



41 Aster Avenue  
 Carrum Downs 3201 Australia  
 Tel : 61 3 9775 0505  
 Fax : 61 3 9775 0606  
 Email: [frontdesk@trio.com.au](mailto:frontdesk@trio.com.au)  
<http://www.trio.com.au>

## Technical Note TN-39

# Base Station Power Supply Data Series-13V810A

The SM240-12-10 is an Australian designed and manufactured power supply designed specifically for the communications industry. It is a "new generation" switch mode unit with extremely low RF noise, essential in radio communications site use, one of the primary applications for which the supply was designed.

By using switch mode technology weight and size have been reduced dramatically. Heat generation is also reduced and the rating of 10A continuous is maintained over a large range of line variations. The SM240-12-10 also incorporates complete battery management facilities including auto changeover, low voltage disconnect, alarm circuits, float charging and a maximum charge current of 10 Amps continuous.

The SM240-12-10 has been packaged as an attractive desk mounted unit with all connections made at the rear. It is Electricity authority approved and covered by a FIVE YEAR warranty.

\* Electricity Authority Approval pending as of 12/91

### As a Power Supply

The SM240-12-10 can be used as a stand alone power supply. Connected to a load it will power equipment requiring a 12VDC nominal input at up to 10 Amps continuous. Overload and short circuit protection are provided as is an overvoltage shutdown. Line and load regulation is exceptional.

### As a Battery Charger

The battery charging circuits of the SM240-12-10 are specifically designed to cater to sealed lead acid batteries. If the supply is connected only to such a battery it can be used as a charger only and provides a safe and convenient method to restore discharged batteries. Fully discharged batteries will be provided with a charge rate of up to 10 Amps continuous allowing the supply to cater to batteries of up to 200 AH capacity. Fully charged batteries may be left connected to the supply indefinitely with no adverse effects to the battery or supply.

### As a Power Supply with Power Fail Protection and Battery Management

The SM240-12-10 delivers it's full potential when both a battery and load are connected. In this configuration it will cater to a load of up to 10A continuous. Should mains power fail the load is transferred to the battery and an alarm provided. Should the outage be such that the battery voltage falls below 9.8-10.6V the load is disconnected from the battery to prevent over-discharge. On resumption of mains the supply will service both the battery and the load bringing the battery back to a fully charged state then reverting to float charge.

## Specifications

<b>INPUT:</b>	200-240V nominal $\pm 10\%$ , 48-62Hz (will handle +15% surge for 5 minutes)	<b>OPERATING TEMPERATURE:</b>	0°C to 50°C (ambient air temperature)
<b>OUTPUT:</b>	Factory set to 13.65V at 10A	<b>COOLING:</b>	Convection (mounted on rubber feet fitted)
<b>OUTPUT VOLTAGE VARIATION:</b>	For any load current within specified range output voltage will be within the specified limits including effects of line & load regulation & temperature coefficients. 0.0A to 10A: 13.65 V $\pm 2\%$	<b>OUTPUT RIPPLE DESIGN:</b>	Less than 150mv p-p
<b>OVERVOLTAGE PROTECTION:</b>	14.5 to 16.5v	<b>SPECIFICATIONS:</b>	AS3260- 1988 including amendment 1 AUSTEL TX001 - 1990
<b>OVERCURRENT PROTECTION:</b>	10.55A $\pm 0.45A$	<b>ALARM:</b>	When mains failure occurs alarm output assumes battery positive terminal voltage otherwise it assumes the battery negative terminal voltage. Alarm output impedance 1.K $\Omega$
<b>BATTERY DEEP DISCHARGE PROTECTION:</b>	Supply disconnects battery when battery terminal Voltage falls below 9.8V to 10.6V	<b>DIMENSIONS:</b>	69mm H x 111.2mm W x 224mm D
		<b>WEIGHT:</b>	1.2kg
		<b>ORDER CODE:</b>	SM240-12-10 (includes mating connected kit)