

IEC Laboratory Power Supply PS1695



Description

The IEC 'Dual Mode' power supply combines unfiltered and high power AC and DC together with smooth, regulated and metered DC at up to 5 amps. It is designed for general laboratory use but, in addition, it provides a regulated voltage output necessary for work in electronics. The meter is switchable between regulated DC volts and amps.

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 far 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 exactly constant regardless of fluctuations in load current drawn.

Specifications (General)

Input	220/240V AC 50/60Hz
Dimensions	325mm (L) x 180mm (W) x 110mm (H)
Weight	4.6 kg

Mode 1

Left side of front panel. For general purpose, unregulated and **unregulated**.

Specifications (Mode 1)

AC Output	Switch selected 2, 4, 6, 8, 10, 12V AC (nominal voltages) at 8 Amps output continuous 10 Amps output
DC Output	Switch selected 2, 4, 6, 8, 10, 12V AC (nominal) full wave rectified and unfiltered 5 Amps continuous.
Protection	Overload and short circuit protection is by an audible, internal, automatically self-resetting thermal overload. Model LB2634-001 is fitted with a front panel LED which indicates when the overload has tripped and reset.

Mode 2

Right side of front panel. Metered and regulated output. For electronic experiments and other purposes where a ripple-free DC output is required.

Provides a fully adjustable and electronically regulated DC output, electronically filtered to better than 10mV ripple, Peak to Peak, at full load.

Specifications (Mode 2)

Output Voltage	1.3 to 20V DC. Fully adjustable.
Regulation	Better than 1% voltage fluctuation from no load to full load.
Output Current	From 1.3 - 4V DC: 2 amps max 4 - 8V DC: 3 amps max 8 - 12V DC: 4 amps max 12 - 20V DC: 5 amps max
Protection	As electronic regulators drop more voltage to provide a lower output voltage, the power they need to dissipate increases and they become very hot. So, at the lower output voltages there is a limitation on the maximum current available. This is clearly marked on the front panel. If more current is drawn, the regulator chip will heat and will shut itself down to self-protect. The output will then fall to a very low voltage. When the load is removed, the regulator chip will cool and normal operation will return.
Metering	The moving coil meter on the front panel can be switches to monitor either the regulated DC output voltage or the load current.
Switching	The regulated DC output can be switches ON and OFF without affecting the set voltage value.