

# Installation



## SME240-12-10 Base Station Power Supply With Battery Charging Facilities

The SME240-12-10 is a convenient bench mount unit which provides 13.65 volts (factory set) at 10 Amps. The input is a readily available IEC type socket and the output features a robust, removable 6 way connector. (See DRAWING for connection information).

The SME240-12-10 has been designed specifically for telecommunications applications demanding high reliability under heavy usage, low noise, fully automatic and unattended operation with full protection features. Many other applications will be able to take advantage of these features.

### FEATURES:

- **Lighter and more compact than comparable linear power supplies**
- **Higher efficiency using switch mode technology, rather than comparable linear power supplies**
- **Battery overdischarge protection with automatic reset**
- **Mains failure and battery reverse polarity alarm output**
- **Low noise output, ideal for telecommunications applications**
- **3 modes of operation**
- **Convenient plug in output connector**
- **5 year warranty**
- **Local technical support**
- **C-Tick approved (EMI/EMC)**

### APPLICATIONS

**As a power supply** it may be used to power equipment that normally runs on a 12V battery, e.g. mobile telecommunications equipment. The power supply will run loads requiring up to 10A peak or continuous. It is fully protected against overload and short circuit and also incorporates an overvoltage shutdown facility.

**Please Note:** If testing the SME240-12-10 for power supply output, it will be necessary to connect a load to the unit.

**As a constant voltage lead acid battery charger.** When batteries are heavily discharged the unit can provide 10A continuous charging current. Fully charged batteries may be left connected to the unit indefinitely with no adverse effect on their life expectancy. An external fuse is incorporated in the battery output. This is primarily a safety feature and has additional benefits of battery and power supply protection for certain fault situations. Faulty and very deep discharged batteries will not damage the power supply.

The full features of the SME240-12-10 are realised when both a battery and a load are connected so that it operates as a power supply with power fail protection. Under normal conditions an internal switch connects the battery in parallel with the load. The average load must be less than 10A to ensure there is a remainder available to float charge the battery.

When a mains failure occurs the power supply no longer provides power. The battery remains switched in parallel with the load and supports it without interruption. Restoration of the mains restarts the power supply which will resume supporting the load and charging the battery, again without interruption.

During extended mains failures the unit disconnects the battery before it becomes excessively discharged. The battery is automatically reconnected when mains is restored and very quickly assumes a workable voltage. This feature contributes to long battery lifetime and allows unattended operation of a system with minimum service calls. The battery is always being float charged while mains is present. A heavily discharged battery will pull the unit into current limit and therefore reduce the voltage supplied at the load terminals. For batteries in good condition that have been protected from deep discharge this voltage should never be less than 10V. In addition, most brands of battery will recover to 12V or more very quickly after mains is restored.

### ALARM

The alarm output is a pair of floating (1A) relay contacts. During normal operation of this supply these will be open. Should a mains failure or battery reversal occur, these contacts will close (see drawing).

RF Industries Pty Ltd has a policy of continuous product development and therefore reserves the right to change specifications and terms without notice.

**IMPORTANT SAFETY NOTES:**

This unit contains HAZARDOUS voltages. There are no user serviceable parts inside. To preserve the intended level of safety of the product, return to the manufacturer for servicing. Unsealed lead acid batteries can emit explosive gases while being charged and serious injury can result. For this reason only sealed lead acid batteries are recommended for use with this product.

When both a load and a battery are connected to the unit it is possible to exceed the current rating of the output connector.

Therefore, to reduce the risk of fire it is recommended to include a 10A fuse in series with the load for this configuration.

Where a piece of equipment is the sole load and it incorporates an input fuse of 10A rating or less, the above requirement can be considered satisfied.

The unit should only be operated while standing on its feet. Confined locations must be avoided. If the unit is placed on the floor ensure that carpet does not obstruct the venting holes. Inadequate ventilation may reduce the lifetime of the unit due to inadequate cooling.

The battery manufacturer's data should be consulted to ensure the battery's suitability for use with this power supply.

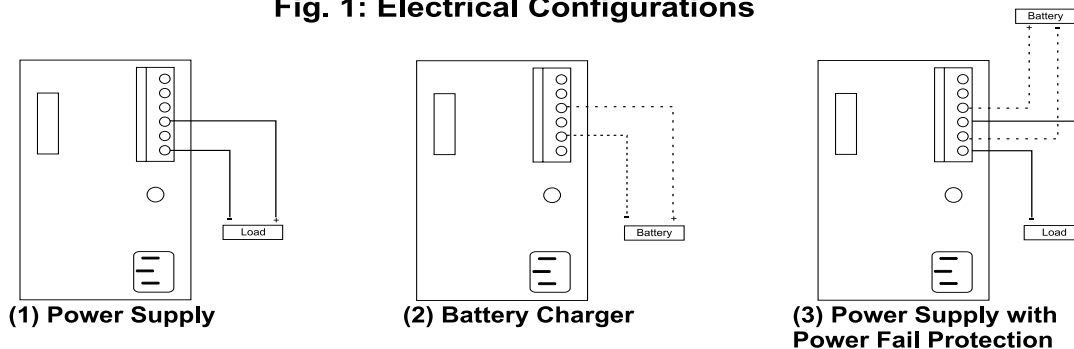
The output is floating with respect to earth. See figures 1 and 3 for output connection details.

The recommended wire for connecting the output can be chosen from the RFI range of 4T or 4S cables or similar 1.5mm<sup>2</sup> cable.

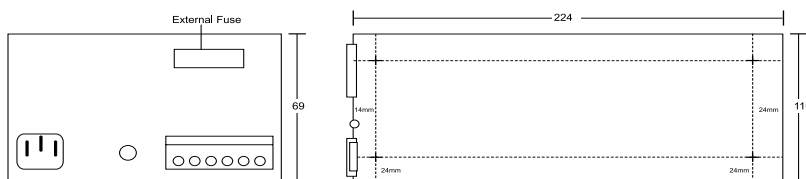
**SPECIFICATIONS**

INPUT:	200-240V nominal, 10%, 48-62Hz
OUTPUT:	Factory set to 13.65V at 10A
OUTPUT VOLTAGE VARIATION:	For any load current within the specified range the output voltage will be within the specified limits, including the effects of line and load regulation and temperature coefficients. 0.0A to 10.0A:13.65 2%
OVERVOLTAGE PROTECTION:	14.5V to 16.5V
OVERCURRENT PROTECTION:	10.55A = 0.45A
BATTERY DEEP DISCHARGE PROTECTION:	The power supply disconnects the battery when the battery terminal voltage falls below 9.8V to 10.6V
HOLD UP TIME:	20ms at full load and 240V input
AMBIENT OPERATING TEMPERATURE:	0C° to 50C°
COOLING:	Cooling is by convection, the unit must be mounted on the rubber feet provided
OUTPUT RIPPLE:	Less than 150mV p-p
DESIGN SPECIFICATIONS:	AS3260 - 1988 Including Amendment 1
WEIGHT:	1.2Kg
ORDER CODE:	SME240-12-10

**Fig. 1: Electrical Configurations**



**Fig.2 : Dimensions**



**Fig.3 : Connections**

