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IPC Irwin Student Power Supply

Part Number IPC-0256-P

User Instructions



INTRODUCTION.

The Student Power Supply is a medium-duty power supply designed to provide both AC and full-wave rectified DC voltage supplies up to a current of 4 Amps continuously or up to 5 Amps for periods of 1 hour. The output voltage levels are selected and locked by means of a rotary key switch and removable key on the front panel. Also located on the front panel is a reset button for the overload protection circuit breaker included within the product.

DESCRIPTION.

The Student PSU provides both lockable AC and DC at the following settings: 2V, 4V, 6V, 9V, 12V or 14V, and both outputs may be used simultaneously up to a combined output current of 4A continuously (or up to 5 Amps for periods of 1 hour).

A thermally operated circuit breaker protects both the AC and DC output voltages in case of a current overload or output short-circuit.

The AC voltage output is via the two white 4mm sockets and the DC voltage output is via the red and black 4mm sockets.

The rear panel contains an illuminated (green) mains on/off switch and a mains input IEC socket containing an in-built protection fuse. Normally the unit is supplied with a separate UK plug to IEC plug 2.0m mains lead.

INSTRUCTIONS.

To set and lock the required AC or DC output voltage simply rotate the key switch to the desired voltage and remove the key, then connect to either the AC or DC sockets, or both if required (ie. to supply two separate experiments or circuits). **Note:** When switching between the voltage settings please disconnect the load to help prevent damage to the switch contacts.

IPC Irwin

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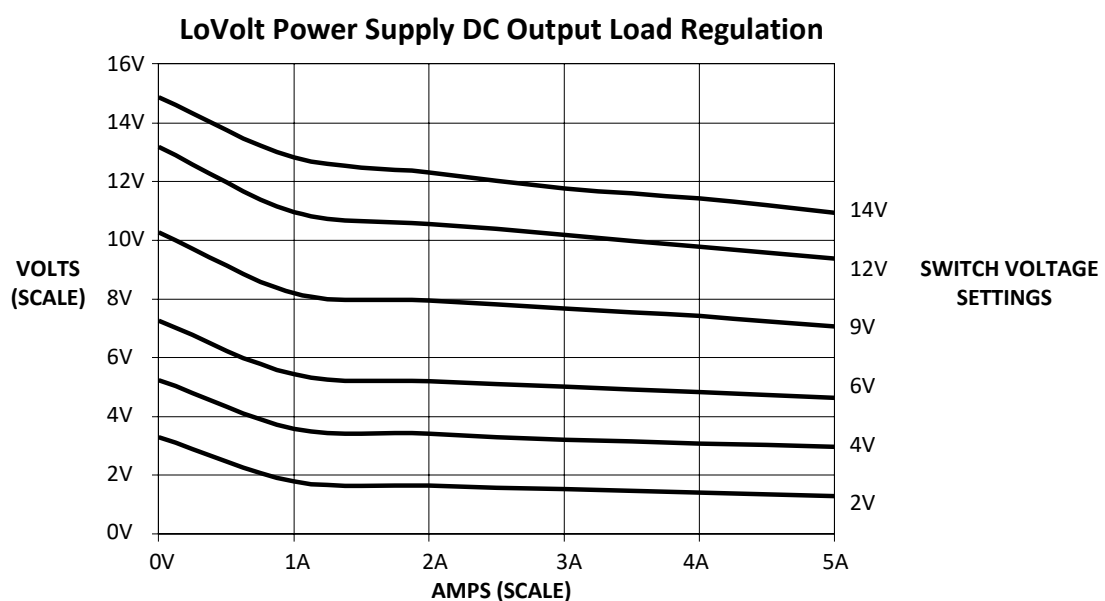
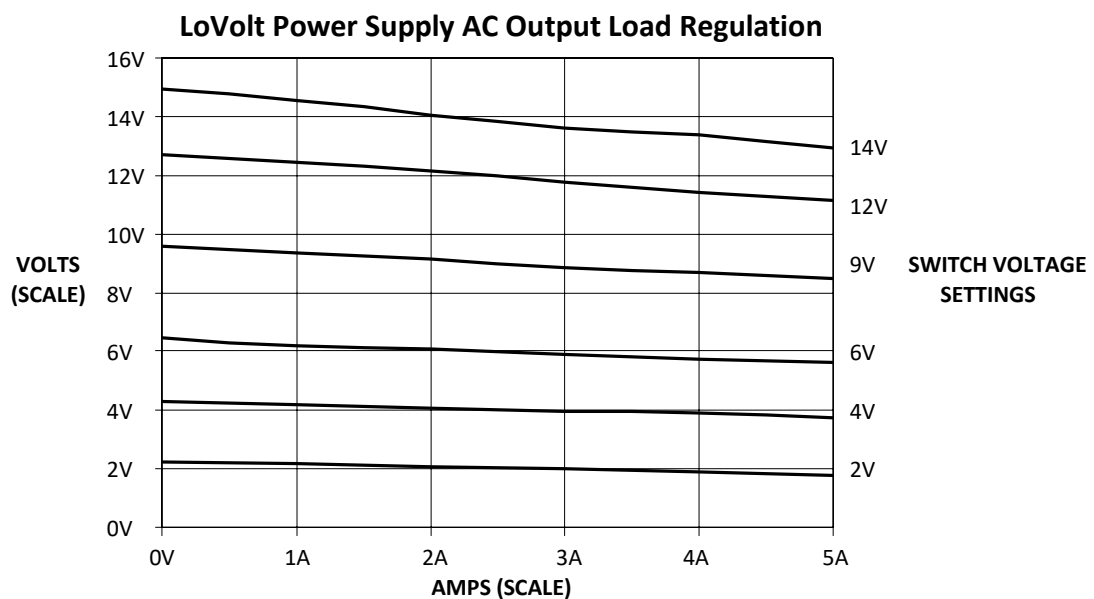


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The reset button operates if there is an overload or short-circuit on either of the outputs in excess of the maximum 5 Amps rating. Should the reset button pop out, switch off the power supply, rectify the fault, switch on again and press the button in. Please note that the button takes about 5 seconds to reset and will not work if pushed within this time.

Should the mains on/off switch fail to illuminate and there is no output power from the unit, then first check the T1A fuse at the rear of the unit (located in the mains IEC socket), if this is found to be intact then check the 5A fuse in the mains plug (if UK plug).

Please note:- when there is no load connected (or a very small load) the output voltages are higher than shown on the voltage scale, please see the load regulation graphs below:-



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For a more accurate measurement of the output voltages (AC and DC) a suitable voltmeter or multimeter should be employed.

SPECIFICATIONS.

Electrical Supply	= 220-240VAC, 50-60Hz
Fuse Ratings	= IEC Socket Inlet: T1A, UK Mains Plug: 5A
Dimensions	= 180 x 190 x 85mm overall
Mass	= 2.8kg
AC Output Voltage Range	= 2V, 4V, 6V, 9V, 12V and 14VAC
AC Output Current (Max.)	= 4 Amps (5 Amps up to 1 hour)
DC Output Voltage Range	= 2V, 4V, 6V, 9V, 12V and 14VDC
DC Output Current (Max.)	= 4 Amps (5 Amps up to 1 hour)

Please Note: This Equipment is for Education, Training, or research Purposes Only.

IMPORTANT - ELECTRICAL SAFETY NOTICE

Only connect the product to single phase mains electrical supply (with neutral nominally at each potential), also check that the supply voltage and frequency are within the products stated range. Before connecting to the mains electrical supply, examine the information on the products rating label (the value of the fuse fitted to the product is also stated), ensure that the mains plug or outlet circuit is fitted with an appropriate fuse of higher value.

WARNING: THIS PRODUCT MUST BE EARTHED

This product is designed for Electrical Safety Class 1.

If a mains lead is not fitted or supplied, connect the wires to a Standard UK, 3-pin plug as follows:-

Green/Yellow wire to the terminal marked: E (Earth) or coloured Green or Green/Yellow.

Brown wire to terminal marked: L (Live) or coloured Brown.

Blue wire to terminal marked: N (Neutral) or coloured Blue.

LIVE PARTS SHOULD NEVER BE EXPOSED UNLESS THE PRODUCT HAS BEEN SWITCHED OFF AND ISOLATED FROM THE MAINS ELECTRICITY SUPPLY.

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Declaration of Conformity (In Accordance with EN ISO 17050-1:2010).

Manufacturer: **IPC Irwin, Holker School, Cark-in-Cartmel, Grange-over-Sands, Cumbria, LA11 7PQ, United Kingdom.**

Product/Part No: **Student Power Supply (230V AC, 50Hz main voltage)/IPC-0256-P**

This conformity certificate approves the compliance of the product with the essential safety requirements of the following UK Standards and Regulations:

SI 2005 No.1803	General Product Safety Regulation (implements Directive 2001/95/EC).
SI 2016/1101	Electrical Equipment (Safety) Regulation (implements Directive 2014 /35/EU).
EN 61010-1: 2010	Electrical Requirements for Laboratory Test & Measurement Equipment.
EN 61000-6-1: 2019	EMC, Generic Standards, Immunity for Residential, Commercial and Light Industrial Environments.
EN 61000-6-3: 2019	EMC, Generic Standards, Emission for Residential, Commercial and Light Industrial Environments.
SI 2012 No. 3032	Restriction on Hazardous Substances (RoHS) in Electrical and Electronic Equipment Regulation, (implements Directive 2011/65/EU).



Mark can be used only in the case of conformity assessment according to all relevant UK Standards and Regulations.

EU Declaration of Conformity (In accordance with European Parliament and Council Decision No: 768/2008/EC Annex III).

This conformity certificate approves the compliance of the product with the essential safety requirements of the following EC/EU Directives (Manufacturer, Product/Part No: as above).

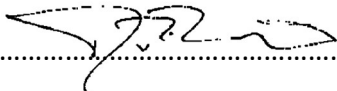
2001/95/EU	General Product Safety Directive.
2014/35/EU	Low Voltage Directive (LVD).
2014/30/EU	Electromagnetic Compatibility (EMC) Directive.
2011/65/EU	Restriction on Hazardous Substances Directive (RoHS).

European harmonised Standards used for conformity assessment and declaration:

EN 61010-1: 2010	Electrical Requirements for Laboratory Test & Measurement Equipment.
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Mark can be used only in the case of conformity assessment according to all relevant EC/EU Directives.

Dickon Knight (Director):  Date of Issue: 24th May 2023.

In the event of any correspondence concerning this product, please contact your supplying agent quoting the catalogue number and serial number shown on the apparatus rating label, together with the voltage and frequency of the mains electrical supply. This will help us to process your enquiry quickly. Any spare parts which may be required are supplied on the understanding that the replacement of those requiring the exposure of live electrical connections **will** be undertaken by an electrically qualified person.

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Thank you for choosing this IPC Irwin product, which has specifically been designed for education and we know it will bring you good service long into the future. This is just one product of a wide range of UK designed and manufactured products to enhance a STEM education. Please see www.ipcirwin.com website for more details on the products and service we provide to support teaching and learning in science and technology.

IPC Irwin also provide Portable Appliance Testers and a Calibration service, for more details please go to www.ipcirwin.com or call our sales and technical support line on 015395 58555



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