

3-12V Variable Power Supply

General Description

The unit supplies a continuously variable DC output, in the range 3V to 12V, at currents of up to 1A. The output is smoothed, regulated, current limited and short circuit and reverse voltage protected.

The Unit in Use

The unit should be plugged into a suitable mains outlet and switched on using the rear panel mounted switch. The green led on the front panel will illuminate. The unit is fitted with tilting feet at the front, which may be swung down if required. The unit is fitted with colour coded 4mm terminal posts which will accept 4mm plugs, crocodile clips, bared wire and 2mm plugs (through the cross-drilled hole accessed by unscrewing the plastic section of the terminal). The output voltage may be adjusted by turning the control knob. The maximum output voltage may be pre-set in the following manner:

- Connect a voltmeter to the output terminals and turn the control knob fully clockwise - a reading of just over 12V should be obtained.
- Insert a jewellers screwdriver (straight or cross blade) into the hole labelled **VOLTAGE ADJUST**.
- Turn the screwdriver anti-clockwise until the required voltage is obtained.

The output is protected against short circuits and excessive current drain by current limiting circuitry. Under short circuit conditions the unit will shut down and the green led will extinguish. The unit will reset automatically within 10 seconds of removal of the fault. The unit is current limited at 1 amp. If a load that would draw more than 1 amp is connected the unit automatically reduces the voltage in an attempt to deliver 1 amp. This could give rise to a misleading occurrence when, for example, an incandescent lamp rated 12V, 1 amp is connected. The lamp has an initial low resistance, which causes the lamp to draw more than 1 amp and so the unit shuts down. Under these circumstances, reduce the voltage at switch – on and then increase it to 12V after a few seconds.

Should the green led not illuminate, the mains plug fuse should be checked - replacement fuse is a 3A or 5A. **DO NOT USE A 13A FUSE.**

Safety Testing

The unit is classified as Class 1 (earthed) for the purposes of electrical safety testing. Suitable earth test points are either of the two transformer mounting screws on the base of the unit. For further details on safety testing, please refer to Health and Safety Executive leaflet GS23 (ISBN 0 11 883567 X).

Specification

Input

| | |
|------------------------|-----------|
| Supply voltage | 230V a.c. |
| Supply frequency | 50Hz |
| Maximum power | 20W |
| Mains plug fuse rating | 3A |

Output

| | |
|------------------------|-----------------------------------|
| Voltage | 3-12V smoothed and regulated d.c. |
| Maximum output current | 1.0A current limited |

Electromagnetic Compatibility

The use of this apparatus outside the classroom, laboratory, study area or similar such place invalidates the conformity with the protection requirements of the Electromagnetic Compatibility Directive (89/336/EEC) and could lead to prosecution.