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IPC Irwin High Tension Power Supply

Part Number IPC-0294-P

User Instructions



INTRODUCTION.

The High Tension Power Supply has been designed to provide both high (300VDC) and low (30VDC) voltage outputs, along with a low AC voltage (high current) output, making it ideal for practical demonstrations of Thermionic valves, Teltron demo valves, Ionisation chamber dosimeter, DC amplifiers, Parallel plate capacitors, Millikan oil drip apparatus etc. The unit itself is housed in a robust metal case with a durable powder coated finish.

DESCRIPTION.

The High Tension PSU provides a high voltage (HT) output ranging from 0 to 300VDC and a low voltage output ranging from 0 to 30VDC, both voltages are continuously variable, and each incorporates a 60mA electronic current limiting circuit. The DC voltages are both fully regulated and fully floating, therefore allowing them to provide negative voltages if required. An indication of the voltage level is given by a graduated scale on each voltage control, red and black 4mm sockets provide connections to both voltage outputs.

The two white 4mm sockets provide connection to the AC voltage output, this voltage is nominally 6.3VAC, and can supply up to 2 Amps, making it ideal for filament heating.

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 the required DC output voltage levels simply rotate the voltage controls to the desired voltage using the graduated scales, should a more accurate setting of the voltages be required simply connect a suitable DC voltage meter to the each of the two outputs when adjusting.

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Holker School, Cark in Cartmel, Grange over Sands, Cumbria LA11 7PQ, United Kingdom

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The AC output voltage is set to a nominal 6.3VAC and will vary a little depending on the current being drawn.

Should the mains on/off switch fail to illuminate and there is no output power from the unit, then first check the F1A 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).

SPECIFICATIONS.

Electrical Supply	= 220-240VAC, 50-60Hz
Fuse Ratings	= IEC Socket Inlet: F1A, UK Mains Plug: 5A
Dimensions	= 180 x 190 x 85mm overall
Mass	= 2.0kg
Low DC Output Voltage Range	= 0 to 30VDC
High DC Output Voltage Range	= 0 to 300VDC
Maximum DC Output Currents	= 60mA (both ranges)
AC Output Voltage	= 6.3VAC (nominal)
Maximum AC Output Current	= 2A

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: **High Tension Power Supply (230V AC, 50Hz main voltage)/IPC-0294-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).

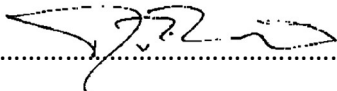
2001/95/EU	General Product Safety Directive.
2014/35/EU	Low Voltage Directive (LVD).
2014/30/EU	Electromagnetic Compatibility (EMC) Directive.
2011/65/EU	Restriction on Hazardous Substances Directive (RoHS).

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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