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IPC Irwin Spider PSU

Part Number EPR1506

User Instructions



INTRODUCTION.

Thank you for purchasing the IPC Irwin Spider PSU, this student power supply has been designed to supply a regulated and smoothed DC output voltage. A range of four voltage levels can be selected via a simple rotary switch, these voltage levels are designed to match standard battery combination voltages, these being 1.5V, 3V, 4.5V and 6V. The selected output voltage is present on all four pairs of terminals, which can be used simultaneously. The Spider PSU is ideal to power lamps/LEDs, motors, electronic circuits etc.

DESCRIPTION.

The four pairs of voltage output terminals are arranged around the four sides of the case, each pair of terminals will supply the DC voltage level set on the Rotary Range Switch, the Red terminals are the positive, and the Black terminals are the negative.

All four pairs of terminals can be used at the same time, up to a maximum combined current of 1 Amp DC. All four Red Positive output terminals are internally connected together, as are all four Black Negative output terminals. The output terminals will accept standard 4mm plugs directly, plus 2mm plugs and stripped wires. Unscrewing the terminal allows access to a connection hole in the terminal post, this hole accept 2mm plugs or stripped wire, which can be threaded through the hole, the terminal can then be re-tightened to make a firm connection.

IPC Irwin

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The Spider PSU also incorporates two Red LEDs to simulate the Spider's eyes, these provide a unique method of monitoring the operation of the PSU. The left LED eye indicates that the mains power is present, whilst the right eye monitors the presence of the output power. Should neither of the LED eyes light up, then the mains plug fuses (3A) should be checked, please note there are no user serviceable parts inside the Spider PSU.

Should the right LED eye go out during use, this indicates that one or more of the output terminal leads are directly connected together, ie. no load (such as a lamp) is connected between the leads. This is known as a 'short-circuit' condition, once the short-circuit is removed the Spider PSU will reset itself and turn the right LED eye back on.

INSTRUCTIONS.

Plug the Spider PSU into a 13A mains socket and the two Red LED eyes should light up, if one or both does not please see the details above.

To select the desired output voltage level simply turn the rotary switch to the required DC voltage, all four pairs of output terminals can be used to supply the selected voltage output.

We recommend when switching between the voltage ranges that all loads are removed first.

Please Note: the maximum total combined output current the Spider PSU is designed to supply is 1 Amp DC, and therefore the Spider PSU is not suitable for high current applications such as heating and electromagnetism experiments. Please also note: the Spider PSU is not suitable for charging Nickel Cadmium Batteries.

N.B. when the Spider PSU is working hard, a faint buzzing noise may be heard, and slight warming of the case will occur - this is perfectly normal and does not indicate a fault.

SPECIFICATIONS.

Electrical Supply	= 220-240VAC, 50-60Hz
Fuse Ratings	= UK Mains Plug: 3A
Dimensions	= 190 x 140 x 90mm overall.
Mass	= 0.95kg
DC Voltage Range	= 1.5V, 3V, 4.5V & 6V (Smoothed & Regulated).
Output Current	= 1 Amp DC Maximum (Total Combined Current).
Maximum Power	= 10 Watts
Connections	= 4mm Terminal Post (4 x Red & 4 x Black).

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

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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.

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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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: **Spider PSU (230V AC, 50Hz main voltage)/EPR1506**

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).

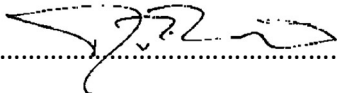
2001/95/EU	General Product Safety Directive.
2014/35/EU	Low Voltage Directive (LVD).
2014/30/EU	Electromagnetic Compatibility (EMC) Directive.
2011/65/EU	Restriction on Hazardous Substances Directive (RoHS).

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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