output Voltage	Output Current
SR250K12X	13.8V	18A
SR250K24X	27.6V	9A

STANDARDS	
<b>EMI</b>	To CISPR 22 / EN55022 class A
<b>Safety</b>	To IEC950 / EN60950 / AS/NZS3260

## DIMENSIONS FOR SR250K



## TERMS OF WARRANTY

Innovative Energies Ltd warrants its power supplies for 24 months (two years) from date of shipment against material and workmanship defects.

Innovative Energies' liability under this warranty is limited to the replacement or repair of the defective product as long as the product has not been damaged through misapplication, negligence, or unauthorized modification or repair.

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