

The Salamander

General Description

The Salamander is a low voltage power supply unit offering a switchable output of 3, 4.5 or 6V DC at 1A and a separate output of 12V DC at 0.5A. Both outputs are capacitor smoothed and are protected via auto resetting thermal cut-outs. The outputs are monitored by coloured leds: red monitors the 12V output and green monitors the adjustable output.

Mains Supply

The unit is designed to be plugged into a standard 240V 13A mains socket. Protection is via a 5A fuse in the mains plug and an internal 20mm 1A fuse. Mains input is switched by a push button switch and is monitored by the yellow led. Should the three leds not illuminate, the mains switch should be pushed. If they still do not illuminate, then check the mains socket (try plugging something else in), plug fuse (replace with a known good fuse) and the internal fuse (unplug the unit from the mains, unscrew the four screws holding the case top, locate the fuseholder on the circuit board, pull off the plastic cover, lever out the fuse and look for a break in the thin wire inside it. If broken, replace with a new 20mm 1A quick blow fuse).

Use of the Unit

The switchable output is available via the red and black terminals. These will accept 4mm plugs or crocodile clips pushed directly into them. If a terminal is unscrewed, a hole will be found drilled through the metal post. This will accept 2mm plugs or bared wire.

The 12V output is available via the connector mounted in the end of the case. Two types of connector are available:

1. BBC disc drive connector. This is wired in standard BBC mode offering +12V from the right hand centre socket and 0V from the right hand top socket.
2. Jack socket. The plug tip connection carries +12V and the barrel connection 0V.

If one of the outputs is short circuited, the relevant led indicator will extinguish. On removal of the fault, the output will reset in 5-15 seconds. Reset is indicated by illumination of the output led.

Electrical Safety Testing

The unit is classified as Class 1 for the purposes of safety testing. Suitable earth test points are the two bolt heads on the base of the unit. For further details on safety testing, please refer to Health and Safety Executive leafletGS23 (ISBN 0 11 883567 X).

Specification

Input

| | |
|------------------------|---------|
| Supply voltage | 230V ac |
| Supply frequency | 50Hz |
| Maximum power | 15W |
| Mains plug fuse rating | 5A |

Output

| | |
|------------------------|----------------------------|
| Voltage | 3, 4.5 or 6V dc and 12V dc |
| Maximum output current | 1A |

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.