

Power Supply

Mini Regulated



LB2647-001

Description:

The IEC 'Mini Regulated Power Supply' is low cost, is part of the IEC 'Electronics Kit' (EM1764-001) and is a useful instrument in the classroom for performing electronic experiments. It is powered from a 240/12V.AC. 1A plug pak (mains adaptor) and the DC regulated output voltage is marked around the control knob. This instrument is not metered.

Two outputs are provided: 1) 9V.DC. fixed and 2) 1.2-12V.DC. adjustable.

A red LED indicates 'power on' and the outputs are from the new series 2mm banana plug sockets as used in the IEC Electronics Kits. 2mm to 4mm adaptors are available or 'IEC' electronics cables with stackable 2mm banana plugs are available (see next page).

The output control knob is graduated in Volts and the instrument does not include a voltmeter.

Specifications:

Input:

12V.AC. 50/60Hz 1A Plug pak (Mains adaptor).

Outputs:

1.2 – 12V.DC. regulated at 1 Amp continuous.

Protection:

The DC output is automatically protected by the internal electronics. If the output current is exceeded, the output voltage will reduce automatically to protect the circuitry.

Regulation:

Better than 1% voltage fluctuation from no load to full load.

Ripple and noise:

Better than 10mV ripple and noise at full load.

Length: 75mm	Width: 75mm	Height: 40mm	Weight: 210g
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The Meaning of 'Regulation':

An **unregulated** power supply is simple and inexpensive but has the following disadvantages:

- The output voltage will rise and fall as the mains voltage rises and falls.
- If the load current changes, the output voltage changes also.
- If the DC output is filtered only by capacitance, the output voltage will contain more and more ripple as the output current (load) increases.

A **regulated** power supply is electronically more complex and is normally more expensive than a simple unregulated unit, but it has the following advantages:

- The output voltage does not alter as mains voltage fluctuates.
- The output voltage does not alter as the load current changes from zero to full load.
- The output voltage is smooth (ripple free) at no load through to full load.
- When the output voltage is set by the control knob there is no need to monitor it during experiments because it remains constant regardless of fluctuations in load current drawn.

Spare Parts:

IEC manufactures a range of various types of electronics teaching kits. Because the components are small, IEC has developed a more appropriate 2mm banana plug system for electronics apparatus. Cables with stackable 2mm banana plugs are available.

See Parts and Accessories 'PA' section of the listing (PA0680-001 through PA0680-005). Adaptors are available so that either 2mm or 4mm banana plug cables can be used.

PA0207-001 2mm banana plug to 4mm socket adaptor.

PA0207-010 4mm banana plug to 2mm socket adaptor.

Designed and manufactured in Australia